



UENR | University of Energy
and Natural Resources

VICE-CHANCELLOR'S REPORT TO THE 7TH CONGREGATION

**MARCH
2023**

Designed by Emmanuel Appiah

Published by:

University Relations Office, UENR - Sunyani
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PROFESSOR ELVIS ASARE-BEDIAKO
VICE-CHANCELLOR

FOREWORD

This report covers the activities of the University over the 2021/2022 Academic Year. It provides information on all major constituents of the University, namely, the offices of the Vice-Chancellor, Registrar, Schools, Directorates, Departments, Centres, Library and other related areas within the University. Unfortunately, due to the outbreak of the COVID-19 pandemic and its accompanying effects on universities worldwide, for a greater part of the period under consideration, there was less academic activity as captured in this report. At any rate, the report adequately accounts for all salient activities undertaken during the year under review.

Despite the pandemic, the University continued with its mandate of Teaching, Research, and Community Service. Efforts were also made in the direction of establishing, building, and maintaining collaborative relationships and partnerships with stakeholders both locally and internationally. We continue to engage all Stakeholders and solicit support from beneficiaries to support the realization of the vision of the University.

Despite challenges such as limited resources among others, the University made some gains in the area of teaching and research. In the coming academic year, the University would religiously continue to pursue its mandate of providing leadership and management of energy and natural resources and be a centre of excellence in these critical areas.

OFFICE OF THE VICE-CHANCELLOR

OFFICE OF THE VICE-CHANCELLOR

1.0 Introduction

The University has taken great steps in the pursuit of academic excellence, staff development and infrastructural progress. The Vice-Chancellor is the Chief Executive Officer of the University and he is responsible for the overall planning, direction, organization, management and discipline of the University. As the Chief Academic Officer, the Vice-Chancellor provides leadership to all members of the University. He is accountable to the University Council. This report is a compilation of detailed information by Heads of Departments, Deans and Directors, highlighting achievements and challenges of the previous academic year. The office of the Vice-Chancellor is staffed as follows:

2.0 STAFF

- | | |
|-------------------------------|---------------------------------|
| 1. Prof. Elvis Asare-Bediako | Vice-Chancellor |
| 2. Prof. John K. M. Kuwornu | Acting Pro Vice-Chancellor |
| 3. Mr. Robert Abraham Quainoo | Chief Administrative Assistant |
| 4. Kate Mensah | Senior Administrative Assistant |
| 5. Sylvester Debrah | Senior Administrative Assistant |
| 6. Samuel Kyere | Senior Administrative Assistant |

3.0 Major Activities of Past Year

3.1 Completed Activities

Over the past year, the Vice-Chancellors's office undertook the following activities;

Memorandum of Understanding (MoU)

- » During the academic year, a Memorandum of Understanding (MOU) was developed and signed with the Association of Commonwealth Universities to facilitate Partnership for Enhanced and Blended Learning (PEBL), a West Africa Project.

3.2 Ongoing Activities

- i. Engagement of Ghana Education Service, Sunyani West Municipal - an ongoing agreement between the Ghana Education Service, Sunyani West Municipal, and UENR to forge a close collaboration with the view of improving academic performance of learners at the pre-tertiary level and, to improve competencies and skills of teachers in Mathematics, Science, ICT and Technology Education.
- ii. Engagement of TABCON Energy LTD – The University has an ongoing agreement between TABCON Energy LTD and UENR to facilitate the Tain Hybrid Hydro-Solar Energy Project.

4.0 Other Activities

Workshops/Conferences/Public Lectures

- » Convener, Digital Ghana: Smart Systems Symposium 2021 on Friday 13th September 2021. The theme for the 2021 edition of the symposium was “The Use of Smart Technologies to Control Illegal Mining and Logging in Ghana” at the University Auditorium.
- » Organizer and Facilitator, One-Day Workshop on “Understanding the Core Issues of the Appointments and Promotions Criteria.” Wednesday, October 2021 at the University Auditorium.
- » DIES 2021 Web Seminar Series. The theme: “University Leadership in Challenging Times: Institutional Governance and Participation”
- » DIES 20th Anniversary Conference on Tuesday, 9th November 2021. Theme: “Higher Education Management for Sustainable Universities – 20 Years of Dialogue on Innovative Higher Education Strategies (DIES)”

5.0 Challenges

Inadequate office space

6.0 Future Plans of the Office

The Vice-Chancellor’s office seeks to

- ⊙ Organise a Pre-Examination Orientation Workshop for invigilators.
- ⊙ Organise Digital Training and Learning Series: Professional Development for 21st Century Academics.

QUALITY ASSURANCE AND ACADEMIC PLANNING DIRECTORATE

QUALITY ASSURANCE AND ACADEMIC PLANNING DIRECTORATE

1. Introduction

A major goal of Higher Education Institutions (HEIs) across the world has been to offer quality programmes to contribute meaningfully to national and global development. It is imperative that providers of higher education develop and implement nationally and internationally accepted quality standards that meet the needs and aspirations of today's dynamic and competitive world. Hence, quality assurance in higher education is crucial in propelling the development agenda of every nation.

The University of Energy and Natural Resources is mandated to train graduates with the requisite skills to address the many energy and natural resource challenges confronting Ghana and other parts of the world. In achieving this, quality assurance is crucial. Therefore, the University of Energy and Natural Resources has a well-constituted framework for assuring and maintaining quality standards in its operations. Central to this framework is the Quality Assurance and Academic Planning Directorate (QAAPD), set up by Statute 51 of the University Statutes. The Directorate is charged with a core mandate to systematically and continuously design mechanisms to improve the quality of teaching, learning, research and service delivery in the University.

2. Staff of the Directorate

SN	Name	Rank/Position	Qualification
1.	Prof. Alex Akwasi Opoku	Ag. Director	BSc, MSc, PhD
2.	Ms. Lydia Oteng Fening	Assistant Registrar	BSc, MSc
3.	Mr. Cosmas Rai Amenorvi	Senior Research Fellow	B/A, MPhil
4.	Mr. Bright Karim-Abdallah	Assistant Research Fellow	BSc, MPhil
5.	Ms. Rita Adjei	Senior Administrative Assistant	BSc, MPhil
6.	Mr. Benjamin Bagangma Abugri	Senior Administrative Assistant	BSc.

3. Completed Activities

- » Review of outstanding programme documents
- » Facilitated accreditation of academic programmes
- » Verification of lecturers' teaching loads (credit hours)
- » Constitution of Quality Assurance Sub-Committees in collaboration with the Registrar
- » Needs assessment survey for proposed Akyem-Afosu Campus
- » Student exit survey
- » Student assessment of lecturers and courses
- » Monitoring of end-of-semester examinations
- » Facility inspection
- » Development of data use intervention plan for UENR
- » Development of Quality Assurance Guideline (currently before Academic Board)

4. On-going Activities

- » Facilitation of accreditation and re-accreditation of new and existing academic programmes
- » Tracer studies
- » Campus accreditation for Kenyasi and Dormaa
- » Monitoring of end-of-semester examinations

5. Challenges

- » Insufficient office space
- » Inadequate logistics to facilitate activities of the Directorate
- » Inadequate staff
- » Delays in getting feedback from some HoDs on academic programmes, student assessments of courses and lecturers' reports submitted to them by the Directorate

6. Future Plans

- » The QAAPD seeks to facilitate re-accreditation and accreditation of existing and new programmes
- » Implement electronic assessment of lecturers and courses
- » Monitor all University examinations and facilities
- » Facilitate the review of policies of the University
- » Develop academic planning guidelines for the University

PROCUREMENT DIRECTORATE

PROCUREMENT DIRECTORATE

1.0 Introduction

The Procurement Directorate is one of the several offices under the Vice-Chancellors' office. It has the principal mandate to superintend over all procurements in the University in accordance with the Public Procurement Act 663, 2003 as amended by Act 914, 2016. The Directorate advises Management and staff on all procurement-related activities. The Directorate's main philosophy is to ensure that the procurement of goods, works and services are done in a transparent and efficient manner to ensure value for money and judicious use of national resources.

The Directorate started with one (1) member of staff, who is currently the Ag. Head of Department, in 2012 but currently has a staffing strength of seven (7) qualified and seasoned professionals in procurement and one administrative staff to support the administrative duties of the Directorate.

2.0 Divisions and Staff

The Procurement Directorate comprises four Divisions, namely Goods Procurement, Services Procurement, Works Procurement and Contract Management. The personnel of the Procurement Office are as follows:

Names	Divisions	Rank/Position	Qualifications
John-Baptist Siddick	Head of Department	Ag. Director of Procurement	MCIPS, MSc (Salford) BSc (GIMPA), HND, PgC (Harriot)
Baffour Antoa Mensah	Head, Works Procurement Division	Senior Procurement Officer	MCIPS, MILT, MBA(KNUST), BSc(KNUST), HND(KsTU)
Emmanuel Kankam-Boadu	Head, Contract Management Division	Assistant Procurement Officer	MCIPS, CMILT, MSc(KNUST), Advance Diploma
Kofi Dwomoh	Head, Goods & Services Procurement Division	Principal Procurement Assistant	MCISM, MCIPS, MBA(KNUST), BSc(KNUST), HND
Gertrude Sefa Boakye	Goods & Services Procurement	Senior Procurement Assistant	BTech(STU), HND(STU)

Peter Osei	Works Procurement	Senior Procurement Assistant	BSc
Samuel Koduah	RCEES and Contract Management	Senior Procurement Assistant	BSc
Philomena Doku	Administration	Senior Administrative Assistant	MBA(CUCG), BBA(MCUG)

3.0 Activities over the Past Year

The Procurement Directorate during the year under review participated in the following activities

The Procurement Directorate initiated the processes to select a suitable Service Provider to supervise the Construction of the Multi-Purpose Building as well as the Construction of the 3,500-seater University Auditorium.

The Directorate facilitated the procurement of the following Goods;

- Procurement of Furniture to furnish the newly constructed Regional Centre for Energy and Environmental Sustainability (RCEES) Building.
- Various building and construction materials to aid the Works and Physical Development offices to undertake various renovation works in the University.
- Procurement of a 4x4 Vehicle for the Regional Centre for Energy and Environmental Sustainability (RCEES).
- Procurement of new Camcolor machine for the Examination Office to address challenges with the printing of examination questions.

The Directorate facilitated the procurement of the following works:

- Construction of Phase-1 of the University Sports Complex at Sunyani
- Construction of Multi-Purpose Building which was solely funded by the University's IGF
- Re-activation of the Construction of the 3,500-seater Auditorium financed by the Bank of Ghana

The Office also facilitated the procurement and supply of other logistics to aid teaching, learning, research and university administration.

4.0 Future Plans

The Procurement Directorate plans to further streamline the Procurement process in the University, develop an operational manual for service procurement and rade existing procurement manuals for goods and works to meet wit changing face of the law.

Also, the Directorate aims to reduce risk and ensure the security of supply with improved quality standards, manage relationships, pursue innovation and Leverage technology.

The Directorate plans to provide user departments, suppliers and stakeholders' services that meet world-class standard; to assist the University to meet and surpass the targets of its core functions of teaching, research and its Strategic Objectives.

5.0 Achievements

Through the hard work of the staff of the Procurement Directorate, the University was ranked as "matured" by the Public Procurement Authority (PPA) on the Public Procurement Model of Excellence Tool.

6.0 Future Development

The Directorate plans to be the main contributor in transforming the University into World Class Status through the use and application of modern Procurement Principles and practices that will assure continuous flow of materials and services so that university operations are not interrupted. The Directorate will also assure value for money.

The Directorate envisages to attend refresher courses in E-Procurement, World Bank and other Development Partner procurement processes and Works and Services Procurement workshops as well as Public-Private Partnership (PPP) initiatives.

Finally, the Directorate wishes to bring all the Supply Chain activities under one umbrella in the University

6.0 Conferences / Workshops / Seminars

Some members of staff of the Procurement Directorate attended the following Conferences / Workshops / Seminars:

1. ACE Impact Workshop which was held in November 2022 at Banjul-Gambia
2. Green Transport and Supply Chains: Key to sustain the future of Industry and the Environment organized by The Chartered Institute of Logistics and Transport at M.T Addico Conference Hall Shippers House, Ridge, Accra on November 24, 2022
3. ACE Impact Workshop which was held in May 2022 at Cotonou-Benin
4. Sustainable Implementation of the Africa Continental Free Trade Agreement(AfCFTA): The role of Logistics, Transport and Industry workshop organised by The Chartered Institute of Logistics and Transport at La Palm Royal Beach Hotel, Accra on May 10-12, 2022
5. Is procurement with purpose; the future for the profession organized by The Chartered Institute of Procurement and Supply-Ghana Branch on April 25, 2022(Virtual).
6. Investment Opportunities and Prerequisites for making Investment Decisions in Ghana organised by the Chartered Institute of Procurement and Supply (CIPS)-Ghana Branch on October 20, 2021 (Virtual).

Challenges

- Late Planning and Requisitioning: Heads of Departments fail to plan ahead which leads to Maverick Procurement.
- Invisible spending: Indirect or invisible spending outside the established procurement processes needs to be identified and addressed in order to curb organisational spending. A procurement process that has visibility in spending is a must for all organisations in this difficult economic environment.
- Process inefficiencies: Following obsolete, conventional manual procurement processes affect the efficiency of the procurement function. Manual processes lead to errors and delays. It is envisaged that Management will procure the needed software for the Procurement Directorate.
- Lack of sufficient office space to accommodate staff of the Directorate staff.

INSTITUTIONAL ADVANCEMENT AND ALUMNI RELATIONS OFFICE (IAARO)

INSTITUTIONAL ADVANCEMENT AND ALUMNI RELATIONS OFFICE (IAARO)

1.0 INTRODUCTION

As part of the Vice-Chancellor’s Strategic Vision towards making the University of Energy and Natural Resources (UENR) a centre of excellence. The Institutional Advancement and Alumni Relations Office (IAARO) was set up to champion the advancement activities and engage strategic stakeholders of the University.

The objective for setting up this office is to advance the mission and vision of UENR by providing leadership, expertise in the areas of alumni relations, fundraising, marketing and communications and strategic partnerships in order to secure private and public financial resources to support the activities of the University.

The Institutional Advancement and Alumni Relations Office (IAARO) is directly placed under the Office of the Vice-Chancellor and its mandate includes to establish long-lasting community relationships, enhance the corporate image of the University, promote local and global educational opportunities, and also build robust financial resources to support the institution.

2.0 STAFF

Mr. Charles Kojo Aidoo, ChPA	Ag. Head of IAARO
Mr. James Clarke Hayford	Junior Assistant Registrar
Mr. Richard Hammond	Junior Assistant Registrar, Accra Office
Mr. Ebenezer Amoako Paintsil	Senior Administrative Assistant, Accra Office

3.0 Major Activities over the Past Year

Completed Activities

1. Successfully Organized the global Alumni elections.
2. Engaged the Minister for the Bono Region on various activities of the University.
3. Originators of the Birthday observation for staff in the University.
4. Organised the maiden send-off engagement for the University’s national service personnel.
5. Originators for the Association and UENR-wear day.
6. Initiated a brand policy manual for the University.
7. Spearheaded the special admission outreach programme to more than One Hundred Senior High and Technical/Vocational schools in Bono, Bono East, Ahafo, Ashanti, Western and Western North Regions.
8. Engaged strategic stakeholders in advancing the development and rapid transformation of the University.
9. Spearheaded a fundraising drive for the University.

Ongoing Activities

1. Maiden Alumni Homecoming
2. Partnering with the University Health Service and Enterprise Insurance to construct a multipurpose laboratory for the University.
3. Profiling companies within and out of Sunyani.
4. Profiling of each alumnus of the University.
5. Creating a branding policy.

Other Activities

Workshops/Conferences/Seminars

- Association of Chartered Administrators and Management consultants' Conference 2022.
- Ghana Association of University Administrators (GAUA) conference 2022.
- Ghana Association of University Administrators (GAUA-UENR) Conference 2022.
- Training for Assistant Registrars and Junior Assistant Registrars at the University of Energy and Natural Resources.

4.0 Challenges

1. Inadequate office and office equipment for staff.
2. Training programme for staff.
3. Funds to properly brand the Office

5.0 Future Plans of the Office

1. Properly set up all the units of the Office.
2. Properly equip the fundraising unit with staff.
3. Brand the Accra office for visibility and advocacy for UENR.
4. A vehicle to aid advancement operations (Field work, etc.)

ACCRA OFFICE

The Accra Office continues to engage and facilitate a number of activities of its stakeholders (Directorates and Departments of UENR) in Accra.

Major Activities over the Past Year

- The IAARO serves a major platform for relationship building between the University and strategic stakeholders/partners such as the Ghana Tertiary Education Commission, Ministry of Finance, Controller and Accountant General Department, Ghana National Petroleum Commission, Ghana Gas Company Limited, sister tertiary institutions, Bank of Ghana, Ministry of Land and Natural Resources, Ministry of Energy, foreign embassies etc
- South-South cooperation project: The Office facilitated the final draw down of the

implementation of the project in the southern zone in coordination with the Ministry of Energy

- Admission clinics were held in five Senior High Schools in Accra to encourage young females to undertake STEM programmes.

Challenges

- Lack of vehicles hinders the movement of staff. This increases the turnaround time for the Office.
- Inadequate office furniture and equipment.

Future Plans of the Office

1. The Office seeks to rebrand its activities to be in line with the vision and mission of the university.
2. The Office seeks to secure a legally registered land in a strategic location in Accra for the construction of a permanent office complex and guest house to facilitate the University's official assignment in the national capital.
3. Acquisition of a pick-up to facilitate the movement of staff of the University in Accra.
4. The Office will facilitate the running of some programmes under the Centre for Distance Education and E-learning (CeDEEL) in Accra.

INTERNATIONAL RELATIONS OFFICE (IRO)

INTERNATIONAL RELATIONS OFFICE (IRO)

1.0 Introduction

The International Relations Office (IRO) is an outreach arm of the Vice- Chancellor's Office with the mandate to facilitate, promote and coordinate all University's external relations with regard to visiting scholars, international students, research collaboration and funding and other external staff training programmes. The establishment of the IRO fits perfectly in the 10-Year Strategic Plan of the University, which recognises the need to promote excellence and internationalisation of UENR.

The IRO envisions to make UENR one of the most visible and internationally recognised universities through our collaborations, partnerships, research faculty and students exchanges.

2.0 Staff

- | | |
|---------------------------------|---------------------------------|
| 1. Ing. Prof. Amos T. Kabo-bah | Dean |
| 2. Ms. Akpene Ame Kwadzo | Junior Assistant Registrar |
| 3. Ms. Priscilla Asiedu Konabea | Senior Administrative Assistant |

3.0 Major Activities over the Past Year

Over the past year, the Office undertook the following activities;

a) Memorandum of Understanding (MoU)

A number of Memorandum of Understanding (MOUs) were developed and signed with various institutions to facilitate student, staff and faculty exchanges, joint research and joint programme development.

These institutions are as follows:

1. Carbon School of Mines Association, UK
2. Colorado School of Mines, USA
3. Ghana Meteorological Agency, Ghana
4. Erasmus + Poland and Spain
5. Goldridge Ghana Limited, Ghana
6. Goldstone Akrokeri Limited, Ghana
7. International Network for Environment and Health
8. Institute of Geochemistry, Chinese Academy of Sciences
9. Institute of Geochemistry and Health, China
10. The University of Wisconsin-River Falls, USA
11. Universitat Autònoma de Barcelona, Spain
12. University of Arkansas Pine Bluff, USA
13. University of Johannesburg, South Africa.
14. University of Science and Technology, Korea
15. University of Wyoming, USA

Revitalising existing MoUs with;

1. New Mexico Institute of Mining and Technology

Pending MoUs;

1. University of Zimbabwe
2. AgroStudies the International Centre for Agricultural Interns in Israel Ltd

• Orientation

An orientation was organised for all international students on 4th February, 2022, to brief them about the International Relations Office and what to expect as students of the University. They were also given security tips amongst others topics after which they were taken on a tour of the campus.

• Meeting with International students

Staff of the Office met with the International Students to discuss issues concerning their wellbeing.

• Welcome Dinner

In collaboration with the International Students Association, a welcome dinner for newly admitted international students was organised.

• Data base

- Complete database of all international students
- Complete database of all signed MoU's

• Excursion

The international students embarked on an excursion to Kintampo Waterfalls and Buabeng Fiema Monkey Sanctuary in the Bono East Region on 4th June, 2022.

• International Visits

International visitors were received as follows;

Prof Emmanuel Frimpong a Fulbright Scholar. He is at the Department of Fisheries and Water Resources.

Principal Investigators from Ghana, Kenya, Uganda and Denmark on the HEALTHYNSECT Project.

Dr. Nina Bennet (Assistant Dean of Academics), University of Arkansas Bine Bluff was at UENR for an MoU signing ceremony. As part of the activities for the day, she gave a presentation on behalf of her university.

A team from the University of Marwadi in India were at UENR on a familiarisation visit and to draw a roadmap for potential areas of collaboration between UENR and UM.

- UN/Ghana/PSIPW 5th International Conference on the Use of Space Technology for Water Resources Management

Together with the Local Organising Committee (LoC), the IRO led the organisation

of the UNOOSA Conference which took place from the 10th – 13th May, 2022.

Eight hundred and thirty-eight (838) people from 87 countries across the globe registered to partake in the Conference. Between 50 and 100 participants joined online each day and between 100 and 120 participants attended in person each day. There were 107 speakers comprising 76 males and 31 females.

Four (4) workshops were organised before and after the conference in which an appreciable number of people taking part.

As part of the conference activities the Scientific African Journal has issued a call for papers based on the conference themes and the same has been done for the UENR journal. The call for submission is open to contributions from around the world on critical topics on water management.

• **Policies**

The following policies were drafted and submitted for consideration by Management.

These are as follows;

International Students Mentoring Policy

Student Exchange Policy

Collaboration and Partnership Policy

• **International Engagements**

The Dean travelled to Togo for a stakeholder engagement ahead of UENR 10th Anniversary celebrations.

On June 1, 2022, the Dean together with the Vice-Chancellor and some colleagues visited Bonn, Germany to discuss the Group on Earth Observation (GEO) for a Support Project for a postgraduate Land Management programme at UENR.

The Office facilitated the travel of some staff and students of RCEES to take part in the 2022 IKEM Academy in Germany. IKEM is a German climate policy research institute, which analyses, evaluates and develops strategies to reduce greenhouse gas emissions by taking into account the interactions between law, energy, economics and politics.

The Dean of IRO together with the Dean of School of Sciences have jointly written a proposal to start a branch of Digital Belt and Road Program (DBAR) International Centre of Excellence (ICoE) in UENR. An approval letter for this establishment was received from DBAR Head Office on 11th March, 2022 after careful analysis of the proposal submitted.

The office has facilitated for a lecturer at the School of Geoscience to participate in the Atmospheric Scientific Conference scheduled to take place in Austria.

• **Exchanges**

One student and one lecturer of the Department of Ecotourism, Recreation and Hospitality Management embarked on an exchange to Poland under the – 2020 Erasmus+ mobility Programme.

Ongoing Activities

- IRO website – The website is currently a sub of the University’s main website. There are some updates being made from time to time. www.iro.uenr.edu.gh
- Preparations are being made for an online recruitment drive.

- Co-organiser for GEO Blue Planet Symposium scheduled to take place on 24th and 28th October, 2022.
- Discussions are ongoing for the development of an MoU between UENR and United Nations University -Bonn.

Other Activities

Workshops/Conferences/Seminars

Staff took part in the following Conference, Workshop and Seminars;

- DAAD-DIES National Multiplication Training 2022 for higher education managers - 23rd - 25th February and 24th - 26th August, 2022.
- “Peer Review Land Cover Maps for Proposed REDD+ Programme Areas” organised by Forestry Commission, Resource Management Support Centre, Kumasi, on 3rd March, 2022.
- Lecture in a doctoral research programme on climate change and disaster risks management on the theme “Sustainable Development: Application to Human Security”. The programme was organised by WASCAL Togo Programme from 6th - 10th April, 2022.
- United Nations World Data Forum (UNWDF) 2023-24 Programme Committee - 24th - 27th April 2023 in China.
- UN/Ghana/PSIPW 5th International Conference on the Use of Space Technology for Water Resources Management - 10th – 13th May, 2022.
- Managing Opportunities in a complex and dynamic business environment - 28th May, 2022.
- 1st International Electronic Conference on Land, the Dean presented on “GEO Land Degradation Neutrality Initiative in Support of Sustainable Land Management” - 18th May, 2022.
- GEO LDN Initiative principals meeting in Bonn, Germany from 30th - 31st May, 2022.
- IFAT Munich - World’s Leading Trade Fair for Water, Sewage, Waste and Raw Materials Management where the Dean spoke on “How to influence policymakers” - 30th May, 2022. It was organised by the Prime Water Consortium from 30th – 3rd June, 2022.
- Two-day conference for University Administrators on the theme ‘University Administrators in (challenging) times’ - 23 – 24th June, 2022.
- Administrative Professionals in the success of Ghana Public Management reform – 27th July, 2022
- Co-organised the International Forum on Big Data for Sustainable Development Goals 2022 and the 6th Digital Belt and Road Conference (DBAR- 2022) – 6th – 9th September, 2022.
- Three (3) day GAUA congress on the theme ‘Corporate Governance and the Socio-political environment of public universities in Ghana- the role of the university Administrator – 4th - 7th August, 2022.
- Co-Chair for Geo week, elected by MESTI to prepare GEO Week 2022 for Ghana.

Funds/Centres

A grant of GHC 328,044.30 was solicited for and received to support the UN/Ghana/PSIPW 5th International Conference on the Use of Space Technology for Water Resources Management hosted by the University.

The Dean, also Co-Chair for GEO LDN has facilitated for the MSc/PhD Land Management Programme to benefit the following;

- a. Scholarships for the 1st cohort of students to be enrolled in the programme
- b. Staff exchange
- c. Student exchange
- d. Student Internship
- e. Support of one staff member to Canada to explore opportunities for the program.

Challenges

- Inadequate office space and logistics

Future Plans of the Office

- Admission of more international students.
- Looking for more exchange programmes for students and staff.

UENR ENTERPRISE LIMITED

UENR ENTERPRISE LIMITED

1.0 Background

The UENR Enterprise and Consultancy Limited (U-PRISE) is a limited liability company owned by the University. The Enterprise is part of the newly created offices of the University and was officially inaugurated in August 2021, under the auspices of the Vice-Chancellor, Professor Elvis Asare-Bediako and the University Management. The mission of the Enterprise is to create special purpose vehicles (SPVs) for UENR to achieve both financial and infrastructural sustainability through business partnerships. Thus, the vision is to develop a well-structured revenue generating portfolio for the University in achieve financial independence. The core values of the Enterprise are collaboration, innovation, trust, teamwork and accountability in creating value sources.

1.1.1 Financial Sustainability

Many public universities in Ghana are facing various challenges that put pressure on their financial capability. The story of UENR is not different. However, students expect a value for money for their payment of tuition fees and other related academic user fees in the quest of enjoying quality academic services and standard facilities. So, the question now is, What short-term ventures can UENR create or partner to stay financially liquid and sound to run day-to-day activities while pursuing other long-term objectives without solely depending on the Government of Ghana?

1.1.2 Infrastructural Sustainability

This concept seeks to maintain the progress of Free Compulsory Basic Education, specifically the Free SHS Policy in Ghana by minimizing the infrastructural deficit gap of UENR through various financing arrangements between the University and its partners. This flagship policy will prepare UENR to absorb a greater number of students who apply for admissions.

2.0 Governance

The Enterprise comprises a seven (7) member-boards and one (1) Junior Assistant Registrar. Specifically, the composition consists of a six-member internal directors and one external directors:.

Internal Board Members

Emmanuel Opoku Marfo (PhD)	Board Chairman
Nicholas Oppong Mensah (PhD)	Member
Mr. Augustine Opoku Mensah	Member
Mr. Emmanuel Kankam Boadu	Member
Mr. Paul Hammond	Member
Mr. Richard Andoh	Board Secretary

**CENTRE FOR
GRANTS, RESEARCH
AND INNOVATION
(CeGRI)**

CENTRE FOR GRANTS, RESEARCH AND INNOVATION (CeGRI)

1.0 Introduction

The Centre was established and launched in June 2021 in accordance with the Vice-Chancellor's vision backed by the statutes of the University to promote research activities in the University and supervise the efficient administration of various research grants, awards, fellowships, scholarships etc. In addition to the above the Centre is to implement the University research policy and promote innovation and technology transfer and ensure that research is of high quality and meets international standards. Another important purpose for the establishment of the Centre is to ensure that consultancies, intellectual property and related activities are streamlined in the University.

1.1 Vision, Mission and Strategic Objectives

To become a strong and efficient research support and grant management system to drive accelerated institutional development.

To achieve this vision, the CeGRI shall coordinate research activities in the University through the provision of various technical, administrative and financial management support services that enhance delivery of high-quality research and innovation that meet international standards.

Strategic Objectives

The strategic objectives of the Centre are as follows:

- i. Set-up an efficient system of research administration;
- ii. Develop research policies and associated policy guidelines for the University;
- iii. Provide skilled support for development of grant applications;
- iv. Support the development of research agenda and promote interdisciplinary research;
- v. Set-up a research fund to promote internal research competition within the university;
- vi. Manage technology transfer and intellectual property;
- vii. Develop a system to evaluate, analyze, report and disseminate institutional research performance;
- viii. Provide support to the regular publication of the UENR Journal;
- ix. Ensure efficient financial management of projects and strengthen internal controls on the use of research funds;

Functions and Services

The Centre for Grant, Research and Innovation is set out to perform the following functions;

- i. Implement research policy and policy guidelines
- ii. Administration of research grants
- iii. Administration of educational grants
- iv. Administration of travel and conference grants

- v. Promotion of University research agenda
- vi. Set-up and administer the University research fund
- vii. Research performance monitoring, evaluation and dissemination.
- viii. Manage technology transfer, intellectual property and consultancies
- ix. Develop and implement research ethics policies and guidelines

To ensure that CeGRI performs its functions, the Centre shall support the University community with the following services to smoothen the grant administration and management processes in the University;

- i. Proposal development and grant application support
- ii. Pre-and post-award services
- iii. General research project management support
- iv. Research capacity building and training
- v. Research communication, engagement and advocacy training
- vi. Support for project monitoring, evaluation and reporting.
- vii. Support for projects' budgeting, implementation and controls.
- viii. Financial management and grant accounting of projects
- ix. Organise external audits

Units

For effective and efficient administration of its activities within the University, CeGRI comprises of the following units;

- a. Research Development
- b. Project Administration
- c. Research Performance, Monitoring and Evaluation
- d. Innovation, Technology Transfer and Intellectual Property
- e. Research Ethics
- f. Finance and Accounts

For the year 2022, the Centre planned for the following activities;

- a. finalize and submit the draft the University Research Agenda(URA) for approval and ratification by the Academic Board and the University Council respectively
- b. Launch the approved URA
- c. Finalize and submit the guidelines for project administration for approval and ratification.
- d. Preparation of GFP call announcement and associated guidelines/online application system
- e. Training and capacity building for CeGRI staff
- f. Training and capacity building for Research Officers and Dept Committees
- g. Migration of existing projects to CeGRI administration
- h. Publication of research performance report

Directorate/Division and Staff

- | | |
|------------------------------|---------------------------------|
| a. Dr. Peter Osam Sanful | Acting Director |
| b. Rev. Amoah Kwaku Karikari | Assistant Registrar |
| c. Mr. Bright Adarkwa | Senior Administrative Assistant |

Major Activities over the Past Year

1. Completed Activities

- a. Final draft of the University Research Agenda (URA) submitted to the University Management
- b. Final draft of the University Research Policy submitted to the University Management
- c. Final draft of the Guidelines for Project Administration submitted to the University Management
- d. Guidelines for the University Grant Funding Programme (GFP)

2. Ongoing Activities

- a. Launching of the University Research Fund
- b. Preparation of GFP call announcement and associated guidelines/online application system
- c. First University Research Performance Report
- d. Migration of existing projects to CeGRI administration

Other Activities

The Centre through the support of RCEES organised a four day retreat for the members of the Central Research Consultative Committee to review the University Research Agenda and the Guidelines for Project Administration. Members of the committee also looked at the establishment of the Technology Transfer and Research Commercialization Office.

Challenges

- a. Office space for the Centre to operate
- b. Inadequate staffing.

Future Plans of the Office/Directorate/Division

- a. Training and capacity building for CeGRI staff
- b. Training and capacity building for Research Officers and Departmental Committees

CENTRE FOR PROFESSIONAL DEVELOPMENT (CePDev)

CENTRE FOR PROFESSIONAL DEVELOPMENT (CePDev)

Introduction

The Centre for Professional Development (CePDev) was established in June 2021 and inaugurated in August 2021. The core mandate of the Centre is to organize and facilitate professional development for the university's teaching staff and graduate students through training workshops, seminars, and conferences. It also offers short courses to meet individual professional and external organizational needs upon request.

Staff

1. Assoc. Prof (Mrs.) Mercy A. A Derkyi, Head
2. Abigail Codjoe, Junior Assistant Registrar

Major Activities over the Past Year

1. CePDev organized a three-day training workshop from 10th-12th January 2022 on "Innovative Teaching and Assessment Practices in Higher Education" (ITaAPiHE-2022) for all the university's teaching staff. Topics covered included; Innovative Strategies for Teaching in Higher Education, Issues in Assessment, Aligning Course Content, Teaching Strategies and Assessment in Higher Education, Preparation of Course Outlines, Test Item Construction, Development of Marking Schemes and Aligning Outcomes. The workshop was facilitated by Professor Eric Anane (Director, Centre for Teacher Professional Development, UCC) and Dr Godwin Kwame Aboagye-Coordinator, Centre for Teaching Support, UCC and co-facilitated by Professor Adebayor Adekoyah-UENR, Professor. Yaw Ofosu Kusi-UENR and Professor Nana Sarfo Agyemang Derkyi-UENR.

The workshop was financed through CePDev's budget line, and the compiled notes from the workshop were shared with all the teaching staff and Management. One hundred and fifty-four teaching staff attended, and all participants were issued certificates. The workshop was captured on page 7 of the Ghanaian Times Newspaper on January 14 2022.

2. In March 2022, the Centre collaborated with the Information Technology Directorate (ITD) to organize a workshop for all Lecturers, Registrars and Students on The New Management System named "Academic Tracker" before rolling it out. CePDev provided funds for the training from its budgetline.
3. CePDev held a maiden meeting with Professional Development Representatives of Schools and Centres on July 1, 2022, to familiarize themselves with the Vision, Mission, Mandate, Values and strategic directions of CePDev and the roles of the schools' staff professional development representatives. Five schools and four Centres representatives were present at the meeting. It was agreed that they would serve as liaisons between the Centre and their schools/centres in doing needs assessment of staff and budgeting for professional development.
4. CePDev organized a Two-Day workshop from July 7 to July 8, 2022, for all staff of UENR Basic School (UBS), intended to acquaint the teaching staff with the new Standard-Based Curriculum introduced by the Ghana Education Service (GES).

Officers from the Sunyani West Municipal Education Directorate co-facilitated the workshop with CePDev. The entire training was interactive; participants did many group assignments and presented their work for discussion. Draft report is ready and will be shared with the Head of Basic School.

5. On September 1 2022, the Centre interacted with Deans, Heads of Departments, and Faculty Directors at the Fench Laboratory to create a strong spirit of collaboration between the Centre and Faculty and encourage them to plan and budget for the professional development of staff in their Departments, Schools and Centres. Participants were satisfied with the idea of having Representatives at the Schools. They gave insightful suggestions to the Centre and guaranteed their readiness for continuous collaboration. In all, there were seventeen (17) participants at the meeting.
6. The centre organized a two-day training workshop for deans, heads, directors, and representatives of the centre for professional development of the university of energy and natural resources on the theme “transformational leadership, management and resource mobilization in enhancing higher education governance at UENR”

Academic Governance and Leadership-SALT Lens, Administrative principles, procedures and skills for academic leaders, Procurement procedures and adherence, Records keeping in the office and internal and external office communication tools, Networking, partnership and resource mobilization, Stress management, Planning and budgeting for professional development, General procedures for promotion application, Audit procedures For internal control systems, Enhancing entrepreneurship, innovation, and sustainability in higher education in Africa

Other Activities

Conferences

- CePDev collaborated with the International Relations Office (IRO) to organize a One-Day Pre-UNOOSA virtual workshop for UENR Senior Members and Graduate Students dubbed "Multi and transdisciplinary research: Building Profile on Research Capacities" on Monday, May 9 2022. The collaborators were: Dr Komali Kantamaneni, Senior Research Fellow University of Central Lancashire, UK, Prof. Sulochana, Shekhar -Dean Central University of Tamil Nadu, India, Dr Nabil Khélifi, Senior Editor –SPRINGER, Ms Athanasia, Apostolopoulou, Researcher -Geospatial Systems University of Nottingham, Mr Paul Rowe- Director of international partnership and Ms Angeline Malaba Ward - Regional Manager - Sub-Saharan Africa, University of Central Lancashire. Materials from the workshop were shared with all the teaching staff and other participant.
- CePDev collaborated with Wageningen University and Research Center for Development Innovations (WUR-CDI) in the Netherlands and partners to organize a Two-Day conference dubbed "NBS4food; getting prepared for a resilient climate future". The central objective of the NBS4F Conference was to build a collective understanding of the concept of Nature-Based Solutions (NBS) and explore the current and future potential for Bono and Bono East Regions on Forest Landscape Restoration (FLR) and Rainwater Harvesting (RWH). The conference was in two sessions: the opening ceremony and the Technical. The Regional Minister, Hon.

Justina O, Banahene, the special guest of honour, graced the occasion with her support for NBS and chaired by the Acting Pro-VC, Professor John Kuwornu. Our Netherlands collaborators were Drs van Oosten, Duku, Rossi Cervi and Verweiji (all from Wageningen University and Research, Netherlands). The partners were Solidaridard Ghana, Tropenbos Ghana, RMSC-Forestry Commission.

The financial support received from WUR-NL is nine thousand, eight hundred and seventy-eight Euros. The Cedi equivalence of GH¢ 79,024.00 and Tropenbos Ghana supported the networking dinner held after the conference. The conference was climaxed by a field trip to the Tanoboase Sacred Groove in the Techiman North district and the Boaben Fiema Monkey Sanctuary in the Nkoranza North district. About one hundred and twenty-five (125) participated. A report on the conference has been shared with the team. In view of the success of the programme, there are plans for a follow up of the NBS action research and capacity building in the Bono Region. CePDev painted the University Auditorium and furnished it with curtain blinds as a way of beautification.

Challenges

1. The Centre is yet to receive office equipment such as desktop computers, photocopier machines, scanning machines, printers etc.
2. The office does not have an Administrative Assistant

Future Plans of the Office/Directorate/Division/

Planning to run short courses and open up the Centre to external clients. This is expected to be a source of income to the university.

OFFICE OF THE REGISTRAR

OFFICE OF THE REGISTRAR

1.0 Introduction

The Office of the Registrar is the apex coordinating administrative wing of the University, and therefore sees to the adherence of administrative procedures of all the offices under the Registrar's Office and the entire University.

The Office of the Registrar functions by performing the following, among others:

1. The day-to-day administration and management of the University.
2. See to the adherence to administrative procedures and compliance with the Act establishing the University, the Statutes and all other related Acts and Policies governing all offices under the Registrar's Office and the entire University.
3. All Secretarial, advisory as well as administrative management responsibilities in the University.
4. Upgrade the knowledge and skills of all levels of Administrative Staff.

2.0 Staff

- | | |
|-------------------------------|---------------------------------|
| 1. Solomon Panford, Esq, APR. | Registrar |
| 2. Ms. Bernice Kyei-Mensah | Assistant Registrar |
| 3. Ms. Iris Ashorkor Akrong | Senior Administrative Assistant |

3.0 Deliverables

The Registrar's Office continued to provide the overall backstopping to the entire administrative machinery of the University through the following Divisions under the Registrar's Offices:

- Human Resources Division
- General Administration Division
- Academic and Students' Affairs Division
- University Relations Office
- University Legal Office
- Etc.

Essentially, therefore the detailed account of the various deliverables within the year under review are as provided below under the divisional reports.

HUMAN RESOURCES DIVISION

HUMAN RESOURCES DIVISION

1.0 Introduction

The Human Resources Division is an Office under the Registrar's Office mandated for the management of Human Resources of the University and performs functions such as Appointments and Promotions; Training and Development; Performance Management; Employee Welfare, Labour Relations, compensation etc. Currently, the Division operates with Three (3) Sections which are Senior Members Appointments and Promotions; Senior and Junior Staff Appointments and Promotions; and Training and Development. The Training and Development Section ensures adherence to relevant policies on Sabbatical Leave, Study Leave, Leave of Absence etc.; and liaise with the Scholarship and Staff Development Committee to grant staff appropriate leave. The Senior and Junior Staff Appointments and Promotions Section undertakes the day-to-day administration of the Junior and Senior Staff while the Senior Members Appointments and Promotions Section also addresses issues concerning Senior Members.

2.0 Staff of The Division

s/n	Name	Designation	Qualification (s)
1	Ms. Yvonne Claire Dumenu	Ag. Head, Assistant Registrar	Chartered Member, Chartered Institute of Human Resource Management MA. Human Resource Management, UCC BA. Social Sciences, UCC

2	Mr. John Kwasi Annan	Junior Assistant Registrar	<p>PhD. in Leadership, Yemyung Graduate University, South Korea</p> <p>M.Ed-Educational Administration and Management, UEW</p> <p>BBA-Banking and Finance, CSUC</p> <p>Diploma in Basic Education, UEW</p> <p>Teachers' Cert "A"</p>
3	Ms. Juliet Assumeng Benewaa	Junior Assistant Registrar	<p>MPhil. Business Administration (Human Resources Management), KNUST-Kumasi.</p> <p>MBA. Human Resource Management, UCC</p> <p>Post Graduate Diploma in Education, UCC</p> <p>Bachelor of Management Studies, UCC</p> <p>HND Secretaryship and Management Studies</p> <p>DBS (Secretarial Option), STU</p>

4	Ms. Cecilia Kubio	Junior Assistant Registrar	MSc. Development Policy and Planning, KNUST Postgraduate Diploma in Education, CUCG BA. Integrated Development Studies, UDS
5	Ms. Elsie Mark-Anthony	Principal Administrative Assistant	Full Member, Chartered Institute of Administrators and Management Consultants, Master of Public Administration, KNUST. BSc. Public Health & Allied Science-Health Education, CUCG
6	Mr. Bismark Osei	Senior Admin. Assistant	BSc Forest Resources Technology, KNUST
7	Mr. Clifford Asomah Kyere	Senior Admin. Assistant	MBA. Strategic Management, Valley View University. BA-Geography & Resource Dev't with Linguistics, UG-Legon

8	Ms. Francisca Gyanwah Forson	Senior Administrative Assistant	BSc. Development Planning, KNUST
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3.0 Major Activities Under the Period of Review

3.1 New Appointments

The Human Resources Division embarked on a recruitment process in December 2021 to mop-up the financial clearance granted by the Government on September 07, 2020. The following number of additional staff were employed between December 2021 and January 2022 as depicted below:

Senior Members	16
Teaching	14
Non-Teaching	2
Senior Staff	4
Junior Staff	2
Sub Total	22

3.1.2 Contract Appointment

The following contract staff were also recruited within the reporting period (December 2021-September 2022) to augment staff strength in some Departments.

Senior Staff	10
Junior Staff	9
Sub Total	19
Grand Total	41

3.2 Promotions and Upgrades

The Division also processed the applications of staff who were due for promotion and upgrade within the period.

3.2.1 Promotion

Senior Members	37
Senior Staff	10
Junior Staff	24
Total	71

Out of the 37 promotions of the Senior Members, 24 were promoted to some remarkable positions as spelt below:

Teaching

Full Professor	1
Associate Professor	1
Senior Lecturer	17

Non-Teaching

Deputy Registrar & Equivalences	4
Senior Assistant Registrar & Equivalences	1

3.2.2 Upgrade

Upgrade to the rank of a Lecturer	4
Upgrade to Assistant Registrar & Equivalences	8

3.2.3 Appointment on Promotion

Senior Staff to Senior Member	1
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3.3 Training and Development

The Division embarked on training and staff engagement programmes to ensure professional development and productivity of various categories of staff. The underlisted programmes were held within the period;

COMPLETED

- a. Orientation for the 2021/2022 National Service Personnel (December 2021)
- b. Orientation for newly recruited Senior Members (February 2022)
- c. Orientation for newly recruited Senior Staff (February 2022)
- d. Working Visit to Dormaa Campus (May 2022)
- e. Official Closing Ceremony for National Service Personnel (August 2022)
- f. Training for University Drivers (October 11 to 12, 2022)

3.4 PERFORMANCE MANAGEMENT OF STAFF

COMPLETED

- a. Measures were taken to strengthen the annual performance appraisal of staff, especially Administrative/Professional by training staff on the existing Performance Management System.
- b. With regard to the just-ended 2021/2022 appraisal year, a significant number of Administrative/Professional staff have submitted their target setting and end-of-year appraisal.
- c. Notice has been issued for the submission of targets for the 2022/2023

academic year.

- d. The evaluation of Human Relations for Administrative/Professional Senior Members recommended by Appointments and Promotions Criteria has successfully been implemented.
- e. Assessments of all Senior Members Administrative/Professional have been carried out in the various Departments and analysis is completed.
- f. The Division is working hard to deploy a google form for the Human Relations Assessment of Senior Members.

PENDING

The Division is yet to submit a report on Human Relations Assessment for Administrative/Professional for the 2021/2022 academic year.

3.5 Staff Statistics

The Division is effectively updating staff records and statistics. The table below shows the current staff distribution as of September 22, 2022.

3.5.1 Existing Staff Statistics

	Male	Female Total	
Senior Members (T)	213	56	269
Senior Members (NT)	52	27	79
Senior Members (Post-Ret)	6	-	6
Sub-Total			354
Senior Staff (Permanent)	158	94	252
Senior Staff (Contract)	8	4	12
Sub-Total			264
Junior Staff (Permanent)	91	54	145
Junior Staff (Contract)	9	29	38
Sub-Total			183
Casual Staff (All Junior Staff)	13	33	46
Project Staff	5	-	5
Grand Total			852

3.5.2 Separated Staff

Mode	Number
Retirement	2
Resignation	24
End of Contract	1
Vacation of Post	8
Total	35

4.0 Other Activities

4.1 Record Management

Record management at the Division has drastically improved and staff records are up-to-date. Manual files are in good shape and well-kept. The Division has created a database in various areas to augment the manual records. The Division has also embarked on the use of google tools like the google drive to back up and secure the electronic files.

4.2 Deployment of Digital Tools

The Division is gradually replacing the manual dispatching of letters with electronic mail and most of the electronic files are saved on google drive, to make data protection more efficient and effective.

5.0 Challenges

The Division faces some challenges that affect the effectiveness of its operations including the following:

a. Lack of Human Resource Information Management System/Software.

Currently, there is no available HR software for data management and other operations of the Division. Therefore, staff data and other information needed are compiled manually which does not enable the Division to achieve its desired efficiency.

b. Lack of Office Space

The Division does not have an office space of its own but a shared office of about 82sq ft. with other offices. This undermines the confidentiality aspect of the work. Some HR staff do not have a sitting place.

c. Staffing

The Division is under-staffed and as a result does not operate with the required number of Sections.

6.0 Future Plans of The Division

a. Digitization of the Operations of the Division

As the University strives to digitise most of its activities, the Human Resources Division is in collaboration with the IT Directorate seek to have a Human Resources Management software. This will enable the Division to offer online services.

b. Full Operationalisation of the organogram of the Division

The HR Division is structured to have five subsections, However, only three Sections are in operation due to inadequate staffing and office space. It is part of the Division's plans to activate the remaining two Sections.

GENERAL ADMINISTRATION DIVISION

GENERAL ADMINISTRATION DIVISION

1.0 Introduction

The General Administration Division provides strategic planning with respect to municipal services and coordinates other general services within the University such as security services, transport welfare services among others.

2.0 STAFF

David Twumasi-Ankrah	-	Ag. Head
Abdulai Zakaria	-	Head, Security Unit
Ebenezer L. Tetteh	-	Head, Transport Unit
Ms. Philipa Mensah	-	Head, Municipal Services
Osei Owusu-Ansah	-	Junior Assistant Registrar
Gifty Adede Mensah	-	Senior Administrative Assistant
Mary Ampomah Twum	-	Senior Administrative Assistant

3.0 Major Activities over the Past Year

Over the past year the Office undertook the following activities;

- Food Handlers Certificate for Staff at The Cafeteria
- Regular health checks for Drivers and Security

• POLICIES

The following policies were drafted and submitted for consideration by Management:

- Transport Management
- Security and Safety

Other Activities

Workshops/Conferences/Seminars

The staff took part in the following Conference, Workshops and Seminars:

- International Public Relations Association (IPRA) Workshop on “Running a PR Agency During War” 14th September 2022.
- Two-day IPR GHANA CPDP - ESTABLISHING STRATEGIC DIRECTION IN PR 15 – 16 September 2022.
- African Security Conference on Private Security and its Role in Business and Government in Africa from 28 – 29 July 2022.
- Two-day Transformational dialogue on small-scale mining from 25 – 26 May, 2022.
- UN/Ghana/PSIPW 5th International Conference on the Use of Space Technology for Water Resources Management - 10th – 13th May, 2022.
- Two-day conference for University Administrators on the theme ‘University Administrators in (challenging) times’ - 23 – 24th June, 2022.
- Administrative Professionals in the success of Ghana Public Management reform – 27th July, 2022.
- Three (3) day GAUA congress on the theme ‘Corporate Governance and the Socio-political environment of public universities in Ghana- the role of the university Administrator – 4th - 7th August, 2022.

Collaborations

Collaborated with the Driver and Vehicle Licencing Authority, Road Safety Commission and Ghana National Fire Service for the training of our drivers.

Collaborated with the International Relations Office to secure sponsorship of GHC 328,044.30 to support the UN/Ghana/PSIPW 5th International Conference on the Use of Space Technology for Water Resources Management hosted by the University.

Collaborated with 3BN for recruitment and training of some security staff.

Challenges

- Inadequate skilled security personnel
- Inadequate skilled drivers
- Inadequate vehicles

Future Plans of the Office

- Strategic recruitment of Security personnel.
- Procurement of cross-country and other vehicles
- Construction of lube and washing bay.

ACADEMIC AND STUDENTS' AFFAIRS DIVISION

ACADEMIC AND STUDENTS' AFFAIRS DIVISION

Introduction

The Academic and Students' Affairs Division (ASAD) is under the Registrar's Office and performs the following functions:

- i. makes recommendations to the Academic Board, Executive Committee and Senior Management on academic policy proposals and strategies.
- ii. implements decisions from the Academic Board, Executive Committee and Senior Management.
- iii. coordinates all admission processes (advertising, processing of applications, and issuing of offers letters).
- iv. coordinates University ceremonies including Orientation, Matriculation, and Congregation
- v. coordinates and supervises Examinations.
- vi. prepares the Academic Calendar of the University for Academic Board approval.
- vii. liaises with appropriate external bodies to verify all admission documents and enrol students on National Service.
- viii. offers students' services including issuing transcripts, introductory letters, and certification.

The Division has three sections, namely, Admissions, Examinations, and Students' Services

Staff

Dr. George Kwadwo Anane	-	Senior Assistant Registrar/Acting Head
Mr. Elijah Ofori-Badu	-	Assistant Registrar (Examinations Unit)
Mr. David Abeam Takyi	-	Assistant Registrar (Admissions Unit)
Mr. Akwasi Hinnah Boateng	-	Snr. Admin. Assistant
Mr. Edward Yaw Nyameche	-	Snr. Admin. Assistant
Mr. Emmanuel Kombiok	-	Snr. Admin. Assistant
Ms. Millicent Mensah	-	Snr. Admin. Assistant
Ms. Nancy Appiah Tuah	-	Snr. Admin. Assistant

Major Activities over the Past Year

Completed Activities

- i. Processed applications leading to the admission of over 3000 freshmen for the 2021/2022 Academic Year.
- ii. Successfully organised Orientation programme for freshmen in the 2021/2022 Academic Year
- iii. Coordinated Matriculation Ceremony for freshmen of the 2021/2022 Academic Year.
- iv. Enrolled all eligible final year students for the 2022/2023 National Service Year.

Ongoing Activities

- i. Receiving and processing of applications for the 2022/2023 Admission Year.
- ii. Coordinating planning of the 7th Congregation
- iii. Outreach activities on admissions
- iv. Validating data of final year class for certification.
- v. Coordinating entrance examinations and interviews for applicants into the BSc. Nursing and BSc. Medical Laboratory Science programmes, and Mature Entrance Examinations.

Challenges

The Division is facing challenges in relation to appropriate and adequate office space for staff. The Division also lacks appropriate technologies for academic service delivery.

Future Plans of the Division

Proposals have reached advanced stages of approval by the Academic Board and Senior Management to restructure the Academic and Students' Affairs Division into the Academic Affairs Division with additional units to meet current and emerging needs of staff and students. The Division also plans to introduce technologies with capacity to improve academic service delivery.

UNIVERSITY RELATIONS OFFICE (URO)

UNIVERSITY RELATIONS OFFICE (URO)

1.0 INTRODUCTION

The University Relations Office (URO) is the University's official Communication Centre. The office oversees all events, ceremonies, and programs of the University and offers strategies for engaging stakeholders, policy alternatives on PR-related issues, and protocol services. Through stakeholder relationships, the URO aspires to give the University a global presence.

The University Relations Office has three sections namely: Public Relations and Protocol; Publication and Documentation; and Media Relations. These sections work together to achieve the common goal of projecting the University in a positive light to all stakeholders.

Over time, the various sections have engaged in a number of activities that have improved the effectiveness and efficiency of the office. The following Units highlight a few of the activities.

2.0. STAFF

1. Mr. Hayford Asare	Deputy Registrar, Head
2. Miss Martina Asantewaa Anane	Assistant Registrar
3. Ms. Abigail Yeboah-Kyereh	Assistant Registrar
4. Mr. Benjamin Gyamera	Junior Assistant Registrar
5. Miss Jennifer Naa Jaaga	Senior Administrative Assistant
6. Mr. Theophilus Essiam	Senior Administrative Assistant
7. Mr. Kenneth A. Quayson	Senior Administrative Assistant
8. Mr. Emmanuel Appiah	Senior Administrative Assistant
9. Mr. Patrick Nkansa-Kyerematen	Snr. ICT Clerk
10. Harry Hope Korda	Senior Administrative Assistant

Greena FM

1. Mr. Paul Ofori-Amanfo	Manager
2. Mr. James Kofi Agyei-Bohyen Boatin	Principal Administrative Assistant
3. Ms. Rhoda K. Boateng	Administrative Assistant
4. Mr. Raymond Mensah	Senior Administrative Assistant
5. Mr. Samuel Apraku	Technician
6. Mr. Enock Ofori Larbi	Senior Administrative Assistant

3.0 MAJOR ACTIVITIES OVER THE PAST YEAR

A) COMPLETED ACTIVITIES

PUBLIC RELATIONS AND PROTOCOL

1. Participated and Coordinated university events such as the
 - a. Transformational Dialogue on Small Scale and Artisanal Mining
 - b. 1st Inaugural and Public Lectures
 - c. Chemistry Festival
 - d. 6th Congregation held in November 2021
 - e. 7th Matriculation Ceremony and Thanksgiving Service
 - f. Assisted in the organization and execution of the STEAM festival 2022.
 - g. Enrolment drive with Academic and Students' Affairs Division and Institutional Advancement and Alumni Relations
 - h. Assisted in live streaming and audio Visuals of the UNOOSA Conference
 - i. Assisted in organizing a symposium by the Fisheries department
 - j. Assisted in Live streaming and providing audio visuals of Ghana Association of Agricultural Economists (GAAE) annual conference.
 - J. Assisted in organizing Climate Change Colloquium.

PUBLICATIONS AND DOCUMENTATION

2. Present at special events such as signing of MoUs, management meetings, and stakeholders' engagements.
3. Publication of university events on the University website
4. Publication of Technologist
5. Rebranding of UENR This Week
6. Publishing of staff list in the Chronicler
7. Printing of university souvenirs (Diaries, Calendars, Notepads, etc)
8. Continuation of designed University letterhead for all Directorates, Schools, and Departments.
9. Designed other communicative documents for the University.

MEDIA RELATIONS

10. Creation of content for University Website and sub-domain websites for all Schools of the University.
11. Creation of content for UENR This Week and Chronicler
12. Effective management of the University's social media handles
13. Placed advertisements on print media (Daily Graphic and Ghanaian Times).

The above activities undertaken by the office have purposefully achieved the goals and objectives set by the office.

B) ONGOING ACTIVITIES

- I. Procurement of Diaries, Calendars and Notepad
- II. Procurement of office equipment
- III. Preparation toward the Grand Durbar for the 10th Anniversary Celebration
- IV. Preparation for the 7th Congregation
- V. Coordination with the Academic and Students' Affairs Division to issue students ID cards.
- VI. Facilitation of signage of MoU between UENR and Passion Air

4.0 CHALLENGES

- I. Lack of sound system and other equipment for events.
- II. Inadequate office equipment and lack of computers for some staff.
- III. Inadequate gadgets for pictures, videos and live streaming.

5.0 WORKSHOPS/CONFERENCE/SEMINARS

- » Administrators Conference held from June 23 to 24, 2022 at the Tyco City Hotel, Sunyani.
- » GAUA National Congress held from August 4 to 6, 2022 at University of Education Winneba (UEW).
- » Completed Short Courses in Digital Marketing and Corporate Communications from Institute of Digital Marketing and Corporate Communications (IDMC) on March 3, 2022.
- » Workshop on Writing for Impact held on September 29, 2022, at Sheila's Executive Hotel.
- » A staff selected to attend Young African Leaders Initiative for Emerging African Leaders at GIMPA from October 17 to November 4, 2023.
- » Study tour to KNUST, UPSA and University of Ghana, from August 16, to 19, 2022.
- » 5-day short course on Climate Change and Economic Resilience (CCER), from Monday, August 8 to Friday, August 12, 2022.

6.0. FUTURE PLANS OF THE OFFICE

- I. To help establish and optimize patronage of UENR online TV.
- II. To ensure a bimonthly or quarterly publication of the Chronicler to disseminate the University's major decisions of Council, Academic Board and Management.

LEGAL OFFICE DIVISION

LEGAL OFFICE DIVISION

Introduction

The Legal Office Division of the University is established under Statute 77(1) of the University of Energy and Natural Resources Statutes. According to Statute 77(4), the following are the functions of the office:

- a) "Providing legal advice and guidance;
- b) Developing and implementing mechanisms for internal dispute resolution;
- c) Prosecution of cases in court and litigation management;
- d) Documentation, preparation and drafting of legal documents; ensuring compliance with established Acts of Parliament, statutes, general rules and regulations and relevant laws of the Republic of Ghana;
- e) Other related matters shall be determined by the Council and or the Vice-Chancellor."

Staff

- | | | |
|---------------------------|---|---------------------------------|
| 1. Jonathan Odartey, Esq | - | Ag. Head of the Division |
| 2. Joy Sarkodie-Addo, Esq | - | Junior Assistant Registrar |
| 3. Ms. Linda Boadu | - | Senior Administrative Assistant |

Major Activities over the Past Year

1. Over the last year, the Legal Office has reviewed a plethora of memoranda of understanding and other agreements involving her and other institutions, both nationally and internationally, to ensure that these agreements are in line with the laws of Ghana, to identify all legal risks and ensure they are appropriately managed to the University's benefit in achieving its mission and vision. Indeed, some of these documents have been executed.
2. In addition, the Legal Office has also prepared some legal documents in respect of building and other projects the University is undertaking.

Workshop/Conference

The Ag. Head and Junior Assistant Registrar attended the 2022 Ghana Bar Association Conference on the theme "Ghana's Democracy under the Fourth Republic- Gains, Challenges and Prospects" at Ho.

Other Activities

- » The Division advises the University community in all legal matters.
- » It also conducts the University's case in court.

Challenges

Lack of office space and the necessary logistics.

Future Plans of the Division

1. To get a suitable office fully equipped to enable the Division to perform its functions effectively.
2. To use its knowledge and expertise to assist the University achieve its vision to become a world class institution for generating, advancing and applying knowledge in energy and natural resource sciences.
3. Training of staff of the Division to provide further skills and knowledge which will improve upon work output.

GROUNDS, GARDENS AND BEAUTIFICATION

GROUNDS, GARDENS AND BEAUTIFICATION

Introduction

The creation of Grounds, Gardens and Beatification Section (GGBS) is to develop, manage and maintain the landscapes of the University of Energy and Natural Resources (UENR) with the vision to become a world-class green university campus, visually aesthetic, functionally interactive and naturally sustainable and a mission to develop and sustainably maintain the campus landscape so as to provide the requisite ambience for an interactive teaching, learning and research, while enhancing the wellbeing of students, staff and visitors.

Staff

1. Casual workers	-	16
2. Junior staff	-	14
3. Senior staff	-	2
4. Senior Member/Head	-	1
Total	-	33

Major Activities over the Past year

1) Completed Activities

- » Lawn establishment at “Eye of God” entrance gate area/frontage of the university
- » Establishment of lawns adjacent to the science block complex.
- » Propagation and mass multiplication of ornamental plants and flowers at the plant nursery.
- » Preparation of the UENR basic school premises for the joint launching of the Bono Regional Green Ghana programme.
- » Major pruning of trees on campus.
- » Establishment of hedge plants along the Police Post stretch and some newly created walkways on campus.
- » Maintenance of the existing lawns, gardens and other plants on campus.

b) Ongoing Activities

- » Maintenance of the existing lawns, hedges and gardens as well as the newly created ones.
- » Continuation of the mass multiplication of ornamental plants at the nursery.
- » Pruning of over-grown trees and shrubs and the felling of dead trees.
- » Removal of debris including construction wastes from the campus landscape.

Other Activities

- » **Workshops:** - Organized on the job training of the casual workers on the right use of horticultural tools and equipment as well as work safety procedures.

Challenges

- » Lack of changing room for workers.
- » Inadequate and irregular water supplies to sustain and maintain the establishment of plants on campus.
- » Inadequate space to keep tools and equipment.
- » Low daily wages for the casual workers and there is no insurance against occupational health and safety for injuries.

Future Plans of the Office/Directorate/Division

- » Launching of the Greening UENR Fraternity (GUF) programme.
- » Expansion of the plant nursery and the establishment of UENR Landscape Horticultural Nursery (ULHN) Center for Internally Generated Funds (IGF) and also for the landscaping of both the Sunyani and Dormaa Ahenkro campuses.
- » Expansion of the lawn establishment and the incorporations of theme gardens into the campus landscapes.
- » Installation of water systems to enhance the various on-going projects.

SPORTS AND RECREATIONAL DIRECTORATE

SPORTS AND RECREATION DIRECTORATE

Introduction

The Directorate was established in accordance with Statute 33 of the Statutes of the University. Currently, the Sports and Recreation Directorate has a staff strength of five coaches and a secretary. The Sports and Recreation Directorate serves as the main body with direct responsibility for overseeing the overall development and management of sports and recreation within the University. The Directorate is responsible for:

- a) Development of sports and related activities;
- b) Organisation of sporting events;
- c) Liaison with external sports organizations;
- d) Advising the Academic Board on matters relating to the award of academic credit for student participation in sports;
- e) Holding sporting clinics for members of the University;
- f) Representing the University on external sporting bodies;
- g) Preparation of teams for sporting events

The staff of the Directorate

- | | | |
|-----------------------|---|-----------------------------------|
| 1. Ebenezer K. Armoh | - | Ag. Director |
| 2. Bosomtwe Simon | - | Coach Football/ Basic School |
| 3. Asare Abene Alfred | - | Coach Basketball |
| 4. Adofo Mireku Enoch | - | Coach Athletics |
| 5. David Aryeteey | - | Coach, in charge of Dormaa Campus |
| 6. Kate Afram | - | Senior Administrative Assistant |

Major Activities over the Past Year

- (i) The Sports Directorate with the help of the Sports Committee presented a list of recruited athletes to Management for admission, accommodation, and assistantship (scholarship). Management accepted the list and offered them admission, and all the support they needed. The athletes began training with keen interest while combining training with their academic work.
- (ii) Management in an effort to provide the University with a sports complex, cut sod for the construction of the first phase of the sports complex consisting of a football field, fencing, irrigation, and athletic oval construction.
- (iii) The Sports Directorate requested that Management use last year's GUSA budget to procure sports equipment needed for training e.g., landing foam, starting blocks, jerseys, table tennis board etc. Management granted the request and provided the Directorate with the aforementioned equipment.
- (iv) A proposal was sent to the National Sports Authority requesting for construction of a sports facility for UENR which they promised to construct. However, upon several reminders, their outfit has not honoured their promise yet.

- (v) The Sports Directorate represented the University at the inter-university cross-country competition, which took place at Ho in the Volta Region. The number of public universities that took part were fifteen (15). At the end of the competition, UENR placed seventh (7th).
- (vi) The Sports Directorate organised intensive training sessions for athletes to prepare them for the Main GUSA Games which will be hosted by KNUST at Kumasi in the Ashanti Region from 4th to 19th November 2022.
- (vii) Currently, thirty (30) football players, fifteen (15) athletes and fourteen (14) basketball players, making a total of sixty athletes have been invited for pre-competition preparation (camping), which will start on 23rd October 2022 to 3rd November 2022. During the pre-competition preparation (camping), 23 football players, 12 basketball players, 15 athletes and 2 football referees making a total of fifty-two (52) member contingent left UENR for KNUST on the 4th November 2022 for the main GUSA Games Competition

Other Activities

Workshop

Four staff members had the opportunity to attend workshops and conferences in Kumasi, Ashanti Region and Sunyani- TYCO CITY respectively. The respective staff are as follows:

Mr. Simon Bosomtwe (Football and athletics)

Mr. Enoch Adofo Mireku (Athletics and Football)

Mr. David Aryeteey (Handball and Athletics)

Mr. Armoh Ebenezer Kingsley (Ag. Director) has been invited by Ghana Football Association (GFA) to a 5-aside football instructor's workshop at Ghanaman Center of Excellence at Prampram

Conference

Mr. Ebenezer Kingsley Armoh attended a conference organised by Ghana University Administrators Association at TYCO -(University Administrators in Changing (challenging) Times – 23rd -24th June 2022)

Challenges

1. The athletes who combine sporting activities with academic work find it difficult to excel in their academic work, with specific examples of some athletes who have been reported to have been referred to in some papers.
2. Inadequate office space, administrative office equipment such as computers, printers, photocopiers, and scanner

Future Plans of the Office/Directorate/Division

1. The Directorate believes that there is a need to admit athletes purposely for cross country competitions because cross country is a long-distance event with the least distance of 10 kilometers distance. Using football players and sprinters for such events is not advisable.

2. Lecturers could be considerate of the sportsmen and women who combine academic work with sporting activities
3. The Directorate suggests that few athletes, especially female athletes, should be admitted in order to have gender balance and representation during our games at the GUSA level. We suggest scouting for at least six female athletes and six males for long-distance events.
4. The Directorate also recommends a hostel facility for all the sportsmen and women to avoid the complaints of walking for long distances to and from training.

Conclusion

The sports Directorate on behalf of the sports and recreation committee is very grateful to the University Management for their support of talent development and to making sure that athletes are developing their future opportunities.

UNIVERSITY HEALTH SERVICES DIRECTORATE

UNIVERSITY HEALTH SERVICES DIRECTORATE

Introduction

This report covers activities of the University Health Services Directorate from January to September, 2022.

The University Health Services Directorate provides healthcare services to students, staff and their relatives as well as the surrounding communities. The Clinic provides a 24hr service delivery. The Clinic has provided various services in the areas of medicine, minor surgery, gynecology, pediatrics, and reproductive and child health such as immunisation, family planning, school health services, child welfare clinic and home visits.

Divisions

The University Health Services Directorate has the following Units;

- » The Administration
- » Pharmacy
- » Nursing
- » Public Head Unit
- » O.P.D
- » Laboratory
- » Male/Female Ward
- » Records Unit

Staff Strength

The Directorate has a staff strength of Forty (40) out of which twenty three (23) are nurses on secondment from Ghana Health Service.

PERMANENT STAFF

NO	NAME	DESIGNATION
1	Dr. Solomon Fofie	Ag. Director / Principal Medical Officer
2	Dr. Mrs. Augusta Adjei-Mensah	Pharmacist
3	Ms. Dorothy Agyenim Boateng	Assistant Registrar / Clinic Administrator
4	Mr. Abdul Ganiwu	Assistant Registrar Laboratory
5	Ms. Lois Azupwah	Chief Nursing Officer
6	Ms. Dorcas Afriyie-Takyi	Senior Physician Assistant
7	Ms. Jessica Awuah-Pokuaa	Snr Biostatistician
8	Mr. Wiafe Prince	Pharmacy Technician
9	Ms. Ophelia Kissiwaa	Senior Administrative Assistant
10	Ms. Eshun Kwao Betty	Senior Health Superintendent

11	Ms. Adu-Asare Esther	Principal Enrolled Nurse
12	Mr. Simon Adomako	Nursing Officer
13	Mr. Thomas Amponsah	Senior Medical Assistant
STAFF ON SECONDMENT		
1	Ms. Mahama Ramat	Staff Nurse
2	Mr. Mensah Samuel	Staff Nurse
3	Ms. Yeboah Afrah Monica	Staff Nurse
4	Mr. Michael Awuah	Staff Nurse
5	Mr. Asamoah Obed	Staff Nurse
6	Ms. Gidi Georgina	Senior Enrolled Nurse
7	Ms. Yeboah Abigail Nketiah	Senior Enrolled Nurse
8	Mr. John Assan	Enrolled Nurse
9	Ms. Yeboah Bonsu Leticia	Enrolled Nurse
10	Ms. Serwaa Tina	Enrolled Nurse
11	Ms. Serwaa Susana	Enrolled Nurse
12	Ms. Ennor Elsie	Enrolled Nurse
13	Ms. Boatemaa Yvonne Asare	Enrolled Nurse
14	Ms. Barbara Acheampong	Enrolled Nurse
15	Ms. Josephine Boatemaa	Enrolled Nurse
16	Mr. Emmanuel Barnie	Community Health Nurse
17	Ms. Manu Kusiwaa	Enrolled Nurse
18	Mr. Appiah Emmanuel	Enrolled Nurse
19	Ms. Gyimah Abigail	Enrolled Nurse
20	Ms. Siaw Joyceline	Enrolled Nurse
21	Eunice Yeboah	Community Health Nurse
22	Patricia Konadu	Staff Nurse
23	Debora Oppong Manu	Enrolled Nurse
24	Grace Ankomah Botwe	Enrolled Nurse
FINANCE STAFF		
1	Ms. Danquah Patricia	Senior Accounting Assistant
2	Mr. Ankrah Nii Samuel	Senior Accounting Assistant

ACTIVITIES CARRIED OUT

Medical Examination for fresh students and newly recruited staff
Authentication of staff medical reports and bills for refund
Health Education
Covid-19 vaccination for staff and students
Training on malaria case management for nurses

ON-GOING ACTIVITIES

- » School health
- » Home visit
- » Immunisation of pupils at UENR Basic School
- » Child health
- » Training & capacity building
- » Clinical care (24hrs)
- » Health education

Challenges

- » The OPD is always flooded whenever it rains
- » Lack of disability walkway from the OPD to the Ward.
- » Lack of data on students, staff and their relatives
- » Challenges in identifying student from other clients who come from outside to seek medical care at the school Clinic
- » Working space is also a challenge
- » Challenges in acquiring vehicle to attend to emergencies
- » Difficulty referring students and staff for further treatment because there is no standby vehicle/ambulance.

Future Plans of the Office/Directorate/Division

Processes are underway for the registration of the clinic with the National Health Insurance Agency. Preliminary assessment of the facility has been made. We are however, waiting for feedback.

INFORMATION TECHNOLOGY DIRECTORATE (ITD)

INFORMATION TECHNOLOGY DIRECTORATE (ITD)

INTRODUCTION

The IT Directorate is mandated to use modern information and communication technologies and other educational tools to drive the University's programmes.

The Directorate is, therefore, responsible for the development and deployment of most of the University's IT business applications and also responsible for all I.T.-related activities in the University, including the provision of security for all data that traverse on the University's network.

Having commenced its participation in consultancy services in the public space as a way of becoming a revenue generation centre for the University, the Directorate is poised to provide first-class services to the University and beyond.

The following are some of the services that the Directorate provide among others:

- Internet Services (Local Area Network and Wide Area Network),
- Software Applications Services,
- Website Management Support,
- Technical and Repairs Services and;
- Infrastructure (Network and hosting of Servers)

SECTIONS/DIVISIONS

There are three (3) major Divisions of the Directorate as follows:

- (i)Software Applications Development Division,
- (ii)Infrastructure and Networking Division and;
- (iii)Research and Consultancy Division

1. The Software Application Development Division is responsible for the development and deployment of Software Application Systems that support the University's Teaching, Learning, Research and Administrative activities.
2. The Infrastructure and Networking Division is responsible for the installation of the University's campus network and all telecommunication services such as telephone, Video Conferencing, VoIP, etc.
3. The Research and Consultancy Division is also responsible for participation in public bids or tenders on behalf of the University.

THE DIRECTORATE'S STAFF

Senior Members:

S/N	NAME	QUALIFICATION	DESIGNATION	POSITION
1.	Mr. Robert Cudjoe	MSc. IT, MA. Peace and Security Studies, BSc. Computer Science and Statistics	Director	Director, ITD
2.	Mr. Gilbert Mensah	MSc. IT, BSc. IT, ACDS, CDMS	Programmer/ Analyst	Head, Software Applications Development Division
3.	Mr. Augustine Amura	MSc. IT, BSc. Computer Science, HND Computer Science	Assistant Systems Analyst	

Senior Staff:

S/N	NAME	QUALIFICATION	DESIGNATION
1.	Mr. George Annan-Fynn	BSc. Computer Science	Senior ICT Assistant
2.	Mr. Kobina Oppong Lawson	MSc. Computer Science	Senior ICT Assistant
3.	Mr. Williams Kobia	BSc. IT	Senior ICT Assistant
4.	Mr. Frederick Afrifa Gyasi Yaw	BSc. Computer Science	Senior ICT Assistant
5.	Mr. Ernest B. Gyabaah	BSc. IT	Senior ICT Assistant
6.	Mr. Alexander Affah Okah	BSc. Computer Science	Senior ICT Assistant
7.	Mr. Emmanuel Asante	BSc. Computer Science	Senior ICT Assistant
8.	Mr. Samuel Boachie Kusi	BSc. IT	Senior ICT Assistant
9.	Mr. Samuel Kyei Ohene	BEd. Computer Science	Senior ICT Assistant
10.	Mr. Seth Amoa-Boateng	BEd. Computer Science	Senior ICT Assistant
11.	Mr. Emmanuel Acquah	BSc. Computer Science	Senior ICT Assistant
12.	Mr. Peter Jude Ackon	BSc. Computer Science	Senior ICT Assistant
13.	Mr. Daniel Kusi	BSc. IT	Senior ICT Assistant
14.	Benjamin Nyieku	HND Computer Science	ICT Assistant
15.	Miss. Edna Frimpong	BA. Philosophy and Archaeology	Senior Admin. Asst.

MAJOR ACTIVITIES OVER THE PAST YEAR (2021/2022) COMPLETED ACTIVITIES:

1. DEVELOPMENT OF SOFTWARE APPLICATIONS

The following software applications have been developed and deployed by the Directorate:

Students Management System (SMS) / The Academic Tracker (TAT)

A new application has been developed to replace the previous application that manages students' information in the areas of registration, fees payment, admissions, examinations, etc. This is called the Academic Tracker (TAT).

The new application is more robust, tighter (fewer human interventions) and secured.

Documents Management System (eOffice application)

The Document Management System is also a newly created application that has been developed for the administration of office memos and letters.

This application takes care of all internal correspondences of the University, focusing on the inbound and outbound memos, cabinet/ file management, quick and easy retrieval of stored memos, a search engine customised to suit a particular office, modules for calendar or diary management and meeting management. The main purpose of the application is to enable officers to work anywhere and anytime from their office. The login credentials for the application are the University's official email addresses for staff. This application is yet to be deployed.

Students Management System for the Basic School

This application is to assist in the management of the Basic School and is ready to be deployed.

Conference Registration System

The Conference Registration System is for online registration of participants for all conferences and seminars that are hosted by the University.

Development of Fee Management System (FMS)

This is a bank integration system that allows students to make payment directly at the banks and have a real time update of the University's database. This reduces the time taken to reconcile bank payments.

It also allows the University to bill students and to track the payment status of students.

Development of UENR Admissions

This system has automated the entire admissions process, digitising the admission forms and the corresponding granting of admission to students.

Development of Bank Integration for fees collection/sale of forms

The Directorate has developed an Application Programme Integration (API) for the Bankers of UENR for fees collection on a real-time basis and also for the sale of forms.

Development of Hostel Management System (HMS)

This system has automated the admission and distribution of students to the various University hostels. It also manages the day-to-day activities of the hostels.

Development of an Industrial Attachment System

This system allows students to enrol in industries across the country for their internships.

2. PROVISION OF INTERNET SERVICES

The University's internet bandwidth from its primary ISP has been doubled from 2STM1 to 4STM1.

Another secondary ISP has been added to the stock which is also providing additional 1STM1 of internet bandwidth. This is in addition to the bandwidth being supplied by GARNET.

The Quality of GSM Service on campus has been upgraded from 3G to 4G.

To provide efficient and secured network infrastructure befitting a modern and emerging University, the entire infrastructure is being upgraded under a World Bank Campus Connect project.

Management has successfully installed a 100KVA generating plant as a backup to the national electricity grid for the Directorate's server room.

ONGOING ACTIVITIES:

Consultancy Services

In its quest to contribute towards the University's Internal Generation Fund (IGF) and to generate enough and regular funds to service its bills, the Directorate is undertaking some consultancy works through the participation of public bids or tenders.

OTHER ACTIVITIES:

Conference:

Three of the ITD staff in the persons of Mr. Gilbert Mensah, Mr. Augustine Amura and Mr. Kobina Oppong Lawson attended the 3rd Annual General Meeting of Ghanaian Academic and Research Network (GARNET) at Tamale, UDS on August 18, 2022.

Workshops/Training Programmes:

A workshop was organised for HoDs, Lecturers and students on the new Students Management System known as 'The Academic Tracker' (TAT) from 8th – 25th March, 2022.

Retraining Program:

From 10th – 12th August, 2022 the Directorate conducted a retraining program for HoDs on 'The Academic Tracker'.

Preparation of Documentations for Bid Proposals:

The Directorate put together documentations for Bid Proposals from the Ghana Communication and Technology University, Energy Commission and Ghana College of Physicians and Surgeons.

CHALLENGES

1. Lack of Working Tools and Equipment

Personnel of the IT Directorate lack the necessary tools and equipment such as laptops, modems, working gears, utilities, etc. (and in their right quantities and specifications) to facilitate their work.

The unavailability of these working tools limits the capacity of the staff of the Directorate in solving emerging challenges.

2. Inconducive Working Environment

The ITD office is heavily overcrowded and the furniture used by the staff are also not ergonomically friendly, considering the nature of the IT job.

3. Non-availability of Overtime and Risk Allowance Packages for ITD Staff

The IT Directorate is contributing immensely to solving all IT-related issues in the University. Due to the nature of the job, most of the staff often stay and work extensively after work. Irrespective of these sacrifices, the staff do not enjoy any form of overtime allowance with regard to the extended services they provide to the University community.

This notwithstanding, ITD staff who are under the Network and Infrastructure Division find themselves constantly climbing high structures in their line of duty which exposes them to danger.

These staff are not paid any risk allowances for those jobs they undertake.

4. Absence of Payment of Remuneration Package and incentives

Staff of the Directorate have worked tirelessly to develop softwares for the University without the payment of any remuneration to motivate them.

FUTURE PLANS

- For the Directorate to have a new Office Building Complex.
- To efficiently use Information and Communication Technology to enhance academic and research potentials in the University.
- To discover new tools and products that will serve the University community and protect her electronic Infrastructure.
- To ensure that IT resources are used prudently and IT services are delivered at an economic value, and adherence to IT policies.
- To collaborate with sister institutions to share ideas and create opportunities for the University.

INTERNAL AUDIT DIRECTORATE

INTERNAL AUDIT DIRECTORATE

Introduction

The Internal Audit Agency Act of 2003 (Act 658) section 16(i) mandates every public institution to set up their own internal audit units. The University of Energy and Natural Resources Act 830 of 2011 Section 30(1) and (2) also makes it compulsory for the establishment of an Internal Audit Unit (IAU).

The IAU is responsible to the Vice - Chancellor and the University Governing Council and acts to help in the effectiveness of systems put in place to mitigate risk, control and governance processes and arrangements to promote value for money, i.e., economy, efficiency and effectiveness in the university's operations.

To be able to function effectively, the IAU has been organized into four (4) main areas; Financial Audit Unit, Performance Audit and Investigations Unit, Compliance Audits Unit and Information Technology Audits Unit.

Directorate/Division and Staff

S/N	NAME	RANK/POSITION	QUALIFICATION
1.	Kodwo Boakye Egyin	Ag. Director	ICA (Gh), CEMBA, BBA
2.	Rosina Addo Asamoah	Internal Auditor	ICA (Gh), MBA, BSc, HND Accounting
3.	Richard Twum Barimah	Internal Auditor	ICA (Gh), CIPFA (Affiliate), MSc., HND Accounting
4.	Bridget Agyemang	Senior Auditing Assistant	ACCA
5.	Vera Doyo Fafa Setsoafia	Principal Auditing Assistant	MBA Banking and Finance, BSc. Administration and Accounting
6.	Kelvin Kubi Appiah	Senior Auditing Assistant	B.ED Accounting
7.	Evans Sakyi Ampah	Senior Auditing Assistant	B.Tech. Accounting Technology, HND Accounting

8.	Lydia Obiri	Senior Auditing Assistant	B.Tech. Accounting Technology, HND Accounting
9.	Wisdom Adusei	Senior Auditing Assistant	ICA (Gh), BSc. Biochemistry
10.	Wonder Kweku Dzidzormenu	Senior Auditing Assistant	ACCA, B.ED Accounting
11.	Ruth Dufie Amoah	Senior Administrative Assistant	BSc. Development Planning, MPA

Major Activities over the Past Year

Completed Activities

Development of Internal Audit Charter and Internal Audit Policies and Procedures Manual

Development of Accounting Policy in conjunction with the Finance Directorate.

Examination of transactions for accuracy and compliance with institutional policies.

Evaluation of financial and operational procedures for adequate and effective internal controls and safeguarding of assets.

Evaluation of the economical and efficient use of resources.

Liaison with external auditors.

Ongoing Activities

- a) Audit review of Account Payable
- b) Information Technology Audit
- c) Payroll and Human Resources Audit Review

Other Activities

- A three-day training programme on Procurement in Practice organized by Ghana Supply Company Limited at Coconut Grove Hotel Ridge, Accra, Ghana.
- A two-day Accountants' Conference dubbed "Business Continuity and Sustainable Development: the Role of Technology" organized by Institute of Chartered Accountants, Ghana at Calvary Charismatic Centre, Kumasi.
- A five-day training course on International Public Sector Accounting Standards (IPSAS) organized by Ghana Tertiary Education Commission (GTEC) and Pricewaterhousecoppers, (PwC) Business School at Mensvic Hotel, Accra, Ghana.
- A two-day training in Public Financial Management Act and Regulations organized by Scholarship Secretariat and Redric Consulting at Sunset Hotel, Kumasi, Ghana.

- A two-day training in “Accountancy and Accountability, Transforming Africa’s Economies” organized by Institute of Chartered Accountants, Ghana at Fantasy Dome, Ghana International Trade Fair Centre, La Accra, Ghana.
- A two-day training in Administrators Conference organized by Ghana Association of University Administrators, Sunyani Chapter, at Tyco City Hotel, Sunyani, Ghana.

Challenges

The major challenge that the Internal Audit Directorate is facing now is office space to enable the Directorate to effectively facilitate its working activities.

Future Plans of the Office/Directorate/Division

- Evaluation and monitoring of the Information Technology Directorate’s system of internal control to ensure adequate security and controls related to hardware, software, data and operating personnel; and to ensure retrieval of necessary data for audit purposes.
- Determination of the level of compliance with required internal policies and procedures, and government regulations; and appraisal of the effectiveness and appropriateness of internal policies and procedures under current conditions.
- Program performance evaluation.
- Continue to liaise with external auditors in matters related to the audit of the University.
- Full implementation of Risk Based Internal Auditing.

WORKS AND PHYSICAL DEVELOPMENT DIRECTORATE

WORKS AND PHYSICAL DEVELOPMENT DIRECTORATE

Introduction

The Works and Physical Development Directorate is in charge of the development and maintenance of the physical infrastructure of the University and the provision of essential services for the benefit of the University community. This mandate is fulfilled through the collective effort and shared responsibilities of a team of professionals in the built environment, technical staff and junior staff.

Departments and Staff

The Directorate is made up of the following departments:

1. Works and Physical Development
2. Maintenance and
3. Estate Organization

The Estate Organisation is primarily responsible for the management of the University's landed properties with major operations including space allocation, facilities management, environmental, sanitation management and property valuation.

Staff

Name	Rank/position	Qualification
Ing. Christian Yeboah Nukako	Director	BSc., MPhil, MSc. (KNUST), P.E. GhIE
Arc. C. Papa Nii Tetteh Achamfuo-Yeboah	Senior Architect	BSc., M. Arch, A.G.I.A (KNUST)
Surv. Kwaku Obeng Mireku, Esq.	Ag. Head, Estate Organization	BSc., MSc (UCEM. UK), LLB (KNUST), BL, MGHIS
Arc. Lawrence Puntanah Tibiru,	Senior. Architect	BSc., PGDip, MSc. (KNUST), AGIA, MIET
Surv. Margaret Atta-Poku	Snr. Quantity Surveyor	BSc., MA, MGHIS
Surv. Matthew Arhin	Snr. Quantity Surveyor	BSc., MSc (KNUST), MGHIS
Engr. Adjoa Agyinba Tetteh-Gyamera	Asst. Project Manager	HND, BSc., MSc
Arc. Kwaku Safroadu Amankwah	Assistant Architect	BSc., M. Arch (KNUST) A.G.I.A
Surv. Maxwell Ofori	Assistant Estate Officer	HND, BSc (KsiTU), MSc (UCC), MGHIS, FMP
Millicent Daghar	Junior Assistant Registrar	HND, BSc., MBA

Major Activities over the Past Year

Completed Projects

i. During the period under review, the Works and Physical Development Directorate planned, designed and supervised a number of projects. Including the following:

Internally Generated Fund (IGF)

- i) Completion of 4-Storey 24 Unit Classroom Block with Ancillary facilities for UENR Basic School.
- ii) Rewiring of GETFund Hostel for the Installation of Prepaid Meters
- iii) Conversion of Sawmill Facility into Stores
- iv) Internal and External painting of GETFund Hostel
- v) Renovation of Existing Auditorium
- vi) Renovation of Leo Block and Odum Block Washroom

SRC Funded Projects

- i) Pavilion 1B Washroom
- ii) Installation of street lights from GETFund Hostel to Zingo Junction

GETFund Funded Projects

- i) Construction of Syndicate Hall 1 (Students Centre)

Ongoing Projects

IGF

- i) Conversion of Syndicate Hall into Demonstration Room for Hospitality

Department

- ii) Construction of Sports Complex – Phase 1
- iii) Construction of 4-Storey Multi-Purpose Block

SRC Funded

- i) Construction of syndicate Hall at Dormaa Ahenkro Campus

GETFund Projects

There are eight (8) GETFund ongoing projects at various stages of construction. Some started as far back as 2014. The principal challenge on these stalled projects is payment delays.

Other Ongoing Funded Projects

- i) Construction of Applications Laboratory Phase II; funded by GNPC
- ii) Construction of 3-Storey Block for RCESS; funded by World Bank
- iii) Construction of 3000 seating capacity Auditorium; funded by BoG
- iv) Construction of UENR Internal Roads; funded by Ghana Road Fund

Other Activities

University Lands Registration

Sunyani

Processes for the registration of University Land at Sunyani have commenced at the Lands Commission.

Nsoatre Land

A 99- year leasehold has been executed between the Lands Commission and the University.

The lease is registered at the Lands Commission.

Dormaa Ahenkro

A 99-year leasehold was executed between the Dormaa Traditional Council and the University in respect of the Dormaa Ahenkro land. Registration of the lease is pending at the Lands Commission.

The Estate Organisation improved its property support services to the University through the provision of enhanced janitorial services, facilities management, valuation and estate services and waste management services.

During the period under review, the staff of the Directorate attended the following conferences/workshops/seminars:

- Ghana Institute of Engineering Seminar at GHIE Centre "Contact Administration & Management" – 28th-30th September, 2022, Accra.
- Other staff of the Directorate, as part of increasing their knowledge in their field of practice, attended Continuous Professional Development (CPDs) of their respective professional bodies to acquaint themselves with current technological innovation.
- GAUA National Congress "Corporate Governance and the Socio-Political Environment of Public Universities in Ghana – the Role of the University Administrator" – 4th -6th August, 2022 at Winneba.
- Administrators Conference 22 "University Administrators in Changing (Challenging) Times" – 23rd – 24th June, 2022 at Tyco City Hotel, Sunyani.

5.0 Infrastructural Challenges

All the GETFund building facilities have stalled due to delays in honoring certified interim payment certificates. This infrastructural challenge limits the admission of qualified applicants into various programmes of study. Most of these GETFund projects started as far back as 2014, 2015.

6.0 Future Plans of the Directorate

- The Directorate intends to mechanise one borehole to enhance the raw water distribution to meet the demand of the University Community.
- It has been planned to rehabilitate 60m³ Braithwaite water tank and other selected concrete tanks attached to existing building facilities to increase water storage capacity of the University.
- The Directorate has been giving the required technical assistance to stakeholders who are interested in putting up hostel accommodations for our students on campus.

OFFICE OF THE DEAN OF STUDENTS

OFFICE OF THE DEAN OF STUDENTS

INTRODUCTION

The Dean of Students office is an office that is enshrined in the Act of the University. The Office is headed by a Dean who is not below the rank of a Senior Lecturer or its equivalent grade. He or She must be appointed by the Vice-Chancellor. The Office of the Dean of Students presides over the Centre for Students Skills Enhancement and the Guidance and Counselling Unit. The functions of the Dean include promoting the welfare of Junior Members of the University, making representation to the University about ways of enhancing quality student's life, overseeing the formation of students' associations or societies, etc.

DEPARTMENTS AND STAFF

Dean of Students' Office

- | | | |
|---|----------------------------|------------------------------------|
| 1 | Prof. Dominic Otoo | Dean |
| 2 | Dr. Samuel Kwasi Asomaning | Coordinator, Dormaa Campus |
| 3 | Ms. Akua Yeboah Agyemang | Principal Administrative Assistant |

Centre for Students Skills Enhancement

- | | | |
|----|--------------------------|---------------------------------|
| 1. | Mr. David Sekyi Yirenkyi | Junior Assistant Registrar |
| 2. | Mr. Alfred Edem Amegbe | Senior Administrative Assistant |

Guidance and Counseling Unit

- | | | |
|---|----------------------------|-------------------------------|
| 1 | Ms. Eva Atika Bakuri Dinye | Head, |
| 2 | Mr. Prince Kwame Affum | Assistant Counsellor, Dormaa |
| 3 | Ms. Cindy Awuah Pokuaa | Snr. Administrative Assistant |
| 4 | Ms. Priscilla Kyei | Snr. Counselling Assistant |
| 5 | Ms. Afia Tutuwaah-Yeboah | Snr. Counselling Assistant |

MAJOR ACTIVITIES OVER THE PAST YEAR

Capacity Building for Students

Some of the activities undertaken by the office to enhance the capacity of students include the following:

- Leadership seminar: All student leaders and class representatives were educated on the types of leadership and how to strengthen their leadership capabilities
- A one-day leadership seminar was organized by the office for the newly elected student leaders to educate them on channels of communication in the University, campus life activities and how to overcome academic challenges.
- As part of the capacity building programme UENR Local NUGS in collaboration with KNUST NUGS organized a leadership and mentorship symposium for all students at Catholic University College of Ghana.

Students Activities

During the 2021/2022 academic year, the Students Representative Council (SRC)/ local NUGS organized the following programme:

- NUGS inter-school debate
- The semester review
- SRC Week 8th to 13th August
- Akwaaba Week 23rd to 26th March, 2021
- Female fresher's summit
- Academic Development summit
- Girls Talk
- Lead right conference
- Easter Sporting Activities
- State of The SRC Address 14th May ,2022
- Miss Technologist
- SRC Skills fair
- SCC conference
- Meet The VC

CENTRE FOR STUDENTS SKILLS ENHANCEMENT

INTRODUCTION

Currently, the lack of employability skills in graduates from Higher Education Institutions (HEIs) to meet industry needs poses a great challenge to developing countries in Africa and beyond. It is expected that students should have a broad base of pedagogical content knowledge, critical thinking, communication, (2018), problem-solving, and team working ability. Some Higher Education institutions also lack the standard curricula and pedagogy that can inculcate employability skills in students.

The University of Energy and Natural Resources (UENR) acknowledges these existing realities and this has necessitated the Vice-Chancellor of the University to establish the Centre for Students Skills Enhancement. This Centre has the mandate to help students with both mentoring and coaching orientation in preparing students through inculcating employability and entrepreneurship skills in collaboration with other faculties within the schools in the University. The Centre's mandate is student-centered that is related to Employability and Entrepreneurship skills.

The Centre was inaugurated on Thursday, 12th August 2021 as part of the vision of the Vice-Chancellor to offer quality career services to students. This report highlights in detail the vision of the Centre, activities, and plans of the Centre.

CENTRE AND STAFF

Mission

To prepare students of the University to acquire the necessary skills to meet the requirements of the 21st-century job market.

Vision

To ensure that students from UENR acquire employable skills and capabilities before they graduate

The officers of the Centre are as follows:

- | | |
|------------------------------|-----------------------------------|
| i. Prof. Dominic Otoo, Ph.D. | – Dean of Students |
| ii. Mr. David Sekyi Yirenkyi | – Junior Assistant Registrar |
| iii. Mr. Alfred Edem Amegbe | – Senior Administrative Assistant |

MAJOR ACTIVITIES OVER THE PAST YEAR

COMPLETED ACTIVITIES

• Student Employability Clinic

The Centre launched one of its flagship programs dubbed Employability Clinic on Friday, 4th February, 2022, 9am, at the UENR Auditorium. The launch was geared towards introducing the students to new modules the Centre has come up with to train students. The rationale for

this program was to guide students to successfully navigate through occupational options to choose and train for crafts which suit their personality, skills as interests.

This program helped students to identify their strengths. Resource persons for the program included Mr. Richard B. Okyere(HOD, Languages) and Mr. David Sekyi Yirekyi(JAR, CeSSE). They highlighted the relevance of soft skills in the evolution of the job market system in this 21st Century.

- **Digital Skills Training**

Due to the new digital demand of this century, the Centre organized a digital skills training for students on the 26th March 2022 at the University Auditorium.

Dr. Yemi (CEO Omega brains) was the guest speaker for the program. He highlighted the need for digital skills as a necessary soft skill in all aspects of career due to the changing trends and demands in the corporate world. He further exposed students to the effect and opportunities in digitization, as well as, the need for students to train themselves into highly skilled roles for the corporate world.

- **Online Career Training**

This was an Online Career training organized on Departmental basis on Zoom. The Centre for resource persons from different industries and matched them with the various departments in the University. Resources persons spoke to students on the needed skills to be acquired in school for the job market and their career. Resource persons taught to improve the existing skills of students as well as inculcating new skills. This online program was organized from Monday 28th March to Friday 1st April 2022, at 5pm each day

ONGOING ACTIVITIES

MoU With Ghana Enterprise Agency

In line with some of the activities of the Centre, the Centre is currently working on an MOU with GEA. This MOU will help the Centre to prepare students to benefit from GEA government packages and other services, which are in line with the vision of the Centre, to train students in craftsmanship and artisanal works. Presently, the document is under review by the Regional Manager of GEA.

GRANT PROPOSAL

Due to the collaboration between Ashesi and the Centre, the Centre has won a grant of GHS 28,750. Ashesi University has released the first tranche of GHS 14,375 of 28,750 of the funds for the Centre to begin an employability project.

OTHER ACTIVITIES

Conferences

Officers of the Centre attended some conferences organized by Ashesi University as follows:

- i. Dominic Otoo, PhD attended the Annual Convening of Ashesi University (Education Collaborative)
- ii. Mr. David Sekyi Yirekyi attended the Annual Convening of Ashesi University (Education Collaborative)

FUTURE PLANS OF THE CENTRE

In the next academic year, the Centre looks forward to accomplishing some great feats as listed below:

- i. To propose for the inclusion of the programs of the Centre into the academic time table for high participation among students
- ii. To propose the merging of the Centre for Students Skills Enhancement with the Industrial Attachment Unit.

GUIDANCE & COUNSELLING UNIT/CHAPLAINCY 2020/2021

Activities

The academic year was filled with a lot of academic activities via zoom and face-to-face. This was meant to reduce the in-person contact hours due to the prevalence of Covid 19. In an attempt to reduce the in-person contact hours at the counselling unit both Sunyani and Dormaa campus, we introduced the e-counselling services where clients could call or chat with the Counsellor about their problem situations.

Completed Activities

- Orientation for Fresh students

The Unit continues to provide the needed education to fresh students during their orientation to enable them have a conducive atmosphere for learning. It provides an opportunity for fresh students to have an understanding of rules and regulations guiding them on campus. The education covered channels of communications in the university, campus life and how to overcome academic challenges. The Counsellor always presents to the Fresh students, issues related to academics and behaviour.

- **Virtual Programs**

The Unit also held virtual programs for the students which were highly patronized. Notable among these programs were the “Girl Talk”, “Boy Talk”, and “Dealing with examination anxiety”. These programs were held to help students adjust properly to campus life, to identify themselves with the appropriate role of their respective genders on campus, avoid committing offences against the law and to also help them prepare adequately for the examinations. We also discussed the damaging effects of videoing sexual encounters, betting and being cautious about the use of social media.

- **Chaplaincy Service at both Sunyani and Dormaa campuses**

Chaplaincy work at both Sunyani (Main) and Dormaa campus have been successful due largely to the planning and involvement of all the staff of the Counselling Unit and Chaplaincy office together with the SCC Executives. Many Lecturers participated in either preaching or leading various programmes. The Chaplain was also able to travel to Dormaa Ahenkro for church services and revival programmes. The Chaplaincy’s scheduled programme is Sunday Service (8.00–10.30am, second Sunday of the month) at the Auditorium and will continue

in the ensuing academic years. In Dormaa, both semesters witnessed conflicts between the Students Chaplaincy Council (SCC) and the various church denominations as the SCC did not want the various denominations to operate on Sundays. The immediate past University Chaplain, Rev. Dr. Ishmael Arthur intervened but the problem continued to loom. The SCC was to allow the denominations with membership of 50 or more to operate on Sundays and that SCC could meet as an interdenominational church once in every month. The executives of SCC were to be drawn from the leadership of the various denominations as they make up the SCC; unfortunately, the SCC failed to adhere to any of these directives and it seems the denominations have a problem with that.

Ongoing Activities

• Individual Counselling

This academic year, the Unit witnessed an upsurge of students' attendance for individual counselling on issues related to relationship matters, time management, study skills and addiction among other issues. Addiction cases were mostly related to gambling, pornography, masturbation, and alcohol. Individual Students came in for counselling on their own whilst others were referred to the Unit by their Lecturers. Others whose issues related to mental health were referred to the Regional Hospital Psychiatric Unit for attention.

From the first semester the unit witnessed most cases related to students trying to find their sexual identities.

The unit in Dormaa had 13 clients who belonged to the LGBTQIA+ community most of whom had feelings of insecurity amidst the national brawl on fighting for their rights against the pending 'Bill' in parliament against their activities. Some of them were willing to patronize the counselling services to re-orient themselves sexually to fit into societal expectations. Counselling is still ongoing with them and most of them are showing positive therapeutic outcomes.

Other common problems the unit also encountered were fears of contracting the CORONA virus from students and colleagues. Both staff and students had fears of contracting the virus.

In the course of the year, the counselling unit at Dormaa Campus also partnered with the Public Health Division of Municipal Assembly and the Presbyterian Hospital to hold outreach programs in Dormaa Ahenkro and its surrounding communities in a bid to create awareness on CORONA virus and Hepatitis B.

Workshops/Conferences/Seminars

Some of the workshops the Counsellors attended to build their capacity are as follows:

- Adopting a Growth Mindset as a Counsellor in Digital WorkPlace.
- The Child's Social Environment Vrs the Media: Role of the Counselling Psychologist.
- Public Lecture towards the Promotion of Proper Human Sexual Rights and Ghanaian Family Values: The Bill, the Therapist and Therapy.
- Mindset as a counsellor in a digital workplace
- The counsellor's empathy lens in an online environment

- How to write content for CPD Accreditation
- Mental Health Day
- Working Therapeutically With LGBTQIA+ Clients: What Counsellors Need to Do

Peer Counsellors

A 3-hour training programme was held to train Peer Counsellors on the right practices as a Peer Counsellor. This was to make sure they do not go beyond their mandate as Peer Counsellors. The Unit also had a seminar for them on “Mentoring the next Generation of Peer Counsellors: The Work of Every Student Counsellor”. They undertook some outreach programmes at the Junior High school level to form three students on basic learning skills and time management in the nearby communities.

Challenges of the Counselling Unit both Sunyani and Dormaa Campus

- **The Counselling Unit Office in the midst of others**

The Counselling Unit is situated at an office which is a thoroughfare of both Staff and Students on campus. This makes it very difficult for those who come with peculiar counselling issues to concentrate. Some of the clients have entertained the fear that other passer-byes may be able to eavesdrop their conversation (Confidentiality Issue). This makes it difficult to get some students with issues like pornography and masturbation back to the Unit. Due to that some appointments are scheduled on weekends.

- **Inadequate Staff**

The staff strength of the Office of the Counselling Unit for both the Sunyani and Dormaa campuses together is woefully inadequate to handle the number of students’ issues that arise which is overwhelming with the few staff available.

It is worth noting that as the population of students increase at the Dormaa campus, so do the problems that students and staff bring and as such combining administrative duties with professional counselling duties is becoming a tedious task; it is therefore important to get a counselling assistant/administrative assistant to help ease the workload since the unit does not have any counselling assistant or service personnel (although we have incessantly requested for one). Due to the absence of a school nurse/medical practitioner at Dormaa Campus, the unit was forced to combine the task of professional counselling services with some medical problems the students present. Some staff and students perceive medical problems of students to be the concern of the counselling unit and although the counselling unit has a working relationship with the psychiatric unit of the Presbyterian Hospital in Dormaa to attend to some psychological and emotional disorders some students may have, it is assumed that the unit’s responsibility to cover other medical departments of the hospital as well.

Conclusion

All the planned programme of activities went on well. We look forward to working towards the total development of and wholesome personality of all those who patronize the Office of the Counselling Unit to enhance their academic and behavioural attitudes. We also envisage that in the coming academic year, the Counselling Unit will get the needed assistance in the form of finances and other human capital to be able to

OTHER ACTIVITIES

Workshops/ Conferences/Seminars

- UENR champions league: the SRC in collaboration with the Office of the Dean of Students organized a champion's league for the students to boost their interest in sporting activities.
- A Skills Fair was organized for the students to equip them with the needed skills needed by the job market to make them readily employable after their graduation.
- The Office in consultation with Empawa Company organized an entertainment programme for our students dubbed "DettyRave".
- Electoral commission
Officers from the regional office of the Electoral Commission were invited to organize a one-day workshop for all members of the SRC Electoral Commission on the norms of organizing elections.
- The SRC in consultation with the Dean of Students Office supported the organization of a programme dubbed "the Student Lawyer". This was in support of the Student Bar Association.

Projects

- Provision of street lights to the Zinco road
- Extension of internet connection to the hostel
- Purchasing of students' lover benches for the University.

Scholarships

The scholarships are to aid beneficiaries better their academic and living conditions of their stay on campus. The SRC through Anidaso Nsae scholarship was able to partially assist One Hundred and Fifty (150) students. The breakdown was as follows: Fifty-Two (52) very needy, Sixty-Nine (69) needy and Twenty-Nine (29) fairly needy students to pay their fees.

Challenges

- Inadequate office space: The inadequate office space possesses a great challenge to the work of the Dean of Students. The confidentiality of documents is greatly affected since documents cannot be kept separately.
- Reconciliation of students' numbers for both undergraduate and postgraduate levels. The office is not previewed to the numbers of students in the University which makes it difficult for the office to manage the funds of the student since the exact amounts accumulated is unknown.
- Insufficient accommodation for students: The accommodation of all students (especially first year students) has continuously been a problem to the University due to our increasing numbers which far exceeds the capacity of our two hostels. Accommodating our students in private hostels has therefore become an inevitable situation. Students within private hostels have recorded many cases of theft which generally creates insecurity among the students.

Future Plans of the Office of the Dean of Students

- Leaders' exposure to administrative issues is less. Elections should be conducted earlier so that the new executives can have ample time to understudy the old executives before they finally hand over.

The Dean of Students and stakeholders will equally have the chance to engage the student's executives on the do and don't in running SRC regarding all aspects of their operations.

- Enhancing student's participation in student programmes: publicity of student activities will be intensified through the use of class representatives to create more awareness for the educative programmes organized by both the SRC and the Office of the Dean of Students.
- Organization of training sessions for the students to enhance their soft skills and make them ready for the job market.

SCHOOL OF GRADUATE STUDIES

SCHOOL OF GRADUATE STUDIES

1.0 INTRODUCTION

The University Council at its 10th Regular Meeting held on 6th December, 2013 approved the establishment of the School of Graduate Studies (SGS). The approval was in respect of the University's Act 830, subsections 2(1) f, g, h, and i which requires that the University of Energy and Natural Resources (UENR) shall undertake research in areas within its mandate of providing sound higher education and research skills, disseminating research results through publications in journals, books and other outlets, and providing extension and consultancy services to impact positively on the society. The school consequently began operation in 2014.

To access funding from government, non-governmental agencies and donors, the School of Graduate Studies collaborates with the Departments and Schools to develop relevant graduate programmes. As a result, programmes offered by the School of Graduate Studies respond to career requirements of both Ghanaian and international students, to enable them upgrade their academic and professional qualifications.

2.0 PHILOSOPHY/OBJECTIVES

The School of Graduate Studies seeks to provide excellence in post graduate education in Energy and Natural Resources, in recruiting and maintaining a diverse student population and to foster opportunities in research, creative achievements and professional development.

3.0 GRADUATE PROGRAMMES OFFERED

The School of Graduate Studies offers the following Master's and Doctoral degrees in various fields of discipline:

- » Master of Science
- » Master of Philosophy
- » Master of Business Administration
- » Doctor of Philosophy

The School of Graduate Studies currently run Ten (10) Programmes in the various Schools in the University:

1. MSc/PhD Sustainable Energy Engineering Management
2. MSc/PhD Environmental Engineering Management
3. MPhil/PhD Social Forestry and Environmental Governance
4. MSc/MPhil/PhD Environment, Water and Sustainability
5. MSc/MPhil/PhD Crop Science
6. MSc/MPhil/PhD Computer Science
7. MPhil Applied Mathematics
8. MSc/MPhil Environmental Planning and Development
9. MBA/MPhil Agribusiness Management
10. MSc/MPhil Climate Change

4.0 STUDENT ENROLMENT

The School has a student population of about Nine Hundred and Twenty-Eight (928).

4.1 BREAKDOWN OF STUDENTS ENROLMENT & PROGRAMMES

4.1.1 2021/2022 Academic Year

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	10	1	11
MSc Environmental Engineering Management	17	3	20
MPhil Social Forestry and Environmental Governance	29	4	33
PhD Sustainable Energy Management	5	0	5
PhD Environmental Engineering Management	12	1	13
PhD Social Forestry and Environmental Governance	9	1	10
TOTAL	82	10	92

4.1.1 2016/2017 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	10	1	11
MSc Environmental Engineering Management	17	3	20
MPhil Social Forestry and Environmental Governance	29	4	33
PhD Sustainable Energy Management	5	0	5
PhD Environmental Engineering Management	12	1	13
PhD Social Forestry and Environmental Governance	9	1	10
TOTAL	82	10	92

4.1.2 2017/2018 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	21	3	24
MSc Environmental Engineering Management	16	1	17
MPhil Computer Science	14	2	16
MPhil Crop Science	2	1	3
MPhil Applied Mathematics	12	2	14
MPhil Environmental Planning and Sustainability	8	3	11
MPhil Social Forestry and Environmental Governance	20	4	24
PhD Computer Sciences	8	0	8
PhD Crop Sciences	3	0	3
PhD Social Forestry and Environmental Governance	12	0	12
PhD Sustainable Energy Management	8	0	8
PhD Environmental Engineering Management	9	0	9
TOTAL	133	16	149

4.1.3 2018/2019 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	11	1	12
MSc Environmental Engineering Management	7	0	7
MSc/MPhil Computer Science	21	2	23
MSc/MPhil Crop Science	32	2	34
MPhil Applied Mathematics	17	1	18
MSc/MPhil Environmental Planning and Sustainability	10	4	14
MPhil Social Forestry and Environmental Governance	19	4	23
MPhil/MBA Agribusiness Management	23	4	27
MPhil Climate Change	2	0	2

PhD Computer Science	6	0	6
PhD Crop Sciences	1	0	1
PhD Social Forestry and Environmental Governance	10	1	11
PhD Sustainable Energy Management	7	0	7
PhD Environmental Engineering Management	6	0	6
TOTAL	172	19	191

4.1.4 2019/2020 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	20	3	23
MSc Environmental Engineering Management	17	11	28
MSc/MPhil Computer Science	12	1	13
MSc/MPhil Crop Science	33	1	34
MPhil Applied Mathematics	12	1	13
MSc/MPhil Environmental Planning and Sustainability	17	1	18
MPhil Social Forestry and Environmental Governance	10	1	11
MPhil/MBA Agribusiness Management	21	0	21
MPhil Climate Change	7	0	7
PhD Computer Science	4	0	4
PhD Crop Sciences	4	0	4
PhD Social Forestry and Environmental Governance	1	2	3
PhD Sustainable Energy Management	17	3	20
PhD Environmental Engineering Management	11	4	15
TOTAL	186	28	214

4.1.5 2020/2021 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc Sustainable Energy Management	19	2	21
MSc Environmental Engineering Management	16	0	16
MSc/MPhil Computer Science	24	0	24
MSc/MPhil Crop Science	25	2	27
MPhil Applied Mathematics	11	2	13
MSc/MPhil Environmental Planning and Development	8	4	12
MPhil Social Forestry and Environmental Governance	24	2	26
MSc/MPhil Environment, Water and Sustainability	9	4	13
MPhil/MBA Agribusiness Management	26	5	31
MSc/MPhil Climate Change	12	0	12
PhD Computer Science	8	0	8
PhD Crop Sciences	8	0	8
PhD Social Forestry and Environmental Governance	-	-	
PhD Sustainable Energy Management	5	2	7
PhD Environmental Engineering Management	5	3	8
PhD Environment, Water and Sustainability	2	0	2
TOTAL	202	26	228

4.1.6 2021/2022 ACADEMIC YEAR

PROGRAMME	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
MSc. Sustainable Energy Management	21	8	29
PhD. Sustainable Energy Management	5	0	5
MSc. Environmental Engineering Management	10	4	14
PhD. Environmental Engineering Management	4	0	4

MSc. Crop Science	3	0	3
MPhil. Crop Science	34	2	36
PhD. Crop Science	4	0	4
MBA Agribusiness Management	3	0	3
MPhil. Agribusiness Management	20	3	23
MSc. Environmental Planning and Development	1	0	1
MPhil. Environmental Planning and Development	14	4	18
MSc. Climate Change	1	0	1
MPhil. Climate Change	17	1	18
MPhil. Social Forestry and Environmental Governance	9	8	17
PhD. Social Forestry and Environmental Governance	2	2	4
MSc. Environment, Water and Sustainability	0	0	0
MPhil. Environment, Water and Sustainability	13	4	17
PhD. Environment, Water and Sustainability	4	0	4
MSc. Computer Science	15	1	16
MPhil. Computer Science	24	3	27
PhD. Computer Science	2	0	2
MPhil. Applied Mathematics	24	3	27
TOTAL	230	43	273

OVERALL TOTAL NUMBER OF STUDENTS

ACADEMIC YEAR	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
2016/2017	63	8	71
2017/2018	133	16	149
2018/2019	172	19	191
2019/2020	186	28	214
2020/2021	202	26	228
2021/2022	230	43	273
TOTAL	986	140	1126

NUMBER OF STUDENTS GRADUATED

ITEM	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
Students graduated	162	36	198

NUMBER OF STUDENTS GRADUATED

ITEM	NUMBER OF STUDENTS		
	MALE	FEMALE	TOTAL
Students currently enrolled	824	104	928

The Graduate School intends to graduate over One Hundred and Twenty (120) students from the various programmes for the 2021/2022 Academic Year.

5.0 SCHOLARSHIPS

The University continues to benefit from the Ghana National Petroleum Commission (GNPC) Scholarship for both undergraduate and postgraduate students. Currently, the scheme has awarded scholarships to a number of the postgraduate students. The postgraduate students also benefit from the Government of Ghana scholarship and the Regional Centre of Energy and Environmental Sustainability (RCEES) scholarship

6.0 STAFFING

The current staff strength of the School is as follows:

S/N	NAME	QUALIFICATIONS	POSITION
1.	Prof. John K. M. Kuwornu	B.A (UG, Legon), M.A (Trinity, Legon), MSc., PhD. (Wageningen University, The Netherlands)	Dean
2.	Mr. Prince Awuah	Bed. (UEW), M.A (UCC)	School Secretary
3.	Mr. Desmond Asiedu	Bed. (UCC), MBA (Legon)	Junior Assistant Registrar
3.	Ms. Martha Bayuo	B.A (UDS)	Senior Administrative Staff
4.	Mr. Ebenezer Asare Baffour	BSc. (CUCCG)	Senior Administrative Staff

7.0 ACTIVITIES

The Graduate School co-coordinates all Departments that run graduate programmes in the University. Some of key functions of the Graduate School are as follows:

- » Administering and processing applications of applicants;
- » Maintaining records of all graduate students;
- » Assisting various Departments in the organization of interviews for applicants seeking admission into various programmes, issuing of admission letters and registration of students.
- » Liaising with the various Heads of Department and Deans on all matters relating to graduate studies in the various Departments and Schools;
- » Organizing seminars, workshops and conferences for postgraduate students;
- » Approving all faculty members teaching postgraduate programs and supervising postgraduate theses and dissertations to ensure high quality outputs of our postgraduate programmes comparable to graduate programmes of highly esteemed universities around the world;
- » Co-ordinating and approving examination of dissertations and theses of graduate students;
- » Organising and conducting oral examinations for final year graduate students to defend their theses.
- » Facilitating postgraduate students and faculty exchange programs with well-known universities globally;
- » Assisting postgraduate students with applications for funding for research and other scholarship programs.

8.0 FUTURE PLANS

The Graduate School in the near future intends to have graduate programmes in all Departments in the University. In view of this, the following programmes have been submitted for accreditation and they are under review:

- » MPhil in Statistics
- » MBA in Information Technology Management
- » MPhil/Ph.D. in Information Technology
- » MSc/MPhil Sustainable Mining
- » MSc/MPhil Geoinformation Science
- » MPhil Environmental Science
- » MBA/MPhil Entrepreneurship/Finance/Accounting/Management
- » Ph.D. Business Science
- » Ph.D./MSc. Energy Economics
- » Ph.D./MSc. Energy Policy and Sustainability
- » MPhil. Sustainable Aquaculture
- » MPhil. Agriculture and Resource Economics
- » MSc. /MPhil. Animal Science and Production
- » MSc. /MPhil. Natural Gas Engineering and Management
- » PhD Applied Mathematics

9.0 CONCLUSION

The School of Graduate Studies shall remain the pivot in identifying and addressing the

needs of graduate students and will remain committed in its bid to grow graduate studies. The School will continue to strive for excellence in extending the horizon of graduate studies in Ghana and the world.

SCHOOL OF ENGINEERING

SCHOOL OF ENGINEERING

INTRODUCTION

The School of Engineering is started as one of the founding schools of the University of Energy and Natural Resources (UENR) in 2012/2013 academic year. The School started with one (1) Department; the Department of Energy and Environmental Engineering but has expanded and currently has four (4) departments and one (1) centre under its jurisdiction. The School of Engineering seeks to train engineers to address industry and natural resources management problems using engineering principles. It focuses on developing the human capacity to manage and solve problems of extracting, collecting, converting and utilizing natural resources for the nation's development. Its philosophy is to provide students with competitive skills and professional leadership within the natural resources, engineering and industrial sectors.

Vision

To become a world-class School of excellence in technical education and research and occupy a place among the most eminent engineering schools of the nation, Africa and the world, and serve as a valuable resource for industry and society.

Mission Statement

Our mission is to produce creative and technically sound engineers and to research solutions to the country's and the world's complex challenges.

Aim

We aim to employ research and innovation to train and equip students to become capable of fully integrating various new technologies, management techniques and environmental issues to meet the changing demands in industry, households and commercial enterprises, particularly in Ghana, Africa and the world.

Core Values

Excellence
Accountability
Innovation
Integrity
Team Work
Transparency

Administration of the School

The School Administration is constituted of the following personnel:

Ing. Prof. Francis Attiogbe	-Dean (SoE)
Ms Bernice Osei Twenewaa	-Assistant Registrar/ School Registrar
Ms Ivy Adwoa Yeboah	-Senior Administrative Assistant

DEPARTMENTS AND RESEARCH CENTRES/INSTITUTES

The School of Engineering currently has four Academic Departments and one Centre namely:

- Department of Agricultural & Bioresources Engineering
- Department of Computer & Electrical Engineering
- Department of Civil & Environmental Engineering
- Department of Mechanical & Manufacturing Engineering
- Earth Observation and Research Innovation Center (EORIC)

1. DEPARTMENT OF AGRICULTURAL & BIORESOURCES ENGINEERING

This is a new Department that was split from the Department of Mechanical & Manufacturing Engineering in February 2022.

Administration of the Department

The Department Administration is constituted of the following personnel:

Dr. Gilbert Ayine Akolgo	-	Head of Department
Mr. George Nii Amon Dsane	-	Senior Administrative Assistant

Academic Programmes

The Department has one (1) Undergraduate Programme.

Undergraduate Programme:

BSc. Agricultural Engineering

Future Plans

Develop and run the following postgraduate programmes:

- MSc/MPhil/Ph.D. in Bioresources Engineering
- MSc/MPhil/Ph.D. in Soil and Water Engineering
- MSc/MPhil/Ph.D. in Mechanization and Farm Machinery

Student Statistics

LEVEL	Number of students
Level 100	9
Level 200	20
Level 300	13
Level 400	9
TOTAL	51

Staff Statistics

S/N	NAME	DESIGNATION
1.	Dr. Gilbert Ayine Akolgo	Senior Lecturer/HoD
2.	Dr Thomas Atta-Darkwa	Senior Lecturer
3.	Dr. Emmanuel Amankwah	Senior Lecturer
4.	Dr. Edward Abingya Awafo	Senior Lecturer
5.	Mr. Prosper Acheaw Owusu	Lecturer
6.	Mr. Duke Nii Darko Quaye	Assistant Lecturer
7.	Mr. Jedaiah Osman Awudu Akimsah	Senior Technician
8.	Mr. George Nii Amon Dsane	Senior Administrative Assistant

Research Collaborations (Local and International)

Research collaborations ongoing are on various projects named below:

- KNUST
- West African Science Service Center on Climate Change and Adapted Land Use (WASCAL)
- Council for Scientific and Industrial Research (CSIR)
- Kumasi Technical University (KsTU)
- Zoomlion Ghana

Proposal

- GSDF CONCEPT NOTE APPLICATION

Proposed project title: Center of Excellence for Biogas and Solar Technologies (CEBS-TECH)

- Proposal for UENR to provide technical assistance, as the National Technical Institution (NTI), with the implementation of the Nationally Determined Contributions (NDC) Action Project in Ghana. Submitted to UNEP-DTU

Workshops/Conferences/Public Lectures

- Training on Innovative Teaching & Assessment Practices in Higher Education (University of Energy and Natural Resources, Sunyani, January 10-12, 2022)
- GhIE Branch 2 Maiden Annual General Meeting, 2nd June 2022 on the theme,

“Engineering, Key to Achieving National Development”, at Tyco City Hotel, Sunyani.

- DAAD Alumni Workshop on “Curbing Rural-Urban Migration- the role of DAAD Alumni Network in Bridging Rural-Urban Divides in Ghana” Blue Hill Hotel, Wa-UWR, September 8-11, 2022
- Branch 2 GhIE Maiden Conference and Annual General Meeting; Engineering, the key to Achieving National Development, Tyco City Hotel, June 2, 2022, Sunyani.
- 2-day Transformational Dialogue on Small Scale Mining; Enhancing Multi-stakeholder approaches towards addressing challenges with artisanal and small-scale mining, and the institutional dynamics for sustainable practices in Ghana. Sheila Executive Hotel, 25th - 26th May 2022, Sunyani

Grant and Awards

- Name of Project: Waste to energy as a solution to sustainable waste management in Ghana. Funding Agency: Zoomlion Ghana Ltd.

Grant Amount: Ghs 150,000.00

Implementation Period: 2022 to 2024

- Name of Project: Renewable energies for Africa: effective valorization of agri-food wastes (REFFECT Africa Project)

Funding Agency: European Commission

Grant Amount: EUR 731,667.50

Implementation Period: 2021 to 2026

- Hybrid solar PV and waste-to-energy project in Ghana

Funding Agency: German Ministry of Education and Research (BMBF), Germany

Grant Amount: EUR 111,000

Implementation Period: 2020-2023

REGIONAL CENTRE FOR ENERGY AND ENVIRONMENTAL SUSTAINABILITY (RCEES)

Introduction (Establishment)

In response to a call for proposal by the World Bank and the Association of African Universities (AAU) on the Africa Centres of Excellence for Development Impact (ACE Impact) in 2019, a team led by Prof. Eric Antwi Ofori and Prof. Samuel Gyamfi submitted a proposal on behalf of the University on hosting an ACE centre.

The proposal was accepted as one of 8 centres of excellence in Ghana (44 across Djibouti, West and Central Africa) out of over 200 applications. The focus of the Centre is primarily on Energy and Environment.

The Project aims to promote regional specialisation among participating universities in areas that address specific common regional development challenges. It also aims to strengthen the capacities of these universities to deliver high-quality training and applied research as well as meet the demand for skills required for Africa’s development.

Departments and Research Centres/Institutes

RCEES is committed to conducting cutting-edge research in energy and environment to support and promote sustainable development. We are committed to promoting quality and excellent postgraduate education that can transform and support sustainable development. We, therefore, provide the conducive environment to make learning enjoyable for both our national and international students.

Academic Programmes

- a. MSc Sustainable Energy Engineering and Management
- b. PhD Sustainable Energy Engineering and Management
- c. MSc Environmental Engineering and Management
- d. PhD Environmental Engineering and Management

Administration of the School

The Centre's Administration is constituted of the following personnel:

1. Prof Eric Antwi Ofori Director
2. Prof Samuel Gyamfi Deputy Director
3. Samuel Akowuah Okyereh Centre Coordinator/M&E Officer
4. Eric L. Mwintome Assistant Registrar
5. Terry Ohene Koram Snr Administrative Assistant
6. Grace Baaba Badu-Mensah Snr Administrative Assistant

Staff and Students Statistics

The Centre has admitted international students from 12 African countries including Zambia, Gambia, Senegal, Sierra Leone, Ivory Coast, Togo, Benin, Zimbabwe, Cameroon, Chad, Nigeria and Burkina Faso.

Workshops/Conferences/Public Lectures

- 7th ACE Impact Workshop in Cotonou, Benin.

The Centre Leadership and the Vice-Chancellor took part in the 7th ACE Impact Workshop in Cotonou, Benin from 14th June to 17th June 2022. The workshop was attended by close to 300 participants comprising government representatives from the 11 participating countries of the project, eminent academics, researchers, development partners from the World Bank, IRD and AFD, and team members from the Association of African Universities (AAU), project teams from the African Higher Education Centres of Excellence, students and industry partners. The four-day workshop also updated participants and featured discussions on overall project updates, monitoring, evaluation and learning, a report from the subject matter experts, a focus on entrepreneurship and innovation, the development impact of the centres' interventions, as well as a report on the progress of the Centres of Competence in Digital Education (C-CoDE) Initiative. Others included a focus on gender, updates on the Data Systems Maturity Survey and updates on regional networks.

- **IKEM Academy 2022: Energy and Climate**

Staff and students from RCEES took part in IKEM Academy 2022: Energy and Climate in Berlin, Germany. KEM Academy is an innovative, interdisciplinary and international

programme organised annually in close collaboration with the University of Greifswald. For nearly two decades, it has served as a leading international forum for researchers and professionals in energy and climate fields. Over the course of the five-day programme, Academy participants exchanged expertise in creative workshops, toured state-of-the-art renewable-energy installations, and attend presentations and seminars led by distinguished researchers, professors, industry professionals, and representatives of governments and think tanks. Applicants are selected based on their academic and professional qualifications and must have experience relevant to the annual focus of the Academy.

- **WACEENET SYMPOSIUM (MAY 2022)**

RCEES was one of the ACE Impact centres that took part in the second West Africa Centres of Excellence on Energy Network (WACEENET) Regional Symposium, which took place on Monday, May 30, 2022. The theme of the symposium was “Harnessing Clean Energy for Sustainable Development”. The symposium featured a Keynote presentation titled, “Integrated Resource Planning for National Electric Power Infrastructure – a Vehicle for Sustainable Development” by World Bank Subject Matter Expert, Prof. Joseph Mutale, of the University of Manchester, United Kingdom. The symposium also featured presentations by the five Centre Leaders of WACEENET on the summary of activities in their various centres, for the past year. WACEENET, a group of Energy and Power Thematic ACE Impact Centres, is made up of the Africa Centre of Excellence for Sustainable Power and Energy Development (ACE-SPED), Nigeria; Regional Centre of Excellence on Energy and Sustainability (RCEES), Ghana; Africa Centre of Excellence for Future Energy Systems (ACE-FUELS), Nigeria; Centre d’Excellence Régional pour la Maîtrise de l’Electricité (CERME), Togo; and Africa Centre of Excellence for Oilfield Chemicals Research (ACE-CEFOR), Nigeria.

Proposals

Publications (for the year under review)

1. Mensah, J. K., Ofosu, E. A., Yidana, S. M., Akpoti, K., & Kabo-bah, A. T. (2022). Integrated modelling of hydrological processes and groundwater recharge based on land use land cover, and climate changes: a systematic review. *Environmental Advances*, 100224.
2. Mensah, J. K., Ofosu, E. A., Akpoti, K., Kabo-Bah, A. T., Okyereh, S. A., & Yidana, S. M. (2022). Modeling current and future groundwater demands in the White Volta River Basin of Ghana under climate change and socio-economic scenarios. *Journal of Hydrology: Regional Studies*, 41, 101117.
3. Asaviansa, Andrew and Gyamfi, Charles and Antwi, Eric Ofosu, Assessing the Hydrological Implications of Small Reservoirs on Streamflow of the White Volta Basin in Ghana (August 3, 2022). Available at SSRN: <https://ssrn.com/abstract=4180088> or <http://dx.doi.org/10.2139/ssrn.4180088>
4. Obahoundje, S., Diedhiou, A., Dubus, L., Alamou, E. A., Amoussou, E., Akpoti, K., & Ofosu, E. A. (2022). Modeling climate change impact on inflow and hydropower generation of Nangbeto dam in West Africa using

- multi-model CORDEX ensemble and ensemble machine learning. *Applied Energy*, 325, 119795.
5. Nyasapoh M., A, Debrah S. K., Twerefou D. K., Gyamfi S., Kholi, F. K (2022) An Overview of Energy Resources and Future Concerns for Ghana's Electricity Generation. *Journal of Energy* Volume 2022. <https://doi.org/10.1155/2022/1031044>
 6. Peprah F., Gyamfi S., Amo-Boateng M., Effah-Donyina E. (2022) Impact assessment of grid-tied rooftop PV systems on LV distribution network (2022). *Scientific African* 16 (2022) <https://doi.org/10.1016/j.sciaf.2022.e01172>
 7. Ochiegbu C. V., Gyamfi S, Ofosu E. (2022) Modeling, Simulation and Design of Hydro-Solar Isolated Micro-grid without a Battery Storage System: A Case Study for Aba Business Cluster, Nigeria. *International Journal of Engineering Trends and Technology* Volume 70 Issue 2, 125-136, February, 2022 <https://ijettjournal.org/archive/ijett-v70i2p215>
 8. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2022) Characterisation of Degradation of Photovoltaic (PV) Module Technologies in Different Climatic Zones in Ghana. *Sustainable Energy Technologies and Assessments*, 52(2022) 102034. <https://doi.org/10.1016/j.seta.2022.102034>
 9. Eliasu A., Derkyi N. S. A., Gyamfi S. (2022) Techno-Economic Analysis of Municipal Solid Waste Gasification for Electricity Generation. *International Journal of Energy Economics and Policy*, 2022, 12(1), 342-348. DOI: <https://doi.org/10.32479/ijeep.11894>
 10. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2022) Investigation into the Impacts of Design, Installation, Operation and Maintenance Issues on Performance and Degradation of Installed Solar Photovoltaic (PV) Systems *Energy for Sustainable Development* 2022 (66): 165-176. <https://doi.org/10.1016/j.esd.2021.12.003>
 11. Peprah F., Gyamfi S., Amo-Boateng M., Buadi E., Obeng M., (2022) Design and construction of smart solar-powered egg incubator based on GSM/IoT. *Scientific African* Volume 17. <https://doi.org/10.1016/j.sciaf.2022.e01326>
 12. Asamoah S. S., Gyamfi S., Uba F., Mensah S. G., (2022) Comparative assessment of a stand-alone and a grid-connected hybrid system for a community water supply system: A case study of Nankese community in the eastern region of Ghana. *Scientific African* 17 (2022) <https://doi.org/10.1016/j.sciaf.2022.e01331>

Community Engagements

The Centre through the China South-South Cooperation Project expanded the installation of solar home systems in Islands and off grid communities in the Oti Region.

The Centre organized short courses and technical training on Solar- powered irrigation systems (SPIS).

Below are a list of short course offered in the university:

- Design and Installation of Standalone Solar PV
- Energy Efficiency and Management
- Energy Audit
- Renewable Energy Market and Business Development
- Solar PV Design and Installation
- Wind Power Technology
- Improved Cookstove Technology
- Social and Environmental Impact Assessment/Management for Energy and Power Industry
- Small Hydropower Development
- Computational Fluid Dynamics
- How to supervise thesis/How not to supervise thesis
- How to write a winnable proposal
- How to publish in high impact journals

Future Plans of the School

1. To set up 4 fully furnished laboratories on Renewable Energy, Power systems and Environmental Engineering.
2. To roll out a Digital Education platform embracing Massive open online courses (MOOCs) and Blended Learning.
3. Seek International Accreditation for all of our programs

Publications (for the year under review)

Dr. Thomas Atta-Darkwa

- Gilbert Ayine Akolgo, Duke Nii Darko Quaye, Abdul-Rauf Malimanga Alhassan, Killian Asampana Asosega, Ebenezer Nunoo, Osman A. Akimsah Jedaiah, Michael Elorm Deho, Thomas Atta-Darkwa, “Status of Agricultural Mechanization in Ghana: Insight from Farmers’ Perception, Population, and Non-Agricultural Sector Growth”, *Advances in Agriculture*, vol. 2022.
- Thomas, Atta-Darkwa, Asare Austin, Amponsah William, Oppong Danso

Eric, Agbeshie Amerh Alex, Budu Maxwell, Larbi Isaac, Akolgo Ayine Gilbert, and Quaye Nii Darko Duke. "Performance evaluation of infiltration models under different tillage operations in a tropical climate." *Scientific African* 17 (2022): e01318.

- Essandoh, E. O., Akolgo, G. A., Kumi, E. N., & Atta-Darkwa, T. (2021). Review and Analysis of Ghana's Power Sector Policies, Programmes and Reforms. *Journal of Energy and Natural Resource Management (JENRM)*, 7(1). <https://doi.org/10.26796/jenrm.v7i1.168>

Dr. Gilbert Ayine Akolgo

- Gilbert Ayine Akolgo, Duke Nii Darko Quaye, Abdul-Rauf Malimanga Alhassan, Killian Asampana Asosega, Ebenezer Nunoo, Osman A. Akimsah Jedaiah, Michael Elorm Deho, Thomas Atta-Darkwa, "Status of Agricultural Mechanization in Ghana: Insight from Farmers' Perception, Population, and Non-Agricultural Sector Growth", *Advances in Agriculture*, vol. 2022.
- Adjama, Irédon, Nana Sarfo Agyemang Derkyi, Felix Uba, Gilbert Ayine Akolgo, and Richard Opuko. Anaerobic Co-Digestion of Human Feces with Rice Straw for Biogas Production: A Case Study in Sunyani Modelling and Simulation in *Engineering* 2 (2022): 3.
- Thomas, Atta-Darkwa, Asare Austin, Amponsah William, Opong Danso Eric, Agbeshie Amerh Alex, Budu Maxwell, Larbi Isaac, Akolgo Ayine Gilbert, and Quaye Nii Darko Duke. "Performance evaluation of infiltration models under different tillage operations in a tropical climate." *Scientific African* 17 (2022): e01318.
- Akolgo, Gilbert Ayine, Felix Uba, Richard Opoku, Samuel Tweneboah-Koduah, Abdul-Rauf Malimanga Alhassan, Eric Gyimah Anokye, Akimsah Osman A. Jedaiah, and Ebenezer Nunoo. "Energy analysis of poultry housing in Ghana using artificial neural networks." *Scientific African* 17 (2022): e01313.
- Adu-Poku, Kofi Asamoah, Desmond Appiah, Killian Asampana Asosega, Nana Sarfo Agyemang Derkyi, Felix Uba, Ebenezer Nyarko Kumi, Eric Akowuah, Gilbert Ayine Akolgo, and Daniel Gyamfi. "Characterization of fuel and mechanical properties of charred agricultural wastes: Experimental and statistical studies." *Energy Reports* 8 (2022): 4319-4331.

Mr. Duke Nii Darko Quaye

- Akolgo G. A., Quaye D. N. D., Alhassan A. M., Asosega K. A., Nunoo E., Jedaiah O. A. A., Deho M. E. and Atta-Darkwa T., (2022). Status of Agricultural Mechanization in Ghana: Insight from Farmers' Perception,

Population, and Nonagricultural Sector Growth. *Advances in Agriculture*, <https://doi.org/10.1155/2022/2094276>

- Atta-Darkwa T., Asare A., Amponsah W., Oppong. D. E., Agbeshie A. A., Budu M., Larbi I., Akolgo G. A. and Quaye D. N. D. (2022). Performance Evaluation of Infiltration Models under Different Tillage Operations in a Tropical Climate. *Scientific African*, 17, e01318.
- Dorvlo S. Y., Nyanteh H. A., Aziato E. K. S., Ninson D., Dazugo E. and Quaye D. (2021): Effect of Different Soil Depths on Selected Lettuce (*Lactuca sativa*) Growth Parameters in a Developed Self-Watering Vertical Garden. *Research on Crops Journal* Vol. 22, No. 4

2. DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

The Civil and Environmental Engineering Department at UENR is focused on applying engineering and science to help find solutions to the emerging challenges of our changing world and important societal problems of the twenty-first century.

It started as the Department of Energy and Environmental Engineering and ran two programmes namely B.Sc. Renewable Energy Engineering and B.Sc. Environmental Engineering from the 2013-2014 academic year. In 2017 the department was split into two, namely the Department of Civil and Environmental Engineering and the Department of Energy and Petroleum Engineering. The B.Sc. Civil Engineering programmes commenced in the 2017-2018 academic year. The Department also runs postgraduate programmes (M.Sc. and PhD) in Environmental Engineering and Management which commenced in the 2015-2016 academic year.

Administration of the Department

Ing. Dr. Prince Antwi-Agyei	-	Head of Department
Ms. Joyce Okrah	-	Senior Administrative Assistant

Academic Programmes

The Department has Two (2) undergraduate programmes and Two (2) postgraduate programmes.

Programmes:

- B.Sc. Civil Engineering
- B.Sc. Environmental Engineering
- M.Sc. Environmental Engineering and Management
- PhD. Environmental Engineering and Management

Staff and Students Statistics
Students' Statistics (Civil Engineering)

Table 1.1 Students' Statistics (Civil Engineering)

Level	Current Year (2022)			Past 1 Year			Past 2 Years			Past 3 years		
	M	F	T	M	F	T	M	F	T	M	F	T
Level 100	60	23	83	80	20	100	88	9	97	59	5	64
Level 200	80	20	100	88	9	97	59	5	64	20	0	20
Level 300	88	9	97	59	5	64	20	0	20			
Level 400	59	5	64	20	0	20						

Table 1.2 Students' Statistics (Environmental Engineering)

Level	Current Year (2022)			Past 1 Year			Past 2 Years			Past 3 years		
	M	F	T	M	F	T	M	F	T	M	F	T
Level 100	14	8	22	24	9	33	15	4	19	20	3	23
Level 200	24	9	33	15	4	19	20	3	23			
Level 300	15	4	19	20	3	23						
Level 400	20	3	23									

Table 1.3 Students' Statistics (M.Sc. Environmental Engineering and Management)

Academic Year	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
MSc	17	7	29	16	14

Table 1.4 Students' Statistics (PhD Environmental Engineering and Management-Regular)

Academic Year	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
MSc	17	7	29	16	14

Table 1.5 Staff Statistics

Portfolios / Designation	Number
Associate Professor	3
Senior Lecturers	1
Lecturers	4
Assistant Lecturers	3
Technicians	2
Snr. Administrative Assistant	1

Research Collaborations (Local and International)**ING. PROF. FRANCIS ATTIOGBE**

1. Co-Investigator (March 2020- January 2021): Investigating Bicarbonate Anion and TAED as Activators in Peroxide Bleaching of a Mechanical Pulp with the Principal Investigator from SUNY-ESF, USA. Funding: ANDRITZ

ING. PROF. AMOS KABO-BAH

1. Project Lead (2018 – present) ZY Cloud Service Platform: Establishment of a cloud service platform to access on annual basis \$100,000.00 cost for high-resolution data products for land mapping purposes; a Sponsored workshop for the training of 20 UENR staff and postgraduate students on land mapping; Sponsored 2 UENR staff to China for a 2-month training including a full sponsored conference participation worth \$30,000.00
2. Project Lead/Coordinator (2017 – present) Ghana Carbon Programme at UENR: Establishment of a Carbon Flux Monitoring tower at Bia-Tano Forest Reserve worth over €400,000.00 for equipment fully sponsored by MOU (CzechGlobe) and counterpart funding of an additional GHc300,000 for construction of tower; Fully sponsored 3 UENR staff for PhD in the Czech Republic for Fluxes studies in the forest; Full support of the training of one technician in the Czech Republic on Tower management
3. Project Lead- Real-Time Flood Forecasting and Inundation Mapping For Accra Metropolis and Some Parts of the Northern Region (TanDEM Project). Worth €40,000.00 in data products (high-resolution DEM of 5-10m provided)

ING. DR. PRINCE ANTWI-AGYEI

1. Co-Investigator (May 2022 – April 2024): “Sowing the seeds of the ‘good city’: urban agriculture, sustainable livelihoods and wellbeing in Freetown, Sierra Leone”. A collaborative project between the University of Bath, the UK as the lead and the University of Energy and Natural Resources (Ghana) and the Fourah Bay College, the University of Sierra Leone as partners.
2. Principal Investigator (March 2022 – February 2023): “Assessment of Occupational

Health and Safety Risks among Latrine Pit Emptiers and Public Toilet Operators in Urban Ghana”. A collaborative project under the WaterAid research support for sanitation workers. Project core partners: the University of Energy and Natural Resources and the Department of Environmental Health and Sanitation Education Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Mampong – Ashanti Region.

3. Co-Investigator (May 2018 – November 2021): Management of Shared Sanitation Facilities in Informal Settlements of Kisumu, Kenya and Kumasi, Ghana. A collaborative project under LIRA 2030 Africa — Advancing the implementation of the Sustainable Development Goal 11 in Africa. Project lead: African population & health research centre, Kenya. Other partners NHance Development Partners Ltd, Ghana, Kwame Nkrumah University of Science and Technology (KNUST), and Kenyatta University, Kenya. Project funded by the International Science Council and the Network of African Science Academies (NASAC).
4. Co-Investigator and Ghana team lead (November 2018 – December 2021): QUISS: Quality Indicators of Shared Sanitation Facilities in Urban Informal Settlements in Low- and Middle-Income Countries (Ghana, Kenya, and Bangladesh). Research Lead: Eawag/Sandec, Switzerland. Funding: Water and Sanitation for the Urban Poor (WSUP, UK).

DR. NANA OSEI ACKERSON

1. Co-Investigator (March 2022 – February 2023): “Assessment of Occupational Health and Safety Risks among Latrine Pit Emptiers and Public Toilet Operators in Urban Ghana”. A collaborative project under the WaterAid research support for sanitation workers. Project core partners: the University of Energy and Natural Resources and the Department of Environmental Health and Sanitation Education Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Mampong – Ashanti Region.

Workshops/Conferences/Public Lectures

ING. PROF. FRANCIS ATTIOGBE

1. Francis Attiogbe, Samuel Gyamfi, Felix Amankwah Diawuo, Mathew Atinsia Anabadongo and Emmanuel Yeboah Asuamah, 2022. Investigating Students’ Views of SCL Approach in UENR, Ghana. EEISHEA International Conference on Higher Education in Africa, Kiliwonders Hotel, Moshi-Tanzania. (28th – 30th September 2022).
2. Samuel Gyamfi, Felix Amankwah Diawuo, Francis Attiogbe, Mathew Atinsia Anabadongo and Emmanuel Yeboah Asuamah, 2022. BSc. Renewable Energy Engineering Curriculum Redevelopment and Implementation: The Sustainability Perspective. EEISHEA International Conference on Higher Education in Africa, Kiliwonders Hotel, Moshi-Tanzania. (28th – 30th September 2022).
3. Prosper N. Angnunavuri and Francis Attiogbe, 2022. Unpacking the risks in plastic

packaged drinking water: Restrict phthalates. Water Africa and West Africa Building and Construction Conference organized by ACE Event Management, Accra International Conference Center (AICC), Accra, Ghana. (8th – 10th June 2022).

4. Maiden Branch 2 (GHIE) Conference and Annual General Meeting on the theme 'Engineering, Key to Achieving National Development by Ghana Institution of Engineering (GhiE), Tyco City, Sunyani, June 2, 2022.
5. Entrepreneurial Skills Development for Africa – A New Focus and Impetus organized by the Association of African Universities (AAU), May 25, 2022.
6. Publish Scholarly Books and Open Access in Science & Technology Webinar organized by Taylor & Francis Group, May 25, 2022.
7. State of the Art in University-Industry Relations to Prepare the Engineer of the Future Webinar organized by Global Engineering Deans Council (GEDC) Industry Forum, May 11, 2022.
8. Multi and transdisciplinary research "Building Profile on Research Capacities", Pre-UNOOSA virtual workshop, May 9, 2022.
9. Enhancing Research Integrity & Upholding Publication Ethics Webinar organized by Taylor & Francis Group, May 5, 2022.
10. Excellence in Peer Review: How to be an effective peer reviewer Webinar organized by Taylor & Francis Group, October 21, 2021.
11. Practical and hands-on teaching and learning online through labs with Coursera, Quanser & Siemens Webinar, September 28, 2021.

ING. PROF. ERIC ANTWI OFOSU

1. Panel Speaker: Society of Petroleum Engineers Virtual Workshop: Emerging Fronts – HSE Management & Sustainability of Petroleum Operations in Africa, 25-26 May 2021.
2. Panel Speaker: The Nigerian Institution of Environmental Engineers (NIEE) Commemoration of the World Environment Day 2020. Delivered a lecture on Biodiversity and Water Supply.

ING. PROF. AMOS KABO-BAH

1. Invited Speaker, Earth observation technologies for improved water management, IFAT 2022, May 30 to June 3, 2022

ING. DR. EMMANUEL KWESI NYANTAKYI

1. Obiri-Yeboah, J. F. X. Ribeiro, E. K. Nyantakyi (2021). A Comparative Study of Partial Replacement of Cement with Glass, Sawdust, Palm Kernel, and Palm Husk for Applications in Concrete. 10th Sustainable Education and Development Research Conference, Noguchi Conference Hall University of Ghana, 25th-28th August 2021

2. Launch of an electric vehicle Lithium-ion battery pack development lab at Solar Taxi Ltd, Adako Jachie behind Excelsa Lodge (off KNUST – Ejisu road), Kumasi on 6th August 2021 at 10:00 am
3. 2021-2023 GhIE National Council Orientation and Retreat Programme, Hephzibah Christian Limited, Akuapem, Thursday, May 6, 2021, to Sunday, May 9, 2021
4. Invitation to Project Kick-Off Workshop, Mobility for sub-Saharan Africa sustainably thought through the life cycle - MoNaL“ April 19, 2021, from 2 pm GMT at Eusbett hotel in Sunyani.
5. 51st Ghana Institution of Engineering Annual Conference and Meeting on the theme ‘Engineering Key to Sustainable Development at IDL Conference Centre, KNUST-Kumasi between 24th and 26th March 2021
6. Postgraduate Thesis Progress Presentation organized by RCEES at Rosewood Cottage, Kumasi between 22nd and 26th March 2021
7. Thesis Supervision Workshop organized by RCEES in UENR, Sunyani between 19th and 21st January 2021

ING. DR. PRINCE ANTWI-AGYEI

1. Antwi-Agyei, P., Monney, I., Amaning Adjei, K., Kweyu, R. and Simiyu, S., 2022. The debate on shared sanitation and achieving SDG 6. Water Africa & West Africa Building and Construction Event. Accra International Conference Centre, Ghana. (8-10 June 2022).

DR. NANA OSEI BONSU ACKERSON

1. Skills Fair, organized by Environmental Engineering Student Association (EESA), UENR Auditorium, 23 July 2022
2. GhIE Branch 2 Maiden Conference and Annual General Meeting, organized by GhIE at Tyco City Hotel, Sunyani, 2 June 2022.
3. Sanitation Quality Standards for Emergencies, organized by Practice, Research and Operation in Water Sanitation and Hygiene (PRO-WASH), 6 April 2022 (Virtual)
4. Institutional Mechanism for the Delivery of Rural WASH Services - Key Gaps, Challenges, Possible Solutions, organized by Water for People, 19 January 2022 (Virtual)
5. Problem-based Training Workshop on LaTeX Scientific Documentation, organized by Math Tech Thinking Foundation, India, 15-16 January 2022 (Virtual)
6. Innovative Teaching Practices in Higher Education, organized by Centre for Professional Development, the University of Energy and Natural Resources, 10-12 January 2022.
7. Orientation/Mentoring and Coaching Seminar, organized by the Environmental Engineering Students’ Association, University of Energy and Natural Resources, Sunyani, UENR Auditorium, 10 January 2022.
8. 2021 UNC (University of North Carolina-Chapel Hill) Water and Health Conference, 4-8 October 2021 (Virtual)
9. The path to research leadership in Africa and India, 23 September 2021 (Virtual)
10. Triple Threats on Ghana’s Economic Horizon: Policy Implications and roles of UENR, 5 August 2021 – Public Lecture by Prof Kwamena Panford, UENR Auditorium

NANA KWAME OBENG-AHENKORA

1. Innovative Teaching Practices in Higher Education, organized by Centre for Professional Development, the University of Energy and Natural Resources, January 10, 2022.
2. International Webinar on Green Building, organized by the Akenten Appiah-Menkah University of Skills Training, Education and Development, (Virtual) January 26, 2022.

ENGR. MRS. ANNA AMANKWAH-MINKAH

1. Innovative Teaching Practices in Higher Education, organized by Centre for Professional Development, the University of Energy and Natural Resources, January 10, 2022.
2. GhIE Branch 2 Maiden Conference and Annual General Meeting, organized by GhIE at Tyco City Hotel, Sunyani, June 2, 2022.
3. Orientation/Mentoring and Coaching Seminar, organized by the Environmental Engineering Students' Association, University of Energy and Natural Resources, Sunyani, UENR Auditorium, January 10, 2022.

WEZENAMO CLEMENT APURI

1. GhIE Branch 2 Maiden Conference and Annual General Meeting, organized by GhIE at Tyco City Hotel, Sunyani, June 2, 2022.
2. 2-Day Transformational Dialogue on Small Scale Mining, organized by UENR at Sheila's Lodge, Sunyani, April 1, 2022.
3. Orientation/Mentoring and Coaching Seminar, organized by the Environmental Engineering Students' Association, University of Energy and Natural Resources, Sunyani, UENR Auditorium, January 10, 2022.

SAEED IBN IDRIS KOFI YEBOAH

1. 10th -13th May 2022: Participant. United Nations/Ghana/PSIPW - 5th International conference on the use of space technology for water resources management. Accra

Proposals

ING. PROF. AMOS KABO-BAH

1. Developed the proposal and got approval from the Group on Earth Observation Executive Committee for the Ministry of Environment, Science and Innovation to host 2022 GEO Week to be held in Accra from the 31st of October to the 4th of November 2022. <https://earthobservations.org/index.php>. UENR staff and students to participate in various training programmes.

ING. PRINCE DR. ANTWI-AGYEI

1. Research support grant- sanitation workers. "Assessment of Occupational Health and Safety Risks among Latrine Pit Emptiers and Public Toilet Operators in Urban Ghana". Client – WaterAid UK
2. Sowing the seeds of the 'good city': urban agriculture, sustainable livelihoods and wellbeing in Freetown, Sierra Leone. A project collaboration between the University of Bath – UK, the Geography Department, Fourah Bay College, and the University

- of Sierra Leone. Client – The British Academy
3. Initiative for Sanitation Workers (ISW)-Research support grants on Sanitation Workers: for Institutions. “Improving Pit Emptying Services Delivery in Urban Ghana: What are the Institutional and Regulatory Reforms Needed”? Client – WaterAid UK
 4. Proposal on Environmental Sanitation Research Fund. “Bottleneck Analysis for the Uptake of Recycled Plastic Products and Plastic Waste Collection in Ghana”. Client – JOSPONG Group of Companies
 5. Advanced Virtual Fire Information System (AVFS) for farmers and stakeholders in Ghana
 6. Climate Risk Information System (CRIS) - Local knowledge and climate change adaptation planning In Ghana.
 7. The Adverse Effects of REDD+ Mechanisms and Smallholder Farmers’ Adaptation in Ghana: Monitoring Above Ground Carbon Stock of Trees from Earth Observation and Geo-Information Systems Innovations under a Changing Climate
 8. Bottleneck analysis for the uptake of recycled plastic products and plastic waste collection in Ghana. ENVIRONMENTAL SANITATION RESEARCH FUND - The Jospong Group of Companies. A Competitive Research Grant for Public Universities in Ghana, for the Improvement of Environmental Sanitation in Ghana (2021)
 9. Assessment of occupational health and safety risks among latrine pit emptiers and public toilet operators in urban Ghana. INITIATIVE FOR SANITATION WORKERS (ISW). Research support grants on Sanitation Workers: for Institutions (2021)
 10. Improving pit emptying services delivery in urban Ghana: what are the institutional and regulatory reforms needed? INITIATIVE FOR SANITATION WORKERS (ISW). Research support grants on Sanitation Workers: for Institutions (2021)
 11. Improving Water, Sanitation, and Hygiene for Development. USAID Enhancing Water, Sanitation and Hygiene (WASH) Activity (2021)

DR NANA OSEI ACKERSON

1. Assessment of occupational health and safety risks among latrine pit emptiers and public toilet operators in urban Ghana. INITIATIVE FOR SANITATION WORKERS (ISW). Research support grants on Sanitation Workers: for Institutions (2021)
2. Improving pit emptying services delivery in urban Ghana: what are the institutional and regulatory reforms needed? INITIATIVE FOR SANITATION WORKERS (ISW). Research support grants on Sanitation Workers: for Institutions (2021)

Grants and Awards

ING. PROF. FRANCIS ATTIOGBE

Title	Role	Funder	Project Period
Mobility for Sub-Saharan Africa - Sustainable thought over the life cycle (Acronym: MoNaL)	Facilitated UENR partnership with the project.	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany. Funding amount: approx. €400,000.	August 2020 to July 2022

ING. DR. EMMANUEL KWESI NYANTAKYI

1. A member of the team that reviewed the Site Licensing Lease Agreement between UENR and ATLAS Space Operations, USA and secured a monthly amount of **Three Thousand Eight Hundred dollars (\$3,800)** for the Earth Observation Research and Innovation Centre (EORIC) to defray EORIC Colocation Rent, General Maintenance & Power, University administrative Fees & Charges in September 2021.
2. I secured an amount of Nineteen Thousand, Two Hundred, and Seventy-Eight Dollars (**\$19,278**) to undertake the extension of electricity to the Carbon Tower Project Site, Tano Bia Forest, Mim in the Ahafo Region in July 2021.

ING. PRINCE DR. ANTWI-AGYEI

Title	Role	Funder/ Grant Amount	Project Period
Research support grant- sanitation workers. "Assessment of Occupational Health and Safety Risks among Latrine Pit Emptiers and Public Toilet Operators in Urban Ghana".	Principal Investigator	WaterAid, UK US\$ 20,000	2022-2023

<p>Sowing the seeds of the 'good city': urban agriculture, sustainable livelihoods and wellbeing in Freetown, Sierra Leone. A project collaboration between the University of Bath – UK, Geography Department, Fourah Bay College, University of Sierra Leone</p>	<p>Co-Investigator</p>	<p>The British Academy £199,803.00</p>	<p>2022-2024</p>
<p>Master Service Agreement between EORIC-UENR and Global Change Research Institute of the Czech Republic (Czech Globe)</p>	<p>Chair: Project and Proposal development committee</p>	<p>Global Change Research Institute of the Czech Republic (Czech Globe) Amount of US\$19,278</p>	<p>2021-2024</p>

<p>The University in conjunction with the Global Change Research Institute of the Czech Republic (Czech Globe) and other partners are implementing a scientific research project that seeks to establish a forest carbon flux station in the Bia Tano Forest Reserve near Mim in the Ahafo Region. The main aim of this project is to monitor, understand, quantify and model CO2 exchange between a typical tropical forest ecosystem and the atmosphere to estimate the regional variability of this greenhouse gas and to assess the carbon sequestration capacity of such tropical forest ecosystems.</p>			
<p>Master Service Agreement between EORIC-UENR and ATLAS Space Operation, LLC</p>	<p>Chair: Project and Proposal development committee</p>	<p>ATLAS US\$ 134,900 for 3 years</p>	<p>2021-2024</p>

<p>ATLAS is engaged in the building and integration of a global satellite TT&C network, a network and data operations platform called ATLAS Freedom, and electronically steered aperture array systems called ATLAS Links. The products and services provided by ATLAS are aimed at servicing commercial space activity with satellite-to-ground communications services, satellite operations support, and data management services.</p>			
<p>Master Service Agreement Data and Teleport Services between EORIC-UENR and Media Broadcast Services GmbH</p>	<p>Chair: Project and Proposal development committee</p>	<p>Media Broadcast Service GmbH US\$ 277,440 for 5 years</p>	<p>2021-2025</p>

<p>The master service agreement to enable MBS to receive ground station services on the UENR campus, Sunyani. The university has rented part of its ground stations (Co-location) to MBS to install a Satellite to enable MBS Spire to receive data).</p>			
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Publications (for the year under review)

ING. PROF. FRANCIS ATTIOGBE

1. Prosper Naah Angnunavuri, Francis Attiogbe, Bismark Mensah. Effect of storage on the levels of phthalates in high-density polyethylene (HDPE) film-packaged drinking water, *Science of the Total Environment* 845 (2022) 157347. <https://doi.org/10.1016/j.scitotenv.2022.157347>.
2. Prosper Naah Angnunavuri, Francis Attiogbe, Andrew Dansie, Bismark Mensah. Evaluation of plastic packaged water quality using health risk indices: A case study of sachet and bottled water in Accra, Ghana, *Science of the Total Environment* 832 (2022) 155073. <http://dx.doi.org/10.1016/j.scitotenv.2022.155073>.
3. Kodom, K., Attiogbe, F., Kuranchie, F.A., Assessment of removal efficiency of pharmaceutical products from wastewater in Sewage Treatment Plants: A case of the Sewerage Systems Ghana Limited, Accra, *HELIYON*, Volume 7, Issue 11, November 2021. <https://doi.org/10.1016/j.heliyon.2021.e08385>.

ING. PROF. ERIC ANTWI OFOSU

1. Ofosu-Peasah G., Ofosu E. A., Blyth W. (2021). Factors Characterising Energy Security in West Africa: An integrative Review of the Literature. *Renewable and Sustainable Energy Reviews* 148 (2021) 111259 <https://doi.org/10.1016/j.rser.2021.111259>
2. Jianguo D., Chang G., Adu D., Darko R., Khan M. A. S., Antwi E. O. (2021). Numerical Simulation and Computational Flow Characterization
3. Analyses of Centrifugal Pump Operating as Turbine. *Wiley Hindawi Complexity* Volume 2021, Article ID 9695452. <https://doi.org/10.1155/2021/9695452>
4. Dekongmen B. W., Kabobah A. T., Domfeh M. K., Sunkari E. D., Dile Y. T., Antwi E. O., Gyimah R. A. A. (2021). Flood vulnerability assessment in the Accra Metropolis, southeastern Ghana. *Applied Water Science* (2021) 11:134 <https://doi.org/10.1007/s13201-021-01463-9>

ING. PROF. AMOS KABO-BAH

1. Kouman, K. D., Kabo-bah, A. T., Kouadio, B. H., & Akpoti, K. (2022). Spatio-Temporal Trends of Precipitation and Temperature Extremes across the North-East Region of Côte d'Ivoire over the Period 1981–2020. *Climate*, 10(5), 74.
2. Mensah, Jacob Kofi, Eric A. Ofosu, Komlavi Akpoti, Amos T. Kabo-Bah, Samuel A. Okyereh, and Sandow Mark Yidana. "Modeling current and future groundwater demands in the White Volta River Basin of Ghana under climate change and socio-economic scenarios." *Journal of Hydrology: Regional Studies* 41 (2022): 101117.
3. Yeboah, K. A., Akpoti, K., Kabo-bah, A. T., Ofosu, E. A., Siabi, E. K., Mortey, E. M., & Okyereh, S. A. (2022). Assessing climate change projections in the Volta Basin using the CORDEX-Africa climate simulations and statistical bias correction. *Environmental Challenges*, 6, 100439.
4. Mensah, Jacob Kofi, Eric A. Ofosu, Komlavi Akpoti, Amos T. Kabo-Bah, Samuel A. Okyereh, and Sandow Mark Yidana. "Modeling current and future groundwater demands in the White Volta River Basin of Ghana under climate change and socio-economic scenarios." *Journal of Hydrology: Regional Studies* 41 (2022): 101117.
5. Mensah, Jacob Kofi, Eric A. Ofosu, Sandow Mark Yidana, Komlavi Akpoti, and Amos T. Kabo-bah. "Integrated modeling of hydrological processes and groundwater recharge based on land use land cover, and climate changes: a systematic review." *Environmental Advances* (2022): 100224.
6. Kouman, Kouamé Donald, Amos T. Kabo-bah, Boyossoro Hélène Kouadio, and Komlavi Akpoti. "Spatio-Temporal Trends of Precipitation and Temperature Extremes across the North-East Region of Côte d'Ivoire over the Period 1981–2020." *Climate* 10, no. 5 (2022): 74.
7. Akpoti, K., Groen, T., Dossou-Yovo, E., Kabo-bah, A. T., & Zwart, S. J. (2022). Climate change-induced reduction in agricultural land suitability of West Africa's inland valley landscapes. *Agricultural systems*, 200, 103429.
8. Mensah, Jacob Kofi, Eric A. Ofosu, Sandow Mark Yidana, Komlavi Akpoti, and Amos T. Kabo-bah. "Integrated modeling of hydrological processes and groundwater recharge based on land use land cover, and climate changes: a systematic review." *Environmental Advances* (2022): 100224.
9. Mahama, P. N., Kabo-Bah, A. T., Blanford, J. I., Yamba, E. I., & Antwi-Agyei, P. (2022). Reviewing the Past, Present, and Future Risks of Pathogens in Ghana and What This Means for Rethinking Infectious Disease Surveillance for Sub-Saharan Africa. *Journal of Tropical Medicine*, 2022.
10. Dekongmen, Benjamin Wullobayi, Amos Tiereyangn Kabo-bah, Martin Kyereh Domfeh, Emmanuel Daanoba Sunkari, Yihun Taddele Dile, Eric Ofosu Antwi, and Rita Akosua Anima Gyimah. "Flood vulnerability assessment in the Accra Metropolis, southeastern Ghana." *Applied Water Science* 11, no. 7 (2021): 1-10.
11. Osiakwan, Gustav Merrit, Abass Gibrilla, Amos T. Kabo-Bah, Emmanuel K. Appiah-Adjei, and Geophrey Anornu. "Delineation of groundwater potential zones in the Central Region of Ghana using GIS and fuzzy analytic hierarchy process." *Modeling Earth Systems and Environment* (2022): 1-22.
12. Abebrese, S., Anornu, G. K., Kabo-Bah, A. T., Dekongmen, B. W., & Sunkari, E. D. (2022). Assessment of groundwater potential zones using GIS and remote sensing techniques in the Bole District, Savannah Region, Ghana. *International Journal of*

Energy and Water Resources, 1-12.

13. Osiakwan, G. M., Appiah-Adjei, E. K., Kabo-Bah, A. T., Gibrilla, A., & Anornu, G. (2021). Assessment of groundwater quality and the controlling factors in coastal aquifers of Ghana: An integrated statistical, geostatistical and hydrogeochemical approach. *Journal of African Earth Sciences*, 184, 104371.
14. Kabo-Bah, A. T., Sedegah, D. D., Antwi, M., Gumindoga, W., & Eslamian, S. (2021). How to Increase Water Harvesting in Africa. *Handbook of Water Harvesting and Conservation: Case Studies and Application Examples*, 141-151.
15. Kabo-bah, A. T., & Eslamian, S. (2021). Watershed Water Balance. *Journal: Encyclopedia of the UN Sustainable Development Goals Clean Water and Sanitation*, 1-17.
16. Kabo-bah, A. T., Nyantakyi, E., Kabo-bah, K., Nasirudeen, A. F., & Siabi, E. K. (2021). Homemade Solutions for Self-Reliance: Escaping the Poverty Net in Developing Countries. *Journal: Encyclopedia of the UN Sustainable Development Goals No Poverty*, 1-11.

Books

1. Kabo-Bah, A. T., Diawuo F., Antwi, O. E. 2022, Pumped Hydro Energy Storage for Hybrid Systems, Elsevier. (In production)

ING. DR. EMMANUEL KWESI NYANTAKYI

1. Amos T. Kabo-bah, Emmanuel Nyantakyi, Kamila Kabo-bah, Abdul Fatawu Nasirudeen, Ebenezer K. Siabi (2021). Prejudice against the poor and vulnerable. *Encyclopedia of the UN Sustainable Development Goals, No Poverty-Springer-Accepted and yet to be published (Book Chapter)*
2. Shaibu Osman, Francis Atta Kuranchie, Emmanuel Nyantakyi (2021). Substitution of Glass Powder for Cement in Concrete as a Sustainable Waste Management Practice. *Environmental and Green Processes (MDPI)- Accepted and yet to be published*
3. Ebenezer K. Siabi, Amos T. Kabo-bah, Komlavi Akpoti, Geophery K. Anornu, Mark Amo-Boateng, Emmanuel K. Nyantakyi (2021). Statistical Downscaling future Climate Changes in the Black Volta Basin of Ghana: Impacts on Food, Energy, and Water. *Environmental Challenges (2021)*, <https://doi.org/10.1016/j.envc.2021.100299>
4. Caleb Mensah, Ladislav Šigut, Milan Fisher, Lenka Foltýnová, Georg Jocher, Shilpi Chawla, Otmar Urban, Cosmos Senyo Wemegah, Marian Pavelka, Emmanuel K. Nyantakyi, Michal V. Marek (2021). Environmental effects on potential gross primary productivity in Beech and Norway spruce forests. *Atmosphere 2021*, 12, 1128. <https://doi.org/10.3390/atmos12091128>
5. Obiri-Yeboah, A, Nyantakyi, E. K., Abdul Rahim M, Yeboah S. I. I. K., Domfeh, M. K, Abokyi, E (2021). Assessing Potential Health Effect of Lead and Mercury and the Impact of Illegal Mining Activities in the Bonsa River, Tarkwa Nsuaem, Ghana. *Scientific African* <https://doi.org/10.1016/j.sciaf.2021.e00876>
6. Caleb Mensah , Ladislav Šigut, Milan Fischer, Lenka Foltýnová, Georg Jocher, Manuel Acosta, Natalia Kowalska, Lukáš Kokrda, Marian Pavelka, John David Marshall, Emmanuel K. Nyantakyi, Michal V. Marek (2021). Assessing the Contrasting Effects of the Exceptional 2015 Drought on the Carbon Dynamics in Two Norway Spruce Forest Ecosystems. *Atmosphere 2021*, 12, 988. <https://doi.org/10.3390/atmos12090988>

ING. PRINCE DR. ANTWI-AGYEI

1. Sey, N.E.N., Amo-Boateng, M., Domfeh, M.K., Kabo-Bah, A.T. and Antwi-Agyei, P., 2022. Deep learning-based framework for vegetation hazard monitoring near powerlines.
2. Mahama PN, Kabo-Bah AT, Blanford JI, Yamba EI, Antwi-Agyei P. Reviewing the Past, Present, and Future Risks of Pathogens in Ghana and What This Means for Rethinking Infectious Disease Surveillance for Sub-Saharan Africa. *Journal of tropical medicine*. 2022 Jul 14; 2022.
3. Trimmer, J. T., Kisiangani, J., Peletz, R., Stuart, K., Antwi-Agyei, P., Albert, J., Khush, R., & Delaire, C. (2022). The Impact of Pro-Poor Sanitation Subsidies in Open Defecation-Free Communities: A Randomized, Controlled Trial in Rural Ghana. *Environmental health perspectives*, 130(6), 67004. <https://doi.org/10.1289/EHP10443>
4. Bawa, S. A., Antwi-Agyei, P., & Domfeh, M. K. (2022). Impact of the ban on illegal mining activities on raw water quality: A case-study of Konongo water treatment plant, Ashanti region of Ghana. *Journal of Sustainable Mining*, 21(2), 80.
5. Antwi-Agyei, P., Monney, I., Amaning Adjei, K., Kweyu, R. and Simiyu, S., (2022). Shared but Clean Household Toilets: What Makes This Possible? Evidence from Ghana and Kenya. *International Journal of Environmental Research and Public Health*, 19(7), p.4271
6. Yeboah, S.I.I.K., Antwi-Agyei, P. and Domfeh, M.K., 2022. Drinking water quality and health risk assessment of intake and point-of-use water sources in Tano North Municipality, Ghana. *Journal of Water, Sanitation and Hygiene for Development*. 12(2), 157–167. <https://doi.org/10.2166/washdev.2022.152>
7. Delaire, C., Kisiangani, J., Stuart, K., Antwi-Agyei, P., Khush, R. and Peletz, R., (2022). Can open-defecation-free (ODF) communities be sustained? A cross-sectional study in rural Ghana. *PloS one*, 17(1), p.e0261674.
8. Domfeh MK, Sey NE, Amproche AA, Mortey EM, Antwi-Agyei P., Nyantakyi EK. Exploring key drivers of forest fires in the Mole National Park of Ghana using geospatial tools. *Spatial Information Research*. 2022 Sep 1:1-1.
9. Meili, D., Schelbert, V., Alam, M.U., Antwi-Agyei, P., Simiyu, S., Adjei, K.A., Dwumfour-Asare, B., Rahman, M., Lüthi, C. and Günther, I., 2022. Indicators for sanitation quality in low-income urban settlements: evidence from Kenya, Ghana, and Bangladesh. *Social Indicators Research*, 162(2), pp.683-720.
10. Agyen, K.G., Monney, I. and Antwi-Agyei, P., 2021. Contemporary Carwash Wastewater Recycling Technologies: A Systematic Literature Review. *World Environment*, 11(2), pp.83-98.
11. Simiyu, S., Antwi-Agyei, P., Adjei, K., & Kweyu, R. (2021). Developing and Testing Strategies for Improving Cleanliness of Shared Sanitation in Low-Income Settlements of Kisumu, Kenya. *The American journal of tropical medicine and hygiene*, tpm201634.
12. Simiyu, S., Antwi-Agyei, P., Adjei, K., & Kweyu, R. (2021). Developing and Testing Strategies for Improving Cleanliness of Shared Sanitation in Low-Income Settlements of Kisumu, Kenya. *The American journal of tropical medicine and hygiene*, tpm201634.

13. Delaire, C., Kisiangani, J., Stuart, K., Antwi-Agyei, P., Khush, R. & Peletz, R., (2021). Can open-defecation-free (ODF) communities be sustained? A cross-sectional study in rural Ghana. PLOS ONE (Forthcoming, PONE-D-21-10647R1)
14. Delaire, C., Peletz, R., Haji, S., Kones, J., Samuel, E., Easthope-Frazer, A., Charreyron, E., Wang, T., Feng, A., Mustafiz, R., Faria, I. J., Antwi-Agyei, P., Donkor, E., Adjei, K., Monney, I., Kisiangani, J., MacLeod, C., Mwangi, B., & Khush, R. (2021). How Much Will Safe Sanitation for all Cost? Evidence from Five Cities. *Environmental science & technology*, 55(1), 767–777. <https://doi.org/10.1021/acs.est.0c06348>

DR. NANA OSEI BONSU ACKERSON

1. Adu Poku, D., Ackerson, N.O.B., Devine, R.N.O.A., Addo, A.G (2022). Climate mitigation efficiency of nitrification and urease inhibitors: impact on N₂O emission—A review. *Scientific African* e01170. <https://doi.org/10.1016/j.sciaf.2022.e01170>
2. Owusu-Ansah, P., Obiri-Yeboah, A.A., Abdul-Aziz, A.R., Nyantakyi, E.K., Woangbah, S.K., Asamoah, J.N., Ackerson, N.O.B., Adusei, E (2022). Effect of Traffic Congestion on Productivity in Ghana: Evidence from Atwimah-Nwabiagya Municipality, Ashanti Region-Ghana. *International Journal of Traffic and Transportation Engineering* 11(1): 11-20. doi:10.5923/j.ijtte.20221101.03
3. Ackerson, N.O.B., Liberatore, H.K., Richardson, S.D., Plewa, M.J., Ternes, T.A., and Duirk, S.E (2021). Chloramination of iopamidol- and bromide-spiked waters containing natural organic matter. *Water Supply* 21 (2), 886-898.

ENGR. MRS. ANNA AMANKWAH-MINKAH

1. Gbedzi, D. D., Ofosu, E. A., Mortey, E. M., Obiri-Yeboah, A., Nyantakyi, E. K., Siabi, E. K., Abdallaha, F., Domfeh, M. K. and Amankwah-Minkah, A. (2022). Impact of mining on land use land cover change and water quality in the Asutifi North District of Ghana, West Africa. *Environmental Challenges*, 100441
2. Agbotui, P., Anornu, G., Agbotui, T., Gyabaah, F., Amankwah-Minkah, A., Brookman-Amisah, M., Blankson-Darku, D., and Sallah, J. (2021). Risk-based contaminated land management policy mindset: a way out for Ghana's environmental challenges. *African Geographical Review*, 1-14.

SAEED IBN IDRIS KOFI YEBOAH

1. Owusu-Ansah, P., Obiri-Yeboah, A. A., Nyantakyi, E. K., Woangbah, S. K., & Yeboah, S. I. I. K. (2022). Ghanaian inclination towards household waste segregation for sustainable waste management. *Scientific African*, 17, e01335.
2. Yeboah, S.I.I.K., Antwi-Agyei, P. and Domfeh, M.K., 2022. Drinking water quality and health risk assessment of intake and point-of-use water sources in Tano North Municipality, Ghana. *Journal of Water, Sanitation and Hygiene for Development*. 12(2), 157–167. <https://doi.org/10.2166/washdev.2022.152>
3. Yeboah, S. I. I. K., Kabo-Bah, K., Amos T. Kabo-bah, A.T., Opoku A. M., Amoah, T., Obeng M. A., Amoah, G. R (2022). Knowledge, Awareness, and the Practices of Solid Waste Management in the Sunyani West Municipality of Ghana. *African Journal of Environmental Science and Technology*.
4. Obiri-Yeboah, A., Nyantakyi, E. K., Mohammed, A. R., Yeboah, S. I. I. K., Domfeh,

- M. K., & Abokyi, E. (2021). Assessing potential health effects of lead and mercury and the impact of illegal mining activities in the Bonsa River, Tarkwa Nsuaem, Ghana. *Scientific African*, 13, e00876.
5. Yeboah, S. I. I. K., Amoah, T., Tienaah, M., Otchere, B. A. P. M., Abubakar, A. Z (2021), Recycling of food waste, A Review. *International Journal of Scientific Research and Engineering Trends*.
 6. Obed, A. O., Zakpaa, H. D., Theophilus, A., Yeboah, S. I. I. K., & Prince, E. (2021). Extraction, Purification and Characterisation of Plant Enzyme (Calotropain) from the Unripe Pods and Bark of Sodom Apple (*Calotropis Procera* (AIT)). *Extraction*, 8(1).

Community Engagements

ING. PROF. AMOS KABO-BAH

1. Program committee - The Fourth UN World Data Forum 2023 is scheduled to take place in Hangzhou, China, in April 2023 - <https://unstats.un.org/unsd/undataforum/partners/programme-committee.html>
2. Member of Strategic Development Committee for UENR's first Strategy Plan (2016-2026)
3. Co-organizer 2022 UNOOSA Conference on Water Management held in Accra from the 10-13 MAY 2022 - <https://www.unoosa.org/oosa/en/ourwork/psa/schedule/2022/un-Ghana-water.html>
4. Co-organizer, 2022 GEO Blue Planet Symposium held in Accra from 24th -28th October 2022 - <https://symposium.geoblueplanet.org/>. UENR staff and students to participate in various training programmes.
5. Key advocate and contributor for pushing for the National Space Science Policy – which has been approved by Cabinet in 2022
6. Co-Editor, *Journal of Energy and Natural Resource Management*, 2013 - present.

ING. DR. EMMANUEL KWESI NYANTAKYI

1. Committee Member, Committee for the development of a proposal for the establishment of a Centre for Transport Planning and Management
2. March 2021 to date: Chairman, Ghana Institution of Engineering (GhIE), Bono, Bono East, and Ahafo Regions (Branch 2)
3. November 2020 to date: Member, Membership Committee, Ghana Institution of Engineering (GhIE)
4. June 2020 to date: Senior Professional Engineer, Ghana Institution of Engineering (GhIE)
5. April 2021 to date: Member, Publication Committee, Ghana Institution of Engineering (GhIE)
6. August 2019 to date: Member, Entity Tender Committee, Middle Belt Development Authority (Bono, Bono East, Ahafo, Ashanti, and Eastern Regions)
7. April 2018 to date: Council Member, Ghana Institution of Engineering (GhIE)
8. April 2021 to date: Member, Education and Training Committee of the Ghana Institution of Engineering (GhIE)
9. 22nd September to 1st October 2021: Chief Invigilator, Second Semester Examinations

2020/2021, UENR-Sunyani

10. 11th September 2021: Panel Member, Engineering Professional Examination (GhIE), KNUST, Kumasi

ING. DR. PRINCE ANTWI-AGYEI

1. 25th – 26th April 2022. Debate Adjudicator, UENR NUGS Inter Senior High Schools Regional Debate Championship. Theme: The Impact of NUGS on Second Cycle Institutions. The University of Energy and Natural Resources Auditorium
2. February 3, 2022. Member and Representative from School of Engineering – Central Consultative Research Committee (CCRC) - UENR
3. 25th November 2021. Moderator - policy dialogue on causes of flooding in the Sunyani municipality. Organized by Ghana Institution of Engineering (Branch 2). Sunyani Technical University Auditorium
4. 11th September 2021: Panel Member, Engineering Professional Examination (GhIE), KNUST, Kumasi
5. December 2020 – to date: Board Chair. Trimark Aquaculture Business Centre, A Public-Private Partnership (PPP) arrangement between Trimark and the Kumasi Metropolitan Assembly (KMA).
6. March 2021 to date: General Secretary, Ghana Institution of Engineering (GhIE), Bono, Bono East and Ahafo Regions (Branch 2)
7. July – October 2021: Member, Awards Committee Member, IDRC Sponsored Strengthening Engineering Ecosystem in Sub-Saharan Africa Project, College of Engineering, KNUST
8. December 2020 – to date: Board Chair. Trimark Aquaculture Business Centre, A Public-Private Partnership (PPP) arrangement between Trimark and the Kumasi Metropolitan Assembly (KMA).
9. September 2021: Member, Committee for integration of non-science students into engineering. School of Engineering, UENR.
10. 2021. Committee Member, UENR-Ghana Meteorological Agency (GMet) collaboration
11. August 2020 – to Date: Chairman, Projects and Proposal Writing Committee for The Earth Observation Research and Innovation Center (EORIC)
12. August 2020 – to Date: Chairman, Research and Grants Committee. The Earth Observation Research and Innovation Center (EORIC)
13. August 2020 – to Date: Member, Innovation Committee. The Earth Observation Research and Innovation Center (EORIC)
14. February 2021 – to Date: Member, Curriculum Development Committee. The Earth Observation Research and Innovation Center (EORIC)
15. Chair (2021): Proposal for Centre for Environmental Health and Sanitation
16. Chair (2021): Curriculum Review Committee for MSc/MPhil/Ph.D. Computer Engineering, UENR
17. Chair (2021): Curriculum Review Committee for BSc Sustainable Mining, UENR
18. Member (2021): Curriculum Review Committee for BSc Accounting, UENR
19. Member (2021): Curriculum Review for BSc Environmental Engineering, Civil and Environmental Engineering, UENR
20. 2021. Chair, Civil Panel D Assessors (Water and Environment). Ghana Institution of

- Engineering Professional Exams (June), Sunyani – Ghana
21. 2021. Member, Civil Panel a Assessors (Water and Environment). Ghana Institution of Engineering Professional Exams (July), Accra – Ghana

DR. NANA OSEI BONSU ACKERSON

1. Department Postgraduate Coordinator, January 2022 – Date
2. Chair, Committee for Seminars, Workshops, Conferences and Webinars, August 2022 – Date
3. Chair, Committee for Development of Curriculum for M.Sc./Ph.D. Program in Public Health Engineering, August 2022 – Date
4. Member, Committee for Development of Curriculum for M.Sc./Ph.D. Program in Hydrology and Water Resources Management, August 2022 – Date
5. Member, Committee for Development of Departmental Strategic Plan, August 2022 – Date
6. Member, Committee for the development of a proposal for the establishment of a Centre for Environmental Health and Sanitation, August 2022 – Date
7. Member, Committee for Grant and Proposal Development, August 2022 – Date
8. Member, Committee for Business Opportunities, August 2022 – Date
9. Member, Committee for Training and Capacity Building, August 2022 – Date
10. Member, Committee on public education and engagements, August 2022 – Date
11. Member, Committee for Students' Enrollment, competitions and Exhibitions, August 2022 – Date
12. Board Member, International Relations Office Board, June 2022 to Date
13. Reviewer, Chemical Engineering Journal
14. Reviewer, Science of the Total Environment – 2 reviews
15. MSc Internal Assessor – 2 MSc Environmental Engineering and Management Candidates
16. Member, School of Engineering Quality Assurance Sub-Committee
17. Committee Member, Development of a business proposal for procurement and use of drilling rig for the Civil Engineering Department
18. Academic Counsellor – Civil and Environmental Engineering Students

ENGR. MRS. ANNA AMANKWAH-MINKAH

1. Department Research Officer, August 2022 – Date
2. Departmental Representative on School of Engineering Board, August 2022 – Date
3. Chair, Committee for Development of Curriculum for M.Sc./Ph.D. Program in Hydrology and Water Resources Management, August 2022 – Date
4. Chair, Committee for Development of Departmental Strategic Plan, August 2022 - Date
5. Member, Committee for Development of Curriculum for M.Sc./Ph.D. Program in Public Health Engineering, August 2022 – Date
6. Committee Member, Committee for the development of a proposal for the establishment of a Centre for Environmental Health and Sanitation, August 2022 – Date
7. Member, Committee for Grant and Proposal Development, August 2022 – Date
8. Member, Committee for Fund Raising and Endowment Fund, August 2022 – Date

9. Member, Committee for Business Opportunities, August 2022 – Date
10. Member, Committee for Seminars, Workshops, Conferences and Webinars, August 2022 – Date
11. Member, Committee for Training and Capacity Building, August 2022 – Date
12. Member, Committee for Public Education and Engagements, August 2022 – Date
13. Member, Social Media and Publicity Committee, August 2022 – Date
14. Member, Committee for Students' Enrollment, competitions and Exhibitions, August 2022 – Date
15. Member, Welfare Committee, August 2022 – Date
16. Speaker and Mentor, Orientation, Mentoring and Coaching Seminar, January 10, 2022.
17. Committee Member, Development of a business proposal for procurement and use of drilling rig for the Civil Engineering Department, 2021
18. Committee Member, Committee for the development of a proposal for the establishment of a Centre for Transport Planning and Management, 2021
19. Committee Member, Committee for Solving the liquid waste (greywater) problem at the GETFUND Hostel, 2021
20. Academic Counsellor – Civil and Environmental Engineering Students

NANA KWAME OBENG-AHENKORA

1. Committee Member, Development of a business proposal for procurement and use of drilling rig for the Civil Engineering Department
2. Academic Counsellor – Civil and Environmental Engineering Students

SAEED IBN IDRIS KOFI YEBOAH

1. Member, Committee for Development of Curriculum for M.Sc./Ph.D. Program in Public Health Engineering, August 2022 – Date
2. Committee Member, Committee for the development of a proposal for the establishment of a Centre for Environmental Health and Sanitation, August 2022 – Date
3. Member, Committee for Seminars, Workshops, Conferences and Webinars, August 2022 – Date

Future Plans of the School

Develop and run the following postgraduate programmes:

- MSc/Ph.D. in Hydrology & Water Resources Management
- MSc/Ph.D. in Public Health Engineering

Commence a top-up weekend program for those having Higher National Diploma (HND) in Civil Engineering next academic year.

3. DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

The Department of Mechanical and Manufacturing Engineering of the University of Energy and Natural Resources (UENR) started in 2013/2014 academic year. The Department admitted its first batch of seventy-three (73) students that same academic year in September 2013.

Administration of the Department

The Department Administration is constituted of the following personnel:

Ing. Dr. Emmanuel Amankwah	- Head of Department
Mr. George Nii Amon Dsane	- Senior Administrative Assistant

Academic Programmes

The Department has One (1) undergraduate programme.

Future Plans

The department seeks to develop and run the following postgraduate programmes:

- BSc. in Manufacturing Engineering
- MSc/MPhil/Ph.D. in Mechanical Engineering

Student Statistics

LEVEL	Number of students
Level 100	75
Level 200	121
Level 300	93
Level 400	95
TOTAL	384

Staff Statistics

S/N	NAME	DESIGNATION
1.	Dr. Emmanuel Amankwah	Senior Lecturer/HoD
2.	Dr. Felix Uba	Senior Lecturer
3.	Dr. Eric Akowuah	Lecturer
4.	Mr. Ebenezer Kumi Nyarko	Lecturer
5.	Mr. Eric Essandoh	Lecturer
6.	Mr. Kofi Asamoah Adu-Poku	Lecturer
7.	Mr. Divine Mawunyo Ashigbi	Lecturer
8.	Mr. Joseph Nyumutsu	Assistant Lecturer
9.	Mr. Daniel Kwasi Ansah	Assistant Lecturer
10.	Mr. Bright Osafo Adunu	Senior Technician
11.	Mr. George Nii Amon Dsane	Snr. Administrative Assistant

Research Collaborations (Local and International)

There are Research collaborations ongoing on various projects with:

- One Ocean Hub project with the University of Strathclyde
- West African Science Service Center on Climate Change and Adapted Land Use (WASCAL)
- KNUST

Workshops/Conferences/Public Lectures

Faculty Members in the Department attended the following workshops and conferences:

- DAAD Alumni Workshop on “Curb Rural-Urban Migration- the role of DAAD Alumni Network in Bridging Rural-Urban Divides in Ghana” Blue Hill Hotel, Wa-UWR, September 8-11, 2022
- Branch 2 GhIE Maiden Conference and Annual General Meeting; Engineering, key to Achieving National Development, Tyco City Hotel, June 2, 2022, Sunyani.
- 2-day Transformational Dialogue on Small Scale Mining; Enhancing Multi-stakeholder approaches towards addressing challenges with artisanal and small-scale mining, and the institutional dynamics for sustainable practices in Ghana. Sheila Executive Hotel, 25th - 26th May 2022, Sunyani
- January 10-12, 2022 Workshop: Innovative Teaching and Assessment Practices in Higher Education Training. UENR, Sunyani
- March 28, 2022 Webinar: 12th Women in Engineering Forum, Ghana.
- May 17-19, 2022. Webinar: Sustainable Energy for All Forum: Driving Action for People-Centred Energy Transition. Kigali, Rwanda
- Maiden conference and annual general meeting, by GhIE.
- Innovative teaching and assessment practices in higher education training, 10-12th January 2022
- Training workshop organized by I.T directorate on new students information system, 8th March 2022

Publications (for the year under review)

Kofi Asamoah Adu-Poku

- Adu-Poku, K.A., Appiah, D., Asosega, K.A., Derkyi, N.S.A., Uba, F., Kumi, E.N., Akowuah, E., Akolgo, G.A. and Gyamfi, D., 2022. Characterization of fuel and mechanical properties of charred agricultural wastes: Experimental and statistical studies. *Energy Reports*, 8, pp.4319-4331.
- Sunnu, A.K., Adu-Poku, K.A. and Ayetor, G.K., 2021. Production and characterization of charred briquettes from various agricultural waste. *Combustion Science and Technology*, pp.1-22.
- Akolgo, G.A., Awafo, E.A., Essandoh, E.O., Owusu, P.A., Uba, F. and Adu-Poku, K.A., 2021. Assessment of the potential of charred briquettes of sawdust, rice and coconut husks: Using water boiling and user acceptability tests. *Scientific African*, 12, p.e00789.

Dr. Felix Uba

- Abdallah, A., Opoku, R., Sekyere, C. K., Boahen, S., Amoabeng, K. O., Uba, F., . . . Forson, F. K. (2022). Experimental investigation of thermal management techniques

for improving the efficiencies and leveled cost of energy of solar PV modules. *Case Studies in Thermal Engineering*, 35, 1-13.

- Adu-Poku, K. A., Appiah, D., Asosega, K. A., Derkyi, N. A., Uba, F., Kumi, E. N., . . . Gyamfi, D. (2022). Characterization of fuel and mechanical properties of charred agricultural wastes: Experimental and statistical studies. *Energy Reports*, 8, 4319–4331.
- Akolgo, G. A., Uba, F., Opoku, R., Tweneboah-Koduah, S., Alhassan, A.-R. M., Anokye, E. G., & Jedaiah, A. O. (2022). Energy analysis of poultry housing in Ghana using artificial neural networks. *Scientific African*, 17, 1-15.
- Asamoah, S. S., Gyamfi, S., Uba, F., & Mensah, G. S. (2022). Comparative assessment of a stand-alone and a grid-connected hybrid system for a community water supply system: A case study of Nankese community in the eastern region of Ghana. *Scientific African*, 17, 1-11.
- Opoku, R., Baah, B., Sekyere, C. K., Adjei, E. A., Uba, F., Obeng, G. Y., & Davis, F. (2022). Unlocking the potential of solar PV electric cooking in households in sub-Saharan Africa – The case of the pressurized solar electric cooker (PSEC). *Scientific African*, 17, 1-14.
- Akolgo, G. A., Awafo, E. A., Essandoh, E. O., Owusu, P. A., Uba, F., & Adu-Poku, K. A. (2021). Assessment of the potential of charred briquettes of sawdust, rice and coconut husks: Using water boiling and user acceptability tests. *Scientific African*, 12, 1-8.
- Uba, F., Apeviyenyeke, H. K., Nsiah, F. D., Akorli, A., & Adjignon, S. (2021). Energy Analysis of Commercial Buildings Using Artificial Neural Network. *Modelling and Simulation in Engineering*, 1-10. doi:<https://doi.org/10.1155/2021/8897443>
- Uba, F., Essandoh, E. O., Akolgo, G. A., Opoku, R., Oppong-Kyereh, L., & Gyimah, E. A. (2021). Experimental Estimation of the Heat Transfer Coefficient of an Unglazed Solar Plate for Unsteady Humid Outdoor Condition. *Modelling and Simulation in Engineering*, 1-12. doi:<https://doi.org/10.1155/2021/5522882>

4. DEPARTMENT OF COMPUTER AND ELECTRICAL ENGINEERING

Introduction

The Department of Computer and Electrical Engineering which is under the School of Engineering was established in 2012 and currently runs the following undergraduate Programmes:

- a. BSc. Electrical and Electronic Engineering
- b. BSc. Computer Engineering
- c. Diploma in Electrical and Electronic Engineering

Departments and Research Centres /Institutes

The core objective of the Department is to train minds to be creative and innovative minds that are equipped with competence, and state-of-the-art knowledge in Electrical and Computer Engineering principles, which could enable them to address the dynamic, complex, and challenging problems that confront societies of today.

To ensure continuous professional development for the teaching staff, as well as contribute cutting-edge technology to the engineering community, the department engages itself in FIVE (5) key research areas. These are as follows:

1. Electrical Power Systems
2. Automation And Controls
3. Smart Grid, Embedded Intelligence, Distributed and Cyber-Physical Systems
4. 5G, IoT Networks, and Artificial Intelligent
5. Electronics and Telecommunication

Academic Programmes

The Department of Computer and Electrical Engineering has Three (3) undergraduate programmes and these are:

Undergraduate Programmes:

- e. B.Sc. Electrical and Electronic Engineering
- f. B.Sc. Computer Engineering
- g. Diploma in Electrical and Electronic Engineering

Administration of the Department

The Department Administration is constituted of the following personnel:

1. Ing. Isaac Kofi Otchere - Ag. Head of Department
2. Mrs Ellen Baidoo - Junior Assistant Registrar

Staff Statistics

The department has twelve full-time teaching staff:

NAME	DESIGNATION
1. Ing. Isaac Kofi OTCHERE	Ag. HOD
2. Prof. Nana Kwesi Diawuo	Associate Professor
3. Mr. Adu Kankam Okatakayi	Lecturer
4. Mr. Samuel Fobi*	Lecturer
5. Mr. Samuel Tweneboah- Koduah	Lecturer
6. Ing. Andrew Quansah	Lecturer
7. Ing. Nana Twum Duah	Lecturer
8. Ing. Joseph Owusu	Lecturer
9. Ing. Kwabena Amoako Kyeremeh	Lecturer
10. Mr. Joshua Dantuo	Assistant Lecturer
11. Mr. Desmond Okwabi Ampofo*	Assistant Lecturer
12. Mr. Frank Ofori	Laboratory Technician

*** Staff currently on study leave**

**2021/2022 Academic Year
Computer and Electrical Engineering Department Student Statistics**

	Level 100	Level 200	Level 300	Level 400	Total
Electrical and Electronic Engineering-	149	182	155	158	644
Computer Engineering	66	99	96	54	315
Electrical and Electronic Engineering-Weekend	na	30	31	21	82
Diploma in Electrical and Electronic Engineering	na	33	na	na	33
	215	311	282	233	1041

Research Collaborations (Local and International)

The Department has signed an MOU with the Ghana India Kofi Annan Center of Excellence in ICT to actively embark on research in emerging technologies such as IoT, Artificial Intelligence, Robotics, Software development etc. The Department also has research collaboration with the Electrical and Electronic Department of the Sunyani Technology University- STU-Sunyani. In addition, the Department is also in engagement with the Electrical and Electronic Engineering Department of Kwame Nkrumah University of Science and Technology, KNUST – Ghana.

Finally, the Department has developed research collaboration with the Computer Engineering department of the University of Northampton, UK.

Workshops/Conferences/Public Lectures

The staff has been engaged in the following activities for the 2021/2022 academic year

Workshops

1. Careers in Ghana’s Petroleum, Natural Gas and Energy Sector, The role of the Graduate Engineer. June 2022
2. The Article Publishing Process Series- Elsevier- 2021
3. Huawei academy training workshop for instructors held in Accra from July 15 to

July 17, 2022

4. Stakeholder Engagement on Port of Keta Project- GPHA- GhIE-2021
5. 7th Ghana Renewable Energy Fair- Accra -2021
6. Electrical Safety and Industrial Automation- IEEE Power Africa- 2021

Conferences:

Faculty Members in the Department attended the following conferences.

1. 52nd Ghana Institution of Engineering (GhIE) Annual General Conference- Accra-2022
2. IEEE 30th International Symposium on Industrial Electronics- Tyoko-2021.
3. IEEE Symposium on Computer Applications and Industrial Electronics- 2021.
4. 7th Edition of the Africa Engineering Week and 5th Africa Engineering Conference-2021
5. IEEE AFRICON.
6. International Conference on Computing, Computational Modelling and Applications
7. IEEE Power Africa Conference – Kenya- 2021
8. The Ultimate Conference – UENR – Sunyani- 2021
9. IEEE Conference on Adaptive Science and Technology- Accra
10. 1st ASRIC Conference on Engineering Science
11. 6th International Conference on Signal and Image Processing- China

Public Lectures

1. Addressing Challenges facing Ghana’s Power Sector- GhIE-KNUST -2021
2. Ameri Plant Relocation – GhIE Electrical / Electronic Technical Division Workshop.
3. Triple Threats on Ghana’s Economic Horizon: Policy Implications and roles of UENR, 2021

Proposals

The department has submitted some proposals for some projects. The proposals are currently under review.

Grant and Awards

The department won the following awards for the 2021/2022 academic year:

1. 1st and 2nd positions for GMES and Africa Incubation Challenge 2021.
2. Winner’s Wazhub innovation competition both 1st and 2nd edition, 2021
3. 2nd runner up HACKLAB Foundation Hackathon and best Solution for AI in the IoT category.
4. Best Solution in Productive Ocean Category of Ocean4Africa Hackathon-2022

Funding of Research Activities

The Department currently depends on its IGF for funding research activities. Steps are being taken to sign an MoU with Energy Industries to help support the Department in the area of research and publication.

Publications (for the year under review)

The staff of the Department of Computer and Electrical Engineering has produced the under-listed publication for the 2021/2022 academic year.

Ing. Isaac Kofi OTCHERE

- I. K. Otchere, D. O. Ampofo, K. A. Kyeremeh, J.A. Adu and E. A. Frimpong, " Policy Review of Voltage Stability with High Penetration of Distributed Generation," ISIE 2021/IEEE Industrial Electronics Society, 2021, DOI:10.1109/ISIE4552.2021.9576408.
- J.A. Adu, K. A. Kyeremeh and I. K. Otchere. "Virtual Synchronous Generator: Parameter Sensitivity Analysis," ISIE 2021/IEEE Industrial Electronics Society, 2021, DOI:10.1109/ISIE4552.2021.9576356.
- I. K. Otchere, B. Arhin, K. Amoako and E. A. Frimpong, "Investigation of Voltage Stability Assessment of a DFIG-Based Wind Energy System on Transmission Network. 2022, ADRRI Journal of Engineering and Technology. Accepted.
- I. K. Otchere, D. O. Ampofo and E. A. Frimpong, "An enhanced 2nd order LPF wavelet based control scheme for active power filter," 2022, ADRRI Journal of Engineering and Technology. Accepted.

Ing. Nana Twum Duah

- J. Owusu, K. Aidoo, E. K. Dankwa, E. Sarpong, N.T.Duah "Agriculture Data Logger Using GPS Equipped Wireless Sensor Network: A Model to Support Ghana Planting for Food and Jobs Program" Journal of Energy and Natural Resource Management, Vol. 7, No.2, Dec 2021.
- J. Owusu, A. Silas, S. E. Donmaaye, T. J. Nawunzuk, V. Y. Loung, N.T.Duah "Design of a Compact Monopole Antenna for Super Wideband and 5G Applications" 2021 IEEE 8th International Conference on Adaptive Science and Technology (ICAST) Accra,25-26 Nov 2021

Ing. Kwabena Amoako Kyeremeh

- I. K. Otchere, D. O. Ampofo, K. A. Kyeremeh, J.A. Adu and E. A. Frimpong, " Policy Review of Voltage Stability with High Penetration of Distributed Generation," ISIE 2021/IEEE Industrial Electronics Society, 2021, DOI:10.1109/ISIE4552.2021.9576408.
- J.A. Adu, K. A. Kyeremeh and I. K. Otchere. "Virtual Synchronous Generator: Parameter Sensitivity Analysis," ISIE 2021/IEEE Industrial Electronics Society, 2021, DOI:10.1109/ISIE4552.2021.9576356.

Ing. Joseph Owusu

- J. Owusu, K. Aidoo, E. K. Dankwa, E. Sarpong, N.T.Duah "Agriculture Data Logger Using GPS Equipped Wireless Sensor Network: A Model to Support Ghana Planting for Food and Jobs Program" Journal of Energy and Natural Resource Management, Vol. 7, No.2, Dec 2021.

- J. Owusu, A. Silas, S. E. Donmaaye, T. J. Nawunzuk, V. Y. Loung N.T. Duah "Design of a Compact Monopole Antenna for Super Wideband and 5G Applications" 2021 IEEE 8th International Conference on Adaptive Science and Technology (ICAST) Accra, 25-26 Nov 2021.
- J. Owusu, A. Afful, V. Y. Kai Loung, P. Mills-Robertson and I. Abdul-Rashid, "Time Synchronization of Medium Voltage Substation IEDs Using Modbus and Python," 2021 IEEE 11th IEEE Symposium on Computer Applications & Industrial Electronics (ISCAIE), 2021, pp. 203-207, doi: 10.1109/ISCAIE51753.2021.9431798.
- V.Y.K. Loung, R. Ngah, J. Owusu, C. Tien-Han, S. Tweneboah-Koduah, J. Din "Key Technologies and Future Trends of 5G Wireless Network Applications", IEEE 6th International Conference on Signal and Image Processing (ICSIP 2021), China, 2021.
- J. Owusu, R. Nyarko, J. Nti, B. Adu, "Face Mask Recognition Using Artificial Intelligence With Convolutional Neural Network For Access Control", Engineering and Informatics for Africa's urbanization, 1st ASRIC Conference on Engineering Sciences, September 2021.
- V.Y.K. Loung, R. Ngah, J. Owusu, C. Tien-Han, S. Tweneboah-Koduah, J. Din "Key Technologies and Future Trends of 5G Wireless Network Applications", IEEE 6th International Conference on Signal and Image Processing (ICSIP 2021), China, 2021.

John Ansu Gyabaah

- Pumped Hydro Energy Storage for Hybrid Systems (Chapter 8: Techno-economic challenges of pumped hydro energy storage)- Samuel Gyamfi, Emmanuel Yeboah Asuamah and John Ansu Gyabaah.
- Ansu, J., Gyamfi, S., & Ofosu Antwi, E. . (2022). Modeling Electricity Demand Response Potential for Residential Households in Ghana, Case Study of 300 Households in Sunyani. ADRRI Journal of Engineering and Technology, 6(1 (5), April, 2022-June), 1-27.
- Gyabaah, J. A. ., Twumasi, E. ., & Gyamfi, S. (2021). Saving electricity in an emergency, experiences from some countries and lessons for Ghana. ADRRI Journal of Engineering and Technology, 5(3(4) October-December), 1-16. [https://doi.org/10.55058/adrijet.v5i3\(4\) October-December. 756](https://doi.org/10.55058/adrijet.v5i3(4) October-December. 756).

S. Tweneboah-Kodua

- V.Y.K. Loung, R. Ngah, J. Owusu, C. Tien-Han, S. Tweneboah-Koduah, J. Din "Key Technologies and Future Trends of 5G Wireless Network Applications", IEEE 6th International Conference on Signal and Image Processing (ICSIP 2021), China, 2021.

Visits

The Department visited the following companies:

1. **Bui Power Authority- Buipe**
2. **Ghana Grid Company Limited (GRIDCO). Kintampo, Sunyani and Awomaso (Kumasi) Substation.**
3. **Ghana India Kofi Annan Center of Excellence in ICT.**
4. **Northern Electricity Development Company, (NEDCO)- Sunyani Substation**

Future Plans

The Department is actively engaging Energy Industrial players to sign an MoU for practical training of its staff and students in the area of research. The MoU will also centre on setting up a state-of-the-art laboratory for the Department.

Furthermore, preparation is far advanced for the introduction of the following programmes:

1. BSc. Telecommunication Engineering
2. MSc. Electrical and Electronic Engineering
3. MSc. Computer Engineering

5. EARTH OBSERVATION RESEARCH & INNOVATION CENTRE (EORIC)

Introduction

EORIC is a research arm of the University of Energy and Natural Resources (UENR)-Sunyani, responsible for the acquisition of near real-time satellite-based data, air-borne and in-situ data, metadata and products, automatic weather monitoring, operations and management of unmanned aerial systems, virtual regional fire monitoring and modelling, organization of training programs in the use of Earth Observation (EO) and Geographic Information Systems (GIS) techniques, collectively towards making informed decisions in the areas of water, disasters, health, energy, climate, agriculture, ecosystems and biodiversity.

Mission

To promote, facilitate and support the acquisition and application of geospatial technologies in interdisciplinary research and education, in areas of water, disasters, energy, climate, agriculture, ecosystems, weather, health and biodiversity.

Vision

To become a leading African Research Centre in the promotion and dissemination of value-added satellite and in-situ based data and information, transfer of ultra-modern affordable space science skills and technologies for meeting the needs of society.

Sections

1. **Air, Weather & Climate Informatics:** Responsible for reliable acquisition and archiving of satellite-derived products and conducting tailor-made research & training in thematic areas of weather, air quality, climate change etc. This section will also support and offer consultancy services related to climate informatics and the utilization and application of archived data for national development and develop web-based forecast models for the modelling of disasters such as weather,

fires, flooding, and droughts.

2. **Earth and Oceans Observation:** Provides reliable and accurate information to support national and international environmental policies, agriculture and food security, crisis management and maritime surveillance as well as monitor and access the status of, and changes in, the natural and manmade environments from space. This section will promote research and offer consultancy in applied informatics (climate informatics, environmental informatics, Health informatics).
3. **Remote Sensing and GIS:** Supports faculties in the running of GIS and Remote Sensing-related programmes at Bachelor, Master and Doctorate levels and offer consultancy and develop well-structured professional courses in Remote Sensing and GIS in Ghana & West Africa.
4. **Satellite Operations and Communications:** Provide secure, reliable and timely access to satellite data and information received and archived at the Centre and other sources to protect and promote the environment and national security and develop, sustain and manage all satellite ground systems which are vital to getting information from space to users in all the other departments. The section will partner with stakeholders and other institutions to design and develop satellite observation systems, RF equipment and ground stations to serve national needs and solicit opportunities for satellite ground station co-location services.
5. **Matter & Energy Fluxes:** Leads research to gain a deeper understanding of the carbon dynamics in forest ecosystems and look for ways to mitigate climate change due to the increased capability of the terrestrial tropical ecosystem to fix and sequester atmospheric carbon in the biomass of plants, especially trees, under both current and future climatic conditions. This section will also conduct precise long-term monitoring of greenhouse gases and meteorological elements, which is the basis for analyses of climate change impacts on terrestrial ecosystems and their production activity at different spatial scales and develop new measurement systems and methods to monitor greenhouse gases emissions and energy between different kinds of ecosystems and the atmosphere.
6. **Innovative Geo-Computing:** Conducts research and development in high-performance computing, data-intensive computing, and grid computing to support geospatial applications and offer training programs and courses in Computational Fluid Dynamics (CFD), High-Performance Computing (HPC) and Artificial Intelligence (AI)
7. **Unmanned Aerial Systems:** Offers specialised professional training in the use of Unmanned Aerial Systems (UAS) in resource mapping and consultancy services in the use of UAS in the monitoring and management of real-time challenges such as forest monitoring, illegal logging, oil spill mapping, illegal mining, etc.
8. **Projects, Services and Partnerships Office:** Collaborates with other departments/

sections to develop proposals for consultancy and to secure grants from donor agencies for research and other forms of projects, coordinate and monitor the progress of all projects and research activities of the Centre, strategically market geospatial data and services of the Centre through the use of tutorials, posters, exhibition and organize and coordinate training, conferences, competitions and workshops.

9. Technical Support Office: Responsible for supervising all facility installations in the Centre and day-to-day running and management of all ground stations and Centre equipment and preparing maintenance plans and checklists for all existing and future facilities and infrastructure.

Academic Programmes

- There is currently an ongoing initiative/MoU between EORIC-UENR and AIMS-Ghana to develop and run Climate a Change Atmospheric Physics (CCAP) masters programme. Because both institutions are currently yet to secure funding and also satisfy the necessary accreditation requirements to implement the CCAP independent project, AIMS Ghana has commenced an initiative which involves the enrolment of 10 students with interest in CCAP from the regular master's Programmes in Mathematical Science to pilot the CCAP project. This initiative is being run in partnership with UENR with the Department of Mathematics and Statistics spearheading the initiative. The first batch of AIMS students under this initiative has completed the programmes.

Professional Short Courses/Training Programs

- Satellite Operation Centre & Teleport Technician Certification
- Satellite Field Technician/ Engineer Certification
- Fundamentals of Accelerated Computing with CUDA C/C++
- Introduction to Computational Fluid Dynamics with OpenFOAM
- Satcom professional certificate short course
- Geospatial analysis with R
- Understanding DVBS2, DVBT2 & DVB-H in satellite technology
- Applied remote sensing for vegetation mapping
- Applied satellite technology for integrated resource management
- Introduction to data analysis with Python
- Introduction to drone flight and data processing
- Introduction to LATEX

Administration of the Centre

The Centre is constituted of the following personnel:

1. Ing. Dr. Emmanuel Kwesi Nyantakyi - Head (HoD)
2. Ms. Irene Asantewaa Appia-Fei - Principal Administrative Assistant
3. Ing. Martin Kyereh Domfeh - Research Fellow
4. Mr. Francis Kudjo - Assistant Research Fellow
5. Mr. Eric Mortey - Assistant Research Fellow

6. Mr. Ebenezer K. Siabi	-	Assistant Research Fellow
7. Mr. Cosmos Senyo Wemegah	-	Assistant Research Fellow
8. Ms. Precious Opoku Dapaah	-	Assistant Research Fellow
9. Ing. Nana Ekow Nkwa Sey	-	Ground Systems Manager
10. Mr. Amprofi Ampah Amproche	-	GIS & Remote Sensing Analyst
11. Mr. Trinity Quashie Ellogah	-	Electrical & Electronics Technician
12. Mr. Evans Yaw Adom	-	Satellite Field Technician

Staff Statistics

Core Staff: 10

Post-Doctoral Fellow: 1

Interns: 10

Research Collaborations (Local and International)

- EORIC-UENR is collaborating with AIMS-Ghana to develop and run a master’s programme in Climate Change and Atmospheric Physics (CCAP).
- EORIC-UENR partners with PIESAT Information Technology Co., Ltd, China to offer a sustainable platform for the SMMEs to lift the barriers, including time-consuming, efforts, or threshold, between data (e.g., images) access and transformation into operational services, and further generate the capacity development amongst SMMEs under the GEO Work Programme (GWP) Flagships, Initiatives, regional and Community activities.
- EORIC-UENR, CzechGlobe, Czech Republic and FORIG, Ghana collaborates to support establishing an International Greenhouse Gas and Global Climate Change Research Station, using Eddy Covariance Method (EC Station) in Ghana.
- EORIC-UENR partners with PIESAT Information Technology Co., Ltd, China to establish a geospatial data hub in Ghana
- EORIC-UENR is currently hosting Dr. Beatrice Asenso Barnieh, a Post-doctoral Research Fellow under the DAAD CLIMAPAFRICA program.

Workshops/Conferences/Public Lectures

- Training Program on Fundamentals of Accelerated Computing with CUDA C/C++ held at UENR, Sunyani (24th – 25th April 2022) – 20 Participants
- 10th, 17th June 2021: UCAR/UENR GNSS Virtual Training Workshop
- 14th May 2022: TRAINING WORKSHOP 1 on “Introduction to Global Navigation Satellite Systems (GNSS) and Applications to Radio Occultation and Reflection Remote Sensing; and training workshop 2 on “Workshop on the “use of software tools for satellite-derived water quality measurements” under the auspices of University of Energy and Natural Resources and University Corporation for Atmospheric Research, Alisa Hotel, Accra

Funding Secured

- \$134,900 Site (Ground station) license lease agreement between ATLAS Space operations and EORIC (UENR) for 3 years starting from July 2021.
- \$277,440 Master Service Agreement Data & Teleport Services between EORIC (UENR) and Media Broadcast Satellite GmbH for 5 years starting from May 2021.

- \$29,646 Carbon Flux Tower Electrification Support

Publications (for the year under review)

1. Agariga, F., Abugre, S., Siabi, E. K., & Appiah, M. (2021). Mining Impact on Livelihoods of Farmers of Asutifi North District, Ghana. *Environmental Management and Sustainable Development*, 10(4), 29. <https://doi.org/10.5296/emsd.v10i4.19066>
2. Amamata Abubakar Tanko, Caleb Mensah, Francis Kudjoe, Nana Agyemang Prempeh, Naomi Kumi, Frederick Otu-Larbi, Richard Kyere-Boaten (2022). Assessment of Dust Propagation on the spread of Bacterial Meningitis Epidemics over Northern Ghana, at 5th United Nations Ghana PSIPW International Conference on the use of Space Technology for Water Resources Management, 10th - 13th May 2022.
3. Amo-Boateng, M., Sey, N. E. N., Amprofi, A. A., & Domfeh, M. K. (2022). Instance segmentation scheme for roofs in rural areas based on Mask R-CNN. *The Egyptian Journal of Remote Sensing and Space Science*. <https://doi.org/10.1016/j.ejrs.2022.03.017>
4. Bawa, S. A., Antwi-Agyei, P., & Domfeh, M. K. (2022). Impact of the ban on illegal mining activities on raw water quality: A case-study of Konongo water treatment plant, Ashanti region of Ghana. *Journal of Sustainable Mining*, 21(2), 80–92. <https://doi.org/10.46873/2300-3960.1349>
5. Bessah, E., Amponsah, W., Ansah, S. O., Afrifa, A., Yahaya, B., Wemegah, C. S., Tanu, M., Amekudzi, L. K., & Agyare, W. A. (2022). Climatic zoning of Ghana using selected meteorological variables for the period 1976–2018. *Meteorological Applications*, 29(1), e2049. <https://doi.org/10.1002/met.2049>
6. Boatemaa, A., Incoom, M., Adjei, K. A., Odai, S. N., Akpoti, K., & Siabi, E. K. (2022). Impacts of climate change on crop and irrigation water requirement in the Savannah regions of Ghana. *Journal of Water and Climate Change*, 00, 1. <https://doi.org/10.2166/WCC.2022.129>
7. Dekongmen, B. W., Kabo-bah, A. T., Domfeh, M. K., Sunkari, E. D., Dile, Y. T., Antwi, E. O., & Gyimah, R. A. A. (2021). Flood vulnerability assessment in the Accra Metropolis, southeastern Ghana. *Applied Water Science*, 11(7), 134. <https://doi.org/10.1007/s13201-021-01463-9>
8. Domfeh, M. K., Sey, N. E. N., Amproche, A. A., Mortey, E. M., Antwi-Agyei, P., & Nyantakyi, E. K. (2022). Exploring key drivers of forest fires in the Mole National Park of Ghana using geospatial tools. *Spatial Information Research*, 1–11. <https://doi.org/10.1007/s41324-022-00478-x>
9. Francis Kudjoe, Emmanuel Nyantakyi, Beatrice Asenso Barnieh, Eric Mensah Mortey, Cosmos Senyo Wemegah, Precious Dapaah Opoku (2022). Intelligent Observation of Illegal Mining to Mitigate Pollution of Air and Water Resources in Ghana, at 5th United Nations Ghana PSIPW International Conference on the use of Space Technology for Water Resources Management, 10th - 13th May 2022.
10. Gbedzi, D. D., Ofosu, E. A., Mortey, E. M., Obiri-Yeboah, A., Nyantakyi, E. K., Siabi, E. K., Abdallah, F., Domfeh, M. K., & Amankwah-Minkah, A. (2022). Impact of mining on land use land cover change and water quality in the Asutifi North District of Ghana, West Africa. *Environmental Challenges*, 6, 100441. <https://doi.org/10.1016/j.envc.2022.100441>

11. Kabo-bah, A. T., Nyantakyi, E., Kabo-bah, K., Nasirudeen, A. F., & Siabi, E. K. (2021). Homemade Solutions for Self-Reliance: Escaping the Poverty Net in Developing Countries (pp. 1–11). https://doi.org/10.1007/978-3-319-69625-6_94-1
12. Mensah, C., Šigut, L., Fischer, M., Foltýnová, L., Jocher, G., Acosta, M., Kowalska, N., Kokrda, L., Pavelka, M., Marshall, J. D., Nyantakyi, E. K., & Marek, M. V. (2021). Assessing the Contrasting Effects of the Exceptional 2015 Drought on the Carbon Dynamics in Two Norway Spruce Forest Ecosystems. *Atmosphere*, 12(8), 988. <https://doi.org/10.3390/atmos12080988>
13. Mensah, C., Šigut, L., Fischer, M., Foltýnová, L., Jocher, G., Urban, O., Wemegah, C. S., Nyantakyi, E. K., Chawla, S., Pavelka, M., & Marek, M. V. (2021). Environmental Effects on Normalized Gross Primary Productivity in Beech and Norway Spruce Forests. *Atmosphere*, 12(9), 1128. <https://doi.org/10.3390/atmos12091128>
14. Mensah, S. K., Siabi, E. K., Donkor, P., & Kurantin, N. (2022). Assessing the safety and health practices in the artisanal and small-scale gold mining sector of Ghana: A case of Ntotroso. *Environmental Challenges*, 6, 100443. <https://doi.org/10.1016/j.envc.2022.100443>
15. Mohammed, S., Nyantakyi, E. K., Morgan, A., Anumah, P., & Sarkodie-kyeremeh, J. (2021). Use of relative extra citation counts and uncited publications to enhance the discriminatory power of the h-index. *Scientometrics*, 126(1), 181–199. <https://doi.org/10.1007/S11192-020-03777-Y>
16. Obahoundje, S., Diedhiou, A., Kouassi, K. L., Ta, M. Y., Mortey, E. M., Roudier, P., & Kouame, D. G. M. (2022). Analysis of hydroclimatic trends and variability and their impacts on hydropower generation in two river basins in Côte d’Ivoire (West Africa) during 1981–2017. *Environmental Research Communications*, 4(6), 065001. <https://doi.org/10.1088/2515-7620/ac71fa>
17. Obiri-Yeboah, A., Nyantakyi, E. K., Mohammed, A. R., Yeboah, S. I. I. K., Domfeh, M. K., & Abokyi, E. (2021). Assessing potential health effects of lead and mercury and the impact of illegal mining activities in the Bonsa river, Tarkwa Nsuaem, Ghana. *Scientific African*, 13, e00876. <https://doi.org/10.1016/j.sciaf.2021.e00876>
18. Opoku, E. K., Adjei, K. A., Gyamfi, C., Vuu, C., Appiah-Adjei, E. K., Odai, S. N., & Siabi, E. K. (2022). Quantifying and analysing water trade-offs in the water-energy-food nexus: The case of Ghana. *Water-Energy Nexus*, 5, 8–20. <https://doi.org/10.1016/j.wen.2022.06.001>
19. Ouedraogo, R., Nyantakyi, E. K., Sorgho, B., Siabi, E. K., Amproche, A. A., Obiri-Yeboah, A., Zongo, T., Mortey, E., Domfeh, M. K., & Owusu, P. A. (2022). The emergence of artisanal gold mining and local perceptions in the Houunde municipality, Burkina Faso. *Scientific African*, 17, e01306. <https://doi.org/10.1016/j.sciaf.2022.e01306>
20. Siabi, E. K., Kabobah, A. T., Akpoti, K., Anornu, G. K., Amo-Boateng, M., & Nyantakyi, E. K. (2021). Statistical downscaling of global circulation models to assess future climate changes in the Black Volta basin of Ghana. *Environmental Challenges*, 5, 100299. <https://doi.org/10.1016/j.envc.2021.100299>
21. Tanu, M., Amponsah, W., Yahaya, B., Bessah, E., Ansah, S. O., Wemegah, C. S., & Agyare, W. A. (2021). Evaluation of global solar radiation, cloudiness index and sky view factor as potential indicators of Ghana’s solar energy resource. *Scientific African*, 14, e01061. <https://doi.org/10.1016/j.sciaf.2021.e01061>

22. Yeboah, K. A., Akpoti, K., Kabo-bah, A. T., Ofori, E. A., Siabi, E. K., Mortey, E. M., & Okyereh, S. A. (2022). Assessing climate change projections in the Volta Basin using the CORDEX-Africa climate simulations and statistical bias correction. *Environmental Challenges*, 6, 100439. <https://doi.org/10.1016/j.envc.2021.100439>
23. Yeboah, S. I. I. K., Antwi-Agyei, P., & Domfeh, M. K. (2022). Drinking water quality and health risk assessment of intake and point-of-use water sources in Tano North Municipality, Ghana. *Journal of Water Sanitation and Hygiene for Development*, 12(2), 157–167. <https://doi.org/10.2166/washdev.2022.152>

Future Plans of the Centre

Future Plans of the Centre

- The Centre is expecting to be upgraded to an Institute in the future and when that happens plans to run the following specialised programmes in the future:
 1. BSc/MSc/MPhil/ Space Studies
 2. BSc/MSc/MPhil/ PhD Space Science
 3. BSc/MSc/MPhil/ PhD Space Engineering
 4. MSc/PhD Computational Fluid Dynamics
 5. Diploma in Satellite Communications Engineering
- There are plans to launch and operationalize the International Greenhouse Gas and Global Climate Change Research Station in the later part of this year.

SCHOOL OF ARTS AND SOCIAL SCIENCES

SCHOOL OF ARTS AND SOCIAL SCIENCES

INTRODUCTION (ESTABLISHMENT)

The School of Arts and Social Sciences came into existence in the 2018/2019 academic year, and was previously known as School of Management Sciences and Law at the main campus in Sunyani. Its current name was changed in the 2020/2021 academic year. The School's mandate is to train young people, intellectually and practically, so that they can competently establish their businesses or support existing ones, which will harness the country's enormous natural resources as well as entrepreneurial skills to make optimal socio-economic decisions and conduct research.

The School is made up of the Department of Entrepreneurship and Business Sciences and the Department of Languages and General Studies.

Academic Programmes

1. Department of Entrepreneurship and Business Sciences headed by Dr. Emmanuel Adu Boahen

Undergraduate Programmes:

- a. Bachelor of Science (BSc.) Entrepreneurship and Business Sciences
 - b. Bachelor of Science (BSc.) Economics
 - c. Diploma in Enterprise Management
2. Department of Languages and General Studies headed by Mr. Richard Baffour Okyere

Undergraduate Programme

- a. Bachelor of Arts (B.A) Professional French

ADMINISTRATION OF THE SCHOOL

The School Administration is constituted by the following personnel:

- | | | | |
|----|--------------------------|---|-------------------------------|
| 1. | Dr. Emmanuel Opoku Marfo | - | Acting Dean |
| 2. | Dr. Kusi Boachie Yiadom | - | School Registrar |
| 3. | Ms. Stephanie Aidoo | - | Snr. Administrative Assistant |

STUDENTS STATISTICS

The School currently has a student population of 1351. The enrollment figures are given in the table below.

Level	Male	Female	Total
100	161	106	267
200	285	205	487
300	215	185	400
400	111	86	197
Total	769	582	1351

DEPARTMENT OF ENTREPRENEURSHIP AND BUSINESS SCIENCES

The Department of Entrepreneurship and Business Sciences was established in August, 2016. The Department currently runs three programmes: A four-year Bachelor of Science programme in Enterprise and Entrepreneurship, a four-year Bachelor of Science programme in Economics and a two-year Diploma programme in Enterprise Management. The Department seeks to develop students' analytical and research abilities as well as equip them with entrepreneurial skills, practical and theoretical knowledge in Economics in order to empower them to solve socio-economic problems that will confront them wherever they find themselves.

Activities over the Past Year

The activities of the Department over the past year are as follows;

Academics

A BSc. Economics programme got its final accreditation in March 2022. The Department has received financial clearance from GTEC to run a BSc. Accounting programme and the final assessment for full accreditation has been done by GTEC earlier this year. Other programmes, including MBA, MPhil and PhD in Business Sciences have also received financial approval from GTEC pending the programmes accreditation from GTEC.

Staff Development

The past academic year saw three (3) faculty members in the Department enrolling in various PhD programmes bringing the total faculty members in the Department pursuing their PhD to five (5). Two faculty members were promoted to the rank of Senior Lecturer within the year under review and two (2) applications for promotion to Senior Lecturer are currently in their final processing stages.

Research

The Department collaborated with the Department of Languages and General Studies within the School of Arts and Social Sciences to successfully organise its First annual colloquium in the year under review.

Department Vehicle

As part of plans to improve on the day-to-day operations and visibility of the Department and by extension the University, the Department purchased a Toyota mini bus which is branded in the names of the Department and the University.

Procurement in Transit

The Department has procured seven (7) additional projectors to add to the existing five (5) to solve the projector shortage challenge that occurs from time to time. Again, twelve (12) metal cabinets have also been procured for each Lecturer in the Department.

Future Plans

The future plans of the Department of Entrepreneurship and Business Sciences are categorised into three major areas; strategies to improve academic work and increase the

publicity of the department, staff development and research output, and programmes development.

In the case of the plans to improve academic work and increase publicity, the Department aims to;

- » procure audio devices so that lecturers handling large classes may be able to use them.
- » have a database for the departmental alumina so as to create social networks for our students. The database would also facilitate fundraising activities for the Department.
- » have collaborations with other Universities to improve the Department's exchange programs.
- » institute an annual lecture series to invite industry players to give talks on the practical steps towards a successful business start-up for our final year students. In this way, the Department seeks to build and strengthen a good relationship with industry.
- » share its professional knowledge with the general public through various media houses in the Sunyani catchment area on current issues in economics and business.

On staff development and research output, the Department's aims are;

- » to have at least two faculty members promoted to the rank of associate professor in the next two years.
- » to have all faculty members in the Department to have their terminal degrees in the next four to five years. The Department aims to achieve this by motivating all faculty members without terminal degrees to enroll in a PhD programmes in the next academic year.
- » to increase research output so that at the end of each academic year, the Department can boast of an average of two papers for each faculty member.
- » to improve collaborative research work among faculty members and to also increase research output of faculty members through organizing biannual departmental seminars.
- » to have at least one faculty member in the department winning a research grant in every academic year.

The future plan of the Department is to develop several related programmes so that a business school can be created out of the School of Arts and Social Sciences. To achieve this goal, the Department's aims are;

- » to develop undergraduate programmes in finance, accounting, marketing, strategic management and human resource development.
- » to start post-graduate programmes in entrepreneurship, accounting and many other related post-graduate programmes.
- » to develop and organise short-term certificate courses for entrepreneurs at a fee to raise money for the Department.

Staff Statistics

The Department has one Professor, four Senior Lecturers, eight Lecturers, one Senior Research Assistant and one Principal Administrative Assistant as indicated below.

NAME	QUALIFICATION	DESIGNATION	AREA OF SPECIALIZATION
Professor Yaw Oforu Kusi	PhD in Applied Social Studies	Professor	Applied Social Studies
Dr. Emmanuel Opoku Marfo	PhD Management Science and Engineering	Senior Lecturer	Corporate finance and sustainability
Dr. Emmanuel Adu Boahen	PhD in Policy Analysis	Senior Lecturer	Development Economics
Mr. Reginald Djimatey	MBA, BA	Senior Lecturer	Entrepreneurial Education, Small Business Financing, Creativity
Dr. Paul Adjei Kwakwa	PhD Economics	Senior Lecturer	Energy and Environmental Economics
Dr. Michael Kwame Asiedu	PhD Economics	Lecturer	International trade and Macro Economics
Dr. David Boohene	PhD Development Economics	Lecturer	Human Capital Development
Mr. Daniel Berko	MBA Finance, B. Com	Lecturer	Micro Finance, Financial Management, Emerging Issues in Finance
Mr. Paul Hammond	MBA Finance, B.Ed., ICAG	Lecturer	Accounting, Entrepreneurial Finance, Taxation
Mr. Edmond Amissah	M.Phil. Accounting	Lecturer	Financial reporting and Auditing
Mr. Michael Ayikwei Quarshie	MCom (UCC), B.Ed. (UCC)	Lecturer	Financial and Management Accounting, Accounting Education and Business Management
Ms. Genevieve Gyasi	M.Phil. Finance	Lecturer	Finance

Mr. Justice Boateng Dankwah	BSc. Business Administration, M.Phil. Marketing	Lecturer	Marketing
Ms. Mary Magdalene Suurbeteyiir Tanguo	BSc. Accounting	Principal Administrative Assistant	
Mr. Isaac D. Gandaabie	BSc. Resource Enterprise and Entrepreneurship	Senior Research Assistant	

Profile of the School Faculty

PROF. YAW OFOSU-KUSI

Workshops/Conferences/Public Lectures

Sustainable Development in Ghana Through Generation of Knowledge in Arts and Social Science, Keynote Address at School of Arts and Social Sciences Colloquium, Tyco Hotel Sunyani, July 2022

Changing Childhoods in Africa: An Exploration, Presented at the ESW Open Research Seminar Series, Centre for Innovation and Research in Childhood and Youth, University of Sussex, UK, 18th November 2021

Publication(s)

Ofosu-Kusi, Y. (2022) 'Childhood and Children: Realities and Re-imaginings in Sub-Sahara Africa's Development'. In I. Ohta, F. B. Nyamnjoh, & M. Matsuda (Eds.) African Potentials: Brocillage, Incompleteness and Liveness, Bamenda, Cameroon: Langaa RPCIG and CAAS, Kyoto University [23pp]

Community Engagement(s)

Chairman, Periodic Evaluation of Programme Committee for MPhil in Childhood Studies, Faculty of Social and Educational Sciences, Department of Education and Lifelong Learning, Norwegian University of Science and Technology, Trondheim, Norway; March 2022 – July 2022

Chairman, Public Lectures Committee, University of Energy and Natural Resources, Sunyani; August 2021 to Date

Chairman, Industrial Attachment Committee, University of Energy and Natural Resources, Sunyani; August 2021 to Date

DR. EMMANUEL OPOKU MARFO

Workshops/Conferences/Public Lectures

Dissemination Workshop: SDGs Implementations and the 2022 Voluntary National Review (VNR), National Development Policy Framework (2022-2025), Organised by National Planning Development Commission (NDPC) AU Agenda 2063, Accra, From September 05-09, 2022

Innovative Teaching and Assessment Practices in Higher Education Training, Organised by Centre for Professional Development (CePDev), University of Energy and Natural Resources, Sunyani, From January 10-12, 2022.

Training on Professional Administration and Internal Consultancy – Organised by Chartered Management Consultants – Ghana. Mr. Samuel Mawusi Asafo, From November 02-03, 2021

Publication(s)

- Asigbetse, S., Arthur, J. L., Amoako, K. O., Marfo, E. O., & Arthur, S. D. (2022). An Empirical Assessment of the Nexus between Sectoral Structure, Inflation, Exchange Rate and Economic Growth in Ghana. *Open Journal of Business and Management*, 10, 2242-2275 <https://doi.org/10.4236/ojbm.2022.105113>
- Amaning, N., Kuranchie, A., Amoako, K. O., Marfo, E.O., Osei-Anim, A. (2022). Investigating the Auditor’s Adopted Safeguards in Ensuring Audit Quality amid the COVID-19 Pandemic: Evidence from an Emerging Market. *East African Scholars J Econ Bus Manag*, 5(3), 81-96.
- Awuah, L. S., Amoako, K. O., Yeboah, S., Marfo, E. O., & Ansu-Mensah, P. (2021). Corporate Social Responsibility (CSR): motivations and challenges of a Multinational Enterprise (MNE) subsidiary’s engagement with host communities in Ghana. *International Journal of Corporate Social Responsibility*, 6(1), 9. Doi: 10.1186/s40991-021-00064-8. (SPRINGER)
- Ansu-Mensah, P., Marfo, E. O., Awuah, L. S., & Amoako, K. O. (2021). Corporate social responsibility and stakeholder engagement in Ghana’s mining sector: a case study of Newmont Ahafo mines. *International Journal of Corporate Social Responsibility*, 6(1), 1. DOI: 10.1186/s40991-020-00054-2 (SPRINGER)
- Amoako, K. O., Amoako, I. O., Tuffour, J., & Marfo, E. O. (2021). Formal and informal sustainability reporting: an insight from a mining company’s subsidiary in Ghana. *Journal of Financial Reporting and Accounting*, Vol.19(4) ISSN 1985-2517, DOI 10.1108/JFRA-12-2020-0368

Community Engagement(s)

- » Commissioner, National Development Planning Commission (NDPC)
- » Scholarship Committee Member, Sunyani Municipal Assembly
- » Chairman, Ahafo RCC, Audit Committee (IAA Rep)
- » Member, Berekum College of Education (IAA Rep)

DR. EMMANUEL ADU BOAHEN

Workshops/Conferences/Public Lectures

University of Ghana Department of Economics International Conference organized by the Department of Economics at the University of Ghana on July 29-30, 2021.

Proposal(s)

Boahen, E. A. & Opoku, K. (2021). Solo self-employment in Ghana: Examining Persistence and Transitions. Call for proposal by STEG Small Research Grant on Structural Transformation and Economic Growth.

Boahen, E. A. & Opoku, K. (2021). Understanding Women Labour Market Dynamics in Ghana. Early Career Researcher Call for Proposal by International Growth Center (IGC) on the theme “

Publication(s)

- Boahen, E. A. (2022). Understanding the learning gaps between private schools and public schools in Ghana. *International Journal of Social Economics*. DOI 10.1108/IJSE-06-2021-0326.
- Boahen, E. A. (2022). Effects of Fertilizer Adoption on Household Welfare: The case of Cereal Farmers in Ghana. *Journal of Energy and Natural Resource Management*, 8(1): 9-16. DOI: 10.26796/jenrm.v8i1.189
- Boahen, E. A., Kwakwa, P. A., Dankwah, J. B. (2022). Does gender make a difference in the performance of a small business enterprise? Evidence from a household survey data from Ghana. *SN Bus Econ*, 2(137):1-26. <https://doi.org/10.1007/s43546-022-00322-2>.
- Asiedu, B. A. & Boahen, E. A. (2022). The impact of stock market capitalisation, international investment, clean energy on CO2 emissions: New insight from listed domestic companies in Belgium. *Ann Environ Sci Toxicol* 6(1): 026-034. DOI: <https://dx.doi.org/10.17352/aest.000049>.
- Boahen, E. A., Opoku, K. (2021). Effects of School Attendance on Literacy and on Child labour: Evidence from Capitation Grant in Ghana. *International Journal of Social Economics*. 48(11)1567-1588.doi.org/10.1108/IJSE-09-2020-0669
- Boahen, E. A., Opoku, K. (2021). Gender Wage Gaps in Ghana: A Comparison across Different Selection Models. *Wider Working Paper 2021*. doi.org/10.35188/UNU-WIDER/2021/944-0
- Opoku, K., Mugizi, F.M.P. & Boahen, E. A. (2021). Gender differences in formal wage employment in urban Tanzania. *WIDER Working Paper 2021/99*. Helsinki: UNU-WIDER.
- Berko, D. Dankwa, J. B. Boahen, E. A. (2021). Sale of loans and credit risk management practices of savings and loans companies: evidence from an emerging economy. *International Journal of Business and Management Review* Vol.9, No.3, pp.1-15, 2021

DR. PAUL ADJEI KWAKWA

Workshops/Conferences/Public Lectures

Workshop on “The impacts of climate change on human wellbeing in developing countries” by London School of Economics on September 22, 2022 via Zoom.

Partnership for Blended Learning West Africa organized by Association of Commonwealth Universities from March to September 2022 via Zoom.

Workshop on “Writing for impact research” by Centre for Climate Change and Gender Studies, University of Energy and Natural Resources (UENR), Sunyani, Ghana September 29, 2022 at Sheila’s Executive Hotel, Sunyani, Ghana

Short course on “Climate change and economic resilience” organized by Centre for Climate Change and Gender Studies, University of Energy and Natural Resources (UENR), Sunyani, Ghana from August 8-12, 2022 at UENR Sunyani Campus.

“Colloquium on Regional Trade Agreements and Climate Change in Africa”, organized by Centre for Climate Change and Gender Studies, University of Energy and Natural Resources (UENR), Sunyani, Ghana held on September 21, 2022 at the Sheila’s Executive Hotel, Sunyani, Ghana

First Annual colloquium of School of Arts and Social Sciences, University of Energy

and Natural Resources (UENR), Sunyani, Ghana held on July 28th at the Tyco Hotel, Sunyani Ghana.

International Conference on Irrigation and Agriculture Development (IRAD) Conference organized by The West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) of the University for Development Studies (UDS) on February 22-24, 2022 at Tamale Campus, University for Development Studies, Ghana.

Infrastructure for Development Conference 2022 organized online by the World Bank and the International Growth Centre on March 3rd and 4th, 2022. Theme: Infrastructure, Recovery & Growth: Building out from the Pandemic.

Publication(s)

Kwakwa, P. A. (2022). The effect of industrialization, militarization, and government expenditure on carbon dioxide emissions in Ghana. *Environmental Science and Pollution Research*, 1-14.

Bekun, F. V., Alola, A. A., Gyamfi, B. A., Kwakwa, P. A., & Uzuner, G. (2022). Econometrics analysis on cement production and environmental quality in European Union countries. *International Journal of Environmental Science and Technology*, 1-16.

Boahen, E. A., Kwakwa, P. A., & Dankwah, J. B. (2022). Does gender make a difference in the performance of a small business enterprise? Evidence from a household survey data from Ghana. *SN Business & Economics*, 2(9), 1-26.

Kwakwa, P. A., Arku, F. S., & Nanor, M. A. (2022). Determinants of water conservation practices among opinion leaders: evidence from Kwahu East District, Ghana. *Development in Practice*, 1-16.

Ansu-Mensah, P., & Kwakwa, P. A. (2022). Modelling electricity consumption in Ghana: the role of financial development indicators. *Green Finance*, 4(1), 54-70.

DR. MICHAEL KWAME ASIEDU

Workshops/Conferences/Public Lectures

3rd Higher Education Forum for Africa, Asia and Latin America (HEFAALA) Symposium, organized by Association of African Universities, Addis Ababa, Ethiopia (Virtual)

20th International Conference on Private Higher Education in Africa organized by Association of African Universities, Addis Ababa, Ethiopia (Virtual)

The 5th Politics, Philosophy and Economics Society Annual Meeting, New Orleans, USA (Virtual)

Publication(s)

Asiedu, M.K. and Ofori, D. (2022). Democracy, Corruption and Income: Evidence from Sub-Saharan Africa, *Journal of Economics, Finance and Management Studies*, 5 (8), 20–29
DOI: <https://dx.doi.org/10.47191/jefms/v5-i8-25>

Asiedu, M.K., Ofori, D. and Akweny, A. (2022). Foreign Aid, Trade Openness and Economic Performance: A Panel Cointegration Approach, *Developing Countries Studies*, 12 (2), 13–20. DOI: <https://dx.doi.org/10.7176/DCS/12-2-02>

DR. DAVID DOOHENE

Workshops/Conferences/Public Lectures

Two-Day Conference on Small Scale and illegal Mining themed: Enhancing Multi-stakeholder Approaches towards Addressing Challenges with Artisanal and Small-scale Mining, and the Institutional Dynamics for Sustainable Practices in Ghana organized by UENR. Venue: Sheila Hotel, Bono Region, Ghana, May 2022.

Three-Day Conference on “Inculcating employable skills into the 21st Century Graduate. Interventions to resolve Gap between Industry and Academia” organized by UENR, Centre for Student Skills Enhancement, UENR, Sunyani-Ghana, May 2022.

Conference/Workshop Presentation

National Union of Ghanaian Students, China: Digital Marketing Conference Dubbed: “Enhancing Digital Marketing, A Competitive insight for All”, Organized by National Union of Ghanaian Students (NUGS-China), Zhengzhou, Beijing-Shanghai, April 2022.

Five-Day Workshop on “Data science, Structural Equation Modelling and Tableau” organized by the Institute of Chartered Economists of Ghana in Partnership with the Graduate School of All Nations University (ANU), Eastern Region, Ghana, May 2021.

First Annual Colloquium themed: “Sustainable Development in Ghana through Generation of Knowledge in Arts and Social Sciences”. Presented on: “Job satisfaction in Ghana’s mining industry: the role of trade union activities” organized by the School of Arts and Social Science at the Tyco-City Hotel, July, 2022.

Publication(s)

Odame. C Pandey, M. & Boohene. D (2022). Unleashing Emotions: The Role of Emotional Intelligence among students in upholding Sustainable Development Goals. In C. Machado. (Ed). Higher Education for Sustainable Development. River Publishers Series; E-ISBN: 9788770224307; pp.171-179, Vol. 1 (1)

Odame. C, Boohene. D., & Pandey, M (2022). Nexus between COVID-19 and Emotional Well-being of Teachers: A Position Paper; Journal of Advocacy, Research and Education. E-ISSN 2508-1055 2022. 9(1): 49-52 DOI: 10.13187/jare.2022.1.49; 9(1): 49-52.

Community Engagement(s)

Presented on “Contract Negotiation and Networking” at the RESILIENT GHANA MENTORSHIP PROGRAMME, Ghana, February, 2022

Presented on “Email Etiquette and communication” at the Resilient Ghana Mentorship Programme, Ghana, February, 2022

MR. MICHAEL AYIKWEI QUARSHIE

Workshops/Conferences/Public Lectures

Universities, Entrepreneurship and Enterprise Development in Africa (UEED) Africa 2022: 10th Annual Conference, Sankt Augustin, Germany. 8-9th September, 2022.

International Professional Practices Framework (IPPF) Evolution and International Standards, Online workshop, 30th August, 2022.

The Institute of Internal Auditors Ghana Training Workshop on Fraud and

Investigations, Tesano, Accra, 8-11th August, 2022.

Accounting and Accountability in Emerging Economies Conference 2021, University of Essex, Essex, England, June 28-30th, 2021.

Workshop on Improving Research Collaborations in African Business Schools by Ashesi Education Collaborative, Online workshop, on 14th June 2021.

Publication(s)

Amoah, J., Mensah, B. M. S., Quarshie, M. A., & Djimatey, R. (2022). Employee Intrapreneurial Orientation and Firm Performance: Moderating Role of Commitment. 10th Annual Universities, Entrepreneurship and Enterprise Development in Africa (UEED) Conference, Sankt Augustin, Germany, 8-9 September, 2022.

Quarshie, M. A., & Otoo, M. (2022). Entrepreneurial Intentions of Students in the University of Energy and Natural Resources, Ghana: Does Personality Trait Matter? *Journal of Energy and Natural Resource Management (JENRM)*, Vol. 8(1), 27-38.

Bukari, S., Quarshie, M. A., & Opoku F. K. (2021). Exploring the perspectives of physically challenged women entrepreneurs in the Sekondi-Takoradi Metropolis, Ghana. *Journal of Enterprising Communities: People and Places in the Global Economy*, Emerald Publishing Limited 1750-6204 DOI 10.1108/JEC-03-2021-0042.

MR. EDMOND AMISSAH

Workshops/Conferences/Public Lectures

First Annual Colloquium on the theme: Sustainable Development in Ghana through generation of knowledge in Arts and Social Sciences Organized by School of Arts and Social Sciences at Tyco City Hotel, 28th July, 2022.

Partnership for Enhanced and Blended Learning West Africa Project (PEBL WA) Training of Academics from Twelve (12) Universities, organized by: National Open University of Nigeria: February to September 2022 (Phase 1).

Publication(s)

Hammond P. Amissah E. (2022). Examining The Criteria for Selecting External Auditors *International Journal of Business & Management Studies*, 3(1) <https://ijbms.net/assets/files/1642349111.pdf>.

Berko, D., Hammond, P., & Amissah, E. (2022). The Effect of Interest Rate Spread on Economic Growth: Ghana's Perspective. *International Journal of Business and Management Review*, 10(2), 1-23. : <https://doi.org/10.37745/ijbmr.2013>

Opong, P. K., Owusu, J., Hammond, P., & Amissah, E. (2022). Exploring the Nexus between Packaging, Quality, Equity and Loyalty in Drug Industry. *Open Journal of Business and Management*, 10(5), 2414-2430. DOI: 10.4236/ojbm.2022.105121

Community Engagement(s)

Speaker, Entrepreneurship Summit organized by: UENR SRC/LOCAL NUGS, WOCOM and TEIN Ladies at the UENR Auditorium on 16TH July, 2022.

MR. PAUL HAMMOND

Workshops/Conferences/Public Lectures

July 2022: First Colloquium organized by School of Arts and Social Sciences, University of Energy and Natural Resources, Sunyani

January 2022: Innovative Teaching and Assessment Practices in Higher Education Training, University of Energy and Natural Resources, Sunyani.
Publication(s)

Hammond, P. and Amissah, E. (2022). Examining the Criteria for Selecting External Auditors. *International Journal of Business & Management Studies*. Volume 03, No. 01; pp 33-43. SSN 2694-1430.

Oppong, P. K., Owusu, J., Hammond, P. & Amissah, E. (2022). Exploring the Nexus between Packaging, Quality, Equity and Loyalty in Drug Industry. *Open Journal of Business and Management*, 10, 2414-2431. <https://doi.org/10.4236/ojbm.2022.105121>

Berko, D, Hammond, P. & Amissah, E. (2022) The Effect of Interest Rate Spread on Economic Growth: Ghana's Perspective. *International Journal of Business and Management Review*, Vol.10, No.2, pp.1-24

MR. DANIEL BERKO

Publication(s)

Berko, D., Hammond, P., & Amissah., E. (2022) The Effect of Interest Rate Spread on Economic Growth: Ghana's Perspective, *International Journal of Business and Management Review*, Vol.10, No.2, pp.1-23

Berko, D., Dankwah, J. B., & Boahen, E. A. (2021). Sale of Loans and Credit Risk Management Practices of Savings and Loans Companies: Evidence from an Emerging Economy. *International Journal of Business and Management Review*, Vol. 9, No. 3, pp. 1-15.

MR. JUSTICE BOATENG DANKWAH

Publication(s)

Dankwah, J. B., Abubakari, A. R., & Bunyanso, S. (2022). Patronage of insurance products and financial literacy nexus: an emerging market perspective. *EuroMed Journal of Management*, 4(2), 90-103.

Boahen, E. A., Kwakwa, P. A., & Dankwah, J. B. (2022). Does gender make a difference in the performance of a small business enterprise? Evidence from a household survey data from Ghana. *SN Business & Economics*, 2(9), 1-26.

Nnindini, S. I., & Dankwah, J. B. (2021). Consumer Loyalty and Brand Marketing Programs in an Emerging Economy: Evidence from the Automobile Industry. *Information Management and Business Review*, 13(4 (I)), 23-38.

Mensah, K., Dankwah, J. B., Mensah, G., & Masope-Crabbe, J. A. (2021). Choice, Purchase Decision and Post-Purchase Dissonance: The Social Media Perspective. *Information Management and Business Review*, 13(3 (I)), 1-13.

DEPARTMENT OF LANGUAGES AND GENERAL STUDIES

The Department of Languages and General Studies started as the Unit of Languages and Communication in 2011. The Unit offered service courses in English Communication Skills, Analytical Reading and Reasoning, and Ghanaian and African Studies to all Schools of the University.

In 2013, in unison with the University's vision to become an excellent institution for generating, advancing and applying knowledge in energy and natural resource sciences

to help resolve the energy challenges of Ghana and West Africa, French was added to the courses offered by the Department. In 2014, the Department of Languages and General Studies was established by an Act of the University Council to promote the teaching of French, English communication skills, as well as to equip human resources trained (in Engineering, Sciences, Agriculture and Natural Resources), with soft skills and equip them to become bilingual 'technologists'. The department was required to solve critical energy and natural resources challenges in Ghana and the West African region, particularly in the area of language and professional communication in order to increase innovation and undertake interdisciplinary academic research work. All students benefit from French courses, which are compulsory from Level 100 to the end of the first semester of Level 300.

Currently, UENR is one of the few universities in West Africa to be given an international accreditation to run language proficiency courses in French and English. The Department of Languages and General Studies currently runs language proficiency courses in DFP, TEF, TEFAQ, OET, DELF and DALF. As a result, people from neighboring countries come to UENR to take these language proficiency courses. Since its inception in 2016, the proficiency course has been able to generate close to 25000 euros as IGF to the University. This initiative has greatly helped to increase the visibility of the University in the West African sub-region. The Department currently has a temporary accreditation to run a Bachelor of Arts programmes (BA) in Professional French.

Activities of the Past Year

Prepmyfuture Seminar

The Department organized a staff development seminar dubbed prepmyfuture with the Chamber of Commerce in France. The training took staff through how to use online tools to facilitate teaching and learning

French Higher Education Seminar

The Department organised a higher education seminar with the French Embassy and Campus France for both staff and students. The seminar sought to explore higher education opportunities in France and also the scholarship opportunities available for students to study in France.

Departmental Research Seminar

The Department started the academic year with a research seminar. Staff of the Department presented various academic papers at the seminar and acquainted themselves with new methodologies in research.

MOU Signing

The Department signed an MOU with the Department of Allassane Ouattara to promote staff and student exchange. As a result of this MOU, fifteen (15) students will be going to Cote d'Ivoire for a language immersion programmes.

University Wide Language Proficiency Programme

The Department partnered with the University International Relations Office to develop a university-wide language proficiency course for all foreign students who apply to study

in the University. This proficiency course will allow francophone students to learn English for a period of six months before starting their academic programmes. The Department also initiated a French certification concept for all students who study French for general communication in the third year.

Development of academic programs

The Department developed a Bachelor of Arts programme (B.A) Communication and Digital Media. The programme has been forwarded to the school's quality assurance committee for further review.

Institutional accreditation from the Chamber of Commerce in France

Currently, UENR is one of the few universities in West Africa to be given an international accreditation to run language proficiency courses in French and English. The Department of Languages and General Studies currently runs language proficiency courses in DFP, TEF, TEFAQ, OET, DELF and DALF. As a result, people from neighboring countries come to UENR to take these language proficiency courses. Since its inception in 2016, the proficiency courses have generated close to 25000 euros as IGF to the University. This initiative has greatly helped to increase the visibility of the University in the West African sub-region.

Launching of French Students' Association (Ladef)

The French students' association was officially launched to promote the activities of students of French. The occasion was attended by the Dean of the Arts and a representative from Campus France.

Future Plans

Academic Programmes

The Department's future plans involve the development of new cutting-edge academic programmes in:

- Applied Linguistics
- Energy and Environmental Communication

These academic programmes will seek to align with the University's mandate and also meet the communication needs of the Department. We seek to introduce modern languages to the Department Plans are underway to add the Chinese language to the list of modern languages at the Department.

Staff Development and Research output

The Department has developed a staff developmental agenda which seeks to produce at least (ten) 10 Ph.D. by 2027. To this end, staff have been encouraged to work to meet the planned target. The Department also seeks to encourage peer mentoring. There is currently an effort to link up with senior faculty members in sister universities for academic career mentoring. In terms of research output the Department has a research agenda to produce at least 30 research articles in peer reviewed journals.

MOU's

The Department seeks to partner and sign new MOU's to the benefit of the University. We

seek to introduce new foreign languages in the department.

International collaborations/Research Project

The Department seeks to partner foreign partners in the area of research collaborations and research funding. Currently the Department has a partnership with an educational software development company prepmyfuture in French.

STAFF STATISTICS

NAME	QUALIFICATION	RANK	AREA OF SPECIALIZATION
Mr. Richard Baffour Okyere	MPhil., French, 2013, KNUST B.A. French, M.phil (French) KNUST 2013	Senior Lecturer	French literature/ Diplomatic discourse and literary pragmatics
Ms. Charity Odumale Roberts	B.Ed / Mphil Guidance and Counselling	Senior Lecturer	Guidance/ Counselling
Mr. Sampson Awafo	B. A French /MBA Marketing/Mphil French	Assistant Lecturer	French
Ms. Gertrude Grumah	B.A English/ MSc English	Lecturer	Socio-linguistics
Ms. Alberta Dansoah Nyarko Ansah	B. A English/ M.Ed English/ M.phil English	Lecturer	Linguistics
Ms. Cecilia Owusu Debrah	B.A English, Mphil English	Lecturer	Linguistics
Ms. Nana Afia Karikari	B.A/Mphil (medical Sociology)	Assistant Lecturer	Medical sociology
Dr. Amos Apraku	Ph.D. (Sociology)	Lecturer	Environmental Sociology and live hood systems
Mr. Isaac Asare-Aboagye	M.Phil in Art and Culture	Assistant Lecturer	Ethnomusicology
Ms. Rosina Achiaa Annoh	B.A/Mphil Linguistics	Assistant Lecturer	Linguistics
Mr. Opoku Kwasi	M.Phil. English Language, 2015	Assistant Lecturer	Language, Grammar

Mr. Gabriel Owusu-Ansah	MPhil. French, 2015, KNUST B.Ed. French UED, Winneba	Assistant Lecturer	M.Phil. Translation/ Literature
Mr. Tahiru Djato	MPhil. French, 2013, KNUST B.A. French KNUST	Lecturer	FOS/Translation/ Technics of expression
Mr. Francis Douglas Appiah	B.A/Mphil French	Lecturer	Oral literature/ linguistics
Mr. Paul Anning	B.A/Mphil French	Lecturer	Oral literature/ FOS
Mr. Kwasi Safo	B.A. African Studies MPhil African Studies	Lecturer	African Studies
Mr. Cosmas Rai Amenorvi	B.A English MPhil English	Senior Research Fellow	English and linguistics

MR. RICHARD BAFFOUR OKYERE

Workshops/Conferences/Public Lectures

1st National French conference on the teaching of French and the way forward, University of Ghana, Legon, July, 2022

Innovative Teaching and Assessment Practices in Higher Education Training, Organized by Centre for Professional Development (CePDev), University of Energy and Natural Resources, Sunyani, From January 10-12, 2022.

France higher education seminar on higher education opportunities in France, September 2022

Emotional Intelligence, Center for Entrepreneurship and Business Incubation September 2022

Proposal(s)

The influence of language in community negotiations in mining concessions in Ghana: A case study of Newmont Ahafo mines.

Publication(s)

Yegblemenawo, S.A.M, Kodua, M. A, Okyere R.B., (2022). Placing languages and culture in interventions for sustainable national development in Ghana. *Journal of Energy and Natural Resource Management*, 8(1). 38-53. <https://doi.org/1026796/jenrm.v8i1.192>

Cosmas, R. A, Okyere, R.B., (2022). A Thematic Analysis of Anthems of Ghana's Public Universities: A case of six. *Journal of Applied Linguistics and Applied Literature: Dynamics and Advances*, 10(1), Winter and Spring, 141-154, <https://doi:10.22049/jalda.2022.27539.1375>

Mawuloe, K. K, Okyere, R. B, Diallo, A. (2022) Instrumentalisation de la comédie

comme moyen de combat et de négociation vu par Jean Giraudoux et Ferdinand Oyono. Zoglobitha, Revue des Arts, Linguistique, Littérature et Civilisation, Université Peleforo Gon Coulibaly, Spéciale no :01, pp427-443

Okyere, R.B., Mawuloe, K.K, Djato, T., (2022), : La décolonisation de l’Afrique à travers les enjeux diplomatiques dans le vieux nègre et la médaille de Ferdinand Oyono, Akofena, revue scientifique des Sciences du langage, Lettres, Langues & Communication, <https://doi.org/10.48734>

Community Engagement(s)

Member, UTAG planning sub-committee on UENR 10th Anniversary celebrations symposium

Member, Local organizing committee (LOC) for Ghana University Debate Championships

Speaker and Mentor, UENR Students Employability Clinic, Center for student’s skills enhancement

Member, UENR Basic School recruitment exercise

Member, SASS media and publicity team

MS. ALBERTA DANSOAH NYARKO ANSAH

Workshops/Conferences/Public Lectures

First Annual Colloquium- School of Arts and Social Sciences, Theme: Sustainable Development in Ghana through generation of knowledge in Arts and the Social Sciences, Venue: Tyco City Hotel Conference Room, Sunyani. 20.07.2022

Workshop on the Operations of the New Students Management System, Organized by Centre for Professional Development and IT Directorate, Venue: Graduate School Conference Room, UENR, March 10.2022

Matriculation Public Lecture, Topic: Prescription for better Environment and Prevention of Spread of Communicable Disease: The Perspective of the Geoscientist, Speaker: Prof. Emmanuel Arhin, Venue: University Auditorium, Date: March, 29. 2022

Innovative Teaching Practices in Higher Education, Venue: UENR Auditorium, Date 10-12th January, 2022

Graduation Public Lecture, Topic: Plant Viruses: A threat to National Food Security, Speaker: Prof. Elvis Asare- Bediako, Vice Chancellor, UENR, Venue: UENR Auditorium, Date: Dec. 17. 2021

Publication(s)

Owusu Debrah, C. A. A., & Nyarko-Ansah, A. D. (2022). Academic House Style and Acknowledgement Writing: The case of two Ghanaian Universities. *Vision Journal for Languages and Foreign Language Learning* 11(1), 51-64 <https://doi.org/10.21580/vjv11i211658>

Community Engagement(s)

Member: Curriculum Development Committee – Department of Languages and General Studies

Member: Research Committee - Department of Languages and General Studies

Coordinator (English): Language Proficiency Program- Department of Languages and General Studies

Member: UENR Outreach Program committee

Lead: Proposed Program Development-Department of Languages and General Studies

MR. JOHNSON BAAH

Workshops/Conferences/Public Lectures

Innovative Teaching Practices in Higher Education, Venue: UENR Auditorium, Date 10-12th January, 2022

Workshop on the Operations of the New Students Management System, Organized by Centre for Professional Development and IT Directorate, Venue: Graduate School Conference Room, UENR, March 10.2022

WAALCALCALS Conference 2022- Theme: Reflections of Postcoloniality in Education, Literature, Media and Communications Discourse, Venue: Amisah-Arthur Language Centre, University of Cape Coast, March 23-25.2022

First Annual Colloquium- School of Arts and Social Sciences, Theme: Sustainable Development in Ghana through generation of knowledge in Arts and the Social Sciences, Venue: Tyco City Hotel Conference Room, Sunyani.

Graduation Public Lecture, Topic: Plant Viruses: A threat to National Food Security, Speaker: Prof. Elvis Asare- Bediako, Vice Chancellor, UENR, Venue: UENR Auditorium, Date: Dec. 17. 2021

Matriculation Public Lecture, Topic: Prescription for better Environment and Prevention of Spread of Communicable Disease: The Perspective of the Geoscientist, Speaker: Prof. Emmanuel Arhin, Venue: University Auditorium, Date: March, 29. 2022

Community Engagement(s)

Member: Book and Publication Committee – UENR

Sectional Head: Languages – Department of Languages and General Studies

Member: Research Committee – Department of Languages and General Studies

Facilitator: Teaching Staff Training Workshop, Venue: Nkrankwanta Senior Technical School, Date: November 25.2021

CECILIA OWUSU DEBRAH

Workshops/Conferences/Public Lectures

Innovative Teaching Practices in Higher Education, Venue: UENR Auditorium, Date 10-12th January, 2022

Workshop on the Operations of the New Students Management System, Organized by Centre for Professional Development and IT Directorate, Venue: Graduate School Conference Room, UENR, March 10.2022

WAALCALCS Conference 2022- Theme: Reflections of Postcoloniality in Education, Literature, Media and Communications Discourse, Venue: Amissah-Arthur Language Centre, University of Cape Coast, March 23-25.2022

First Annual Colloquium- School of Arts and Social Sciences, Theme: Sustainable Development in Ghana through generation of knowledge in Arts and the Social Sciences, Venue: Tyco City Hotel Conference Room, Sunyani.

Graduation Public Lecture, Topic: Plant Viruses: A threat to National Food Security, Speaker: Prof. Elvis Asare- Bediako, Vice Chancellor, UENR, Venue: UENR Auditorium, Date: Dec. 17. 2021

Matriculation Public Lecture, Topic: Prescription for better Environment and Prevention of Spread of Communicable Disease: The Perspective of the Geoscientist, Speaker: Prof. Emmanuel Arhin, Venue: University Auditorium, Date: March, 29. 2022

Publication(s)

Owusu Debrah, C. A. A., & Nyarko-Ansah, A. D. (2022). Academic House Style and Acknowledgement Writing: The Case of Two Ghanaian Universities. *Vision: Journal for Languages and Foreign Language Learning*. 11(1), 51-64. <https://doi.org/10.21580/vjv11i211658>

Community Engagement(s)

Unit Head: English Unit – Department of Languages and General Studies

Chairperson: Curriculum Development Committee – Department of Languages and General Studies

Chairperson: Language Proficiency Committee- Department of Language and General Studies

Facilitator: Teaching Staff Training Workshop, Venue: Nkrankwanta Senior Technical School, Date: November 25.2021

COSMAS RAI AMENORVI

Publication(s)

Amenorvi, C. R. (2022): 'What a man can do a woman can do': Gender and culture in 'Coming 2 America'. *Hybrid Journal of Literary and Cultural Studies*, 4 (2).

Amenorvi, C. R., & Okyere, R. B. (2022). A thematic analysis of anthems of Ghana's public universities: A case of six. *Journal of Applied Linguistics and Applied Literature: Dynamics and Advances*, 10(1), 141-154.

Amenorvi, C. R. & Kubi, B. (2021). Literary etymology of expressions for appreciation and plea in Ewe and Ga. *Journal of Humanities*, 29 (1), 85-106.

Okyere, R. B., Amenorvi, C. R. & Oteng-Preko, E. (2021). Implementation of a language policy in Ghana, its challenges and the way forward: a case of some basic schools in the Bono Region of Ghana. *Université d'Abomey-Calavi Faculté des Lettres, Langues, Arts et Communication LASODYLA-REYO / UAC*, 13 (2), 36-48.

Amenorvi, C. R. (2021). Lexical Cohesion and Codeswitching among some Ewe-English Bilinguals. *South African Journal of African Languages*, 41(1) 1-8.

DR. AMOS APRAKU

Workshops/Conferences/Public Lecture

SASS Maiden Colloquium, Tyco City Hotel, Sunyani – Ghana

Publication(s)

Asare, E. S., Akudugu, A. J, Addaney, M., Apraku, A., Appiah, A. O., (2021) Mushroom Cultivation as an Alternative Livelihood in Artisanal Goldmining Affected Communities in Ghana, *Journal of Energy and Natural Resource Management* , JENRM, Vol. 7, No. 2, 28-37, 2021, DOI: 10.26796/jenrm.v8i1.179

Apraku, A., Morton, J. F., Gyampoh B. A. (2021): Climate Change and small-scale agriculture in Africa: Does Indigenous Knowledge matter? Insights from Kenya and South Africa. *Scientific African* (<https://doi.org/10.1016/j.sciaf.2021.e00821>)

MR. SAMPSON AWAFO

Workshops/Conferences/Public Lecture

Participant: Annual Colloquium on “Sustainable Development in Ghana through generation of knowledge in Arts and Social Sciences “. (07/2022).

Participant: National Conference of French Didactic Teachers on “Rethinking the teaching/learning of French in Ghana: the role of stakeholders “(16th-18 th March, 2022).

Innovative Teaching & Assessment Practices in Higher Education Training at UENR, Sunyani Ghana. (10 th - 12 January 2022).

Publication(s)

Awafo, S. (2022) Formation Professionnelle des Interprètes Judiciaires en Afrique SUB-SAHARIENNE, le cas du Ghana. *Collection FLE/FLA (VOL 3. NO 6 SEPT 2022)* ISBN 978-2-493659-14-9.

Community Engagement

Chairman, Languages and Communications Services Committee

MR. KWASI OPOKU

Workshops/Conferences/Public Lectures

April 10, 2022: One-day seminar with the Teaching Staff of the School of Geosciences at Dormaa Campus on the Criteria for promotions by Prof Adebayo Felix Adekoya, The Acting Pro Vice-Chancellor, University Energy and Natural Resources, Sunyani.

January, 10-12, 2022: Participate in Innovative Teaching & Assessment Practices in Higher Education Training organized by Centre for Professional Development, University of Energy and Natural Resources at UENR Auditorium

MR. GABRIEL OWUSU-ANSAH

Workshops/Conferences/Public Lectures

25th – 26th May 2022: 2-Day transformational dialogue on Small Scale Mining at Sheilla’s Lodge, Sunyani.

28th July, 2022: Sustainable Development in Ghana through Generation of Knowledge in Arts and Social Sciences at Tyco City Hotel, Sunyani.

MR. ISAAC ASARE-ABOAGYE

Workshops/Conferences/Public Lectures

10th - 12th January, 2022: Innovative Teaching and Assessment Practices in Higher Education Training, UENR Auditorium, Sunyani.

25th – 26th May, 2022: 2 – Day transformational Dialogue on Small-Scale Mining, Sheila’s Lodge, Sunyani.

28th July, 2022: Sustainable Development in Ghana through generation of knowledge in Arts and Social Sciences, Tyco City Hotel, Sunyani.

MR. TAHIRU DJATO

Workshops/Conferences/Public Lectures

2nd April 2022: French by Radio in Service Training: « La Radio en Français au Ghana », Accra.

Publications

C. Afram, A. Kulega, Djato, T. (2022), Pertinence de la pédagogie de projet dans la socialisation langagière. ISSN: 1840-9148.

CENTRE FOR ENTREPRENEURSHIP AND BUSINESS INCUBATION

The Centre for Entrepreneurship and Business Incubation (CEBI) was established in June 2021 to systemise the process of creating successful new enterprises by providing them with a comprehensive and integrated range of services with relative flexibility and at affordable rates. It is the vision of the Centre to be widely acclaimed as a Ghanaian Entrepreneurship Centre of Excellence for the promotion, nurturing, and development of business start-ups and entrepreneurial drive among youth/budding businesses. To achieve this, the Centre has a mission to provide quality and focused support to future and existing entrepreneurs mainly through hands-on training, business support, guidance, and consultation services necessary for the establishment of new businesses.

Activities over the Past Year

Development of Institutional Innovation/Entrepreneurship Curriculum

The Centre has also been involved in ERASMUS+ and Regional Centre for Energy and Environmental Sustainability (RCEES) programmes which include integrating entrepreneurship into all of the University's curricula. Moreover, the Centre participated in workshops organised in Sweden, Denmark, Tanzania, Techiman, Sheila's Lodge and Tyco City Hotel by ERASMUS.

Idea Generation and Pitching

With the dedicated role of promoting youth entrepreneurship, start-up, and development of small and medium-sized enterprises in Ghana and beyond, the Centre in collaboration with GrassRoots Hub and GADeF International, and SRC/EnSA – UENR, organised a 2-day Idea Generation and Pitching to unearth brilliant but hidden talents in students. This workshop aims at the establishment of Business Development, Innovation Hub, and Incubation to encourage students' innovation and creativity, equipping graduates from the University with skills and competencies for employability and self-employment.

Emotional Intelligence and Exit Plan

As part of the Centre's programme of activities and focusing mainly on students, the Centre organised a one-day talk on "Emotional Intelligence and Exit Plan" for the final year students. Hon. Dr. Kwamena Minta Nyarko, a member of parliament for Cape Coast North and a former senior lecturer at the University Cape Coast's School of Business, as the first speaker, provided students with information about the numerous exit plans available. Emotional Intelligence Expert and CEO of Addison International, Mr. James K. Addison, was the second speaker who led the students through emotional intelligence.

Future Plans

- » Establishment of Incubation and Innovation Hub, and Business Facilitation.
- » Provision of short-term Training and Learning Centre.
- » Establishment linkages with other Higher Educational Institutions (HEIs) with similar objectives and mandates to foster a community of learning.
- » Partner with institutions for joint/collaborative research and projects.

SCHOOL OF ENERGY

1.2 SCHOOL OF ENERGY

INTRODUCTION

The School of Energy was established and began operating fully during the 2021/2022 academic year. The overall objectives of the School are to provide students with competitive skills and competencies within Energy, and as well as equip students with the necessary expertise to emerge as leaders in energy with a responsibility to promote inclusion, equal opportunity, and development in all communities in Ghana and beyond.

In February 2022, the University created the School of Energy from the two existing programmes in the Department of Energy and Petroleum Engineering. Thus, the Departments of Renewable Energy Engineering and Petroleum and Natural Gas Engineering were formed, being the two foundation Departments of the new School.

Currently, the School consists of two Departments: the Department of Petroleum and Natural Gas Engineering and Renewable Energy Engineering. The Department of Renewable Energy Engineering offers programmes leading to the award of undergraduate and post-graduate degrees, while the Petroleum and Natural Gas Engineering Department currently offers an undergraduate programme in Petroleum Engineering.

ACADEMIC PROGRAMMES

- I. Department of Renewable Energy Engineering Headed by Prof. Nana Sarfo Agyemang Derkyi
 - i. Undergraduate Programme:
 - a. BSc. Renewable Energy Engineering
 - ii. Postgraduate Programmes
 - a. MSc. Sustainable Energy Engineering and Management (SEEM)
 - b. PhD. Sustainable Energy Engineering and Management (SEEM)
- II. Department of Petroleum and Natural Gas Engineering Headed by Dr. Yaw Akyampon Boakye-Ansah
 - iii. Undergraduate Programme:
 - b. BSc Petroleum Engineering

ADMINISTRATION OF THE SCHOOL

The School Administration is constituted by the following personnel:

- | | |
|-----------------------------|------------------------------|
| 1. Prof. Samuel Gyamfi | Dean |
| 2. Ms. Abigail Amo Boatemaa | School Registrar |
| 3. Ms. Matilda Asafo Agyei | Snr Administrative Assistant |

STUDENTS STATISTICS

The student population in the school at the end of the 2021/2022 academic year stands at Five Hundred and Eighty-Five (585), Four Hundred and Ninety-Six (496) males and Eighty-Nine (89) females.

DEPARTMENT OF RENEWABLE ENERGY ENGINEERING

Table 2: BSc. Renewable Energy Engineering

Year/Level	Male	Female	Total
100	15	2	17
200	62	5	69
300	39	8	47
400	25	4	29
Total			162
Post Graduate Programme			
MSc. Sustainable Energy Management			
First Year	21	8	29
Second Year	20	3	23
Third year	15	2	17
Total			69
PhD. Sustainable Energy Management			
First Year	5	0	5
Second Year	16	3	19
Third year	5	2	7
Total			26

DEPARTMENT OF PETROLEUM AND NATURAL GAS ENGINEERING

Table 3: BSc. Petroleum and Natural Gas Engineering

Year/Level	Male	Female	Total
100	60	15	75
200	69	13	82
300	73	11	84
400	71	13	84
Total			325

RESEARCH COLLABORATIONS (LOCAL AND INTERNATIONAL)

Clay Swelling Inhibition Mechanism based on Inhibitor-Water Interaction: A COSMO-RS Molecular Simulation Approach. Ato Kwamena Quainoo, Cornelius Borecho Bavoh, Kwamena Opoku Duarte, Daniel Alhassan.

The Technical University of Berlin. Collaboration on ProREG-Professional Education for Renewable Energy in Ghana Project. DAAD Sponsored Project. Samuel Gyamfi, Felix Amankwah Diawuo, Eric Antwi-Ofori.

WORKSHOPS/CONFERENCES/PUBLIC LECTURES

1. Annual Technical Conference and Exhibition, Society of Petroleum Engineers, October 2022.
2. Energy Transition in the African Petroleum Downstream Context: Prospects, Challenges and the way forward, Ghana International Petroleum Conference (GhipCon), September, 2022.
3. Energy Transition in Ghana: Our state of play and agenda for COP 27, Act Africa, September 2022.
4. Ghana's Biennial International Conference and Exhibition SPE International Ghana Section. Theme: 15 Years of Ghana's Oil Discovery Lessons Learnt and Future Outlook (3rd September 2022) Accra.
5. Society of Petroleum Engineers, Ghana Section Technical Lecture: Balancing Energy Poverty and Energy Transition in Africa; the Role of Gas (3rd June 2022) By: Dr. Benjamin K. D. Asante (CEO Ghana Gas).
6. Webinar: GNPC & College of Engineering KNUST Public Lecture: Application of Artificial Intelligence in Petroleum Exploration (31st August 2022) by: Dr. Cyril Dziedzorm Boateng.
7. Global Energy Diversification Agenda: The Impact and Opportunities for YP and Graduates, SPE Ghana Section. June, 2022.
8. GhIE 2: Maiden Annual General Meeting, Ghana Institution of Engineering, June, 2022.
9. SPE Summit: Focus on SPE for Educational and Career Success, SPE UENR Chapter, April, 2022.
10. Modelling Europe's Transition to Net Zero, Energy Exemplar, March 2022.
11. The Energy Transition - How Will It Evolve? Engineering Institute of Technology, the EIT Webinar Team, May 2022.
12. Think Well Integrity and Well Decommissioning, SPE Uganda Section, April 2022.
13. Localisation process of FPSO platforms in Africa, SPE Ghana Section, 2022.
14. Workshop on the new student information system, CEPDEV UENR, March 2022.
15. Strengthening accountability in resource governance through active citizenship (ACEP), ACEP/DPNGE, February, 2022.
16. Innovative teaching practices in higher education, CEPDEV UENR, January 2022.
17. Our energy future: Innovation and participation to reach our climate targets Workshop, Institute for Climate Protection, Energy and Mobility (IKEM), Germany, July 2022.
18. Enhancing Entrepreneurship Innovation and Sustainability in Higher Education in Africa Conference, EU Erasmus+ Project, Tanzania, September, 2022.

PROPOSALS

1. Ministry of Energy
2. Petroleum Commission
3. Ghana National Petroleum Corporation
4. Ghana National Gas Company
5. Expro Gulf Company
6. Aker Energy
7. ENI Ghana

8. Baker Hughes Ghana Limited

GRANT AND AWARDS

1. ProREG-Professional Education for Renewable Energy in Ghana. DAAD Sponsored Project. In the project “Professional Education for Renewable Energy in Ghana - ProREG”, the Technische Universität Berlin is working with the universities Kwame Nkrumah University of Science and Technology (KNUST) and the University for Energy and Natural Resources (UENR) as well as six corporate partners to address the lack of labour market relevance of education in the field of renewable energy in Ghana.
2. Sponsorship from Ghana National Gas Company in the organization of the maiden Career Fair Event.
3. Sponsorship from Expro Gulf Company in the maiden Career Fair Event organisation.
4. Erasmus+ Project no. 586416 - Enhancing Entrepreneurship, Innovation, and Sustainability in Higher Education in Africa (EEISHEA); funded by the European Union (€ 968,898 for the Consortium of 10 Universities).
5. Establishment of Sustainable Energy Service Centre by Millennium Development Authority (MiDA) and the Energy Commission of Ghana.
6. Energy Audit Measuring and Instrumentation Equipment from the Millennium Development Authority (MiDA).
7. Delivery of 3 electric moped bikes through the Micromobility project with Bochum University, Germany.
8. Green People’s Energy Project of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ-Ghana).

COMMUNITY ENGAGEMENTS

1. The Department of Petroleum and Natural Gas Engineering through the Society of Petroleum Engineers (SPE) UENR Students’ Chapter visited Notre Dame Girls SHS.
2. The Department of Petroleum and Natural Gas Engineering with Africa Centre for Energy Policy (ACEP) held a training programme for 100 students in SHSs in Sunyani UENR.
3. The School through the Department of Petroleum and Natural Gas Engineering and in collaboration with the Department of Computer and Electrical Engineering also organised a Career Fair event which was hugely successful. Students from all the engineering and other science disciplines attended this fair. There were both graduate and post-graduate students in attendance.
4. The Department of Petroleum and Natural Gas Engineering will participate in the third edition of The Gas Challenge organised by Ghana National Gas Company.
5. The Department of Petroleum and Natural Gas Engineering participated in the SPE Ghana Section PetroBowl.
6. The School of Energy participated in the SPE Change Challenge (Changallenge)
7. The School of Energy participated in UENR 10th Anniversary Inter-School Quiz Competition.

VISITS

The Department of Petroleum and Natural Gas Engineering paid numerous courtesy calls to companies all over the country. Key among them were visits to Petroleum Commission, Energy Commission, GNPC, Ghana National Gas Company, National Petroleum Authority (Sunyani Regional Office), Kofi Annan International Training Centre, Baker Hughes Ghana Limited, and Africa Centre for Energy Policy (ACEP). There were also online engagements with Aker Energy, Kanship Consult, Aberdeen Drilling School, ENI Ghana. There are also continuous collaborations with Expro Gulf Limited, Schlumberger Oilfield Services, etc.

FUTURE PLANS FOR THE SCHOOL

1. The School plans to start undergraduate programmes in BSc Nuclear and Thermophysics Engineering.
2. Organising national-level conferences, paper presentations & project competitions.
3. Establishment of a Centre for Advanced Research in Oil and Gas (CAROG) to research petroleum big data analysis, improved recovery techniques, and environmental sustainability.
4. Establishment of a Centre for Testing and Certification of Energy (CTCE) products and systems.
5. Making the School of Energy vibrant and a cell or hub for Entrepreneurship, Innovation, and Placement.

DEPARTMENT OF RENEWABLE ENERGY ENGINEERING INTRODUCTION

The Department of Renewable Energy Engineering was established in the 2012/2013 academic year to run a four-year BSc Renewable Engineering programmes with the aim of fully integrating renewable energy generating technologies and environmental issues to meet the changing demands of the energy industry, particularly in Ghana and the West Africa sub-region.

The Renewable Energy Engineering programme provides knowledge in the scientific and engineering foundations and skills for such needs as alternative fuel technology, renewable energy, hydrogen fuel cell development and utilization, solar energy, energy extraction and geothermal storage, fusion and nuclear energy and the technologies for understanding and mitigation the environmental impacts of energy usage.

ACTIVITIES OVER THE PAST YEAR

1. Attended the 8th Renewable Energy Fair. Energy Commission. Accra International Conference Centre, Ghana.
2. Micro-Mobility for Sub-Saharan Africa - Sustainable thought over the life cycle project with Bochum University, Germany.
3. Visitation to industrial partners such as Bui Power Authority.
4. National Energy Summit.
5. National Energy Quiz.

FUTURE PLANS

1. There are plans far advanced for the setting up of multiple postgraduate programmes to further enhance teaching and research. Some include MSc/PhD Energy Economics, MSc/PhD Energy Policy and Sustainability, MSc/PhD Renewable Energy Technologies, and MSc/PhD Sustainable Transportation Systems. MSc/PhD Energy Economics and MSc/PhD Energy Policy and Sustainability have already been submitted to Graduate School for onward processes.
2. Strengthen Academia-Public-Private Partnerships. More engagement with the industry.
3. Inter-department research collaboration with a focus on multi and transdisciplinary action research.
4. Submission of proposals to companies and answering to more proposal calls
5. Staff collaboration to deliver consultancy services.

STAFFING

Name	Qualification	Designation	Area of Specialization
Prof. Nana Sarfo Agyeman Derkyi	PhD. MPhil BSc. (KNUST)	Associate Professor	Chemical Engineering Renewable Energy Technologies
Prof. Samuel Gyamfi	PhD (Canterbury) MSc(Germany) BSC. (KNUST)	Associate Professor	Energy Demand Side Management and demand response
Dr. Felix Amankwah Diawuo	PhD (IST, Portugal) MSc (IST, Portugal) MSc (KTH, Sweden) BSc (KNUST)	Lecturer	Energy Engineering Electrical Systems
Ms. Matilda Asafo Agyei	BTech (STU)	Senior Administrative Assistant	

PROF. NANA SARFO AGYEMAN DERKYI

Research Activities /Interest

Renewable Energy Technologies and System Design

Gasifiers and biogas digesters for community Utilization

Biomass combustion, pyrolysis and gasification

Dye-sensitised solar cells.

Publication(s)

1. Irédon Adjama , Nana Sarfo Agyemang Derkyi, Felix Uba, Gilbert Ayine Akolgo, and Richard Opuko (2022). Anaerobic Co-Digestion of Human Feces with Rice Straw for Biogas Production. Modelling and Simulation in Engineering, Volume 2022, Article ID 2608045, <https://doi.org/10.1155/2022/2608045>.
2. Solal Stephanie Djimtoingar, Nana Sarfo Agyemang Derkyi, Francis Atta Kuranchie & Joseph Kusi Yankyera (2022). A review of response surface methodology for biogas process optimization. Cogent Engineering, 9:1, 2115283, DOI: 10.1080/23311916.2022.2115283.
3. Mubarick Issahaku, Nana Sarfo Agyemang Derkyi, Francis Kemausuor (2022). Operation and Maintenance of Small-Scale Biogas Digesters: Scoping Review and Bibliometric Analysis of Literature. American Academic Scientific Research Journal for Engineering, Technology, and Sciences. https://asrjetsjournal.org/index.php/American_Scientific_Journal/article/view/7884/2592.
4. Mark Amoah Nyasapoh, Michael Deho Elorm, Nana Sarfo Agyemang Derkyi (2022). The Role of Renewable Energies in Sustainable Development of Ghana. Scientific African, <https://doi.org/10.1016/j.sciaf.2022.e01199>.
5. Kofi Asamoah Adu-Poku, Desmond Appiah, Killian Asampana Asosega, Nana Sarfo Agyemang Derkyi, Felix Uba, Ebenezer Nyarko Kumi, Eric Akowuah, Gilbert Ayine Akolgo, Daniel Gyamfi (2022). Characterization of fuel and mechanical properties of charred agricultural wastes: Experimental and statistical studies. Energy Reports s 8: 4319–4331. <https://doi.org/10.1016/j.egy.2022.03.015> .
6. Abdul Aziz Sankoh, Nana Sarfo Agyemang Derkyi, Ronnie A. D. Frazer-Williams, Cynthia Laar and Ishmail Kamara (2022). A Review on the Application of Isotopic Techniques to Trace Groundwater Pollution Sources within Developing Countries. Water 14, 35. <https://doi.org/10.3390/w14010035>.
7. Ali Eliasu, Nana Sarfo Agyemang Derkyi, Samuel Gyamfi (2022). Techno-Economic Analysis of Municipal Solid Waste Gasification for Electricity Generation. International Journal of Energy Economics and Policy, 12(1), 342-348.

PROF SAMUEL GYAMFI

Research Activities /Interests

Energy Demand Side Management

Renewable and Sustainable Energy for Developing Countries

Energy Policy and Economics

Publication(s)

1. Gyamfi S., Asuamah, E.Y. & Gyabaah, J.A. (2022). Techno-economic challenges of pumped hydro energy storage. Elsevier.<https://doi.org/10.1016/B978-0-12-818853-8.00011-X>.
2. Peprah F., Gyamfi S., Amo-Boateng M., Buadi E., Obeng M., (2022) Design and construction of smart solar-powered egg incubator based on GSM/IoT. *Scientific African* Volume 17. <https://doi.org/10.1016/j.sciaf.2022.e01326>.
3. Nyasapoh, M. A., Gyamfi, S., Debrah, S. K., Gaber, H., & Derkyi, N. S. A. (2022) Assessment of the Economic Viability of Nuclear-Renewable Hybrid Energy Systems: Case for Ghana. In 2022 IEEE 10th International Conference on Smart Energy Grid Engineering (SEGE) (pp. 74-80). IEEE.
4. Gyamfi, S., Diawuo, F. A., Asuamah, E. Y., & Effah, E. (2022). The role of demand-side management in sustainable energy sector development. In *Renewable Energy and Sustainability* (pp. 325-346). Elsevier. <https://doi.org/10.1016/B978-0-323-88668-0.00010-3>.
5. Asamoah S. S., Gyamfi S., Uba F., Mensah S. G., (2022) Comparative assessment of a stand-alone and a grid-connected hybrid system for a community water supply system: A case study of Nankese community in the eastern region of Ghana. *Scientific African* 17 (2022) <https://doi.org/10.1016/j.sciaf.2022.e01331>.
6. Nyasapoh M. A., Debrah S., K, Twerefou D. K, Gyamfi S., Kholi, F. K (2022) An Overview of Energy Resource and Future Concerns for Ghana's Electricity Generation. *Journal of Energy* Volume 2022. <https://doi.org/10.1155/2022/1031044>.
7. Peprah F., Gyamfi S., Amo-Boateng M., Effah-Donyina E. Impact assessment of grid-tied rooftop PV systems on LV distribution network (2022). *Scientific African* 16 (2022) <https://doi.org/10.1016/j.sciaf.2022.e01172>.
8. Ochiegbu C. V., Gyamfi S, Ofosu E. (2022) Modeling, Simulation and Design of Hydro-Solar Isolated Micro-grid without a Battery Storage System: A Case Study for Aba Business Cluster, Nigeria. *International Journal of Engineering Trends and Technology* Volume 70 Issue 2, 125-136, February, 2022 <https://ijettjournal.org/archive/ijett-v70i2p215>.
9. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2022) Characterisation of degradation of photovoltaic (PV) module technologies in different climatic zones in Ghana. *Sustainable Energy Technologies and Assessments*, 52(2022) 102034. <https://doi.org/10.1016/j.seta.2022.102034>.
10. Eliasu A., Derkyi N. S. A., Gyamfi S. (2022) Techno-Economic Analysis of Municipal Solid Waste Gasification for Electricity Generation. *International Journal of Energy Economics and Policy*, 2022, 12(1), 342-348. DOI: <https://doi.org/10.32479/ijeep.11894>.
11. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2022) Investigation into the impacts of design, installation, operation and maintenance issues on performance and degradation of installed solar photovoltaic (PV) systems *Energy for Sustainable Development* 2022 (66): 165-176. <https://doi.org/10.1016/j.esd.2021.12.003>.
12. Avordeh T. K, Gyamfi S, Opoku A. A. (2021) The role of demand response in residential electricity load reduction using appliance shifting techniques. *International Journal of Energy Sector Management*. Emerald Publishing Limited

- 1750-6220. DOI 10.1108/IJESM-05-2020-00.
13. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2021) Degradation analysis of installed solar photovoltaic (PV) modules under outdoor conditions in Ghana. *Energy Reports* 7 (2021) 6921–6931. <https://doi.org/10.1016/j.egy.2021.10.046>.
 14. Iweh C.D., Gyamfi S., Tanyi E., Effah-Donyina E. (2021) Distributed Generation and Renewable Energy Integration into the Grid: Prerequisites, Push Factors, Practical Options, Issues and Merits. *Energies* 2021, 14, 5375. <https://doi.org/10.3390/en14175375>.
 15. Avordeh T. K, Gyamfi S, Opoku A. A. (2021) Quantitative estimation of the impact of climate change on residential electricity demand for the city of Greater Accra, Ghana *International Journal of Energy Sector Management*. Emerald Publishing Limited 1750-6220 DOI 10.1108/IJESM-08-2020-0008.
 16. Ayebah A. I., Gyamfi S., Amuzuvi C. K. (2021) Making Energy Savings by the Engagement of Small and Medium-sized Enterprise on Energy Management. *Journal of Electrical and Electronic Engineering* 2021; 9(2): 41-48 10.11648/j.jeee.20210902.12.
 17. Asuamah Y. E., Gyamfi, S., Dagoumas A. (2021) Potential of Meeting Electricity Needs of Off-grid Community with Mini-grid Solar Systems. *Scientific African* Volume 11(2021). <https://doi.org/10.1016/j.sciaf.2020.e00675>.
 18. Aboagye B., Gyamfi, S., Antwi E. O, Djordjevic, S. (2021) Status of Renewable Energy Resources for Electricity Supply in Ghana. *Scientific African* Volume 11 (2021) <https://doi.org/10.1016/j.sciaf.2020.e00660>.

Conferences/Workshop/Seminars

Outreach Programmes/Extension Service

1. International Conference on Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa (EEISHEA). September 28 - 30, 2022 at Kilimanjaro Wonders Hotel Moshi.
2. Improving Graduate Employability Through Capacity Building Partnerships DAAD Conference, 12-15 September 2022, Kigali, Rwanda.
3. Social Innovation in the Energy Transition: People-Centered Participation Models, Kickstart Campaign on Renewable Energy for Tertiary Institutions, 350GROC and School of Energy, UENR, September 2022.
4. IKEMAcademy Energy and Climate. Our energy future: Innovation and participation to reach our climate targets. Monday, 11 – 15 July 2022, Berlin, Germany.
5. Africa Higher Education Centres of Excellence for Development Impact (ACE - Impact) Project. 7th Ace Impact Steering Committee Meeting and Regional Workshop June 13-17, 2022 Palais Des Congrès And Hotel Azalai, Cotonou, Benin.
6. Energy networks infrastructure: system modelling, planning and operations, regulation, markets, and policy- GEN-SEN Joint Workshop, Ghana Energy Networks (GEN) and UK's Supergen Energy Networks (SEN), Accra, June 2022.
7. Training, Solar Powered Irrigation Systems (SPIS), organised by GIZ and the Practica Foundation from Netherlands, UENR, 2021.

DR. FELIX AMANKWAH DIAWUO

Research Activities /Interests

Demand Side Management Strategies (Energy Efficiency & Demand Response)

Renewable Energy Sciences: Solar, Wind etc

Energy Policies, Energy Economics

Energy & Exergy Optimization/Thermo-economic Analysis on Power Plant

Publication(s)

1. Diawuo F.A., De la Rue du Can S., Baptista P.C., Silva C.A.S. (2021) Assessing the impact of demand response on peak demand in a developing country: The case of Ghana. IOP Conf Ser Earth Environ Sci 642: <https://doi.org/10.1088/1755-1315/642/1/012005>.
2. Gyamfi, S., Diawuo, F. A., Asuamah, E. Y., & Effah, E. (2022). The role of demand-side management in sustainable energy sector development. In *Renewable Energy and Sustainability* (pp. 325-346). Elsevier. <https://doi.org/10.1016/B978-0-323-88668-0.00010-3>.

Conference/Workshops/Seminars

Outreach Programme/Extension Services

1. International Conference on Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa (EEISHEA). September 28 - 30, 2022 at Kilimanjaro Wonders Hotel Moshi.
2. IKEMAcademy Energy and Climate. Our energy future: Innovation and participation to reach our climate targets. Monday, 11 – 15 July 2022, Berlin, Germany.
3. Training for experts in digital education, Centres of Competence in Digital Education (C-CODE) Project, Nigeria, May 2022.
4. Social Innovation in the Energy Transition: People-Centered Participation Models, Kickstart Campaign on Renewable Energy for Tertiary Institutions, 350GROC and School of Energy, UENR, September 2022.
5. Energy networks infrastructure: system modelling, planning and operations, regulation, markets, and policy- GEN-SEN Joint Workshop, Ghana Energy Networks (GEN) and UK's Supergen Energy Networks (SEN), Accra, June 2022.
6. Training, Market Entry into Renewable Energy (RE) and Energy Efficiency (EE) for the Productive Sector, GIZ and AGI, Ghana, 2021.
7. Training, Solar Powered Irrigation Systems (SPIS), organised by GIZ and the Practica Foundation from Netherlands, UENR, 2021.

DEPARTMENT OF PETROLEUM AND NATURAL GAS ENGINEERING

INTRODUCTION

The Petroleum Engineering programme was started in the 2014/15 academic year in the Department of Energy and Environmental Engineering. Subsequently, it remained in the Department of Energy and Petroleum Engineering in the 2018/19 academic year.

The Department of Petroleum and Natural Gas Engineering was established as one of the two foundation Departments of the School of Energy in February 2022. The Department currently only runs one undergraduate programme.

✿ ACTIVITIES OVER THE PAST YEAR

1. ACEP Training programme
2. Guidelines for Research Writing - Undergraduate Students
3. Industrial Engagement and visitations
4. Submission of proposals to companies
5. Career Fair
6. Attendance of conferences
7. Submission of master's programmes to the School of Graduate Studies
8. Submission of proposals
9. Engaged four (4) adjunct lecturers for the Department
10. Signed MOUs with key industry players
11. The Gas Challenge
12. Schlumberger PetroChallenge
13. SPE PetroBowl (Maiden win in the competition's history)
14. SPE Changallenge (Change Challenge)
15. HoD Quiz Competition
16. Energy4Me outreach
17. Oil Spill Response Limited training

✿ FUTURE PLANS

1. Submission of two master's programmes and a PhD programme
2. Further engagement with industry
3. Plans to organize Career Fair for students every year
4. Organize Field Trips for students
5. The Department plans to have its first Public Lectures Series early next Semester
6. The Department plans to have Boot camp for staff
7. To Organize Student's seminar series every semester
8. The Department will participate in this year's The Gas Challenge
9. Schlumberger Petro Challenge
10. SPE PetroBowl

STAFFING

The Following are the Staff of the Department. Their Names And Qualification Are Given In The Table Below:

Name	Qualification	Designation	Area of Specialization
Dr. Yaw Akyampon Boakye-Ansah	Ph.D. (Strathclyde) MSc.(Aberdeen) BSc.(KNUST)	Lecturer	General Petroleum Engineering, Drainage in Soils and Foams, Partial differential equations (nonlinear) Reservoir Engineering
Emmanuel Acheaw	MSc(RGU,UK) BSc. (KNUST)	Lecturer	Petroleum Geoscience and Basin Studies, Seismic Acquisition & Interpretation.
Justice Sarkodie-Kyeremeh	MSc (RGU) BSc (KNUST)	Lecturer	Drilling Technology, Advance Completions and Subsea Systems, petroleum Production
Mr. Prosper Anumah	MSc. (KNUST) BSc. (KNUST)	Lecturer	Petroleum Geosciences Reservoir Engineering Geophysics
Mr. Kwabena Opoku Duartey	MSc.(POLITO, Italy) BSc. (KNUST)	Assistant Lecturer	Petroleum Engineering
Mr. Shaibu Mohammed	MSc (AUST) BSc (UMaT)	Assistant Lecturer	Petroleum Engineering
Mr. Ebenezer Gyamfi Yeboah	MSc. (TPU, Russia)		
BSc. (KNUST)	Assistant Lecturer	Petroleum production engineering,	
Mr. Ivan Warden Nyamekye	PGDip (HW, UK)		

BSc. (KNUST)	Technician		
Ms. Matilda Asafo Agyei	BTech (STU)	Senior Administrative Assistant	

DR. YAW AKYAMPON BOAKYE-ANSAH

Research Activities /Interests

1. Gas processing, transportation, and network
2. Energy transition
3. Relative permeability
4. Carbon Capture, Storage and Utilization
5. Drainage in soils and foams
6. Waste management in Ghana's oil and gas industry

Publication(s)

1. Mohammed, S., Boakye-Ansah, Y. A., Gyamfi-Yeboah, E., Duartey K. O., Nyamekye, W. I. 2022. A Multi-Fractured Well Performance Model for Unconventional Reservoirs. Heliyon. 10.1016/j.heliyon.2022.e10827.
2. Boakye-Ansah, Y. A., Grassia, P. Sensitivity of Travelling Wave Solutions to Richards Equations to Soil Material Property Functions. Transport in Porous Media.

Conferences/Workshop/Seminars

1. Annual Technical Conference and Exhibition, Society of Petroleum Engineers, October 2022.
2. Energy Transition in the African Petroleum Downstream Context: Prospects, Challenges, and the way forward, Ghana International Petroleum Conference (GhipCon), September 2022.
3. Energy Transition in Ghana: Our state of play and agenda for COP 27, Act Africa, September 2022.
4. Ghana's Biennial International Conference and Exhibition SPE International Ghana Section. Theme: 15 Years of Ghana's Oil Discovery Lessons Learnt and Future Outlook. (3rd September 2022) Accra.
5. Society of Petroleum Engineers, Ghana Section. Technical Lecture: Balancing Energy Poverty and Energy Transition in Africa; the Role of Gas (3rd June 2022). By: Dr. Benjamin K. D. Asante (CEO Ghana Gas).
6. Webinar: GNPC & College of Engineering KNUST. Public Lecture: Application of Artificial Intelligence in Petroleum Exploration. (31st August 2022). By: Dr. Cyril Dziedzorm Boateng.
7. UNOOSA 5th International Conference on Space Technology for Water Resources Management, Accra, Ghana. May 2022.
8. Global Energy Diversification Agenda: The Impact and Opportunities for YP and

- Graduates, SPE Ghana Section. June 2022.
9. GhIE 2: Maiden Annual General Meeting, Ghana Institution of Engineering, June 2022.
 10. SPE Summit: Focus on SPE for Educational and Career Success, SPE UENR Chapter, April 2022.
 11. Modelling Europe's Transition to Net Zero, Energy Exemplar, March 2022.
 12. The Energy Transition - How Will It Evolve? Engineering Institute of Technology, The EIT Webinar Team, May 2022.
 13. Think Well Integrity and Well Decommissioning, SPE Uganda Section, April 2022.
 14. Localisation process of FPSO platforms in Africa, SPE Ghana Section, 2022.
 15. Workshop on new student information system, CEPDEV UENR, March 2022.
 16. Strengthening accountability in resource governance through active citizenship (ACEP), ACEP/DPNGE, February 2022.
 17. Innovative teaching practices in higher education, CEPDEV UENR, January 2022.

Outreach Programmes/Extension Service

1. Review of journal article for JENRM
2. Spearheaded the maiden Departmental Career Fair
3. Visit to oil and gas companies across the country
4. Coordinated Energy4me outreach programme
5. Coordinated ACEP Campus rally
6. Trainer and Coach, The Gas Challenge 2021
7. Trainer and Coach, SPE PetroBowl 2021
8. Trainer and Coach, The Gas Challenge 2022
9. Trainer and Coach, Schlumberger PetroChallenge

EMMANUEL ACHEAW

Research Interests

1. Machine learning in pump operations.
2. Geochemical Analysis of Formations.
3. Fractured Reservoir Analysis.

Publications

Kofi Asamoah Adu-Poku, Fan Zhang, Desmond Appiah, Ke Chen, Fareed Konadu Osman, and Emmanuel Acheaw (2022). Study on the inner flow mechanisms and unsteady force distribution of side channel pumps. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy; DOI:10.1177/09576509221081618.

Conference/Workshops/Seminars

1. African Centre for Energy Policy: Strengthening Accountability for Good Resource Governance through Active Citizenship; 21st February 2022.
2. Career fair: Careers in Ghana's Petroleum, Natural Gas, and Energy Sector; The role of the Graduate Engineer; 29-30th June 2022.
3. National Energy Transition Plan; Moving Ghana towards a Net-zero Future.
4. PetroConverge; Career Prospects of Oil and Gas Industries; 2022.

Outreach Programmes / Extension Services

1. Outreach to Senior High Schools across the country together with the Institutional Advancement Centre of UENR.
2. Visit to Oil and Gas Companies across the country.
3. Industrial Attachments supervision of students across the country in the Department of Energy and Natural Gas Engineering.
4. Career Fair 2022 Planning Committee Member.

JUSTICE SARKODIE-KYEREMEH

Research Activities /Interests

- » Unconventional Petroleum Systems
- » Hydrate Inhibition, Drilling Mechanics
- » Advance Well Control, Petroleum Production Technology

Publication(s)

1. Mohammed, S. Emmanuel K. N., Morgan A. Anumah P. Sarkodie-Kyeremeh J. 2021. Use of Extra Citation Counts and Uncited Publications to Enhance the Discriminatory Power of the h-index. Springer. Scientometrics. <https://doi.org/10.1007/s11192-020-03777-y>

MR. PROSPER ANUMAH

Research Activities /Interests

- » Reservoir characterization and modelling
- » Geomechanical Studies
- » Prospect Evaluation & Risk Analysis
- » Basin and Petroleum System Modelling

Publication(S)

1. Aggrey, W.N., Asiedu, N., Adenutsi, C.D. and Anumah, P., 2022. Experimental Study of Bio-Based Membrane Enhancers on Shale through Osmotic Pressure Measurements. *Arabian Journal for Science and Engineering*, 47(9), pp.10917-10931.
2. Mohammed, S. Emmanuel K. N., Morgan A. Anumah P. Sarkodie-Kyeremeh J. 2021. Use of Extra Citation Counts and Uncited Publications to Enhance the Discriminatory Power of the h-index. Springer. Scientometrics. <https://doi.org/10.1007/s11192-020-03777-y>

MR. KWAMENA OPOKU DUARTEY

Research Activities /Interests

- » Petroleum Engineering
- » Energy transition
- » Carbon Capture, Storage and Utilisation

Publication(s)

1. Ato Kwamena Quainoo , Cornelius Borecho Bavoh , Kwamena Opoku Duarte, Daniel Alhassan. 2022. Clay swelling inhibition mechanism based on inhibitor-water interaction: A COSMO-RS molecular simulation approach DOI:10.1016/j.upstre.2022.100080
2. Mohammed, S., Boakye-Ansah, Y. A., Gyamfi-Yeboah, E., Duarte K. O., Nyamekye, W. I. 2022. A Multi-Fractured Well Performance Model for Unconventional Reservoirs. Heliyon. 10.1016/j.heliyon.2022.e10827

Conferences/Workshop/Seminars

1. Ghana's Biennial International Conference and Exhibition SPE International Ghana Section. Theme: 15 Years of Ghana's Oil Discovery Lessons Learnt and Future Outlook (3rd September 2022) Accra.
2. Webinar: GNPC & College of Engineering KNUST. Public Lecture: Application of Artificial Intelligence In Petroleum Exploration (31st August 2022) By: Dr. Cyril Dziedzorm Boateng
3. Technical Lecture: Balancing Energy Poverty and Energy Transition In Africa; the Role of Gas (3rd June 2022) By: Dr. Benjamin K. D. Asante (CEO Ghana Gas)
4. GhIE 2: Maiden Annual General Meeting, Ghana Institution of Engineering, June, 2022
5. SPE Summit: Focus on SPE for Educational and Career Success, SPE UENR Chapter, April, 2022
6. Global Energy Diversification Agenda: The Impact and Opportunities for YP and Graduates, SPE Ghana Section. June, 2022
7. Localisation process of FPSO platforms in Africa, SPE Ghana Section, 2022
8. Workshop on new student information system, CEPDEV UENR, March 2022
9. Strengthening accountability in resource governance through active citizenship (ACEP), ACEP/DPNGE, February, 2022
10. Innovative teaching practices in higher education, CEPDEV UENR, January 2022

Outreach Programmes/Extension Service

1. Coordination of Energy4me for Second Cycle Institutions
2. Invigilation of Mid-Semester & End of Semester Examination
3. Industrial Attachment Supervision for Students
4. Team Coach for Gas Challenge (National)
5. Team Coach for SPE Challenge Contest (National)

MR. SHAIBU MOHAMMED

Publication(S)

1. Mohammed, S., Boakye-Ansah, Y. A., Gyamfi-Yeboah, E., Duartey K. O., Nyamekye, W. I. 2022. A Multi-Fractured Well Performance Model for Unconventional Reservoirs. Elsevier. Heliyon. 10.1016/j.heliyon.2022.e10827
2. Mohammed, S. Emmanuel K. N., Morgan A. Anumah P. Sarkodie-Kyeremeh J. 2021. Use of Extra Citation Counts and Uncited Publications to Enhance the Discriminatory Power of the h-index. Springer. Scientometrics. <https://doi.org/10.1007/s11192-020-03777-y>

MR. EBENEZER GYAMFI YEBOAH

Research Activities /Interests

1. Waste management in Ghana's oil and gas industry
2. Hydrate inhibition in transportation pipelines

Publication(s)

1. Mohammed, S., Boakye-Ansah, Y. A., Gyamfi-Yeboah, E., Duartey K. O., Nyamekye, W. I. 2022. A Multi-Fractured Well Performance Model for Unconventional Reservoirs. Heliyon. 10.1016/j.heliyon.2022.e10827

Conferences/Workshop/Seminars

1. GhIE 2: Maiden Annual General Meeting, Ghana Institution of Engineering, June, 2022
2. Technical Lecture: Balancing Energy Poverty and Energy Transition In Africa; the Role of Gas (3rd June 2022). By: Dr. Benjamin K. D. Asante (CEO Ghana Gas)
3. SPE Summit: Focus on SPE for Educational and Career Success, SPE UENR Chapter, April, 2022
4. Workshop on new student information system, CEPDEV UENR, March 2022
5. Strengthening accountability in resource governance through active citizenship (ACEP), ACEP/DPNGE, February, 2022
6. Innovative teaching practices in higher education, CEPDEV UENR, January 2022

Outreach Programmes/Extension Service

1. Coordinated students field trip to Schlumberger and Chemsolve.
2. Supported in the organisation of the maiden Departmental Career Fair
3. Invigilation of Mid-Semester & End of Semester Examination
4. Industrial Attachment Supervision
5. Team Coach for the Gas Challenge (National)

MR. ANTHONY MORGAN

Research Activities /Interests

- » Techno-economic LCA
- » CO2-EOR/Sequestration and optimization
- » Reactive transport (Numerical Simulation)

Publication(s)

1. You Junyu, Ampomah William, Tu Jiawei, Morgan Anthony, Sun Qian, Wei Bing, and Dianlin Wang. "Optimization of Water-Alternating-CO2 Injection Field Operations Using a Machine-Learning-Assisted Workflow." SPE Res Eval & Eng (2022); doi: <https://doi.org/10.2118/203913-PA>
2. Junyu You, William Ampomah, Anthony Morgan, Qian Sun, Xiaoliang Huang, A comprehensive techno-eco-assessment of CO2 enhanced oil recovery projects using a machine-learning assisted workflow, International Journal of Greenhouse Gas Control, Volume 111, 2021, 103480, ISSN 1750-5836, <https://doi.org/10.1016/j.ijggc.2021.103480>.
3. Morgan, A.; Grigg, R.; Ampomah, W. A Gate-to-Gate Life Cycle Assessment for the CO2-EOR Operations at Farnsworth Unit (FWU)- Texas. Energies 2021, 14, 2499. <https://doi.org/10.3390/en14092499>

Conference/Workshops/Seminars

1. Asphaltene Flow Assurance Risks in Gas Injection - SPE Rosewell section - USA
2. Machine Learning: Is it Magic or Hard Work? – SPE Rosewell section -USA
3. Research Experience in Carbon sequestration Participant, US DOE-Program – RECS -USA
4. South West Regional Partnership on Carbon Sequestration Annual Conference Participant -USA
5. Student Research Symposium- New Mexico Tech, Participant, Spring
6. Are Traditional Laboratory Reservoir Fluid Characterizations Superior to Down Hole In Situ Digital Samples? – SPE Rosewell section - USA
7. Lost Circulation, an Old Challenge in Need of New Solutions!, SPE Rosewell section
8. Fracture Model Calibration for Conventional and Unconventional Rocks, SPE Rosewell section
9. Nanotechnology in Reservoir Applications, SPE Rosewell section

Outreach Programme/Extension Services

1. I reviewed journal article for PEPT-Springer journal

MR. IVAN WARDEN NYAMEKYE

Research Activities /Interests

1. Petroleum Engineering
2. Data Analytics
3. Engineering Education

Publication(s)

1. Mohammed, S., Boakye-Ansah, Y. A., Gyamfi-Yeboah, E., Duartey K. O., Nyamekye, W. I. 2022. A Multi-Fractured Well Performance Model for Unconventional Reservoirs. Heliyon. 10.1016/j.heliyon.2022.e10827

Conference/Workshops/Seminars

1. Annual Technical Conference and Exhibition, Society of Petroleum Engineers, October 2022
2. Ghana's Biennial International Conference and Exhibition SPE International Ghana Section. Theme: 15 Years of Ghana's Oil Discovery Lessons Learnt And Future Outlook (3rd September 2022) Accra.
3. 2-day Transformational dialogue on Artisanal and small-scale mining: "Enhancing Multi-Stakeholder Approaches towards Addressing Challenges with Artisanal and Small-scale Mining, and the Institutional Dynamics for Sustainable Practices in Ghana", May 2022.
4. Workshop on new student information system, CEPDEV UENR, March 2022
5. Strengthening accountability in resource governance through active citizenship (ACEP), ACEP/DPNGE, February 2022
6. Innovative teaching practices in higher education, CEPDEV UENR, January 2022

Outreach Programme/Extension Services

1. Lead organiser in Africa Centre for Energy Policy campus rally
3. Career fair 2022 planning committee member
4. Trainer, Gas Challenge 2021

SCHOOL OF SCIENCES

SCHOOL OF SCIENCES

1.0 INTRODUCTION

The School of Sciences was established in the 2013/2014 academic year and it is the third of the Schools established by the University. It began operations with the Department of Mathematics and Statistics and the Department of Computer Science in 2013. In 2014, the Department of Chemical Science was established and the Department of Basic and Applied Biology in 2017. In the 2021 /2022 academic year the Departments of Basic and Applied Biology was divided into three separate Departments namely Departments of Biological Science; Medical Laboratory Science; and Nursing.

The School of Sciences is dedicated to research and teaching in scientific knowledge and technology in its social context. The School offers transformational and value-based education in physical and biological sciences, mathematics, computer science, and information technology. We generate, advance, and disseminate knowledge in these various disciplines and provide the enabling platform for building competencies needed for attaining sustainable development goals and the socio-economic development of the nation. The overall objective of the School is to equip students with the requisite theoretical knowledge, practical skills and competencies required to address energy, natural resources, environmental and related socio-economic challenges.

Vision

To become a centre of excellence for the promotion of empirical knowledge and innovative research in natural and applied sciences.

Mission

To generate, advance, and disseminate scientific knowledge and research for the development of human resources and society through competitive science-related disciplines.

2.0 DEPARTMENTS AND RESEARCH CENTRES/INSTITUTES

The School has Six (6) Departments and one (1) Centre, which are:

1. Department of Biological Science
2. Department of Chemical Sciences
3. Department of Computer Science and Informatics
4. Department of Mathematics and Statistics
5. Department of Medical Laboratory Science
6. Department of Nursing
7. Centre for Research in Applied Biology(CeRAB)

3.0 ACADEMIC PROGRAMMES

- I. Department of Biological Science:
 - Undergraduate Programme:
 - a. BSc. Biological Science
- II. Department of Chemical Sciences:

- Undergraduate Programme:

a. BSc. Chemistry

III. Department of Computer Science and Informatics:

- Undergraduate Programmes:

a. BSc Computer Science

b. BSc Information Technology

c. Diploma in Information Technology

d. Diploma in Computer Science

Postgraduate Programmes:

a. PhD in Computer Science

b. MPhil Computer Science

c. MSc. Computer Science

IV. Department of Mathematics and Statistics:

- Undergraduate Programmes:

a. BSc. Mathematics

b. BSc. Statistics

c. BSc. Actuarial Science

d. Diploma Statistics

e. Diploma Insurance

Postgraduate Programmes:

a. MPhil Applied Mathematics

V. Department of Medical Laboratory Science:

- Undergraduate Programme:

a. BSc. Medical Laboratory Science

VI. Department of Nursing:

- Undergraduate Programme:

b. BSc. Nursing

4.0 ADMINISTRATION OF THE SCHOOL

The following personnel constitute the School's Administration:

1	Prof. Samuel Fosu Gyasi	Dean
2	Ms. Diana Obeng	School Registrar
3	Mr. Jesse Amo Osei	Senior Administrative Assistant

5.0 STAFF AND STUDENTS STATISTICS

5.1 Staff Population of the School

S/N	Ranks	Male	Female	Total Number
1	Professor	1	0	1
2	Associate Professors	2	0	2
3	Senior Lecturers	13	0	13
4	Lecturers	32	10	42
5	Assistant Lecturers	9	3	12
6	Technical Instructors	0	1	1
7	Senior Research Assistant	4	0	4
8	Senior Laboratory Technicians/Technicians	5	2	7
9	Assistant Registrar	0	1	1
10	Senior Administrative Assistants	2	3	5
	Grand Total	69	20	88

5.2 Student Population of the School

S/N	Programme	Total
Department of Biological Science		
1	BSc. Biological Science	382
Department of Chemical Sciences		
2	BSc. Chemistry	161
Department of Computer Science & Informatics		
3	BSc. Computer Science	466
4	BSc. Information Technology	743
5	Diploma in Computer Science	70
6	Diploma in Information Technology	155
7	MPhil Computer Science	52
8	MSc. Computer Science	31
9	PhD Computer Science	10
	Sub Total	1,457
Department of Mathematics & Statistics		

10	BSc. Mathematics	92
11	BSc. Statistics	85
12	BSc. Actuarial Science	237
13	Diploma in Statistics	16
14	Diploma in Insurance	10
15	MPhil Applied Mathematics	44
	Sub Total	484
Department of Medical Laboratory Science		
16	BSc. Medical Laboratory Science	533
Department of Nursing		
17	BSc. Nursing	495
	TAL	GRAND TO- 3,512

6.0 WORKSHOPS/CONFERENCES/PUBLIC LECTURES

The following are some activities that took place within the academic year:

a. The School organised the maiden edition of the School of Sciences Research Week on the theme: “Research: Ghana’s Untapped Potential for Growth and Sustainable Development” on 12th to 14th September, 2022. The activities included a Poster presentation by the final year Undergraduate students and a PowerPoint presentation by the Postgraduate students of the School.

7.0 PUBLICATIONS (FOR THE YEAR UNDER REVIEW)

Staff of the School produced One Hundred and Thirty-Nine (139) refereed journal articles and One (1) book chapter.

8.0 FUTURE PLANS OF THE SCHOOL

The School of Sciences for the next one year plans to achieve the following as indicated in its Strategic Plan:

1. Increase the research output of the School.
2. Encourage harmonious and peaceful working relationships between all staff and students.
3. Enhance local and international visibility of the School.
4. Ensure student centered teaching and learning.
5. Increase the number of postgraduate programmes run by the School.
6. Support human resources and staff development.
7. Seek sponsorship for the establishment of laboratory infrastructure.
8. Ensure quality (Quality Assurance) in all the activities of the School.

DEPARTMENTS OF THE SCHOOL

(a) DEPARTMENT OF BIOLOGICAL SCIENCE

(i) Introduction (Establishment)

The Department of Biological Science (DoBS) of the School of Sciences, was established in December 2021 following approval of a proposal submitted by the then Department of Basic and Applied Biology to upgrade its existing units to academic departments in order to improve academic outcomes, spur growth and build on existing gains.

Vision

The vision of the Department of Biological Science is to be a global leader in biological sciences, to a culture of innovative and cross-disciplinary methods, and technologies in research, teaching, and application to provide biological solutions to energy and natural resource exploitation problems.

Mission

The Mission of the Department of Biological Science is to cultivate a diverse and thriving intellectual community of faculty, staff, and students focused on excellence in teaching, learning, research, and community engagement in biological sciences.

(ii) Activities of the Department

The activities within the department include the following;

- Developed a 5-year strategic plan for the Department in April 2022
- Hosted a Research Intern from the Kalamazoo College, Michigan, the USA from June – August 2022
- Organised the first of many ‘Seminars in Biological Science’ programmes in August 2022
- Developed GTEC/NCTE documents for postgraduate programmes (MPhil Biological Science, MPhil Environmental Science, MPhil Microbiology)
- Organised undergraduate project proposal defense

(iii) Academic Programmes

a. Undergraduate Programmes:
BSc Biological Science

b. Postgraduate Programmes
(Undergoing School Postgraduate consideration)
MPhil Biological Science
MPhil Environmental Science (NCTE approval secured)
MPhil Microbiology

(iv) Administration of the Department

The Department Administration is constituted by the following personnel:
Dr. Kenneth Bentum Otobil (Ag. Head of Department)

Staff Statistics

S/N	Name	Rank
1	Prof. Samuel Fosu Gyasi	Associate Professor
2	Dr. Kenneth Bentum Otabil	Lecturer
3	Mr. Bismark Ofosu-Bamfo	Lecturer
4	Dr. Francis Balungnaa Dhari Veriegh	Lecturer
5	Ms. Adisa Ayeley Musah	Assistant Lecturer
6	Mr. Daniel Yawson	Senior Laboratory Technician
7	Mr. Abdul Sakibu Raji	Senior Laboratory Technician
8	Mr. Rexford Kyei	Senior Laboratory Technician

Students Statistics

The student statistics are presented below;

SN	Level	No of Students
1	Level 100	93
2	Level 200	81
3	Level 300	93
4	Level 400	115
TOTAL	382	

(vi) Research Collaborations (Local and International)

a. Local collaborations

1. Ghana Health Service
2. Ghana Neglected Tropical Disease Programme
3. Ghana Nuts Company
4. Accra Compost and Recycling Plant
5. Kumasi Compost and Recycling Plant
6. Department of Parks and Gardens, Sunyani
7. Forestry Commission, Ghana
8. Kwame Nkrumah University of Science and Technology

b. International Collaborations

1. University of Oxford, UK
2. University of Amsterdam, the Netherlands
3. University of Antwerp, Belgium
4. Imperial College London, UK
5. University of Greenwich, UK
6. KU Leuven, Belgium
7. University of California San Diego, USA

Workshops/Conferences/Public Lectures

a. Conferences

1. Oral Presentation on Phenology of woody climbing plants in Ghana at ATBC Conference 2022 organized in Cartagena, Columbia. 10-14 July 2022.
2. 15th International Congress for Parasitology (ICOPA 2022), Themed 'Living with Parasites', at the Bella Center in Copenhagen, Denmark, 21st -26th August 2022.
3. Conference of the Coalition for Operational Research in Neglected Tropical Diseases (COR-NTD) Conference 2021 themed 'Spread Truth, Not Disease'. 8th - 10th November 2021.
4. Conference attended: Tenth European and Developing Countries Clinical Trials Partnership (EDCTP) Forum 2021 themed 'Equity in Research for Health'. 17th - 21st October 2021.
5. Conference attended: Neglected Tropical Diseases NGO Network Conference 2021 themed 'Enabling a Paradigm Shift to a country-led response to deliver the NTD Road Map'. 7th – 9th September 2021.
6. Conference attended: The European Laboratory Research & Innovation Group, CRISPR in Drug Discovery virtual conference 2021, CRISPR in Drug Discovery. 23rd May 2021.
7. Oral presentation on "Optimizing the Esperanza Window Trap as an effective alternative for trapping blackfly vectors for xenomonitoring of onchocerciasis in an area of low vector density," Spring Meeting of the Netherlands Society for Parasitology. 26th May 2021.
8. Oral Presentation on Phenology of climbing plants in Ghana at the African Biometeorology Colloquium. 8th June 2022.
9. Oral Presentation on Coordinated Phenology Monitoring in Africa at the Phenomenal Time Series Online Seminar: Perceiving ecological temporalities organized by the College of Art, University of Edinburgh. 3rd February 2022.

b. Workshops

1. Workshop on Innovative Teaching and Assessment Practices in Higher Education Training, University of Energy and Natural Resources, Ghana, 10th to 12th January 2022
2. Workshop on Enhancing your scientific writing skill for academic excellence, University of Energy and Natural Resources, Ghana, 28th March 2021.

Grant and Awards

- Solidarity Scholarship Award (2000.00 CHF) to participate in the Transdisciplinary Nature Conservation short course at the University of Lausanne, Switzerland from 12-16 September 2022. Funding amount CHF 2000.00
- A grant from International Foundation for Science, \$14511
- A grant from the International Federation for Science, 2022-2024 [\$15,000]
- A grant from African Research Network for Neglected Tropical Diseases (USAID),

2020-2022 [\$30,000]

- Africa Oxford Initiative, 2022 [£5000]
- Coimbra Group Scholarship, 2022[€3200]
- AREF MRC Towards Leadership Programme, 2022
- Danish Society of Parasitology/Danish Society for Tropical Medicine and International Health, 2022

Funding of Research Activities

1. IFS Foundation Grant
2. Royal Society of Tropical Medicine and Hygiene
3. African Research Network for Neglected Tropical Diseases (USAID)
4. Hough Grant

Publications (for the year under review)

Prof. Samuel Fosu Gyasi

- Ama Mbeaba Quarshie, Samuel Fosu Gyasi, Francis Atta Kuranchie, Esi Awuah & Eugene Darteh (2021). Conceptual Behaviour Underpinning the Occurrence of Non-faecal Matter in Faecal Sludge in Some Urban Communities, Ghana. *Hindawi, Journal of Environmental and Public Health*, Volume 2021, Article ID 2672491, 10 pages, <https://doi.org/10.1155/2021/2672491>.
- Donkoh, E.T., Berkoh, D., Boadu, I.W.O., Raji, A.S., Asamoah, S., Gyasi, S.F., Otabil, K.B., et al., (2022). Evidence of reduced academic performance among school children with helminth infection independent of nutritional status. *International Health*.
- Dorice Akosua Berkoh, W.K.B.A. Owiredu, Samuel Fosu Gyasi, E.T. Donkoh and R.A. Ngala (2021), Factors Associated with Patient Compliance Behaviour in a Peri-Urban Diabetic Clinic Using A Mixed-Methods Approach, Book of Abstracts, Ghana Science Association, 31st Biennial Conference, pp 46-47. *Porto Biomedical Journal PBJ-D-19-00061*).

Dr. Kenneth Bentum Otabil

- D. Antwi-Berko, A.Z. Bakuri, Otabil, K.B., and Kwarteng, A. (2022). Determinants and variations of COVID-19 vaccine uptake and Responses among Minority Ethnic Groups in Amsterdam, The Netherlands, *Frontiers in Public Health*.
- Donkoh, E.T., Berkoh, D., Boadu, I.W.O., Raji, A.S., Asamoah, S., Gyasi, S.F., Otabil, K.B., et al., (2022). Evidence of reduced academic performance among school children with helminth infection independent of nutritional status. *International Health*.

Mr. Bismark Ofosu-Bamfo

- Ofosu-Bamfo, B., Addo-Fordjour, P. and Belford, E. J. D. (2022). Edge disturbance shapes liana diversity and abundance but not liana-tree interaction network patterns in moist semi-deciduous forests. *Ecology and Evolution* DOI: 10.1002/ece3.8585
- Addo-Fordjour, P., Marfo, I., Ofosu-Bamfo, B. (2021). Fragmentation drives liana community structure but not the patterns of liana-tree interaction network in two forest ecosystems in Ghana. *Ecological Research* <https://doi.org/10.1111/1440-1703.12258>

Dr. Francis Balungnaa Dhari Veriegh

- Hall, Martin; Martín-Vega, Daniel; Clark, Brett; Ghosh, Debashis; Rogers, Matthew; Pigoli, Davide; Veriegh, Francis; Tetteh-Kumah, Anthony; Osei-Atweneboana, Mike; & Cheke, Robert. Micro-CT imaging of *Onchocerca* infection of *Simulium damnosum* s.l. blackflies and comparison of the peritrophic membrane thickness of forest and savannah flies". *Medical and Veterinary Entomology* (2021): doi: 10.1111/mve.12509.
- Laura Willen, Maria-Gloria Basañez, Vit Dvorak, Francis B. D. Veriegh, Frank T. Aboagye, Bright Idun, Maha Elhadi Osman, Mike Y. Osei-Atweneboana, Orin Courtenay, & Petr Volf. (2021). Human immune response against salivary antigens of *Simulium damnosum* s.l.: A new epidemiological marker for exposure to blackfly bites in onchocerciasis endemic areas. *PLoS Negl Trop Dis* 15(6): e0009512. <https://doi.org/10.1371/journal.pntd.0009512>.
- Millicent Captain-Esoah, James Owusu-Kwarteng, Elmer Nayra Ametefe, Fortune Akabanda, Abdul Malik Hussein & Francis Balungnaa Dhari Veriegh. (2021). Larvicidal activity of *Bacillus thuringiensis*, *b. subtilis* and *B. cereus* against *Aedes*, *Anopheles* and *Culex* mosquito larvae. *Journal of Ghana Science Association*, 20(2).

Community Engagements

- i. World Health Organization, Geneva, Switzerland
- ii. Ghana Science Association, Ghana
- iii. Ghana Entomological Society
- iv. Netherlands Society for Parasitology, the Netherlands
- v. British Society for Parasitology, UK
- vi. Royal Society of Tropical Medicine and Hygiene, UK
- vii. American Society for Microbiology, USA
- viii. International Society for Infectious Diseases, USA
- ix. African Society for Laboratory Medicine, Ethiopia
- x. African Research Network for Neglected Tropical Diseases, Ghana
- xi. Reviewed articles for PLOS ONE
- xii. Reviewed articles for PLOS Neglected Tropical Diseases,
- xiii. Reviewed articles for BMC Infectious Diseases
- xiv. Reviewed articles for PLOS ONE
- xv. Reviewed articles for eNeurological Sci (Elsevier)

Staffing

(Table 1): Profile of staff for Chemical Sciences Department.

S/N	Name of staff	Rank
1	Prof Emmanuel Marfo-Owusu	Professor
2	Dr. Ismaila Emahi	Senior Lecturer
3	Dr. David Adu-Poku	Senior Lecturer
4	Dr. Selina Ama Saah	Lecturer
5	Mr. Benjamin Darko Asamoah	Lecturer
6	Mr. Patrick Opare Sakyi	Lecturer
7	Mr. Alfred K. Bienibuor	Lecturer
8	Dr. Issah Yahaya	Lecturer
9	Dr. Pamela Amegbletor	Lecturer
10	Dr. Bernice Yram Danu	Lecturer
11	Mr. Charles K. Bandoh	Assistant Lecturer
12	Mr. Paul Ofori-Amanfo	Assistant Lecturer
13	Mr. Bismark Oppong Addo	Senior Laboratory Technician
14	Ms. Nana Yaa Acheampomaa Asante	Senior Laboratory Technician
15	Mr. Augustine Boakye	Senior Laboratory Technician
16	Mr. Edward Annor	Laboratory Technician
17	Ms. Fatima Dadzie	Senior Administrative Assistant

2. Students Statistics (Table 2)

Level of Students	Total Number of Students
Level 100	21
Level 200	58
Level 300	53
Level 400	29
Total	161

Publications (for the year under review)

Prof. Emmanuel Marfo- Owusu

- Crystal Structure of Tetrapentylammonium Chloride Complex with Rac-1, 1'Bi-2-naphthol: The Effects of Solvent abd Counter Anion with Biradial Conformation of the Surfactant Molecule. E. Marfo-Owusu, A.L Thompson, Japan Soc. Anal. Chem. X-ray Struc. Anal. Online, 2021, 37(8), 39.
<https://www.jstage.jst.go.jp/article/xraystruct/37/0/37 39/ pdf>

- Crystal Structure of Tetrabutylammonium Chloride Complex with Rac-1,1'-Bi-2-naphthol: The Inclusion of Surfactant Molecules by Hydrogen Bonded Binaphthol Molecules. E. Marfo-Owusu, A.L Thompson, Japan Soc. Anal. Chem. X-ray Struct. Anal. Online, 2021, 37(6), 27.
https://www.jstage.jst.go.jp/article/xraystruct/37/0/37_27/pdf
- The Crystals Structure Inclusion Complex of a Benzyltrimethylammonium Bromide with (R)-(+)-1,1'-Binaphthalene-2,2'-diol. E. Marfo-Owusu, A.L. Thompson, Japan Soc. Anal. Chem. X-ray Struct., Anal. Online, 2021, 37(4), 19. https://www.jstage.jst.go.jp/article/xraystruct/37/0/37_19/pdf
- The Crystals Structure of a Benzyltriethylammonium Bromide Complex with Rac-1,1'-Binaphthalene-2,2'-diol: The Inclusion of an Arylammonium Salt by an Assembly of Binaphthol. E. Marfo-Owusu, A.L. Thompson, Japan Soc. Anal. Chem. X-ray Struct. Anal. Online, 2021, 37(2), 7.
https://www.jstage.jst.go.jp/article/xraystruct/37/0/37_7/pdf
- Crystal Structure of a Benzyltrimethylammonium Chloride Complex with Rac-1,1'-Bi-2-naphthol: The Generation of Weak Interactions by the Influence of a Benzyl Group. E. Marfo-Owusu, A.L. Thompson, Japan Soc. Anal. Chem. X-ray Struct. Anal. Online, 2021, 37(1), 1.
https://www.jstage.jst.go.jp/article/xraystruct/37/0/37_1/pdf

Dr. David Adu-Poku

- Saah, S. A., and Adu-Poku, D. (2021). Phytochemical, Proximate, and Vitamin C Content in *Morinda citrifolia* (Noni). *Journal of Tropical Pharmacy and Chemistry*, 5(3).
- Selina A. Saah, David Adu-Poku, Nathaniel O. Boadi, Heavy metal contamination and water quality of selected fish ponds at Sunyani, Ghana: A comparison with WHO standards, *Chemistry International*, 2021, 7(3), 181-187
- David Azanu, David Adu-Poku, Selina A. Saah, William O. Appaw, Prevalence of Pharmaceuticals in Surface Water Samples in Ghana, *Journal of Chemistry*, 2021, 2021, doi.org/10.1155/2021/7829477

Dr. Selina Ama Saah

- Patience A. Kotei, Nathaniel O. Boadi, Selina A. Saah, and Michael Baah Mensah, Synthesis of Nickel Sulfide Thin Films and Nanocrystals from the Nickel Ethyl Xanthate Complex, *Advances in Materials Science and Engineering*, 2022, 2022, doi.org/10.1155/2022/6587934.
- Nathaniel O. Boadi, Mercy Badu, Nii K. Kortei, Selina A. Saah, Benjamin Annor, Michael B. Mensah, Harry Okyere, Alphonse Fiebor, Nutritional composition and antioxidant properties of three varieties of carrot (*Daucus carota*), *Scientific African*, 12, 2021, doi.org/10.1016/j.sciaf.2021.e00801.
- Selina A. Saah, David Adu-Poku, Phytochemical, Proximate, and Vitamin C Content

in *Morinda citrifolia* (Noni), *Journal of Tropical Pharmacy and Chemistry*, 2021, 5(3), doi.org/10.25026/jtpc.v5i3.274.

- Nathaniel O. Boadi, Mawuli Degbevi, Selina A. Saah, Mercy Badu, Lawrence S. Borquaye, Nii K. Kortei, Antimicrobial properties of metal piperidine dithiocarbamate complexes against *Staphylococcus aureus* and *Candida albicans*, *Scientific Africa*, 2021,12, doi.org/10.1016/j.sciaf.2021.e00846
- Selina A. Saah, David Adu-Poku, Nathaniel O. Boadi, Heavy metal contamination and water quality of selected fish ponds at Sunyani, Ghana: A comparison with WHO standards, *Chemistry International*, 2021, 7(3), 181-187.
- David Azanu, David Adu-Poku, Selina A. Saah, William O. Appaw, Prevalence of Pharmaceuticals in Surface Water Samples in Ghana, *Journal of Chemistry*, 2021, 2021, doi.org/10.1155/2021/7829477

Dr. Ismaila Emahi

- Benjamin D. Asamoah, Thomas K. Fosu, Augustine Boakye, Patrick O. Sakyi, Philip Aidoo, Ismaila Emahi (2021). Investigating the Use of Various Parts of *Moringa oleifera* for Removal of mercury and arsenic from Contaminated Water. *JENR*, 7 (2), 1-7. 10.26796/jenrm.v7i2.180.

Mr. Benjamin Asamoah

- Benjamin D. Asamoah, Thomas K. Fosu, Augustine Boakye, Patrick O. Sakyi, Philip Aidoo, Ismaila Emahi (2021). Investigating the Use of Various Parts of *Moringa oleifera* for Removal of mercury and arsenic from Contaminated Water. *JENR*, 7 (2), 1-7. 10.26796/jenrm.v7i2.180.
- Benjamin Darko Asamoah, Austin Asare, Stephen Wonders Okpati, Philip Aidoo. (2021). Heavy Metal Levels and their Ecological Risks in Surface Soils at Sunyani Magazine in the Bono Region of Ghana. *Scientific African, Elsevier*, 13, 2021. <https://doi.org/10.1016/j.sciaf.2021.e00937>.

Mr. Patrick Opare Sakyi

- Sakyi, P.O., Broni E., Amewu, R.K., Miller W. A., Wilson M. D., Kwofie S. K. Homology Modeling, de Novo Design of Ligands, and Molecular Docking Identify Potential Inhibitors of *Leishmania donovani* 24-Sterol Methyltransferase. *Front. Cell. Infect. Microbiol.* 12, 859981/1- 859981/19 (2022). <https://doi.org/10.3389/fcimb.2022.859981>
- Amewu, R.K., Sakyi, P.O., Osei-Safo, D., Addae-Mensah, I., Synthetic and Naturally Occurring Heterocyclic Anticancer Compounds with Multiple Biological Targets. *Molecules*, 26(3), 7134 (2021). <https://doi.org/10.3390/molecules26237134>
- Sakyi, P.O., Amewu, R.K., Devine, R.N.O.A., Bienibuor A. K., Miller W. A., Kwofie S. K. Unravelling the myth surrounding sterol biosynthesis as plausible target for drug design against leishmaniasis. *J Parasit Dis* 45, 1152–1171 (2021). <https://doi.org/10.1007/s12639-021-01152-1>

- Sakyi, P.O., Amewu, R.K., Devine, R.N.O.A., Ismaiala E., Miller W. A., Kwofie S. K. The Search for Putative Hits in Combating Leishmaniasis: The Contributions of Natural Products Over the Last Decade. *Nat. Prod. Bioprospect.* 11, 489–544 (2021). <https://doi.org/10.1007/s13659-021-00311-2>

Dr. Bernice Yram Danu

- Danu, B. Y., Agorku, E. S., Ampong, F. K., Awudza, J. A., Torve, V., Amponsah, C., Quaye, R.N.M., Monday, O.A., Osifo, P.O. and Ray, S. S. (2022). Fes Encapsulated Chitosan-G-Polyacrylamide Nanocomposite for The Removal of Model Anionic Eosin Y From Water: Isotherm, Kinetics and Equilibrium Studies. *Int J Petro Chem Natur Gas*, 2 (1): 30, 38, 1-5.
- Adusei, J. K., Agorku, E. S., Voegborlo, R. B., Ampong, F. K., Danu, B. Y., and Amarh, F. A. (2022). Removal of Methyl Red in Aqueous Systems Using Synthesized NaAlg-g-CHIT/nZVI Adsorbent. *Scientific African*, e01273.
- Danu, B. Y., Agorku, E. S., Ampong, F. K. et al. (2021). Chitosan-Graft-Sodium Alginate Encapsulated Vanadium Pentoxide (V₂O₅) Nanocomposite for Adsorption and Antimicrobial Studies. *J Adv Mater Sci Eng*, 1(1), 1-10.
- Danu, B. Y., Agorku, E. S., Ampong, F. K., Awudza, J. A. M., Torve, V., Danquah, I. M. K., Ama, O.M, Osifo, P.O and Ray, S. S. (2021). Iron Sulfide Functionalized Polyaniline Nanocomposite for the Removal of Eosin Y from Water: Equilibrium and Kinetic Studies. *Polymer Science, Series B*, 63(3), 304-313.

Mr. Charles Bandoh

- Bandoh, C. K., Agorku, E. S., & Ampong, F. K. (2022). Graphitic Carbon Nitride Based Composites as Advanced Photocatalysts , from Synthesis to Application : A Review. *Research & Reviews: Journal of Material Sciences*, 10(4), 1–17. <https://doi.org/10.4172/2321-6212.10.4.001>.

Mr. Alfred. Kpebbsaan. Bienibuor

- Sakyi, P. O., Amewu, R. K., Devine, R. N., Bienibuor, A. K., Miller, W. A., and Kwofie, S. K. (2021). Unravelling the myth surrounding sterol biosynthesis as plausible target for drug design against leishmaniasis. *Journal of Parasitic Diseases*, 1-20.

(c) DEPARTMENT OF COMPUTER SCIENCE AND INFORMATICS

(i) Introduction

The mission of the Department is to educate undergraduate and graduate majors as well as the broader community in the fundamental concepts of the computing discipline, to create and disseminate computing knowledge and technology, and to use our expertise in computing to help society solve problems.

The aim of the Department is to fully integrate both the theoretical and practical technologies of computer science to meet the changing demands of the information, communication and technology industry particularly in Ghana and the West Africa sub-region.

These programmes were designed in response to a recognized need from the information, communication and technology industry for university graduates who have a detailed knowledge and fundamental understanding of various computers, their production, harnessing, conversion, and environmental concerns associated with the use of IT.

(ii) Academic Programmes

- Undergraduate Programmes:
 - a. BSc Information Technology
 - b. BSc Computer Science
 - c. Diploma Information Technology
 - d. Diploma in Computer Science

- Postgraduate Programmes
 - a. PhD in Computer Science
 - b. MPhil Computer Science
 - c. MSc. Computer Science

(iii) Administration of the Department

The following are the administrative staff in the Department of Computer Science and Informatics:

- | | | |
|------------------------|---|---------------------------------|
| 1. Dr. Peter Appiahene | - | Head of Department |
| 2. Mr. Victor Ferkah | - | Senior Administrative Assistant |

(iv) Staff of the Department

Senior Members

S/N	NAME	DESIGNATION
1.	Dr. Peter Appiahene	Senior Lecturer
2.	Prof. Adebayo Felix Adekoya	Associate Professor
3.	Dr. Benjamin Asubam Weyori	Senior Lecturer
4.	Dr. Obed Appiah *	Senior Lecturer
5.	Dr. Patrick Kwabena Mensah	Senior Lecturer
6.	Mr. Christopher Bombie Ninfaakang	Senior Lecturer
7.	Dr. Owusu Nyarko-Boateng	Lecturer
8.	Dr. Isaac Kofi Nti **	Lecturer

9. Mr. Augustine Takyi	Lecturer
10. Mr. Peter Nimbe	Lecturer
11. Mr. Anokye Achempong Amponsah	Lecturer
12. Mr. Kwame Baffour Agyemang***	Lecturer
13. Mr. Ebenezer Quayson	Lecturer
14. Ms Faiza Umar Bawah	Lecturer
15. Mr. Nicodemus Songose Awarayi	Lecturer
16. Ms. Vivian Akoto-Adjepong	Lecturer
17. Ms. Mighty Abra Ayidzoe	Assistant Lecturer
18. Mr. Michael Opoku	Assistant Lecturer
19. Dr. Kwabena Adu	Assistant Lecturer

***Sabbatical Leave, ** Leave of Absence, *** Study Leave**

Senior Staff

Senior Research Assistants/ Technicians/Administrator:

1. Mr. Bernard Andoh	Senior Research Assistant
2. Mr. Emmanuel Adjei Domfeh	Senior Research Assistant
3. Mr. Jacob Mensah	Senior Research Assistant
4. Mr. Stephen Afrifa	Senior Research Assistant
5. Barnabas Narteh Apaflo	Senior Technician
6. Mr. Victor Ferkah	Senior Administrative Assistant

STUDENT STATISTICS/POPULATION IN THE DEPARTMENT

	2021-2022 (YEAR 1)			2020- 2021(YEAR 2)			2019- 2020(YE AR 3)			TOTAL	2 0 1 8 - 2 0 1 9 (Y E A R 4)		TOTAL	
	M A L E	F E M A L E	T O T A L	M A L E	F E M A L E	T O T A L	M A L E	F E M A L E	T O T A L		M A L E	F E M A L E		
SCHOOL OF SCIENCES														
<i>Computer Science and Informatics</i>														
BSC COMPUTER SCIENCE	80	6	86	15	20	17	13	9	36	175	58	7	65	
BSC INFORMATION TECHNOLOGY	19	53	24	19	4	34	22	21	8	37	254	94	12	106
DIPLOMA COMPUTER SCIENCE	22	1	23	43	5	48	46	10		56	34	8	42	

DIPLOMA INFORMATION TECHNOLOGY	60	9	69	74	21	95	12 3	20	143	66	13	79
<i>Department Total</i>	35 2	69	42 1	46 6	80	54 6	52 5	103	628	252	40	292
WEEKEND												
BSC COMPUTER SCIENCE	4	1	5	13	1	14	0	0	0	0	0	0
BSC INFORMATION TECHNOLOGY	6	0	6	25	2	27	7	2	9	3	0	3
DIPLOMA COMPUTER SCIENCE	0	0	0	0	0	0	0	0	0	0	0	0
DIPLOMA INFORMATION TECHNOLOGY	0	0	0	0	0	0	0	0	0	0	0	0
<i>Department Total</i>	10	1	11	38	3	41	7	2	9	3	0	3
POST GRADUATE												
PHD. COMPUTER SCIENCE	2	0	2	5	0	5	1	2	3			
MPHIL. COMPUTER SCIENCE	22	3	25	11	0	11	16	0	16			

MSC. SCIENCE	COMPUTER												
		15	1	16	6	1	7	8	0	8			
Department Total		39	4	43	22	1	23	25	2	27			

(v) Activities over the Past Year

The Department initiated the establishment of an Ultra-modern ICT Laboratory which will be housing about 200 computers to assist in teaching and learning. The project is fully funded by students in the Department. The immediate past CSITSA President, Mr. Albert Tsiquane Jnr., led discussions on the project from the student front together with the Head of Department, Dr. Peter Appiahene towards the realization of this dream.

With support from the Departmental Students Association (CSITSA), the Department also procured a drone device which is used to support teaching and learning in the Department. The Department also successfully organized its maiden HoD’s Excellence Awards and Dinner Night to award hardworking members of staff and students.

The Department in liaison with the CSITSA Women’s Commissioner successfully organized the Women in Technology Forum.

The Head of Department, Dr. Peter Appiahene initiated a policy known as the One Staff-One Computer Policy in an effort to resource lecturers in the Department with ICT Equipment. As a result, the Department has received two (2) donated Computers, which have all been added to the Department’s pool.

Research Collaborations (Local and International)

The department has established a research collaboration with the College of Information Science and Technology at University Of Nebraska Omaha, USA. There is also another collaboration with WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use). Locally, our department has research collaboration with the department of Computer Science at KNUST and the department of Computer Science also at University of Ghana Legon.

Workshops/Conferences/Public Lectures

1. 2021 Education and Training in Optics & Photonics Conference 8th-10th Sept. 2021
2. 4th Ghana Blockchain Conference, October 6 – 7, 2021
3. Annual Interdisciplinary Research (IIR) Conference – University for Development Studies, Tamale – PRESENTER, September 1 – 2, 2021
4. Smart Systems Symposium: The Use of Smart Technologies to Control Illegal Mining and Illegal Logging in Ghana”, UENR, 10th of September 2021
5. IoT Meetup; Reimaging Education and the Future, IoT Network Hub, 24th April 2021
6. Mobile Money Fraud and Cyber Crime; The Role of the Subscriber, UENR, 7th April 2021

Proposals

The department has written a proposal for collaboration with the Ghana Digital Centers to establish a Center for Digital Transformation and Cyber Security.

Grant and Awards

1. A research group in the Department led by Dr. Patrick Kwabena Mensah won a grant of \$49,000.00 from the African Technology Policy Studies Network (ATPS) on behalf of the Artificial Intelligence for Agriculture and Food Systems Innovation Research Network (AI4AFS-IRN) to support their study titled “Detection of Crop Pests and Diseases on Web and Mobile Devices using Deep Learning”
2. £30,000 Grant Awarded to a Team of Researchers at the University of Energy and Natural Resources, Sunyani, for the Partnerships for enhanced and blended learning (PEBL) - West Africa project, under the Association of Commonwealth Universities (ACU), funded by the Australian Department of Foreign Affairs and Trade.
3. Artificial Intelligence for Agriculture and Food Systems Innovation Research Network in Africa Project awarded a grant worth \$49,000 to AI Researchers at the University of Energy and Natural Resources, Sunyani, to research into Detection of Crop Pests and Diseases on the Web and Mobile Devices using Deep Learning. Project number: AFS-1233809296.
4. A lecturer in the department lead a team to win grant of \$2490 from the IEEE Photonics Society was awarded to the University of Energy and Natural Resources, Sunyani, to organize a STEM for Optical Society of UENR members in 2022.

(vi) Publications (For the Year under Review)

List of Publications

- Aazagreyir, P., Appiahene, P., Appiah, O., & Boateng, S. (2022a). An Integrated Fuzzy Multi-Criteria Decision- Making Methods for Service Selection: A Systematic Literature Review and Meta- Analysis. *Journal of Theoretical and Applied Information Technology*, 100(15), 46714697.
- Adu, K., Yu, Y., Cai, J., P. K. Mensah, & Owusu-Agyemang, K. (2021). MLAF-CapsNet: Multi-lane atrous feature fusion capsule network with contrast limited adaptive histogram equalization for brain tumor classification from MRI images. *Journal of Intelligent & Fuzzy Systems*, 118.

- Afrifa, S., Zhang, T., Appiahene, P., & Varadarajan, V. (2022). Mathematical and Machine Learning Models for Groundwater Level Changes: A Systematic Review and Bibliographic Analysis. *Future Internet*, 14(9), 259. <https://doi.org/10.3390/fi14090259>.
- Afriyie, Y., A., Weyori, B. A., A. Opoku, A. (2022). Classification of Blood Cells Using Optimized Capsule Networks, *Neural Processing Letters*, <https://doi.org/10.1007/s11063-022-10833-6>.
- Amponsah, A. A., Adekoya, A. F., & Weyori, B. A. (2022). A Novel Fraud Detection and Prevention Method for Healthcare Claim Processing Using Machine Learning and Blockchain Technology. *Decision Analytics Journal*, 2022, 100122, ISSN 2772-6622, <https://doi.org/10.1016/j.dajour.2022.100122>.
- Amponsah, A. A., Adekoya, A. F., & Weyori, B. A. (2022). Improving the Financial Security of National Health Insurance using Cloud-Based Blockchain Technology Application. *International Journal of Information Management Data Insights*, 2(1), 100081.
- Amponsah, A. A., Adekoya, F. A., & Weyori, B. A. (2021), Blockchain in Insurance: Exploratory Analysis of Prospects and Threats. *International Journal of Advanced Computer Science and Applications*, Vol 12, No. 1, pg 445 – 466.
- Amponsah, A. A., Adekoya, F. A., & Weyori, B. A. (2022), Modelling Data Flow in Blockchain-Based Smart Claim Processing System Using Time-Invariant Petri Net with Fixed Input Data, *International Journal of Computer Science and Network Security*, VOL.22, No.2, February 2022, pg 413 – 423.
- Appiah, O., Martey, E. M., Ninfaakanga, C. B., Awarayi, N. S., Opoku, E. (2021, November). Performance Evaluation of Corrupted QR Code Scanners. In *2021 IEEE 8th International Conference on Adaptive Science and Technology (ICAST)* (pp. 1-6). IEEE.
- Appiahene, P., Missah, Y. M., Gyening, R.-M. O. M., Adu-Gyamfi, D., & Opoku, M. (2022). Predicting the Operational Efficiency of Banks Using Their Information Technology: Decision Tree Algorithm Approach. *The Information Technologist: An International Journal of Information and Communication Technology (ICT)*, 19(1).
- Appiahene, Peter; Asare, Justice Williams; Donkoh, Emmanuel (2022), Application of Machine Learning in Detecting Iron Deficiency Anemia Using Conjunctiva Image Dataset from Ghana, *Mendeley Data*, V1, DOI: 10.17632/nt7r8hv2pz.1.
- Asare, Justice Williams; Appiahene, Peter; Donkoh, Emmanuel (2022), Detection of Anemia using Colour of the Fingernails Image Datasets from Ghana, *Mendeley Data*, V1, DOI: 10.17632/2xx4j3kkg2.1

- Asare, Justice Williams; Appiahene, Peter; Donkoh, Emmanuel (2022), Anemia Detection using Palpable Palm Image Datasets from Ghana, Mendeley Data, V1, DOI: 10.17632/ccr8cm22vz.1
- Awarayi, N. S., Appiah, O., Weyori, B. A., & Ninfaakang, C. B. (2021). A Digital Image Watermarking Using Dwt and L-shaped Tromino Fractal Encryption. *International Journal of Image, Graphics and Signal Processing*, 13(3), 33-43.
- Ayidzoe, M. A., Yongbin, Y., Mensah, P. K., Jingye, C., Adu, K., & Nyima, T. (2021). Feature amplification capsule network for complex images. *Journal of Intelligent & Fuzzy Systems*. <https://doi.org/10.3233/JIFS-202080>
- Ayidzoe, M. A., Yu, Y., Mensah, P. K., Cai, J., Bawah, F. U., & Nyarko-Boateng, O. (2021). Patch-Based Capsule Network for Complex Images. 2021 IEEE 8th International Conference on Adaptive Science and Technology (ICAST-2021), 17. <https://doi.org/10.1109/icast52759.2021.9681959>
- Ayidzoe, M. A., Yu, Y., Mensah, P. K., Jingye, C., & Umar, F. B. (2022). SinoCaps: Recognition of colorectal polyps using sinogram capsule network. *Journal of Intelligent & Fuzzy Systems*, 10.3233/JI.
- Ayidzoe, M. A., Yu, Y., P. K. Mensah, Cai, J., Kwabena, A., & Yifan, T. (2021). Gabor Capsule Network with preprocessing blocks for the recognition of complex images, *Machine Vision and Applications*, 32 (4), 1-16.
- Azunre, P., Osei, S., Addo, S., Adu-Gyamfi, L. A., Moore, S., Adabankah, B., Amponsah A. A., & Hayfron-Acquah, J. B. (2021). Contextual Text Embeddings for Twi. EACL(2021), African NLP Workshop, arXiv preprint arXiv:2103.15963.
- Benjamin, A., Zhiguang, Q., Ayidzoe, M. A., & Ansuura, J. A. (2021). Decision tree pairwise metric learning against adversarial attacks. *Computers & Security*. <https://doi.org/https://doi.org/10.1016/j.cose.2021.102268>
- Isaac Kofi Nti, Adebayo Felix Adekoya, Benjamin Asubam Weyori (2021). A novel multi-source information-fusion predictive framework based on deep neural networks for accuracy enhancement in stock market prediction, *Journal of Big Data*, 8(1), DOI: 10.1186/s40537-020-00400-y".
- Isaac Kofi Nti, Owusu Nyarko-Boateng, Adebayo Felix Adekoya, Benjamin Asubam Weyori (2022). Applications of artificial intelligence in engineering and manufacturing: a systematic review, *Journal of Intelligent Manufacturing*, 33(1):1-21.
- Isaac Kofi Nti, Owusu Nyarko-Boateng, Adebayo Felix Adekoya, Benjamin Asubam Weyori (2021). An empirical assessment of different kernel functions on the performance of support vector machines, *Bulletin of Electrical Engineering and Informatics*, Vol. 10, No. 6, pp. 34033411. ISSN: 2302-9285, DOI: 10.11591/eei.

- Junior, M. A., Appiahene, P., & Appiah, O. (2022). Forex market forecasting with two layer stacked Long Short Term Memory neural network (LSTM) and correlation analysis. *Journal of Electrical Systems and Information Technology*, 1, 124. <https://doi.org/10.1186/s43067-022-00054-1>.
- Kutiname, S., Millham, R., Adekoya, A. F., Tettey, M., Weyori, B. A., & Appiahene, P. (2022). Application of Machine Learning Algorithms in Coronary Heart Disease: A Systematic Literature Review and Meta-Analysis. *International Journal of Advanced Computer Science and Applications*, 13(6), 153164.
- Kwabena Adu, Patrick Kwabena Mensah, Mighty Abra Ayidzoe, Obed Appiah, Ebenezer Quayson, Christopher Bombie Ninfaakang, Michael Opoku, GC3558: An open-source annotated dataset of Ghana currency images for classification modeling, *Data in Brief*, 2022, 108616, ISSN 2352-3409, <https://doi.org/10.1016/j.dib.2022.108616>.
- Martey, E. M., Lei, H., Li, X., Appiah, O., Awarayi, N. S. (2021). Evaluation of RGB Quantization Schemes on Histogram-Based Content Based Image Retrieval. In *International Conference on Artificial Intelligence and Security* (pp. 736-747). Springer, Cham.
- Mensah, P. K., Amponsah, A. A., Agyemang, K. B., Armah, G. K., Ayidzoe, M. A., Bawah, F. U., Adekoya, A. F., Weyori, B. A., Boateng, M. A. (2021), Multi-Lane LBP-Gabor Capsule Network with K-Means Routing for Medical Image Analysis, *International Journal of Advanced Computer Science and Applications*, Vol 12, No. 10, pg 282 – 294.
- Mensah, P. kwabena, & Ayidzoe, M. A. (2022). Overview of CapsNet Performance Evaluation Methods for Image Classification using a Dual Input Capsule Network as a Case Study. *International Journal of Computing and Digital Systems*. <https://doi.org/https://dx.doi.org/10.12785/ijcds/120104>.
- Mighty, A. A., Yu, Y., Mensah, P. K., Jingye, C., & Bawah, F. U. (2022). Visual Interpretability of Capsule Network for Medical Image analysis. *Turkish Journal of Electrical Engineering and Computer Sciences*, 32(3). <https://doi.org/10.3906/elk-2107-146>
- Network as a Case Study, *International Journal of Computing and Digital Systems* 11 (1), 189-203.
- Nimbe, P., Weyori, B. A., Adekoya, A. F., & Awarayi, N. S. (2022). Implementation of Framework for Quantum-Classical and Classical-Quantum Conversion. *International Journal of Theoretical Physics*, 61(2), 1-25

- Nimbe, P., Weyori, B. A., Adekoya, A.F. (2022). A Novel Classical and Quantum Cryptographic Scheme for Data Encryption, *International Journal of Theoretical Physics*, 61(3), 83.
- Nimbe, P., Weyori, B. A., Mensah, J., Amponsah, A. A., Adekoya, A. F., & Domfeh, E. A. (2022). Quantum Blockchain: A Systematic Review. *Advancements in Quantum Blockchain with Real-Time Applications*, 1-35.
- Nimbe, P., Yeng, P. K., Okyere, E., Weyori, B. A., Adekoya, A. F., Appiahene, P., Nyarko-boateng, O., Nti, I. K., & Domfeh, E. A. (2022). Innovative Approaches to Classical and Quantum Reflected Binary Code Generation using Pascal Triangle, Reversible N-Input C-Gate and Reversible N-Input Q-Gate. *Journal of Algebraic Statistics*, 13(3), 47084734.
- Nti, I. K., Nyarko-Boateng, O., Boateng, S., Bawah, F. U., Agbedanu, P. R., Awarayi, N. S., Akoto-Adjepong, V. (2021, December). Enhancing Flood Prediction using Ensemble and Deep Learning Techniques. In *2021 22nd International Arab Conference on Information Technology (ACIT)* (pp. 1-9). IEEE.
- Nyarko-Boateng O, Adekoya AF, Weyori BA (2021) Tracing the exact location of failures in underground optical networks using LSTM deep learning model. *Indian Journal of Science and Technology* 14(4): 297-309. <https://doi.org/10.17485/IJST/v14i4.2008>
- Nyarko-Boateng O, Adekoya AF, Weyori BA, Ening J, Nti IK. (2021) Policy Compliance Standards for Underground Fiber Cable Deployment and Post-Deployment Protection. *Indian Journal of Science and Technology*. 14(25): 2088-2094. <https://doi.org/10.17485/IJST/v14i25.518>
- P. K. Mensah, Weyori, B. A., & Ayidzoe, M. A. (2021). Evaluating shallow capsule networks on complex images. *International Journal of Information Technology*. <https://doi.org/10.1007/s41870-021-00694-y>
- Paul Aazagreyir, Appiahene, P., Appiah, O., & Boateng, S. (2022). An integrated fuzzy-Vikor-Dematel-Topsis technique for assessing QoS factors of SOA. *International Journal of Advanced and Applied Sciences*, 9(10), 149165. <https://doi.org/10.21833/ijaas.2022.10.018>.
- Peter Nimbe, Benjamin Asubam Weyori, Adebayo Felix Adekoya (2021). Rotation of bits: a classical and quantum perspective, *Journal of Electrical Systems and Information Technology* 8(4).
- Selasie Aformaley Brown, Benjamin Asubam Weyori, Adebayo Felix Adekoya, Patrick Kwaku Kudjo, Solomon Mensah (2022). Predicting Blocking Bugs with Machine Learning Techniques: A Systematic Review, (IJACSA) *International Journal of Advanced Computer Science and Applications*, Vol. 13, No. 6.

- M. A. Ayidzoe, Y. Yu, P. K. Mensah, J. Cai, F. U. Bawah and O. Nyarko-Boateng (2021). "Patch-Based Capsule Network for Complex Images," 2021 IEEE 8th International Conference on Adaptive Science and Technology (ICAST), 2021, pp. 1-7, DOI: 10.1109/ICAST52759.2021.9681959.
- Agbehadji, I.E., Abayomi, A., Millham, R.C., Nyarko-Boateng, O. (2023). Blockchain Technology Adoption for General Elections During COVID-19 Pandemic and Beyond. In: Buyya, R., Hernandez, S.M., Kovvur, R.M.R., Sarma, T.H. (eds) Computational Intelligence and Data Analytics. Lecture Notes on Data Engineering and Communications Technologies, vol 142. Springer, Singapore. https://doi.org/10.1007/978-981-19-3391-2_41

Community Engagements

1. ICT training for the 3rd Infantry Battalion officers in Sunyani March 2021
2. A member of the department was a Consultant and Mentor for CodeTrain, Ghana. January 2015-Date
3. Plans are far advanced for the signing of 10 MoUs with different companies including Sunyani Regional Hospital, Mpedigre, NCA, NITA, CY Technologies etc.
4. A Member of the department is part of the African Centre for Technology Studies - Artificial Intelligence for Development Network August 2021 to Date
5. A Member of the Department is part of Steering Committee Member, Association of Commonwealth Universities - Partnership for Enhanced and Blended Learning West Africa (ACU-PEBL WA) September 2021 to Date
6. Drone coverage for the Independence Day Parade on 6th March, 2022 at the Jubilee park in Sunyani.

Visits

The Department visited Notre Dame Girls Senior High School, Fiapre and donated about 200 ICT textbooks to support the teaching and learning of ICT in Senior High Schools in Ghana.

The Head of Department visited the Kofi Annan Peacekeeping Training Center in Accra, Code Train CEO (A technology building company) and ColdSIS CEOs to have discussions on possible areas of collaboration.

Future Plans of the Department

The Department would like to split into two separate departments (Computer Science & Informatics Department and Information Technology & Decision Sciences Department) and develop more programmes which will lead to the establishment of the School of Computing and Information Technology. The department plans to run MSc/MPhil and PhD in Information Technology. The School Board has approved GTEC clearance for these postgraduate programmes. The School Board has also approved and recommended some certificate programmes proposed by the Department to run. It is also the plan of the Department to lead research works in the University by encouraging all Lecturers in the Department to have at least 20 Scopus index journal papers. The Department intends to

work with other stakeholders in the Tech industry to establish a “Digital Transformation and Cyber Security Center” and become the Digital Transformation Hub of West Africa. Finally, the Department will set up at least five Research Labs within the proposed Centre to promote research.

(d) DEPARTMENT OF MATHEMATICS AND STATISTICS

(i) Introduction

The University of Energy and Natural Resources (UENR) was established by an Act of Parliament, 2011, (Act 830). As part of the University’s effort to seek to provide leadership in Science and be a centre of excellence in many critical areas, the Mathematics and Statistics Department was established in 2013. Currently, the Department runs three (3) BSc, two (2) Diploma programmes and one (1) Post Graduate programme.

(ii) Vision

The Department of Mathematics and Statistics seeks to produce highly skilled professionals in Mathematics, Statistics, Actuarial Science and related programmes and to empower the students to demonstrate, articulate and value the knowledge and skills acquired.

For the Department to realize its vision and mission it is being guided by the following strategic priorities:

- a. Introduce new mathematics related programmes
- b. Promote enabling environment for excellence in Teaching, Research and Consultancy
- c. Improve enrollment in both Undergraduate and Postgraduate levels

To achieve the above strategic priorities, the following objectives have been outlined:

- a. To design new programmes that conform to international best practices
- b. Provide mathematical software laboratory for quality teaching and research
- c. Expand undergraduate and postgraduate training

(iii) Academic Programmes

- i. Diploma Programmes:
 - a. Diploma Statistics
 - b. Diploma Insurance
- ii. Undergraduate Programmes:
 - a. BSc Mathematics
 - b. BSc Statistics
 - c. BSc Actuarial Science
- iii. Postgraduate Programmes
 - a. MPhil. Applied Mathematics
- (iv) Administration of the Department

The Department Administration is constituted by the following personnel:

- | | |
|---------------------------------------|----------------------------------|
| • Dr. Elvis Kobina Donkoh | Head of Department |
| • Mrs. Priscilla Ama Esaa Owusu-Ansah | Senior Administrative Assistant. |

(v) Staff and Students Statistics

- Students Statistics

The Department has graduated different batches of graduates over the period of 2017 and 2021. The current student population of the Department stands at 440 across the 5 undergraduate programmes and 44 in the postgraduate programme.

Current population of students in each programme.

Programme	Year Introduced	Current Population
BSc Mathematics	2013	92
BSc Statistics	2013	85
BSc Actuarial Science	2014	237
MPhil. Applied Mathematics	2016	44
Diploma Statistics	2017	16
Diploma Insurance	2018	10
TOTAL:		484

- Staff Statistics

The Department has twenty-five staff.
Number of staff and the academic ranks.

Table 2:

S/N	Name	Rank
1.	Dr. Sampson Takyi Appiah	Senior Lecturer
2.	Prof. Alex AKwasi Opoku	Associate professor
3.	Prof. Dominic Otoo	Associate professor
4.	Dr. Elvis Kobina Donkoh	Senior Lecturer
5.	Mr. Eric Okyere	Senior Lecturer
6.	Mr. Johnson De-Graft Ankamah	Lecturer
7.	Dr. Kwabena Afriyie Owusu	Lecturer
8.	Ms. Sylvia Ankamah	Lecturer
9.	Mr. Isaac Akoto	Lecturer
10.	Mr. Kwofie Charles	Lecturer
11.	Mr. Richard Kwame Ansah	Lecturer
12.	Mrs. Baaba Abassawah Danquah	Lecturer
13.	Dr. Abdul-Karim Iddrisu	Lecturer
14.	Mr. Yaw Osei	Lecturer
15.	Ms. Akuye-Shika Odametey	Lecturer

16.	Mr. Killian Asampana Asosega	Lecturer
17.	Mr. Daniel Gyamfi	Lecturer
18.	Mr. Francis Kwame Bukari	Lecturer
19.	Mr. Kassim Tawiah	Lecturer
20.	Mr. Williams Kumi	Lecturer
21.	Dr. Maurice Omane-Adjepong	Lecturer
22.	Mr. Bernard Atta Adjei	Assistant Lecturer
23.	Mr. Justice Amenyo Kessie	Assistant Lecturer
24.	Mr. Ridwan Egala Dimmua	Assistant Lecturer
25.	Mrs. Priscilla Ama Esaa Owusu-Ansah	Senior Administrative Assistant

(vi) Workshops/Conferences/Public Lectures

The following are some activities that took place within the academic year:

- b. The Department held a Radio Talk themed 'Mathematics Unites' to commemorate the International Day of Mathematics themed, "Mathematics Unites".
- c. An inter-programme quiz was organised by the Department as part of activities to commemorate the International Day of Mathematics.
- d. The Department in collaboration with GIZ organised a Career Guidance Programme for students of the Department.
- e. A Seminar was organised for staff of the Department and the University at large on the theme "Preparing an Effective Application to Secure a Fully-Funded AIMS Masters Scholarship".
- f. The Department in collaboration with GIZ organised an Insurance Public Lecture and Trade Fair."
- g. Hollard Insurance organized a Streetwise Mentoring Session for students and faculty members of the Department.

Grants/Awards/MoUs

Memoranda of Understanding were signed between Hollard Insurance Company Ltd., SIC Ltd. and Loyalty Insurance Company Ltd. to sponsor the best graduating students in the Department and to provide places for students to do their attachment and national service.

Proposals

- The Department has submitted a proposal for the split of the Department into Department of Mathematics and the Department of Statistics and Actuarial Science.
- Sponsorship proposals have been submitted to some companies to sponsor the best graduating students in the Department and to provide places for students to do their attachment. One of such companies is IZWE Savings and Loans Ltd.

(vii) Publications by Staff for 2021/22 Academic Year

Dr. Elvis Kobina Donkoh

- Otoo, D., Donkoh, E., & Kessie, J.A. (2021). Estimating the Basic Reproductive Number of COVID-19 Cases in Ghana. *European Journal of Pure and Applied Mathematics*, 14, 135-148.
- Dominic Otoo, Isaac Odoi Abeasi, Shaibu Osman, Elvis Kobina Donkoh (2021). Mathematical modeling and analysis of the dynamics of hepatitis B with optimal control, *Commun. Math. Biol. Neurosci.*, Article ID 43, ISSN 2052-2541.
- Otoo, D., Osman, S., Poku, S.A., & Donkoh, E.K. (2021). Dynamics of Tuberculosis (TB) with Drug Resistance to First-Line Treatment and Leaky Vaccination: A Deterministic Modelling Perspective. *Computational and Mathematical Methods in Medicine*, 2021.
- Otoo, D., Osman, S., Poku, S.A., & Donkoh, E.K. (2021). A deterministic model for the transmission dynamics of tuberculosis (TB) with optimal control. *Communications in Mathematical Biology and Neuroscience*.
- Dominic Otoo, Elvis Kobina Donkoh, Shaibu Osman, Isaac Buabeng, Eric Okyere, and Martin Anokye (2022). Modelling the Dynamics of Marital Interactions with Optimal Effort Plan. *Advances in Dynamical Systems and Applications (ADSA)*. ISSN 0973-5321.
- Dominic Otoo, Nathaniel Ahaja, Elvis Kobina Donkoh, Shaibu Osman, Winnie Mokeira Onsongo (2022). Proposed Alternative for Control of Prostate Cancer Using Food Supplements: A Deterministic Modelling Approach. *Advances in Dynamical Systems and Applications (ADSA)* ISSN 0973-5321, Volume 17, Number 1.

Mr. Eric Okyere

- Asamoah, J. K. K., Okyere, E., Yankson, E., Opoku, A. A., Adom-Konadu, A., Acheampong, E., & Arthur, Y. D. (2022). Non-fractional and fractional mathematical analysis and simulations for Q fever. *Chaos, Solitons & Fractals*, 156, 111821
- Okyere, E., Seidu, B., Nantomah, K., & Asamoah, J. K. K. (2022). Fractal-fractional SIRS epidemic model with temporary immunity using Atangana-Baleanu derivative. *Commun. Math. Biol. Neurosci.*, 2022, Article ID 72.
- Liaqat, M. I., Okyere, E. (2022). The Fractional Series Solutions for the Conformable Time-Fractional Swift-Hohenberg Equation through the Conformable Shehu Daftardar-Jafari Approach with Comparative Analysis", *Journal of Mathematics*, vol. 2022, Article ID 3295076, 20 pages, 2022. <https://doi.org/10.1155/2022/3295076>
- Acheampong, E., Okyere, E., Iddi, S., Bonney, J. H., Asamoah, J. K. K., Wattis, J. A., & Gomes, R. L. (2022). Mathematical modelling of earlier stages of COVID-19 transmission Ghana. *Results in Physics*, 34, 105193.
- Asosega, K. A., Iddrisu, W. A., Tawiah, K., Opoku, A. A., & Okyere, E. (2022). Comparing Bayesian and Maximum Likelihood Methods in Structural Equation Modelling of University Student Satisfaction: An Empirical Analysis. *Education Research International*, vol. 2022, Article ID 3665669, 12 pages, 2022. <https://doi.org/10.1155/2022/3665669>
- Asamoah, J.K.K., Okyere, E., Abidemi, A., Moore, S.E., Sun, G.Q., Jin, Z., Acheampong, E. & Gordon, J.F. (2022). Optimal control and comprehensive cost-

effectiveness analysis for COVID-19. *Results in Physics*, 33, 105177.

- Moore, S. E., & Okyere, E. (2022). Controlling the transmission dynamics of covid-19. *Commun. Math. Biol. Neurosci.*, 2022, Article ID 6.
- Akindeinde, S. O., Okyere, E., Adewumi, A. O., Lebelo, R. S., Fabelurin, O. O., & Moore, S. E. (2022). Caputo fractional-order SEIRP model for COVID-19 Pandemic. *Alexandria Engineering Journal*, 61(1), 829-845.
- Asamoah, J. K. K., Yankson, E., Okyere, E., Sun, G. Q., Jin, Z., & Jan, R. (2021). Optimal control and cost-effectiveness analysis for dengue fever model with asymptomatic and partial immune individuals. *Results in Physics*, 31, 104919.
- Rehman, A. U., Singh, R., Abdeljawad, T., Okyere, E., & Guran, L. (2021). Modeling, analysis and numerical solution to malaria fractional model with temporary immunity and relapse. *Advances in Difference Equations*, 2021(1).
- Ankamah, J. D., Okyere, E., Appiah, S. T., & Nana-Kyere, S. (2021). Nonlinear dynamics of COVID-19 SEIR infection model with optimal control analysis. *Commun. Math. Biol. Neurosci.*, 2021, Article-ID 13.
- Asamoah, J. K. K., Jin, Z., Sun, G. Q., Seidu, B., Yankson, E., Abidemi, A., Oduro, F.T., Moore, S.E. & Okyere, E. (2021). Sensitivity assessment and optimal economic evaluation of a new COVID-19 compartmental epidemic model with control interventions. *Chaos, Solitons & Fractals*, 146, 110885

Mr. Kassim Tawiah

- Tawiah, K., Iddrisu, W. A., and Asosega, K. A. (2021). Zero-inflated time series modeling of COVID-19 death in Ghana. *Journal of Environmental and Public health*, vol. 2021, Article ID 5543977, 9 pages, <https://doi.org/10.1155/2021/5543977>
- Dwamena, H.A, Tawiah, K., Serwaa, A.K.A. (2022). Effect of rainfall, temperature, and relative humidity on the yield of cassava, yam, and maize in the Ashanti Region of Ghana. *International Journal of Agronomy*, vol. 2022, Article ID 9077383, , <https://doi.org/10.1155/2022/9077383>
- Asosega, K.A., Iddrisu, W.A., Tawiah, K., Opoku, A.A., and Okyere, E. (2022). Comparing Bayesian and maximum likelihood methods in structural equation modeling of university students satisfaction: An empirical analysis, *Education Research International*, vol. 2022, article ID 3665669 , <https://doi.org/10.1155/2022/3665669>
- Daniyal, M., Tawiah, K., Muhammadullah, S., and Opoku-Ameyaw, K. (2022). Comparison of conventional modeling techniques with the neural network autoregressive model (NNAR): Application to COVID-19 data. *Journal of Healthcare Engineering*, vol. 2022, article ID 4802743 , <https://doi.org/10.1155/2022/4802743>

Mr. Killian Asosega Asampana

- Adu-Poku, K. A., Appiah, D., Asosega, K. A., Derkyi, N. S. A., Uba, F., Kumi, E. N. & Gyamfi, D. (2022). Characterization of fuel and mechanical properties of charred agricultural wastes: Experimental and statistical studies. *Energy Reports*, 8, 4319-4331.
- Asosega, K. A., Iddrisu, W. A., Tawiah, K., Opoku, A. A., & Okyere, E. (2022). Comparing Bayesian and Maximum Likelihood Methods in Structural Equation Modelling of University Student Satisfaction: An Empirical Analysis. *Education Research International*, 2022.

- Tawiah, K., Iddrisu, W. A., & Asampana Asosega, K. (2021). Zero-Inflated Time Series Modelling of COVID-19 Deaths in Ghana. *Journal of Environmental and Public Health*, 2021.
- Killian, A. A., Adebajji, A. O., & Abdul, I. W. (2021). Spatial analysis of the prevalence of obesity and overweight among women in Ghana. *BMJ Open*, 11(1). doi:10.1136/bmjopen-2020-041659.

Mr. Richard Kwame Ansah.

- Zigli David Delali, Obeng-Denteh William, Brew Lewis, and Ansah Richard Kwame. The homotopical proof of (s, x_0) as a fundamental group in a general interval. *Advances in Pure Mathematics*, 11(5):377-385, 2021. Doi: 10.4236/apm.2021.115024
- Edward Yalley, Gloria Armah, and Richard Kwame Ansah. Effect of the van hiele instructional model on students' achievement in geometry. *Education Research International*, vol 2021, 2021. DOI:10.1155/2021/6993668

Dr. Dominic Otoo

- Otoo, D., Donkoh, E. K., & Kessie, J. A. (2021). Estimating the basic reproductive number of COVID-19 Cases in Ghana. *European Journal of Pure and Applied Mathematics*, 14(1), 135-148.
- Iddrisu, Abdul-Karim and Amikiya, Emmanuel A and Otoo, Dominic. (2021). A predictive model for daily cumulative COVID-19 cases in Ghana, *F1000research*, Taylor and Francis, ODI: <https://doi.org/10.12688/f1000research.52403.1>.

Future Plans of the Department

1. The Department intends to put up a Mathematical Sciences Laboratory.
2. The Department looks forward to the upgrading of the existing units in the Department into Academic Departments.

(e) DEPARTMENT OF MEDICAL LABORATORY SCIENCE

(i) Introduction (Establishment)

At the start of the 2017/2018 academic year, the BSc Basic and Applied Biology programme (with options in Biological Science and Medical Laboratory Science) was accredited with a student population of 202. In 2018/2019, the 2 programmes were renamed BSc Biological and BSc Medical Laboratory Science with One (1) additional programme, BSc Nursing added to the 2.

The 21st Regular Academic Board Meeting held on Wednesday 27th October, 2021 considered and approved a proposal from the School of Sciences to split the erstwhile Department of Basic and Applied Biology into three separate Departments in order to improve academic outcomes, spur growth and build on existing gains. This led to the birth of the Department of Medical Laboratory Science in February 2022.

Vision

The vision of the Department is to become a centre of academic excellence generating knowledge and advancing excellence in diagnostics to make healthcare accessible to remote and rural communities endowed with natural resources.

Mission

To identify, understand, anticipate, and mitigate the long-term health and environmental consequences of natural resources exploitation by promoting community-centered training, equitable access to evidence-based medicine, and collaborative research endeavour.

(ii) Academic Programmes

Undergraduate Programmes:

- a. BSc Medical Laboratory Science (Regular and weekend top-up)

(iii) Administration of the Department

The Department Administration is constituted by the following personnel:

- Dr. George Owusu Head of Department
- Ms. Paschalina Baatuolkuu Senior Administrative Assistant.

3.0 Staff Statistics

S/N	Staff	Rank
1	Dr. George Owusu	Senior Lecturer
2	Dr. Emmanuel Timmy Donkoh	Lecturer
3	Ms. Dorice Akosua Serwaa Berkoh	Lecturer
4	Mr. David Ntiamoah Ofori	Lecturer
5	Mr. Bright Afriyie Owusu	Assistant Lecturer
6	Mr Akwasi Asamoah	Senior Technician
7	Ms. Banleman Banan	Senior Technician
8	Ms. Paschalina Baatuolkuu	Senior Administrative Assistant

3.1 Student Statistics

Year	100	200	300	400	Weekend Top-up	Total
2021/2022	76	146	102	115	94	533

(v) Research Collaborations (Local and International)

Ms. Dorice A. S. Berkoh

Initiator and Lead coordinator of MoU signing between UENR and the University of Arkansas at Pine Bluff (UAPB)

Workshops/Conferences/Public Lectures

Participant: World Non-Communicable Diseases (NCD) congress 2022 (online): “Prioritizing and Prevention of NCDs: Taking Data and Knowledge into action”, organized and hosted by the University of Michigan.

Participant: IDF KiDS webinar: “Every move counts: the importance of physical activity to manage and prevent diabetes”, organized by the International Diabetes Federation (IDF), September 1, 2022.

Participant: Workshop on “Innovative Teaching Practices in Higher Education” for Teaching Staff at UENR, organized by the Centre for Professional Development, UENR,

January 10-12 2022

(vi) Publications (for the year under review)

DR. GEORGE OWUSU

- George Owusu 1, Newman Osafo 2, Aaron O. Antwi 2, Babatunde M. Duduyemi 3, Charles Ansa 1, George Ainooson 2* Cordia Vignei Leaf Extract Inhibits Zymosan Induced Arthritis in Sprague Dawley Rats (In press).
- Meshack Antwi-Adjei 1, Ernest Obese 2, George Owusu 3* Cytokine inhibition of IL-6 and TNF- α accounts for the amelioration of cotton pellet-induced tissue granuloma formation in Sprague-Dawley rats by the aqueous ethanolic stem bark extract of Bombax costatum Pellegri & Viillet. (Bombacaceae) (In press).
- George Owusu 1, 2, George Kwaw Ainooson 2, Newman Osafo 2, Hydroethanolic Extract of Cordia Vignei Leaf Inhibits Carrageenan-Induced Foot Oedema in Chicks, Prostaglandin E 2 -Induced Paw Oedema in Mice and Bradykinin-induced paw oedema in mice (In press)

MS. DORICE A. S. BERKOH

- Berkoh, D. A., Owiredu, W. B. K. A., Gyasi, S. F., Donkoh, E. T., & Ngala, R. A. (2022). Factors associated with noncompliance to Diabetes medication in a rapidly urbanizing region in Ghana: A mixed-methods study. *Porto Biomedical Journal*, 7(3): e148. <http://dx.doi.org/10.1097/j.pbj.000000000000148>.
- Donkoh, E. T., Berkoh, D., Fosu-Gyasi, S., Boadu, W. I. O., Raji, A. S., Asamoah, S., ... & Screen and Treat Research Group. (2022). Evidence of reduced academic performance among schoolchildren with helminth infection. *International Health*, 0: 1-9. <https://doi.org/10.1093/inthealth/ihac044>.
- Ngala, R. A., Ameyaw, E. O., Berkoh, D., Barimah, J., & Koffie, S. (2022). Effects of thermal treatment on the characteristic quality of some Ghanaian vegetable oils (palm, coconut and groundnut) (Preprint). <https://doi.org/10.21203/rs.3.rs-537131/v2>

(f) DEPARTMENT OF NURSING

(i) Introduction (Establishment)

The Department of Nursing started as a unit under the Department of Basic and Applied Biology in the 2017/2018 academic year to provide manpower needs in the health sector. It gained its status as a department in February, 2022. The Department believes in training nurses who are knowledgeable with integrity and capable of making an impact in Ghana and beyond. In line with the University's mandate, our tenets are to train students with a high sense of professionalism and, committed to problem-solving, active in community partnership and who approach their work with integrity. Since its establishment, the Department has become one of the lifelines of the University.

Vision

Our vision is to be the focal centre in the training of competent nursing professionals with the abilities of touching the heart of clients.

Mission

The mission of the Department is to prepare individuals as professionals whose care depicts humane, evidence-based and ethical practice in the nursing profession.

(ii) Academic Programmes

Undergraduate Programme

- a. BSc Nursing (Regular and Weekend)

(iii) Administration of the Department

The Department Administration is constituted by the following personnel:

1. Mr. Ba-Etilayoo Atinga Ag. Head of Department

BSc Nursing (Regular)					
Year	Level 100	Level 200	Level 300	Level 400	Total
2018/2019	70	-	-	-	70
2019/2020	140	69	-	-	209
2020/2021	124	132	67	-	232
2021/2022	142	118	130	65	455
BSc Nursing Weekend (Top-up)					
			Level 300	Level 400	Total
2021/2022			40	-	40
TOTAL					495

Staff Statistics

S/N	Name	Rank
1	Mr. Ba-Etilayoo Atinga	Lecturer
2	Mr. Albert Henyo	Lecturer
3	Ms. Vincentia Sarfo-Brobby	Lecturer
4	Mrs. Diana Hans Wilson	Technical Instructor
5	Mr. Gilbert Wilfred Graham Addah	Assistant Lecturer
6	Ms. Rosemary Braimah	Assistant Lecturer

Publications (for the year under review)

Mr. Ba-Etilayoo Atinga

- Perekuu, T., Atinga, B. E., Henyo, A., & Addah, G. G. (2022). Clinical Competency: Simulation Compared with Lectures in Training Registered General Nursing (RGN) at Time of Completion of Program—A Systematic Review. *Open Journal of Nursing*, 12(1), 60-69.
- Ohemeng, E., Ba-Etilayoo, A., Barima, T., & Antwi, L. N. (2022). Assessment of Attitudes and Barriers of Ghanaian Radiographers Towards Postgraduate Radiography Education. *British Journal of Healthcare and Medical Research-Vol*, 9(3).
- Atinga, B. E., Barima, T., & Sekyere, E. O. (2021). Bilateral Ectopic Kidneys Presenting as Lower Abdominal Pain. *Open Journal of Urology*, 11(11), 404-412.
- Atinga, B. E., & Tsibo, K. Barima T. (2021). Heterotopic Pregnancy (Ruptured) With Subchorionic Bleeding: A Case Report. *Journal of Biomedical Engineering and Medical Imaging - Vol. 8, No. 5*.

Workshops/Conferences/Public Lectures

- Participant, introduction to Scientific Writing, IFAA President's Emergent Anatomist Programme, Dr Carol Hartmann and Prof Jose Sanudo, IFAA, Tuesday 23rd August at 06h00 UTC.
- Participant, Grant Formulation and Writing using the special focus of European Union (EU) Funding, Dr Charmaine Williamson, Nelson Mandela University, 16-19th November, 2021
- Participant, Understanding the core issues of the appointments and promotion criteria, October 20, 2021, university auditorium, Prof. Felix Adebayo Adekoya, and others.
- Participant, Quality assurance in university examination, Nurses skill lab, UENR, Mr Ankamah Degraft and Mr James Dombah, 1st November, 2021.
- Participant, Workshop on Test Construction and Examination Quality Assurance. By Department of Basic and Applied Biology, UENR. 1st November 2021
- Participants, Innovative Teaching & Assessment Practices in Higher Education Training. By CePDev, University of Energy and Natural Resources. 10th to 12th January, 2022.

Community Service

- Member, Constitutional Review Committee, Anatomical society of Ghana (ASoG)
- Financial Secretary (National), Ghana Academic of Forensic Science (GAF)
- Member, Ghana Registered Nurses and Midwives Association (GRNA)

Mr Albert Henyo

Publication

- Perekuu, T., Atinga, B. E., Henyo, A., & Addah, G. G. (2022). Clinical Competency: Simulation Compared with Lectures in Training Registered General Nursing

(RGN) at Time of Completion of Program—A Systematic Review. *Open Journal of Nursing*, 12(1), 60-69.

Workshop

- Innovative Teaching & Assessment Practices in Higher Education Training. By CePDev, University of Energy and Natural Resources. 10th to 12th January, 2022.
- Workshop on Test Construction and Examination Quality Assurance. By Department of Basic and Applied Biology, UENR. 1st November 2021

Ms. Vincentia Sarfo-Brobby

Workshops

- Participant, Training on Systematic Literature Review and Meta-analysis, online, International Livestock Research Institute, 14th to 15th February 2022.
- Faculty Member, Ghana College of Nurses and Midwives, Kumasi campus.
- Participant, Workshop on Test Construction and Examination Quality Assurance. By Department of Basic and Applied Biology, UENR. 1st November 2021

Mrs. Diana Hans Wilson

Publications

- Abdul – Razak A., Ganle J., Asare B., Baafi D., Letsa T. Risky sexual behaviours, contraceptive use and associated factors among unmarried female adolescents in an urban municipality in Ghana. *African Journal of Reproductive Health*, 12(2021); 25 (6): 32-42. DOI: 10.29063/ajrh2021/v25i6.4 <https://ajrh.info/index.php/ajrh/article/view/3030>

Workshops

- Introduction to Questionnaire Development. By Dr Nolunkwe Bomela 17th May 2021.
- Questionnaire Design: Theory and Best Practices. By Dr Nolunkwe Bomela 18th May 2021.
- Quantitative Research Designs by Dr Kennedy Ot wombe 19th May 2021.
- Introduction to Qualitative Research Methodology. By Dr. Janin VanSteenkiste 20th May 2021.
- Introduction to Qualitative Research Coding with Atlas.ti software. By Dr Timothy Pittaway. 21st May 2021.
- Literature Review for Masters and PhD Students by Dr Munkombwe Muchindu 24th May 2021.
- Research Problem Identification. By Dr Munkombwe Muchindu 25th May 2021.
- Intermediary level workshop on Qualitative Research Methodology with Atlas.ti

software. By Dr Timothy Pittaway. 10-11th June 2021.

- Preceptorship Training for Public Universities and Private Nursing and Midwifery Training Colleges. By Ministry of Health. 21st – 24th June 2021.
- Analysis of Data in Qualitative Research. By Dr Janin VanSteenkiste 1st July 2021.
- Advanced level workshop on Qualitative Research Methodology with Atlas.ti software. By Dr Timothy Pittaway. 2nd July 2021.
- Workshop on Test Construction and Examination Quality Assurance. By Department of Basic and Applied Biology, UENR. 1st November 2021.
- Innovative Teaching & Assessment Practices in Higher Education Training. By CePDev, University of Energy and Natural Resources. 10th to 12th January, 2022.

Mr. Graham G.W Addah

Publication

- Perekuu, T., Atinga, B. E., Henyo, A., & Addah, G. G. (2022). Clinical Competency: Simulation Compared with Lectures in Training Registered General Nursing (RGN) at Time of Completion of Program—A Systematic Review. *Open Journal of Nursing*, 12(1), 60-69.

CENTRE FOR RESEARCH IN APPLIED BIOLOGY (CeRAB)

(i) Introduction

The Centre for Research in Applied Biology, CeRAB-UENR was established in August 2020 in response to the need for more focused research output in the biological sciences (One-health themed research) in order to identify, understand, anticipate, and mitigate the long-term health and environmental consequences of energy production, wildlife exploitation, natural resource extraction, and climate change.

The establishment of the Centre follows from the recognition that the generation of energy, in the form of hydro, thermal, wind or solar and the extraction of mineral deposits involves the manipulation of the natural ecosystem (environment) in ways that threaten the health of biological entities. Human activities like mining, deforestation, the creation of dams for energy generation and hunting for bushmeat increase the risk of exposing people to pathogens carried by animals that have not yet been exposed to human populations.

Historically, some of the world's most consequential viruses such as HIV, Ebola and monkeypox have emerged from regions known for rich ecological biodiversity and the exploitation of a large diversity of natural resources and energy generation.

Vision of CeRAB – UENR

To become a Centre of Excellence at the forefront of national and regional research efforts for preparedness and resilience to environmental and biological threats within the context of natural resource exploitation.

Mission of CeRAB – UENR

To identify, understand, anticipate, and mitigate the long-term health and environmental consequences of natural resources exploitation by pursuing innovative community-centred research, promoting a collaborative environment for implementing research outcomes and delivering tailored training and consultancy services.

(ii) Activities of the Centre

1. Consultancy services e.g. biodiversity assessments, health and environmental impact assessments, ecosystem services assessments and valuations, et cetera.
2. Organization of scientific workshops, seminars and conferences in collaboration with national and international partners.
3. Collaborative research on the biology and ecology of neglected tropical diseases, water, sanitation and hygiene (WASH), emerging infectious diseases as well as other communicable and non-communicable diseases.
4. Capacity-building training for postgraduates and the next generation of scientists in cutting-edge experimental methods in applied biology practice and research.
5. Host institution for scholars across the globe through new and existing research groups.

(iii) Research Groups at the Centre

Presently, the Centre has four scientific research groups pursuing mandated thematic areas, which encompass emerging infectious diseases, anti-microbial resistance, neglected tropical diseases, and non-communicable diseases. These are:

1. TroPOHealth (Tropical Infectious Diseases and ONE Health)
2. Neglected Tropical Diseases (NeTroDis) Group
3. Ecology Research Group
4. Screen-and-Treat Research Group

(iv) Workshops/Conferences/Public Lectures

The Centre partnered the School of Sciences to organize the maiden edition of the School of Sciences Research Week on the theme: “Research: Ghana’s Untapped Potential for Growth and Sustainable Development” on 12th to 14th September, 2022.

(v) Grants and Awards

- Solidarity Scholarship Award (2000.00 CHF) to participate in the Transdisciplinary Nature Conservation short course at the University of Lausanne, Switzerland from 12-16 September 2022. Funding amount CHF 2000.00
 - A grant from International Foundation for Science, \$14511
 - A grant from the International Federation for Science, 2022-2024 [\$15,000]
 - A grant from African Research Network for Neglected Tropical Diseases (USAID),

2020-2022 [\$30,000]

- Africa Oxford Initiative, 2022 [£5000]
- Coimbra Group Scholarship, 2022[€3200]
- AREF MRC Towards Leadership Programme, 2022
- Danish Society of Parasitology/Danish Society for Tropical Medicine and International Health, 2022

(vi) Journal Publications (for the year under review)

- Donkoh, E. T., Dassah, E. T., & Owusu-Dabo, E. (2022). Optimization of a protocol for the evaluation of antibody responses to human papillomavirus (HPV) vaccination in low-resource settings. *BMC Women's Health*, 22(1), 1-9.
- Donkoh, E. T., Asmah, R. H., Agyemang-Yeboah, F., Dabo, E. O., & Wiredu, E. K. (2022). Prevalence and Distribution of Vaccine-Preventable Genital Human Papillomavirus (HPV) Genotypes in Ghanaian Women Presenting for Screening. *Cancer Control*, 29, 10732748221094721.
- Donkoh, E.T., Berkoh, D., Boadu, I.W.O., Raji, A.S., Asamoah, S., Gyasi, S.F., Otabil, K.B., et al., (2022). Evidence of reduced academic performance among school children with helminth infection independent of nutritional status. *International Health*.
- Bainin, I., Gyasi, S., Awuah, E., Obeng-Ofori, D., Abdallah, F., Donkoh, E. T., ... & Adu, R. (2022). Manganese, Iron, Lead, and Zinc Levels and Haematological Profile among Welders in Bibiani Anhwiaso Bekwai District, Ghana. *Journal of Environmental and Public Health*, 2022.
- D. Antwi-Berko, A.Z. Bakuri, Otabil, K.B., and Kwarteng, A. (2022). Determinants and variations of COVID-19 vaccine uptake and Responses among Minority Ethnic Groups in Amsterdam, The Netherlands, *Frontiers in Public Health*.
- Atibila, F., Donkoh, E. T., Ruiter, R., Kok, G., & Hoor, G. T. (2022). Predictors of Nonadherence to Medications among Hypertensive Patients in Ghana: An Application of the Health Belief Model. *International journal of hypertension*, 2022.
- Ofosu-Bamfo, B., Addo-Fordjour, P. and Belford, E. J. D. (2022). Edge disturbance shapes liana diversity and abundance but not liana-tree interaction network patterns in moist semi-deciduous forests. *Ecology and Evolution* DOI: 10.1002/ece3.8585

(vii) Visits to the Centre

In the year under review, the Centre was officially inaugurated at a ceremony which attracted Prof. Ellis Owusu Dabo (Pro-VC, KNUST), Dr. Amoh Kodieh (Regional Director, GHS) as special guests.

(viii) Future Plans of the Centre

The Centre has commenced processes to secure ISO 15 189 accreditation. Further details and roadmap have been elaborated in a 5-year strategic plan.

SCHOOL OF NATURAL RESOURCES

SCHOOL OF NATURAL RESOURCES

INTRODUCTION

The School of Natural Resources is one of the foundation schools of the University of Energy and Natural Resources. With an initial population of 80 students, the school currently has a student population of 1,402 (excluding graduate students). The mandate of the school is to train the next generation of natural resource managers to acquire skills, knowledge, intellectual independence and conduct research to critically think and provide solutions to the challenges in the field of natural resources management. Ultimately, the school provides high quality education which emphasises a multidisciplinary and integrated approach to natural resources management. It is dedicated to producing highly skilled graduates generating, advancing and applying science-based information for the sustainable management and utilization of our natural and environmental resources.

Our students have the unique opportunity to work with industry for a semester during their study. It provides them the opportunity to understand challenges and opportunities in the field of natural resources management. This enables them to carry out research that is tailored at addressing the needs of industry. The programme enhances the collaboration between industry and academia.

As one of the foundation schools, our vision is to become a Centre of excellence in the training of critical human resources for the efficient utilization of our natural resources. In order to realize our vision, the following activities have been identified to be executed:

- Develop high level human resource capacity to achieve excellence in teaching, research and service
- Increase the quality and capacity of the School's research.
- Improve the financial resources mobilization of the School
- Adopt an integrated and multidisciplinary approach in training students' to acquire knowledge, skills, and experiences that prepare them for life in a complex world.
- Explore the possibility of joint development of programmes and networking with universities and other Institutions.
- Increase education drive to encourage prospective applicants to take programmes in the School.
- Encourage all undergraduate students in the School to undertake internship during vacation periods apart from their compulsory attachment programmes
- Increase post-graduate programmes in the School

The School research focus is in the following areas

- Livelihoods of Forest fringed communities
- Aqua-culture systems.
- Environmental degradation.
- Preservation and development of heritage site.
- Forest conservation.
- Forest fires.

- Safety and Disaster Management
- Mining activities.
- Wildlife endangered species.
- Ecotourism and hospitality.
- Climate change

Workshops organized

In fulfilling our desire to build the capacity of staff in the School of Natural resources, the following workshops were organized:

- 1) Achieving sustainable Green economy delivered by Prof. Daniel A. Ofori on 24th August, 2022 at the university auditorium.
- 2) Interactive programme with lecturers and staff of Lakehead University held on 5th September, 2022 at the university auditorium.
- 3) Stakeholder dialogue on enhancing sustainable production and consumption from the forest held on 21st March, 2022 at the university auditorium.

Collaborations

The School is currently collaborating with institutions with the following institutions:

- Forestry Research Institute of Ghana
- Lakehead University
- Forestry Commission
- Ghana National Fire Service
- Eberswalde University for Sustainable Development- Germany
- Form Ghana
- Ministry of Lands and Forestry
- University of Houston Downtown-USA

These are aimed at building capacities of staff and students to broaden our knowledge base and enhance their ability to contribute towards national development.

Departments/Research Centre.

The school is made up of the following Departments and Centre:

- Department of Forest Science
- Department of Fisheries and Water Resources
- Department of Environmental Management
- Department of Ecotourism, Recreation and Hospitality
- Centre for Climate and Gender Studies

Student Statistics/Population

Currently, the number of students offering Bachelor programmes stands at 1,134.

Enrolment figures of students offering bachelor programme

Table 1: Enrolment figures of students offering bachelor programme

5) Centre for Climate Change and Gender Studies

Year/Level	Male	Female	Total
100	83	132	215
200	110	147	257
300	175	283	458
400	88	116	204
Total	456	678	1,134

The population of students offering Diplomas programmes in the School of Natural Resources is 268 (Table 2).

Table 2: Enrolment figures of students offering Diploma programmes

YEAR/LEVEL	MALE	FEMALE	TOTAL
100	39	56	95
200	80	93	173
TOTAL	119	149	268

Staffing

The following are the staff at the school's Office.

- Prof. Simon Abugre - Dean
- Ms. Pearl Afriyie Amankwah - Faculty Officer
- Ms. Anastasia Oppong Asamoah - Senior Administrative Assistant

DEPARTMENT OF FOREST SCIENCE

Introduction

The Department of Forest Science is one of the five Departments of the School of Natural Resources. It is one of the first departments to be created in the University. It was established in 2013 to train students to acquire the requisite knowledge and skills in natural resources management, especially in the area of forest resources management, social forestry and environmental governance. The rationale is also to train professionals to sustainably manage the nation's forest resources for conservation, revenue generation and fringe communities' livelihood security.

The Department continues to support the School of Natural Resources in teaching several undergraduate courses.

The Department runs an undergraduate programme in Natural Resources Management with options in Social Forestry and Forest Resources Management. It also runs Ph.D and MPhil in Social Forestry and Environmental Governance. The enrolment history of the

MPhil and PhD in Social Forestry and Environmental Governance programme for the past six (6) years is as follows:

PhD and MPhil Enrolments

Programme	Academic year					
	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
MPhil	33	24	23	19	26	17
Ph.D	10	12	11	3	0	4

MPhil/ Ph.D. Statistics

MPhil	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Males	29	20	19	17	21	9
Females	4	4	4	2	2	8

Ph.D	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Males	9	12	10	1	0	2
Females	1	0	1	2	0	2

The enrolment figures for 2021/2022 academic year for the undergraduate students in the Department are indicated in the tables below:

Undergraduate Students' Statistics

Level	Males	Females	Total
300	64	33	97
400	32	15	47

FACULTY MEMBERS

There are two Associate Professors, three Senior Lecturers (two on Contract), three Lecturers, one Assistant Lecturer, two Senior Technicians, one Principal Technician and one Senior Administrative Assistant in the Department, as shown in Table 1.

S/N	Name	Qualification	Rank/ Designation	Specialization
1	Prof. Simon Abugre	PhD, MSc. (KNUST); BSc. (UDS)	Associate Professor	Agroforestry, Agriculture, Extension education

2	Dr. Daniel Akoto Sarfo	MSc. & BSc. (KNUST), PhD. (Bonn, Germany)	Senior Lecturer (HoD)	Silviculture and Forest Management, Forest Ecology, Agroforestry
3	Prof. (Mrs.) Mercy Derkyi	PhD (UvA-AISSR), MSc. & BSc. (KNUST)	Associate Professor	Forestry, Agroforestry; Natural Resource Governance and Conflict Management
4	Mr Alexander Baffour Afrifa	MSc. & BSc. (KNUST)	Senior Lecturer (contract)	Development Policy & Planning; Forest Management
5	Mr Isaac K. Abebrese	Mphil & BSc. (KNUST)	Senior Lecturer (contract)	Silviculture, Forest Management & Ecology, Forest Policy
6	Mrs Nana Y. Opuni- Frimpong	MSc. (Michigan Tech), B.A (KNUST)	Lecturer	Forestry, Policy & Law
7	Dr. Michael Asigbaase	PhD (Nottingham, UK) MSc. (UK) BSc. (KNUST)	Lecturer	Environmental Science
8	Dr. Sitsofe-Kang Milung	PhD (KNUST), MPhil (KNUST), BSc. (KNUST)	Lecturer	Wood Science and Technology
9	Anthony Baidoo	MPhil. (UENR), BSc. (KNUST)	Assistant Lecturer	Forest Management, Social Forestry, Environmental Governance
10	Mr Edward Kander	B.Ed (UEW)	Principal Technician	Agriculture
11	Mr. Emmanuel Sackey	MPhil (UENR) , BSc. (UENR)	Senior Technician	Social Forestry
12	Mr. Sellasie Akoto	BSc. (UENR)	Senior Technician	Environmental Management

13	Ms. Amanda Sarfo Boateng	MPhil (UENR), BSc. (KNUST)	Senior Administrative Assistant	Crop Science (Agronomy)
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RESEARCH INTERESTS AND CURRENT PUBLICATIONS OF STAFF IN THE DEPARTMENT

PROF. SIMON ABUGRE

RESEARCH INTEREST

- Allelopathic potential of tree species
- Land use management
- Collaborative forest management
- Soil and water conservation

RECENT PUBLICATIONS

- Abugre, S., & Sackey, E. K. (2022). Diagnosis of perception of drivers of deforestation using the Partial Least Squares Path Modeling approach. *Trees, Forests and People* 8: <https://doi.org/10.1016/100246>."
- Agbeshie, A. A., Abugre, S., Atta Darkwa, T., Awuah, R. (2022). A review of the effects of forest fire on soil properties. *Journal of Forestry Research*. <https://doi.org/10.1007/s11676-022-01475->
- Daniel Adusu, David Anafo, Simon Abugre & Michael Addaney (2022): Experiential Knowledge of urbanites on climatic changes in the Sunyani municipality, Ghana, *Journal of Urban Affairs*, DOI: 10.1080/07352166.2022.2044836.
- Akoto, D. S., Partey, S. T., Abugre, S., Akoto, S., Denich, M. Borgemeister, C., Schmitt, C. B. (2022). Comparative analysis of leaf litter decomposition and nutrient release patterns of bamboo and traditional species in agroforestry system in Ghana. *Cleaner Materials* 4: <https://doi.org/10.1016/j.clema.2022.100068>

CONFERENCES/ WORKSHOPS ATTENDED

- Transforming Agrifoods system with forest. Digital forum, September, 2022.
- Institutional Capacity strengthening for research: lessons from the CIRCLE Institutional strengthening programme, Webinar, July 2021.
- Nature based solutions for climate resilient food systems dubbed NBS4food, August, 2022, held at UENR.
- Enhancing multi-stakeholder approach towards addressing challenges with Artisanal and small-scale mining, May, 2022 at Sheila's Hotel, Sunyani.

DR. DANIEL SARFO AKOTO

RESEARCH INTEREST

- Socio-economic and ecological dimensions of forestry
- Landscape Ecology
- Agroecological management
- Climate Science
- Forest and Environmental Governance
- Agroforestry (bamboo ecology/agroforestry)

RECENT PUBLICATIONS

- Akoto, D. S., Partey, S. T., Abugre, S., Akoto, S., Denich, M., Borgemeister, Schmitt, C. B. (2022). Comparative analysis of leaf litter decomposition and nutrient release patterns of bamboo and traditional species in agroforestry system in Ghana. *Cleaner Materials* 4:1-9 <https://doi.org/10.1016/j.clema.2022.100068>
- Asante, K. O. H., Abugre, S., Derkyi, N. S. A., & Akoto, D. S. (2021). Enhancing Extractive Resource Governance in Ghana and Nigeria under Fragmented Policy Landscape and Limited Resource Scenarios: Insight from the Barrow Framework. *The International Journal for Innovative Research and Development*. SSN 2278 – 0211 (Online). <http://dx.doi.org/10.24940/ijird%2F2021%2Fv10%2Fi2%2FFEB2101>.
- Asante, K. O. H., Abugre, S., Derkyi, N. S. A., & Akoto, D. S. (2021). Gypsum amendment and seasonal variability: effect on soil quality, fruit characteristics and toxicological responses of Cucumber (*Cucumis sativus* L.) in the Ahafo-Kenyasi Mining Area of Ghana. *World Journal of Advanced Research and Reviews*, 9(3), 229-244. DOI url: <https://doi.org/10.30574/wjarr.2021.9.3.0053>

CONFERENCE PAPERS SUBMITTED, ACCEPTED AND PRESENTED

- Opoku-Ware K., Akoto D.S. and Akoto S., (2022). Big data analysis with machine learning algorithms. Conference Paper accepted and presented during the 21st International Business Congress, UIK (online). <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14th May, 2022
- Akoto S., Akoto D.S. and Opoku-Ware K., (2022). Water resource sourcing in transition: the diminishing factor of sustainable practices in Ghana. Conference paper accepted and presented during the 21st International Business Congress, UIK (Online). <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14 May, 2022.

CONFERENCES/WORKSHOPS ATTENDED

- Team Presentation: 21st International Business Congress, UIK. <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14th May, 2022
- Team Presentation: 21st International Business Congress, UIK. <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14 May, 2022.
- Enhancing multi-stakeholder approach towards addressing challenges with Artisanal and small-scale mining, May, 2022 at Sheila's Hotel, Sunyani.
- Nature based solutions for climate resilient food systems dubbed NBS4food, August, 2022, held at UENR.

PROF. (MRS.) MERCY A. ADUTWUMWAA DERKYI

RESEARCH INTEREST

- Climate Change, Forest Restoration and Gender
- Social Research Methodology
- Farmer-Herder Conflict
- Conflict management, Governance and Gender in the agriculture and forest landscapes.
- Co-applicant of Access-Authority Nexus in Farmer-Herder Conflicts project (2019-2023) Danida funded project -DKK 11,689,232

- Forest-agriculture landscape from social and governance perspectives.
- Forest Governance and Forest Conflict Management
- Forest ergonomics, and research methods from the social perspective.

RECENT PUBLICATIONS

- Yaw Appau and Mercy Afua Adutwumwaa Derkyi, (2022) Local communities' knowledge and perception of FLEGT -VPA – insights from Ghana. *Forest Policy and Economics*, 144 (2022) 102837 <https://doi.org/10.1016/j.forpol.2022.102837>
- Mansourian S., Kleymann, H., Passardi, V., Winter,S., Derkyi, M.A.A. et al. (2022) Governments commit to forest restoration, but what does it take to restore forests? *Environmental Conservation* page 1 of 9. doi: 10.1017/S0376892922000340
- Owusu, D. and M. Derkyi (2021) Can *Broussonetia Papyrifera* enhance the Rural Livelihoods of Communities Fringing around Headwaters Forest Reserve, Ghana? *Ghana J. Forestry*, Vol. 37, 2021, 67 – 78.

MR. ISAAC K. ABEBRESE

RESEARCH INTEREST

- Forest Ecology and Management

MR. ALEXANDER BAFFOUR AFRIFA

RESEARCH INTERESTS

- Non-Timber Forest Products Development as Livelihood Strategies for the Forest Fringe Communities
- Wildfire Management and Rural Poverty Reduction
- Sustainable Wood fuel Enterprise Development to Enhance Community Climate Resilience and Poverty Reduction in the Transitional Zone of Ghana.

MRS. NANA YEBOAA OPUNI-FRIMPONG

RESEARCH INTEREST

- Urban forestry
- Natural Resources Economics and sustainable rural economies/ livelihoods.
- Management, use and ecology of medicinal plants

RECENT PUBLICATION

- Opuni-Frimpong, N.Y.; Essel, H.B.; Opuni-Frimpong, E.; Obeng, E.A. (2022). Sustainable Development Goal for Education: Teachers' Perspectives on Climate Change Education in Senior High Schools (SHS). *Sustainability* 2022, 14, 8086. <https://doi.org/10.3390/su14138086>.

CONFERENCES/WORKSHOPS ATTENDED

- Innovative Teaching and Assessment Practices in Higher Education Training. University of Energy and Natural Resources, Sunyani, Ghana. 10th – 12th Jan. 2022.
- Third Asia-Pacific Urban Forestry Meeting (APUFM). 25-29 October 2021, Zoom virtual event.

DR. MICHAEL ASIGBAASE

RESEARCH INTEREST

- Ecosystem services of agroecological and agroforestry systems
- Ethnobotanical surveys of medicinal plants
- Community and ecosystem ecology of tropical forests
- Biodiversity conservation.
- Sustainable management of agroforestry systems.
- Climate-smart agriculture.
- Nutrient budget and recycling

RECENT PUBLICATION

- Asigbaase, M., Sjoersten, S., Lomax, B.H. and Dawoe, E (2021). Temporal changes in litterfall and potential nutrient return in cocoa agroforestry systems under organic and conventional management, Ghana. *Heliyon* 7 (10): e08051. <https://doi.org/10.1016/j.heliyon.2021.e08051>.

CONFERENCES/WORKSHOPS ATTENDED

- Participant, 4th World Teak Conference 2022, 05-08 September 2022, Accra, Ghana.
- Participant, Sustainable Agriculture in Ghana, the role of Agroecology. Agroecology Seminar, 25th August, 2022, Sunyani, Ghana.
- Participant, FAO–GLF Digital Forum, Transforming agrifood systems with forests, 29th September 2022.
- Participant, Agroecology TPP's Community of Practice Activation Workshop, 13th September, 2022
- Participant, Global Landscapes Forum Africa Digital Conference, how to build an equitable resilient food future, 15th September, 2022

DR. SITSOFE KANG-MILUNG

RESEARCH INTEREST

- Utilisation potentials of wood from alternate and secondary sources
- Wood and wood products Recycling
- Management and utilisation of wood residue and waste
- Efficient application technologies for wood and wood products
- Bridging Industry, Academia and Research gaps in Ghanaian timber trade and applications”

CONFERENCES /WORKSHOP ATTENDED

- Transformational Dialogue on Artisanal and Small-scale Mining under the theme; “Enhancing Multi-Stakeholder Approaches towards Addressing Challenges with Artisanal and Small-scale Mining, and the Institutional Dynamics for Sustainable Practices in Ghana”. Sheila’s Executive Lodge, Sunyani, 25th to 26th May, 2022.
- Nature-Based Solutions for Climate Resilient Food Systems, UENR, 17th to 18th, August, 2022
- 4th World Teak conference at Hotel Kempinski, Accra, 5th - 7th September, 2022
- Global landscape forum Africa 2022 Digital Conference, Online, 15th September,

2022

MR. ANTHONY BAIDOO

RESEARCH INTEREST

- Forestry and Climate Change
- Forest Resources and Land use,
- Forest Ecology and Inventory
- Collaborative Forest Management

EMMANUEL KWAKU SACKEY

RESEARCH INTEREST

- Forest ecology
- Silviculture of both timber and non-timber forest products in temperate, tropical, subtropical and urban environment.

RECENT PUBLICATION

Abugre, S., & Sackey, E. K. (2022). Diagnosis of perception of drivers of deforestation using the Partial Least Squares Path Modeling approach. *Trees, Forests and People* 8: <https://doi.org/10.1016/100246>

MR. AKOTO SELASSIE

RESEARCH INTEREST

- Forest growth and development estimations (Forest Biometrics)
- Forest Ecology
- Water resource and sustainability
- Biodiversity conservation

RECENT PUBLICATION

- Akoto, D. S., Partey, S. T., Abugre, S., Akoto, S., Denich, M., Borgemeister, Schmitt, C. B. (2022). Comparative analysis of leaf litter decomposition and nutrient release patterns of bamboo and traditional species in agroforestry system in Ghana. *Cleaner Materials* 4:1-9 <https://doi.org/10.1016/j.clema.2022.100068>

CONFERENCE PAPERS SUBMITTED, ACCEPTED AND PRESENTED

- Opoku-Ware K., Akoto D.S. and Akoto S., (2022). Big data analysis with machine learning algorithms. Conference Paper accepted and presented during the 21st International Business Congress, UIK (online). <https://www.isletmecilik.org/page.aspx?sID=79.>, Online, 12th to 14th May, 2022
- Akoto S., Akoto D.S. and Opoku-Ware K., (2022). Water resource sourcing in transition: the diminishing factor of sustainable practices in Ghana. Conference paper accepted and presented during the 21st International Business Congress, UIK (Online). <https://www.isletmecilik.org/page.aspx?sID=79.>, Online , 12th to 14 May, 2022.

CONFERENCES/WORKSHOPS ATTENDED

- Team Presentation: 21st International Business Congress, UIK. <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14th May, 2022
- Presenter: 21st International Business Congress, UIK. <https://www.isletmecilik.org/page.aspx?sID=79>., Online, 12th to 14 May, 2022.

DEPARTMENT OF ECOTOURISM, RECREATION AND HOSPITALITY INTRODUCTION

The Department of Ecotourism, Recreation and Hospitality is one of the four departments of the School of Natural Resources. The Department offers and prepares students for a four-year degree, leading to the award of BSc. Natural Resources Management (Ecotourism option), BSc. Wildlife and Range Management, BSc. Hospitality Management (Regular & Weekend) and Diploma Hospitality Management.

Our graduates are equipped with knowledge, competencies, and skills to manage areas such as the protected areas, ecotourism, and mainstream tourism and the hospitality sector. Over the years, strategic partnership with the sectors created opportunities for students to engage in internships and industry-related training, which constitute the core of the practical training that enhances students' job prospects and career development.

ADMINISTRATION OF THE DEPARTMENT

- Dr. Yaw Boakye Agyeman: Head of Department
- Ms. Akosua Frimpong-Mensah: Senior Administrative Assistant

ACTIVITIES OVER THE PAST YEARS

- Food Bazaar event was organized on 25th August, 2022 on campus. The theme for the event was "Entrepreneurship for sustainable development: The role of the Hospitality students". The event saw students from the department showcasing diverse indigenous dishes representing the cultural diversity in the country.
- Three lecturers, Miss. Mildred N. Deri, Miss Perpetual Zaazie and Miss Grace N. Baah, have enrolled in PhD programmes.
- Two students have received awards to participate in student exchange programmes with two universities in Poland and Spain.
- A guest lecture was organised for the students. This event invited the Manager of Eusbett Hotel, Sunyani, to brief the students on career opportunities and skills and competencies required for employment in the hospitality industry.
- The Department is developing MPhil/MSc. Hospitality Management, MPhil/MSc Nature Conservation and Rural Development. Also, hospitality and wildlife related short courses have been developed to meet the demands of the tourism sector.
- The Department has rebranded the BSc. Wildlife and Range Management to BSc. Nature Conservation. The programme is now under reaccreditation.
- A state-of-the-art hospitality facility to support practical training and research is still under construction.
- BSc. Tourism and Events is under accreditation.

ACADEMIC PROGRAMMES

BSc. Natural Resources Management (Ecotourism option)

BSc. Wildlife and Range Management

BSc. Hospitality Management (Regular & Weekend)

Diploma Hospitality Management.

Student statistics (hospitality programme)

Level	Mode	Male	Female	Total
Weekend				
100		2	8	10
200		1	6	7
300		2	17	19
400		1	8	9
Sub-Total		6	39	45
Diploma				
100		2	27	29
200		2	56	58
Sub-Total		4	83	87
Regular				
100		6	83	89
200		6	84	90
300		10	157	167
400		6	64	70
Sub-Total		28	388	416
Grand Total		38	510	548

TEACHING STAFF

There are four Senior Lecturers with two on post-retirement contract. Also, there are four Lecturers (with three on study leave), four Assistant Lecturers, two Technical Instructors, and four Senior Technicians in the Department. Their names, qualifications, designations, and specializations are given in the Table below:

Name	Academic Qualification	Designation	Area of specialization
Dr. Yaw B. Agyeman	PhD (Waterloo Univ.) MSc (Wageningen) BSc (KNUST)	Senior Lecturer/ HoD	Nature conservation, Ecotourism, Social dimension of climate change, hospitality education
Dr. Ricky Y. Nutsugbodo	PhD (UCC) MPhil (UCC) BSc (UCC)	Senior Lecturer	Tourism Transport studies, Accommodation, Ecotourism development, Entrepreneurship in hospitality
Mr. Richard Obour	MPhil (KNUST) BSc (KNUST)	Senior Lecturer post-retirement contract	Wildlife ecology and Habitat management
Mr. James A. Ohemeng	MPhil (KNUST) BSc (UCC) PG. Dip. Mweka, Tanzania Dip. Ed.(UCC)	Senior Lecturer post-retirement contract	Ornithology Nature-based Tourism
Mr. Sampson Wireko-Gyebi	PhD (UCC, On-going) MPhil (UCC); BSc (UCC)	Lecturer	Tourism Events Management Leisure and Recreation

Miss Olivia N. A. Tetteh	PhD (Humboldt Univ., On-going) MSc (KNUST) BSc (KNUST) HND(ATU) Dip. Ed. (UEW)	Lecturer Study Leave	Food science & safety
Miss. Mildred N. Deri	PhD (Univ. of Sains, Malaysia, On-going) MPhil (UCC) B. Tech (HTU) HND (ATU)	Lecturer Study Leave	Environmental issues in tourism and hospitality
Miss Grace N. Baah	PhD (Hong Kong Polytechnic Univ., On-going) MPhil (UCC) BSc (UCC)	Lecturer Study Leave	Culinary Tourism Tourism/ Hospitality
Miss Perpetual Zaazie	MPhil. (UEW) M.Tech. (UEW) B.Ed.(UEW)	Assistant Lecturer	Ethnic cuisine, Catering, hospitality events
Miss Joana Mills Quarshie	MPhil (UCC) B. Ed. (Univ. of Goroka)	Assistant Lecturer	Ethnic cuisine, hospitality events
Miss Anna Arthur-Amissah	MPhil (UCC) BSc (UCC)	Assistant Lecturer	Ethnic cuisine, hospitality events
Mrs Abena Owusu Adjapong	PhD (KNUST, On-going) MSc (Univ. of Greenwich) BSc (KNUST)	Assistant Lecturer	Wildlife ecology and Habitat management, Mammalogy
Mr. Contans Kwame Noagbey	M.Tech. (UEW) B. Tech. (UCC) HND (HTU)	Technical Instructor	Catering, Tourism, Hotel Management

Miss Cynthia Amanor	HND(KSTU) B. Ed. (UCC) MSc (KNUST)	Technical Instructor	Ethnic cuisine, hospitality events
Miss Abena Gyamfuaa	MSc. (KNUST, On-going) B. Tech. (STU) HND (STU)	Senior Technician	Ethnic cuisine, Catering, Nutrition
Mr. Francis B. Asamoah	MPhil. (KNUST, On-going) BSc (KNUST)	Senior Technician	Habitat Ecology & Species Conservation
Mr. Daniel Koomson Najah	BSc (UENR)	Senior Technician	Hospitality/ Restaurant Management
Mr. Michael Amoah	BSc (UCC) HND (STU)	Senior Technician	Catering, Hospitality/ Restaurant Management

RESEARCH COLLABORATIONS (LOCAL AND INTERNATIONAL)

- Student and staff exchange with the School of Tourism and Hotel Management, Universitat Autònoma de Barcelona, Spain and the Department of Behavioural Ecology, Adam Mickiewicz University Poznan, Poland under the ERASMUS+ KA107 programme.
- Mr. Francis Asamoah has been invited to join a team of scientists from Laboratory for Integrative Biodiversity Research in the University of Helsinki, Finland, and the University of Development Studies (UDS), Ghana. The team of scientists is conducting a study to investigate the ecology and functional diversity of arthropods in both protected areas and agrosystems in Northern Ghana.

WORKSHOPS/CONFERENCES/PUBLIC LECTURE

- Colloquium on regional trade agreements and climate change in Africa, Sunyani, Ghana. Organized by the Centre for Climate Change and Gender Studies (3CGS) in September 22, 2022.
- Effective study skills workshop organized by the UENR Guidance and Counselling Centre for the students.
- Writing for Impact Research workshop. Organized by the Centre for Climate Change and Gender Studies (3CGS) in September 29, 2022, at Sheila's Executive Hotel.
- Conference on 'Nature-Based Solutions for Climate Resilient Food Systems', dubbed

'NBS4Food'. Organized by the Centre for Professional Development (CepDev) in August 17/18, 2022 at the University Auditorium.

- Mr. Francis Asamoah, who is a member of the Youth Task Force of UN Decade of Ecosystem Restoration and the International Forestry Students' Association, was invited to participate in World Teak Conference in September 8, 2022, in Accra.

FUNDING OF RESEARCH ACTIVITIES

Dr. Yaw Boakye Agyeman

- Coordinator, Biosphere Learning Laboratory Lake Bosomtwe (BL3B) Project

PUBLICATION(S)

- Agyeman, Y. B. & Antwi-Bosiako, N. (2022). Visitor perceptions of the roles of tour guides in Kakum National Park in Ghana, *Cogent Social Sciences*, 8 (1), 2052403. <https://doi.org/10.1080/23311886.2022.2052403>
- Kwakyee, E. & Agyeman, Y. B. (2022). Influence of climate change information on community-based livelihood adaptation around Lake Bosomtwe, Ghana. *The International Journal of Climate Change: Impacts and Responses*, 14 (2), 21-34. <https://doi.org/10.18848/1835-7156>.
- Agyeman, Y. B. & Asebah, P. (2022): Visitor satisfaction of Zoo tourism in Ghana. *Tourism Planning & Development*, 1-20. <https://doi.org/10.1080/21568316.2021.2023207>
- Agyeman, Y. B., Nsiah, N., Agro, P. P. & Yeboah, A. O. (2022): Hunting behavior and wildlife value orientations of farmer-hunters. *Human Dimensions of Wildlife*, 1-14. <https://doi.org/10.1080/10871209.2021.2023710>
- Mensah, C., Baah, G. N., & Nutsugbodo, R. Y. (2023). Work leisure conflict, life satisfaction, job stress and turnover intention among hotel workers. *Journal of Human Resources in Hospitality and Tourism*, 22(3), 1-10.
- Nutsugbodo, R. Y., Anafo, D., Ankamah, S., & Bannor, R. K. (2022). Discrimination in the rental housing market in the Sunyani Municipality, Ghana. *Urban, Planning and Transport Research*, <http://dx.doi.org/10.1080/21650020.2022.2072947>
- Nutsugbodo, R. Y., Mensah, C., Amisah, E. F., & Baah, G. N. (2022). COVID-19, parental job losses, online learning anxiety, and social support of hospitality and tourism students. *Journal of Hospitality and Tourism Education*. <https://doi.org/10.1080/10963758.2056468>
- Nutsugbodo, R. Y., Amenumey, E. K., Amisah, E. F., Anafo, D., & Afful, B. E. B. (2021). Determinants of car rental choice in Ghana. *Anatolia: An International Journal of Tourism and Hospitality Research*. <https://doi.org/10.1080/13032917.2021.1985544>
- Nutsugbodo, R. Y., Kwofie, C., Baah, G. N., Yormekpe, D. D., & Armah, L. K. (2021). Choosing between alternative accommodation, using discrete choice experiment. *Anatolia: An International Journal of Tourism and Hospitality Research*: <https://doi.org/10.1080/13032917.2021.1900883>
- Wireko-Gyebi, S. (2021). Tertiary students' motivation for leisure travel: implications for domestic tourism. *Anatolia*, DOI: <https://doi.org/10.1080/13032917.2021.1985541>
- Mildred, N. D., Perpetual, Z., & Prosper, B., (2021). Turnover intentions among hotel employees in the Accra Metropolis of Ghana. *African Journal of Hospitality, Tourism and Leisure* 10(1):238-255. DOI: 10.46222/ajhtl.19770720-98.

- Opoku Ohemeng, M., Agyei-Ohemeng, J., Yeboah. A. B. (2022). Bifurcation analysis of predator-prey in an ecosystem-pied crow (*Corvus albus*) and straw-coloured fruit-bat (*Eidolon helvum*) on the University of Energy and Natural Resources, Sunyani. *International Journal of Agriculture, Environment and Bioresearch*, 07(01), 2456-8643.
- Agyei - Ohemeng J., Obour, R. and Asamoah F. B. (2021). Ecosystem Perspective Review on Climate Change and Visitor Impact on Boabeng Fiema Monkey Sanctuary, Ghana. *Journal of Energy and Natural Resource Management*, 1(1):1-6.
- Adjapong, A.O., Oppong, S.K., Nsor, C.A., Boakye, E.A., Ashiagbor, G., Seidu, I. and Danquah, E. (2022). Agri-driven habitat modification and small mammal species assemblage nexus in the Atewa Range and Bimpong Forest Reserves, Ghana. *Trees, Forests and People*, p.100335.

COMMUNITY ENGAGEMENTS

Dr. Yaw Boakye Agyeman

- Head, Department of Ecotourism, Recreation and Hospitality
- Member, University Academic Board
- Member, School of Natural Resources Board
- Member, University International Relations
- Member, School of Natural Resources Appointment & Promotion Committee

Dr. Ricky Yao Nutsugbodo

- School Examinations Officer, School of Natural Resource
- Board Member, Ghana Association of Tourism Students (GATS)
- Cognate Member, School of Natural Resources Representative on the School of Engineering Board
- School of Representative, Dean of Students Board
- Department Representative to Academic Board
- Department Research Officer

Mr. Sampson Wireko-Gyebi

- Coordinator, Industrial Attachment, School of Natural Resources.
- Department Representative to the Board of the School of Natural Resources

Miss Anna Arthur-Amisah

- Officer, Students Industrial Attachment.
- Coordinator, Industrial Relations.

Miss Perpetual Zaazie

- Coordinator, Special Event.

Miss Cynthia Amanor

- Coordinator, Alumni Relations

Miss. Joana Mills Quarshie

- Department Examination Officer
- Patron, Association of Hospitality Students

Mrs. Abena Adjapong Owusu

- Coordinator for Short programmes

FUTURE PLANS OF THE DEPARTMENT

- To initiate hospitality industry-centered training as part of the academic program to develop and provide our students with experiential knowledge and skills.
- To initiate wildlife and hospitality short courses industry-centered training as part of the academic program to develop and provide our students with experiential knowledge and skills.
- To develop a training centre and short courses (with Ghana Tourism Authority) to build capacity of the employees in the tourism and hospitality sector.
- To strengthen the Department teaching and research capacity through staff exchange programmes.
- To developing small scale beekeeping and snail farming. This project seeks to support teaching and research in entomology (apiculture) in our wildlife programme. Also, it will inculcate entrepreneurial interest in beekeeping as a business among our students. The project will generally contribute to the Vice-Chancellor's Strategic Thrust focused on income generation.
- To promote hospitality professionals-students engagements through the guest lecture series.

DEPARTMENT OF FISHERIES AND WATER RESOURCES**Introduction**

The Department of Fisheries and Water Resources (DFWR) under the School of Natural Resources was established in 2013. Training and research of fisheries/aquaculture scientists and practitioners is the main objective of DFWR and this is unique from other courses run by various Universities. The Department is envisioned to lead in teaching and providing hands-on research, conducting outreach programs in promoting food security and water management and employment.

Department Activities

Organized Activities Include:

- Symposium: Building Food Security on Home Grown Food and Renewable Energy Technologies; The Role of Fisheries and Water Resources. July, 2022. University of Energy and Natural Resources, Sunyani, Ghana.
- Outreach Program to SHS at Berekum to highlight the importance of conserving groundwater on World Water Day and to solicit for prospective students.
- Developing Aquaculture Learning Facility

Academic Programmes

- I. Department of Fisheries and Water Resources Headed by Dr. Andrews Apraku
- II. BSc. Natural Resources Management (Fisheries and Water Resources Option)

Administration of the Department

The Department Administration is constituted by the following personnel:

1. Head of Department: Dr. Andrews Apraku
2. Principal Administrative Assistant: Juliana Aniagyei Siaw
3. Chief Technician: Justice Eric Darko
4. Senior Technician: Samuel Henneh

Staff and Students Statistics

12 Staff: 9 teaching staff; 2 technicians and; 1 Administrator

Current students: 32 (14 at Level 400 and 18 at Level 300)

Graduated: 65

Grant and Awards

- The Department joined a consortium to run the management and capacity building of small pelagic fisheries in West Africa (GREPPAO) project valued at €1.5m for 5years which is spearheaded by Professor Berchie Asiedu.
- Building Resilience of Lake Bosomtwi to Climate Change (RELAB) is also a project spearheaded by Dr. Peter Osam Sanful in the tune of \$1.8m which are all still running.
- A grant was also secured from IdealWild to purchase equipment through a project won by a staff in the department.

Publications (for the year under review)

Dr. Andrews Apraku (Lecturer/HoD)

Accepted manuscripts

- Amponsah, S.K.K., Apraku, A., Commey², N. A., Awornyo³, S.Y, and Henneh, S. (2022). Growth, mortality and exploitation rates of *Lethrinus atlanticus* in the marine waters of Ghana, West Africa. *Bio Journal Research*.

Workshops/Conferences

- Symposium: Building Food Security on Home Grown Food and Renewable Energy Technologies; The Role of Fisheries and Water Resources. July, 2022. University of Energy and Natural Resources, Sunyani, Ghana.
- Seminar: Innovative Teaching and Assessment Practices in Higher Education Training. January, 2022. University of Energy and Natural Resources, Sunyani, Ghana.
- Workshop: Writing for Impact Research Workshop: Cutting Edge Issues: Reporting on The Environmental and Social Impact of Mining Activities in Ghana. Sheila's Executive Hotel, Sunyani. September 29, 2022.

Prof. Berchie Asiedu (Associate Professor)

Publication(s)

- Asiedu, B., Okpei, P., Amponsah, S.K.K., Failler, P. Deme, B. and Sumaila, R.U. (2022). The people's fishery in perspective: Current analysis of the small pelagic fishery value chain of Ghana. *Fisheries Research*, 254, 106-426. <https://doi.org/10.1016/j.fishres.2022.106426>
- Asiedu, B., Failler, P., Amponsah, S.K.K., Okpei, P., Setufe, S.B. and Annan, A. (2022). Fishers' migration in the small pelagic fishery of Ghana: A case of small-scale fisheries management. *Ocean & Coastal Management*, <https://doi.org/10.1016/j.ocecoaman.2022.106305>
- Asiedu, B., Amponsah, SKK., Commey, N.A. and Failler, P. (2022). Assessing the Population Parameters of *Decapterus punctatus* (Cuvier 1829) from the Coastal Waters of Greater Accra, Ghana using TropFishR. *Egyptian Journal of Aquatic Biology & Fisheries*, 26(4): 335– 347 https://ejabf.journals.ekb.eg/article_249881.html
- Iyiola. A.O., Taiwo, Y.F. and Asiedu, B. (2022). Abundance and ecological classification of fish Species: A case study of Owalla Reservoir, Osun State, Nigeria. *Ruhuna Journal of Science*, Vol 13 (1): 52-60
- Iyiola, A.O., Asiedu, B., Oyewole, E.O. and Akinrinade, A.J. (2022). Impacts of Climate Change on Aquatic Biodiversity in Africa. In: Chibueze Izah, S. (eds) *Biodiversity in Africa: Potentials, Threats and Conservation*. Sustainable Development and Biodiversity, vol 29. pp 369–394. Springer, Singapore. https://doi.org/10.1007/978-981-19-3326-4_14
- Seidu, I., Cabada-Blanco, F., Brobbey, L.K. Asiedu, B., Barnes, P., Seidu, M. and Nicholas K. Dulvy, N.K. (2022). Every fish in the sea is meat and so are guitarfishes": Socio-economic drivers of a guitarfish fishery in Ghana. *Marine Policy* 143, 105159
- Sumaila, R.U., Skerritt, D, Schuhbauer, A., Villasante, S., Cisneros-Montemayor, A.M., Sinan, H., Burnside, D., Asiedu, B. and 289 additional authors. (2021). WTO must ban harmful fisheries subsidies. *Science*, 374 (6567) DOI: 10.1126/science.abm1680
- Amponsah, S.K.K, Commey, N. A., Asiedu, B., and Fazli, H. (2021). Assessing the stock status of Atlantic bumper, *Chloroscombrus chrysurus*, Linnaeus 1766, from the coastal waters of Ghana. *Int. J. Aquat. Biol.*, 9(4): 248-253
- Sakyi, K., Asiedu, B. and Amponsah, SKK. (2021). Assessment of histamine levels in frozen Atlantic Horse Mackerel (*Trachurus trachurus*) and its implications on consumers in Ghana. *Journal of Fisheries and Coastal Management*, 3: 36-43

Workshops/Conferences/Public Lectures

- GREPPAO Regional workshop, Cotonou, Benin. 21-27 August 2022
- Ocean Governance in the UN Decade of Ocean Science: Key Issues and Challenges. International Ocean Institute, Canada, June 2022

Dr. (Mrs) Awo Boatemaa Manson Incoom (Lecturer)

Publication(s)

- Awo Boatemaa Manson Incoom, Kwaku Amaning, Adjei, Samuel Nii Odai, Komlavi Akpoti and Ebenezer Kwadwo Siabi (2022). Impacts of climate change on crop and irrigation water requirement in the Savannah regions of Ghana. *Journal of Water*

and Climate Change Follow journal. Vol13; 9. DOI: 10.2166/wcc.2022.129

Workshops/conferences

- One Week Faculty Development Programme (FDP) on Computing with MATLAB and LaTeX Software: Indispensable Tools for Researchers from 5th to 14th January, 2022.
- Innovative teaching and assessment practices in higher learning institutions, UENR held from 10th to 12th January, 2022.
- Webinar: Water Monitoring using Earth Observation with the Digital Earth Africa. August, 2022.
- 5th International Conference on the Use of Space Technologies for Water Management. Hosted by the University of Energy and Natural Resources (UENR) on behalf of the Government of Ghana from 10th -13th May, 2022 in Accra, Ghana.
- Symposium on the theme “Building Food Security on Home Grown Food and Renewable Energy Technology: The Role of Fisheries and Water Resources”. On Wednesday, July 6, 2022
- Nature-Based Solutions for Climate Resilient Food Systems’, dubbed ‘NBS4Food’ spearheaded by the Centre for Professional Development (CepDev) from August 17 to 18, 2022
- UN/Austria Symposium on Space for Climate Action held from Tuesday 13 September to Thursday 15 September 2022.
- Climate, Trade and the Energy-Food Nexus: Facilitating Climate Action through Free Trade Agreement in Africa. Organised by the Centre for Climate Change and gender studies. September 22, 2022
- Writing for Impact Research Workshop organized by the Centre for Climate Change and gender studies, UENR ON 29TH September, 2022

Samuel Kweku Konney Amponsah (Lecturer)

Publication(s)

- Berchie Asiedu, Paulina Okpei, Samuel K.K. Amponsah, Pierre Failler, Bara Deme and Rashid Ussif Sumaila (2022). The people’s fishery in perspective: Current analysis of the small pelagic fishery value chain of Ghana, Fisheries Research, Volume 254,106426, ISSN 0165-7836, <https://doi.org/10.1016/j.fishres.2022.106426>.
- Asiedu, B., Amponsah, S.K.K., Commey, N. A., and Failler, P. (2022). Assessing the population parameters of *Decapterus punctatus* (Cuvier 1829) from the coastal waters of Greater Accra, Ghana using TropFishR. Egyptian Journal of Aquatic Biology and Fisheries, 26(4), 335– 347. <https://doi.org/10.21608/EJABF.2022.249881>
- Amponsah, S.K.K., Ameyaw, A. and Asare, C. (2022). Multivariate analysis of abundance and distribution of fish species in coast of Ghana, West Africa. Research in Agriculture Livestock and Fisheries, 9(1), 57–69. <https://doi.org/10.3329/ralf.v9i1.59536>.
- Sakyi, K., Asiedu, B. and Amponsah, S.K.K. (2021) Assessment of histamine levels in frozen Atlantic horse mackerel (*Trachurus trachurus*) in Dome market, Ghana. Journal of Fisheries and Coastal Management, 3 (1), 36-43. doi:10.5455/jfcom.20201201041606
- Amponsah, S. K.K., Commey, N. A., Asiedu, B., & Fazli, H. (2021). Assessing the stock status of Atlantic bumper, *Chloroscombrus chrysurus*, Linnaeus 1766, from

the coastal waters of Ghana. *International Journal of Aquatic Biology*, 9(4), 248–253. <https://doi.org/10.22034/ijab.v9i4.1174>

- Setufe, S. B., Amponsah, S. K. K., Bilikoni, J. and Fatsi, P. S. K. (2021) A snapshot of the fish community in the Buipe catchment area of the Black Volta River in Ghana. *Journal of Fisheries and Coastal Management*, 3 (1), 10-12. doi:10.5455/jfcom.20210504062426

Accepted manuscripts

- Amponsah, S.K.K. and Omaboe, A. (2022) Stock Assessment Indicators for Sustainable Exploitation of *Chrysichthys walkeri* in Lake Volta, Ghana, West Africa. *LimnoFish*
- Amponsah, S.K.K., Apraku, A., Commey, N. A., Awornyo, S.Y, and Henneh, S. (2022). Growth, mortality and exploitation rates of *Lethrinus atlanticus* in the marine waters of Ghana, West Africa. *Bio Journal Research*

Book Chapter

- Setufe, S. B., Amponsah, S. K. K., Henneh, S., and Acheampong, E. A. (2022). Pandemic risk, response, and resilience of fishermen in Ghana: a case study of fishing communities in Stratum VII, Volta Lake. *Pandemic Risk, Response, and Resilience*, 415-426. <https://doi.org/10.1016/B978-0-323-99277-0.00025-5>

Workshops/Conferences

- Workshop Fish Barcoding and Functional Ecology: Monitoring the Status of Marine Coastal Ecosystems. September 26 – October 21, 2022. Kenya Marine and Fisheries Research Institute (KMFRI) in Mombasa, Kenya.
- Thematic school on DNA barcoding and eDNA metabarcoding. 12th – 16th September, 2022 at the Nangui Abrogoua University in Abidjan, Côte d'Ivoire.

Paulina Okpei (Lecturer)

Publication(s)

- Asiedu, B., Okpei, P., Amponsah, S. K. K., Failler, P., Deme, B. and Sumaila, R. U. (2022). The people's fishery in perspective: current analysis of the small pelagic fishery's value chain of Ghana. *Fisheries Research*, 254, 106426. <https://doi.org/10.1016/j.fishres.2022.106426>
- Asiedu, B., Amponsah, S. K. K., Okpei, P., Failler, P., Deme, B. and Sumaila, R. U. (2022). Fishers' migration in the small pelagic fishery of Ghana: A case of smallscale fisheries management. *Ocean and Coastal Management*,
- Asiedu, B., Okpei, P., Nunoo, F.K.E. and Failler, P. (2021). A fishery in distress: an analysis of the small pelagic fishery of Ghana. *Marine Policy*, 129, 104500. <https://doi.org/10.1016/j.marpol.2021.104500>

Workshops/Conferences/Public Lectures

- Symposium – Building Food Security on Home Grown Food and Renewable Energy Technologies: The Role of Fisheries and Water Resources. July, 2022.
- Webinar on Avoiding rejection: how to successfully navigate the publishing process. Organised by Taylor and Francis Group. June, 2022.
- Shannon lectures in History series. Small-scale Fisheries in Ghana: Historical and

Transnational Perspectives''. By Professor Joseph Aggrey-Fynn. June, 2022.

- Training on 'Innovative Teaching Practices in Higher Education for Teaching Staff–University of Energy and Natural Resources, Ghana. January, 2022.

Community Engagements

Visits

Visit to Berekum: The department engaged some selected Senior High Schools at Berekum on World Water Day focusing on the importance of groundwater.

Future Plans of the Department

The Department is aiming to start a complete bachelors (BSc) and MSc Programmes in the Sustainable Aquaculture, Fisheries and Management and Integrated Water Resources Management. The Department also is aiming to establish collaborations with various institutions and organizations to build its capacity and also to put the school on a global spotlight.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Introduction

The Department of Environmental Management (DEM) is under the School of Natural Resources. Like any other academic department at UENR, DEM's mandate is underpinned by an Act of Parliament (Act 830) which established UENR, and is directly responsible for building competencies, developing innovative academic and industrial-driven programmes (both undergraduate and postgraduate), ensuring effective teaching, conducting cutting-edge research and embarking on community outreach programmes aimed at protecting the environment (air, water and land), and promoting sustainable utilization of natural resources.

The Department has research interests in the following

- Land Reclamation and Restoration Practices
- Soil & Water Quality Analysis
- Fire Safety and Disaster Management
- Environmental Impact Assessment & Auditing
- Environmental Conflict Resolution & Governance
- Environmental Law & Policy Analysis
- Environmental Risk Analysis and Management
- Natural Resources (air, land, water & mineral resources) Management
- Environment and Water Sustainability
- Mining, Environment and Agriculture
- Climate Change and Sustainability Management
- Climate Change and Water Resources Management
- Solid Waste Technology and Management
- GIS & Remote Sensing Technologies/Geospatial Analysis
- Ecological Economics & Modeling.

The Department offers a number of programmes (both regular and weekends). These

programmes include: A diploma in Fire, Safety and Disaster Management; BSc Natural Resources Management (with option in Land Reclamation and Restoration); and BSc Fire and Disaster Management. Other programmes such as BSc Environmental Management and Resource Sustainability (EMReS), Postgraduate Programmes (MSc/MPhil/PhD) in Environment and Water Sustainability (PEWS) as well as MSc/ MPhil Disasters and Humanitarian Emergencies have also been developed, waiting accreditation.

Profile of Academic Staff: Research, Publications, Internationalization, Community Engagement and Conferences for the 2020/2021 Academic Year.

1. Dr. Paul K. Nsiah (Senior Lecturer & Head of Department)

Research Activities/Interest

- Mine land reclamation
- Restoration/rehabilitation of disturbed landscapes/forests
- Land degradation neutrality assessment
- The use of biological geotextiles in erosion and sediment control
- Mine-spoil amendment for vegetation establishment on degraded lands

2. Dr. Fred Owusu-Ansah (Senior Lecturer)

Research Activities/Interests:

- Climate Change and Variability: Implications for Crop Production in Ghana.
- Characterisation of Water Treatment Residues: Implications for Land Application.
- Mining and Rural Livelihood: Promoting Sustainable Compensation Framework for Household Farmers in Ghana.
- Farmers Risk Perceptions of Large-Scale Mining in Ghana.
- Global Environmental Change and Sustainable Water Resources Management.
- Environmental Law & Policy Analysis.
- Environmental Impact Assessment and Auditing.
- Environmental Risk Analysis & Sustainability Management.
- Solid Waste Management Decisions and Green House Gas Emission Impact

Internationalization:

- Reviewer, Journal of Environmental Protection - JEP, USA
- Article Editor, Sage Publications Inc.: CA, USA
- Editorial and Advisory Board Member, Current World Environment - ISI Journal, India
- Advisory Board Member, Hanell International
- Member of Environmental Experts
- Member, START International, USA.
- Member, Environmental Science and Forestry Alumni Association, Syracuse, NY, USA.
- Member, Collegiate Science and Technology Programme (CSTEP), USA.
- Member, America Water Resource Association – AWRA, USA.
- Affiliate, Conservation International.

Community Engagement and Extension Services

- Technical Editor, Journal of Energy and Natural Resource Management, Ghana.
- Internal Advisory Board Member, REGIG, Ghana.

Conferences/Workshops/Seminars:

- Engineering & Science Career Network: Career Eco Virtual Fairs hosted by the American Water Resources Association, Live Streaming Participation via AWRA's Webinar Center, 4405 Northside Parkway, Suite 120, Atlanta, GA 30327, April 28, 2021.

3. Dr. Mary Antwi (Senior Lecturer)

Research Activities/Interests:

- GIS and remote sensing technologies/Geospatial analysis
- Integrated soil fertility management
- Land management systems
- Environmental management/Disaster risk modelling
- Land surveying and mapping
- Watershed modelling, land-use change and sedimentation rates within the 'building the resilience of Lake Bosomtwe' (RELAB) project in the Ashanti region.

Internationalization:

- Research Fellow, Regional Centre for Energy and Environmental Sustainability (RCEES), UENR sponsored by the World Bank.
- Member, Organisation for Women in Science for the Developing World (OWSD)

Community Engagement:

- Advanced Fire Information System (AFIS) project to forecast fire incidence in Ghana sponsored by the Skills Development Fund (SDF II)

Partnership/ Collaboration:

- Nature Based Solutions for Agricultural Systems in the Bono East Region in collaboration with the Centre for Development Innovation, Wageningen University and Research.
- Building the Resilience of Lake Bosomtwi to Climate Change (RELAB) project funded by DANIDA, in partnership with Aarhus University, Denmark.

Innovation and Publication(s):

- Austin Asare, Hans Thodsen, Mary Antwi, Emmanuel Opuni-Frimpong, Peter Sanful. (2021). Land Use and Land Cover changes in Lake Bosomtwi Watershed, Ghana (West Africa). Remote Sensing Applications: Society and Environment. <https://doi.org/10.1016/j.rsase.2021.100536>(<https://www.sciencedirect.com/science/article/pii/S2352938521000720>)
- Adams, E. D., & Antwi, M. (2021). Modelling the risk of forest to fire for the Bosomkese Forest Reserve, Ahafo Region, Ghana. South African Journal of Geomatics, 10(1). DOI: 10.4314/sajg.v10i1.
- Kabo-Bah, Amos T., Daniella D. Sedegah, Mary Antwi, Webster Gumindoga and

Saied Eslamian. "How to Increase Water Harvesting in Africa". Handbook of Water Harvesting and Conservation: Case Studies and Applications Examples (2021):141 – 151. Wiley Online Library. [https:// onlinelibrary.wiley.com/doi/abs/10.1002/9781119776017.ch9](https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119776017.ch9)

- Kabo-Bah, Amos T., Daniella D. Sedegah, Mary Antwi, Webster Gumindoga and Saied Eslamian. "How to Increase Water Harvesting in Africa". Handbook of Water Harvesting and Conservation: Case Studies and Applications Examples (2021):141 – 151. Wiley Online Library. [https:// onlinelibrary.wiley.com/doi/abs/10.1002/9781119776017.ch9](https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119776017.ch9)

Conferences/Workshop/Seminars/Webinars Attended

- Landscape Governance, an online short course organised by the Wageningen Centre for Development Innovation, May – June, 2021.

4. Dr. Samuel Kumi (Lecturer)

Research Activities/Interests

- Mining Environmental Management and Sustainability
- Natural Resource Exploitation and Ecosystem Services,
- Changes in Economic Value of Ecosystem Services in Mining Landscape, Ghana
- Mineral Resources Development Impacts
- Patterns of distribution and diversity of birds and butterfly over a mining landscape, Ghana
- Assessing the Impacts of Mining on Soil and Water Quality in Ahafo, Ghana
- Evaluating Environmental Permitting for Sustainable Natural Resource Exploitation in Ghana
- Functionality of mining laws and sustainable rural livelihoods
- Dynamics of Natural Resource Conflict in a mining regions in Ghana
- Evaluating Energy Requirement for Households in mining resettlements

Publication(s)

- Kumi, S., Addo-Fordjour, P., Fei-Baffoe, B., Belford, E. J. D., & Ameyaw, Y. (2021). Land use land cover dynamics and fragmentation-induced changes in woody plant community structure in a mining landscape, Ghana. *Trees, Forests and People*, 4, 100070.

Outreach Programmes/Extension Services

- Member, UENR Kenyasi Campus Development Committee
- Member/secretary, Committee that reviewed BSc/MSc/Mphil/PHD courses for sustainable mining programme to be undertaken on UENR-Kenyasi Campus
- Member, Quality Assurance Member for School of Natural Resources-UENR
- Member, Newmont Ahafo North Resettlement Negotiation Committee- Afrisipa
- Member, Newmont- Dokyikrom Resettlement Negotiation Committee, Kenyasi

5. Dr. Abdulai Darimani (Lecturer)

Research Activities/Interests

- Land and land governance
- Environmental and Social impact of Mining
- Environment and Social Development
- Climate Change and Disaster Risks
- Environmental and Social Impact Assessment
- Environmental and Fire Risk Analysis & Management in the built environment.
- Solid Waste Management in the built environment

Conferences/Workshops/Seminars

Participated in a training workshop on green economy organised by IAIA Ghana. Presented a paper on understanding impact assessment in a green economy. 21st-22nd September, 2022.

- The Jospong Group of Companies through its Africa Environmental Sanitation Consult Conference on the launch of Environmental Sanitation Research Fund for public universities and research institutions in Ghana. Speaker: Agyepong Siaw (Chair of the Jospong Group of Companies), purpose, focus, principles and governance for the Research Fund, May 2021
- Validation Meeting of Ghana's Country Mining Vision Assessment Report organized by Ghana Integrity Initiative and Stop the Bleeding Campaign. Facilitator: Benedict Dor (Facilitator), Stakeholders Input into the draft Country Mining Vision assessment report for Ghana, Virtual via Zoom ID 814 1031 7239, Thursday 20th May, 2021.
- Pre-Read for Clean Air Fund Ghana Programme Strategy Virtual Workshop. Facilitator: Patrinn Watanatada (Professional Facilitator and Clean Expert), zoom Meeting link ID 814 9466 6053, Thursday 21st October 2021.

Outreach Programmes/Extension Services

- Member of three members Committee of the International Association of Impact Assessment Ghana (IAIA Ghana) for drafting of Regulations for National Environmental Practice (Certification And Professional Conduct Of Environmental Practitioners) Regulations, 2021.
- Coordinator, West Africa Advisory Board of Global Greengrants Fund (GGF) www.ggf.org
- Reviewer, Springer, Nature and Mineral Economics Research Publishing.

6. Mr. Thomas Agyei (Lecturer)

Research Interest

- Effects of biotic and abiotic factors on biogenic volatile organic (BVOCs) compounds emissions from plants.
- Exchange of greenhouse gases (mainly nitrous oxide, methane, and carbon dioxide) gases from forest soils through tree stems to the atmosphere.
- Fluxes of tropospheric ozone from forest ecosystems and agroecosystems.
- Plant-plant and plant-insect interactions

Research activities:

- Fluxes of tropospheric ozone from Norway spruce forest and agroecosystem, CzechGlobe 2020 - developing a global climate change impact study centre (2019-2021).
- Characterization and quantification of N₂O and NH₄ fluxes in different tree species using static chamber systems and FTIR analyzers.
- Understanding the transport mechanisms of N₂O and NH₄ in the continuum soil-tree-atmosphere with the physiological activity of ecosystems and environmental parameters.

Publications:

- Agyei, T., Jurán, S., Edwards-Jonášová, M., Fischer, M., Švik, M., Komínková, K.; Ofori-Amanfo, K.K., Marek, M.V., Grace, J., Urban, O. (2021). The Influence of ozone on net ecosystem production of a ryegrass-clover mixture under field condition *Atmosphere* 12(12), 1629.
- Machacova, K., Borak, L., Agyei, T., Schindler, T., Soosaar, K., Mander, Ü., & Ah-Peng, C. (2021). Trees as net sinks for methane (CH₄) and nitrous oxide (N₂O) in the lowland tropical rain forest on volcanic Réunion Island. *New Phytologist*, 229(4), 1983-1994.

7. Mr. Alex Amerh Agbeshie- Senior Lecturer

RESEARCH ACTIVITIES/INTERESTS

- Nutrient cycling on reclaimed lands
- Soil sustainability and environmental protection.
- Climate-smart agriculture for sustainable land and water management.
- Biogeochemical characterization of soils
- Soil, plant, water systems and environment science.

RECENT PUBLICATIONS

- Agbeshie, A. A., Abugre, S., Atta-Darkwa, T., & Awuah, R. (2022). A review of the effects of forest fire on soil properties. *Journal of Forestry Research*, 1-23.
- Thomas, A. D., Austin, A., William, A., Eric, O. D., Alex, A. A., Maxwell, B., ... & Duke, Q. N. D. (2022). Performance evaluation of infiltration models under different tillage operations in a tropical climate. *Scientific African*, 17, e01318.
- Agbeshie, A. A., & Abugre, S. (2021). Soil properties and tree growth performance along a slope of a reclaimed land in the rain forest agroecological zone of Ghana. *Scientific African*, 13, e00951.
- Banunle, A., Fei-Baffoe, B., Miezah, K., Ewusi-Mensah, N., Jørgensen, U., Aidoo, R., Amoah, A., Abaidoo, R.C. & Agbeshie, A.A. (2021). Utilisation Potentials of Invasive Plants in the Owabi Dam in the Ashanti Region of Ghana. *BioResources*. 16(2), 3075-3095.

CONFERENCES/WORKSHOPS ATTENDED

Biochar production: Training programme for farmers on good soil management and amendment production, organised by Building Stronger Universities III (Danida - BSU III), KNUST Call Three Chapter, Kumasi - Ghana, September, 2022.

8. Mr. Austin Asare (Lecturer)

Research Activities/ Interests

- Land management, surveying and mapping
- Natural resources and Environmental Management
- GIS and remote sensing technologies and analysis
- Silviculture, Forest Management and Inventory
- Ecological survey / Biodiversity Assessment and Analysis

Publication(s):

- Austin Asare, Hans Thodsen, Mary Antwi, Emmanuel Opuni-Frimpong, Peter Sanful. (2021). Land Use and Land Cover changes in Lake Bosumtwi Watershed, Ghana (West Africa). Remote Sensing Applications: Society and Environment. <https://doi.org/10.1016/j.rsase.2021.100536>(<https://www.sciencedirect.com/science/article/pii/S2352938521000720>)

Conferences/Workshops/Seminars

- Presentation on “Drivers of Land Use and Land Cover Change using GIS and Logistic Regression Approach” during RELAB Project Annual meeting in June, 2020.

Consultancy/Outreach Programmes/Extension Services:

- Work Package Four (WP4) Memeber, Building Resilience of Lake Bosumtwi to Climate Change (RELAB Project) www.relabproject.uenr.edu.gh: (Jan 2018 – Dec 2022).

9. Mr. Joseph Asako Azumyarn (Assistant Lecturer)

Research Activities/Interests

- Spatial and temporal distribution of fires in dry and humid savanna ecological zones of Ghana
- Assessing the driving factors, underlying causes and impacts of fires in dry and humid savanna ecological zones of Ghana
- Determining the Fuel dynamics to predict fire behaviour in dry and humid savanna ecological zones of Ghana.
- Evaluate the firefighting systems in the dry and humid savanna zones of Ghana.
- Assessing the trend of fire in Ghana

10. Mr. Daniel Adusu (Assistant Lecturer)

Research Activities/Interests

- Reclamation and restoration of degraded lands.
- Ecological assessment in forest ecosystems.
- Remediation of degraded soils.
- Environmental quality monitoring and auditing.

- Forest carbon stocks estimation
- Soil macrofauna, and nutrient cycling assessment

Publication(s)

- Adsu, D., Anafo, D., Abugre, S., & Addaney, M. (2022). Experiential Knowledge of urbanites on climatic changes in the Sunyani municipality, Ghana. *Journal of Urban Affairs*, 1-17.
- Adsu, D., Abugre, S., & Dei-Kusi, D. (2021). Potential of Biochar for Minesoil Amendment and Floristic Diversity Enhancement at the Yongwa Quarry Site in the Eastern Region of Ghana. *Agricultural Science Digest*, 41(1).
- Dampsey, F. G., Adofo, E., Duah-Gyamfi, A., Adsu, D., & Opuni-Frimpong, E. (2021). Logging effects on seedling regeneration and diversity in a tropical moist semi-deciduous forest in Ghana. *Geology, Ecology, and Landscapes*, 1-12.
- Opuni-Frimpong, E., Gabienu, E., Adsu, D., Opuni-Frimpong, N. Y., & Dampsey, F. G. (2021). Plant diversity, conservation significance, and community structure of two protected areas under different governance. *Trees, Forests and People*, 4, 100082.
- Adsu, D., Anafo, D., Abugre, S., & Bunyamin, A. R. (2021). Effects of urban growth on historical land use/land cover changes in the Sunyani Municipality, Ghana. *Journal of Energy and Natural Resource Management (JENRM)*, 7(2), 16-27.

Outreach Programmes/Extension Services

- A study on gentrification and inclusive city development in the Greater Accra Metropolitan Area (GAMA)- Good Governance Africa.
- Training workshop on the roles and responsibilities of municipal and metropolitan actors in local economic development – Good Governance Africa.
- Resource extraction and sustainable development of mine-take communities in Ghana - Good Governance Africa.

11. Ms. Sylvia Adipah (Assistant Lecturer)

Research Activities/Interest

- Environmental Science and Engineering
- Climate Change and Water Resources
- Waste Management and Recycling
- Water Pollution Control
- Environmental and Fire Risk Analysis
- Health and Safety Management
- Environmental Hazards and Disaster Management
- Management in the built environment

Ongoing research

- Highly promising non-edible plant oil for biodiesel production: A critical review of current work on neem (*Azadirachta indica*) and its biodiesel- Ongoing research

Workshop/Seminar

- A workshop organized by Centre for Grants, Research and Innovation. Training programme for newly appointed Lecturers. September 10, 2021.

- Tain Hydro-Solar Energy Project Collaboration Between TABCON Energy and UENR. September 25, 2021.

12. Mr. Solomon Akubire Afour (Assistant Lecturer)

Research Interests

- Fire outbreaks and its implications on Ghana's infrastructural deficits
- Improving the fire resistivity of local building materials
- The effects of wildfires on food production
- Determining the fire toxicity of building and common household materials
- Effectiveness of fire safety laws and regulations in Ghana
- Minimising market fires in Ghana
- Reducing domestic fire outbreaks
- Types of common hazardous materials in Ghana and the country's preparedness to handle incidents involving them
- Effective fire safety measures for Ghanaian homes
- Improving fire investigation in Ghana
- Gas explosions, local causes, and preventive measures

13. Mr. Benjamin Osafo Carlis-Paittoo (Lecturer)

Research Activities/interest

Instituting Critical Infrastructure Protection in the Oil and Gas Sector
Risk Assessment, Vulnerability Analysis and Disaster Management

Professional Membership

Certified Mediation / Arbitrator (Ghana Labour Commission-Class B), January 1, 2020-December31, 2022.

14 .Mr. Ernest Gambrah (Senior Technician)

Research Activities/Interest

1. Fire Risk Analysis
2. Job Hazard Analysis and Management
3. Occupational Health and Safety Management
4. Disaster Management and Vulnerability Analysis
5. Urban Planning and Management.
6. GIS and Remote Sensing Application for Disaster Mitigation

Conferences

NBS Conference. Theme; Nature-Based Solutions for food 2022.Uenr Auditorium,2022

Workshop/Seminar

NBS international conference. Theme: Nature-Bsaed Solution for food 2022 at Uenr. 17th-18th August 2022

Outreach Programme and Extension Services

- Assistance-Examiner (WASSCE)
- » Facilitated Student Field Practical's -Department of Environmental Management

- » Regional Trainer- Population and Housing Census, 2021
- » Supervisor- Population and Housing Census, 2021

15. Mr. Clement Gyamfi (Senior Administrative Assistant)

CENTRE FOR CLIMATE CHANGE AND GENDER STUDIES

Introduction

The Centre for Climate Change and Gender Studies was established in 2016 with the mandate to advance research, teaching, capacity building and policy advocacy on issues of Climate Change and Gender.

Administration of the Centre

The Centre Administration is constituted of the following personnel:

- | | |
|--------------------------------------|----------------------------------|
| 1. Prof. Berchie Asiedu | -Head |
| 2. Dr. Kamila Kabo-Bah | - Research Fellow |
| 3. Rachel Yeboah Nketiah | -Assistant Research Fellow |
| 4. Ama Ntiwaa Antwi-Boasiako Panford | -Senior Administrative Assistant |

Staff and Students Statistics

Staff - 4

Research Collaborations (Local and International)

International

- Partnership with the Institute of Oceans and Fisheries, University of British Columbia, Vancouver, Canada

Local

- Partnership with Youth Climate Council (YCC).
- Partnership with GIZ.
- Partnership with Action Aid.

Workshops/Conferences/Public Lectures

- Regional Trade on Climate Change and Trade, September 2022
- Youth Climate Council Ghana workshop, August 2022
- Action Aid Ghana seminar on Agroecology, August 2022
- Ocean Governance in the UN Decade of Ocean Science: Key Issues and Challenges. International Ocean Institute, Canada, June 2022

Proposals

- Developing suitable agro-ecological strategies for farming systems in African agroecological zones to better cope with climate change (AFROFARM). Submitted under HORIZON-CL6-2022-FARM2FORK-01-12: AGRO-ECOLOGICAL APPROACHES IN AFRICAN AGRICULTURE SYSTEMS
- CFP/Plastic Waste Management & Behavior Change. Submitted to UNDP

Grant and Awards

- Received a grant of US\$ 18,000 from Mohammed Bin Zayed Species Conservation Fund for the project “Climate stressors, population status and conservation of Chabanaud’s Fringe-fingered Lizard (*Acanthodactylus boueti*) in Ghana”;

Publications (for the year under review)

Staff of the Centre produced 11 refereed journal articles and 1 book chapter.

- Nketiah, R. Y. (2022). Human Rights and the Gender Dynamics of Climate Change in Ghana: The Legal and Policy Dimensions. *Journal of Energy and Natural Resource Management*, Vol. 8, No. 1, 50-62, 2022 DOI: 10.26796/jenrm.v8i1.191
- Seidu, I., Brobbey, K.L., Danquah, E., Oppong, K.S., Beuningen, V.D., Seidu, M. and Dulvy, K.N. (2022). Fishing for survival: Importance of shark fisheries for the livelihoods of coastal communities in Western Ghana. *Fisheries Research*, 246, 106157. <https://doi.org/10.1016/j.fishres.2021.106157>
- Seidu, I., Beuningen, V.D., Brobbey, K.L., Danquah, E., Oppong, K.S. and Séret, B. (2022). Species composition, seasonality and biological characteristics of Western Ghana’s elasmobranch fishery, *Regional Studies in Marine Science*, 52, 102338. <https://doi.org/10.1016/j.rsma.2022.102338>
- Asiedu, B., Okpei, P., Amponsah, S.K.K., Failler, P. Deme, B. and Sumaila, R.U. (2022). The people’s fishery in perspective: Current analysis of the small pelagic fishery value chain of Ghana. *Fisheries Research*, 254, 106-426. <https://doi.org/10.1016/j.fishres.2022.106426>
- Asiedu, B., Failler, P., Amponsah, S.K.K., Okpei, P., Setufe, S.B. and Annan, A. (2022). Fishers’ migration in the small pelagic fishery of Ghana: A case of small-scale fisheries management. *Ocean & Coastal Management*, <https://doi.org/10.1016/j.ocecoaman.2022.106305>
- Asiedu, B., Amponsah, SKK., Commey, N.A. and Failler, P. (2022). Assessing the Population Parameters of *Decapterus punctatus* (Cuvier 1829) from the Coastal Waters of Greater Accra, Ghana using TropFishR. *Egyptian Journal of Aquatic Biology & Fisheries*, 26(4): 335– 347 https://ejabf.journals.ekb.eg/article_249881.html
- Iyiola. A.O., Taiwo, Y.F. and Asiedu, B. (2022). Abundance and ecological classification of fish Species: A case study of Owalla Reservoir, Osun State, Nigeria. *Ruhuna Journal of Science*, Vol 13 (1): 52-60
- Iyiola, A.O., Asiedu, B., Oyewole, E.O. and Akinrinade, A.J. (2022). Impacts of Climate Change on Aquatic Biodiversity in Africa. In: Chibueze Izah, S. (eds) *Biodiversity in Africa: Potentials, Threats and Conservation. Sustainable Development and Biodiversity*, vol 29. pp 369–394. Springer, Singapore. https://doi.org/10.1007/978-981-19-3326-4_14
- Seidu, I., Cabada-Blanco, F., Brobbey, L.K. Asiedu, B., Barnes, P., Seidu, M. and Nicholas K. Dulvy, N.K. (2022). Every fish in the sea is meat and so are guitarfishes’: Socio-economic drivers of a guitarfish fishery in Ghana. *Marine Policy* 143, 105159
- Sumaila, R.U., Skerritt, D, Schuhbauer, A., Villasante, S., Cisneros-Montemayor,

A.M., Sinan, H., Burnside, D., Asiedu, B. and 289 additional authors. (2021). WTO must ban harmful fisheries subsidies. *Science*, 374 (6567) DOI: 10.1126/science.abm1680

- Amponsah, S.K.K, Commey, N. A., Asiedu, B., and Fazli, H. (2021). Assessing the stock status of Atlantic bumper, *Chloroscombrus chrysurus*, Linnaeus 1766, from the coastal waters of Ghana. *Int. J. Aquat. Biol.*, 9(4): 248-253
- Sakyi, K., Asiedu, B. and Amponsah, SKK. (2021). Assessment of histamine levels in frozen Atlantic Horse Mackerel (*Trachurus trachurus*) and its implications on consumers in Ghana. *Journal of Fisheries and Coastal Management*, 3: 36-43

Community Engagements

- Short course on Climate Change and Economic Resilience in August 2022.
- Colloquium on Regional Trade Agreements and Climate Change in Africa in September 2022.
- Writing for impact research workshop in September 2022.

Visits

- Ghana Meteorological Agency, Sunyani
- Kintampo falls

Future Plans of the Centre

- Climate Change Campaign Tour
- Climate Resilient Garden
- Short course on Climate Change and Human Rights

SCHOOL OF AGRICULTURE AND TECHNOLOGY

SCHOOL OF AGRICULTURE AND TECHNOLOGY

Introduction (Establishment)

The School of Agriculture and Technology was established in the 2014/2015 academic year at the Dormaa Ahenkro Campus of UENR. The School of Agriculture and Technology is poised to provide a vibrant and robust leadership to the agricultural industry to meet the increasing demand for food and raw materials for industrial and export purposes. The School seeks to become the leading institution in the provision of hands-on agriculture and its related fields of education. As a result, the programmes offered by the School provide graduates with a working knowledge of a broad span of agriculture and introduce them to the critical relationships between agricultural activities and the environment. Additionally, our programmes assist students in developing the core skills in job creation and employment-related experiences that employers, professional organisations and academic institutions value.

Departments and Research Centres/Institutes

- » Currently, the School has the following Departments/Centre:
- » Department of Agribusiness Management and Consumer Studies
- » Department of Horticulture and Crop Production
- » Department of Animal Production and Health
- » Centre for Agriculture Technology, Research and Production
- » Department of Food Science and Technology
- » Department of Agricultural and Resources Economics

DEPARTMENT OF AGRIBUSINESS MANAGEMENT AND CONSUMER STUDIES

The Department offers both undergraduate and postgraduate market-driven programmes in Agribusiness Management. The programmes are B.Sc. Agribusiness, B.Sc. Agricultural and Resource Economics, B.Sc. Agriculture (Extension option), MBA Agribusiness Management and MPhil Agribusiness Management. Our programmes are designed to cover all business, economics and community development disciplines so that students can apply concepts from these disciplines to agribusiness and allied industries. Our programmes aim to train students who wish to undertake managerial-level, agripreneurship, research, agricultural planning, policy, trade, teaching and consultancy careers in food production, processing, agricultural output and input marketing, agricultural finance, supply chain, food and agribusiness allied sectors.

The Department has well-motivated, dynamic and young but experienced and dedicated lecturers who provide excellent theoretical and practical content for courses in agribusiness, agricultural and resource economics as well as community development.

Our innovative programmes, distinguished faculty and competitive students place the Department among one of the best in the provision of training in agribusiness, agricultural and resource economics as well as community development education in the sub-region.

DEPARTMENT OF HORTICULTURE AND CROP PRODUCTION

The Department of Horticulture and Crop Production was established in the 2014/2015 academic year to offer agricultural education to students for future careers as professional crop sciences. The Department offers a 4-year Bachelor of Science undergraduate degree in Agriculture with Horticulture and Crop Production options. The programme's coverage is intended to promote the versatility of our graduates in the production, protection and processing of crops with excellent skills in scientific applications for the market and graduate studies programmes locally and globally. The Department also runs postgraduate studies (MSc, MPhil and PhD) in Crop Science with specialisation in Agronomy, Entomology, Postharvest technology, and Pathology.

DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

The Department of Animal Production and Health undertakes the following activities;

- Teaching of Agriculture related courses.
- Weekly seminar series for undergraduate students.
- Field farm visits for students.
- Counselling sessions for final year students.
- Development of new programmes.

CENTRE FOR AGRICULTURAL TECHNOLOGY, RESEARCH AND PRODUCTION (CATREP)

The School of Agriculture and Technology (SOAT) of the University of Energy and Natural Resources (UENR) was established in the 2014/15 academic year in Dormaa-Ahenkro. The SOAT seeks to bring a paradigm shift in agricultural teaching, research, and outreach to promote the Ghanaian agricultural sector's performance, modernisation, efficiency, and competitiveness. The strategy is to combine science, technology, business, economics and human values as an integrated tool for improving farming processes to meet market and consumption needs. As a necessary means to achieve hands-on and practical training and promote agricultural technologies and research, the University has set up the Centre for Agriculture Technology, Research and Production (CATReP). The CATReP has two main components, thus, the research and business sections. The model centre incorporates agriculture technology training and dissemination as well as consultancy models. This allows the leveraging of experiences in agriculture to assist farmers, agricultural extension agents, and NGOs implementing different agriculture projects in the country's northern zone. The training and consultancy services under the Agriculture Technology Training and Dissemination Centre involve students, staff and other critical stakeholders in the agriculture value chain.

Academic Programmes under each Department

Name of Department	Programmes
Department of Agribusiness Management and Consumer Studies	B.Sc. Agribusiness B. Sc. Agricultural and Resource Economics B. Sc. Agriculture (Extension option) MBA/MPhil Agribusiness Management
Department of Horticulture and Crop Production	B.Sc. Agriculture (Options in Horticulture and Crop Production, Soil Science and Postharvest Technology) Diploma in Agriculture M.Sc., MPhil and PhD Crop Science (Entomology, Pathology, Post-harvest and Agronomy)
Department of Animal Production and Health	B.Sc. Agriculture (Animal Production option)

ADMINISTRATION OF THE SCHOOL

The following personnel constitutes the School Administration:

Dr. Samuel Kwesi Asomaning	-	Ag. Dean
Mr. Ernest Bachela Mbawini	-	Junior Assistant Registrar
Ms. Joyce Yeboah	-	Senior Administrative Assistant

STAFF AND STUDENT STATISTICS

i. Staff Statistics

S/N	Rank	Male	Female	Total
1.	Professor	1		1
2.	Assoc. Professor	1		1
3.	Senior Lecturer	9	1	10
4.	Lecturer	18	4	22
5.	Assistant Lecturer	1	1	2
6.	Assistant Research Fellow	1		1
7.	Senior Research Assistants/Technicians	5		5
8.	Junior Assistant Registrars	2		2
9.	Senior Administrative Assistant	2	2	4
10.	Junior Staff	1		1
	Grand Total	41	8	49

A. Staff List

S/N	Name	Rank/Position
Department of Agribusiness Management and Consumer Studies		
1	Ms Helena Oppong-Kyeremeh	Senior Lecturer/ Head
2	Prof John K.M. Kuwornu	Professor
3	Dr Richard Kwasi Bannor	Senior Lecturer
4	Dr Tekuni Nakuja	Senior Lecturer
5	Dr Samuel Afotey Anang	Senior Lecturer
6	Dr Nicholas Oppong Mensah	Senior Lecturer
7	Mr Anthony Donkor	Lecturer
8	Mr Frank Osei Tutu	Lecturer
9	Dr Daniel Aidoo Mensah	Lecturer
10	Dr Bismark Amfo	Lecturer
11	Dr Lesley Hope	Lecturer
12	Dr Maanikuu P.M. Izideen	Lecturer
13	Dr Boahen Atta Oppong	Lecturer
14	Dr Dominic Boateng-Gyambiby	Lecturer
15	Mr Ebenezer Bold	Assistant Lecturer
16	Ms Abigail Oparebea Boateng	Assistant Lecturer
17	Mr. Bennet Kwakye	Senior Administrative Assistant
Department of Horticulture and Crop Production		
18	Dr Jacob P. Anankware	Senior lecturer/Head
19	Prof. Charles Adarkwah	Associate Professor
20	Dr. Samuel Kwasi. Asomaning	Senior lecturer
21	Dr. James Owusu-Kwarteng	Senior Lecturer
22	Dr Patrick M. Norshie	Senior Lecturer
23	Dr Abdulai Muntala	Senior Lecturer
24	Dr Kwadwo Gyasi Santo	Lecturer
25	Dr. Daniel Ntiamoah Afreh	Lecturer
26	Dr Paa Kwesi Bordoh	Lecturer
27	Dr Fransisca Aba Ansah	Lecturer
28	Dr Esther Fobi Donkor	Lecturer
29	Dr Abdul Khalid Aziz	Lecturer
30	Dr. Kwabena Atakora	Lecturer
31	Dr Felix Eyahanyo	Lecturer
32	Dr Mavis Owusuaa Osei-Wusu	Lecturer

33	Mr. Joseph Nyarko	Assist. Research Fellow
34	Mr. Remember Roger Adjei	Snr. Research Assist.
35	Mr. Samuel Novor	Snr. Research Assist.
36	Mr. Shadrack Asomah	Snr. Lab. Technician
37	Mr Samuel Asante Boateng	Senior Administrative Assistant
Department of Animal Production and Health		
38	Dr Bernard Ato Hagan	Lecturer/Ag. Head
39	Dr Peter Asiedu	Lecturer
40	Dr Moses Addo Nartey	Lecturer
41	Mr Ernest Darkwah Yeboah	Lecturer
42	Mr Christian Asumah	Lecturer
43	Ms Edith Adasi Ayarkwa	Senior Administrative Assistant
Centre for Agriculture Technology, Research and Production		
**.	Dr. Kwadwo Gyasi Santo	Lecturer/Ag. Head
44	Mr. Bernard Quaye	JAR/Centre Manager
45	Mr. Joel Amponsah	Asst. Farm Manager
46	Mr. Salifu Faisal	Senior Technician
47	Mr. Dickson Amosah	Farm Oversear

ii. Students Statistics

Department Agribusiness Management and Consumer Studies			
BSc Agribusiness			
Level	Male	Female	Total
100	31	13	44
200	54	12	66
300	30	17	47
400	26	8	34
Sub Total	141	50	191
BSc Agriculture (Extension option)			
Level			
300	7	2	9
Sub Total	7	2	9
Postgraduate			

MBA Agribusiness			
1st Year	3		3
2nd Year	3	3	6
Sub Total	6	3	9
MPhil Agribusiness			
1st Year	20	3	23
2nd Year	21	2	23
Sub Total	41	5	46
Department of Horticulture and Crop Production			
Diploma in Agriculture			
Level	Male	Female	Total
100	24	3	27
200	25	8	33
Sub Total	49	11	60
BSc Agriculture			
Level			
100	26	5	31
200	44	10	54
300 (Crop Production option)	3	2	5
400	13	6	19
Sub Total	86	23	109
Postgraduate			
MSc Crop Science			
1st Year	4	0	4
2nd Year	5	0	5
Sub Total	9	0	9
MPhil Crop Science			
1st Year	32	2	34
2nd Year	22	1	23
Sub Total	54	3	57
PhD Crop Science			
1st Year	3		3
2nd Year	8	0	8
Sub Total	11	0	11
Department of Animal Production and Health			

BSc Agriculture (Animal Production option)			
Level	Male	Female	Total
300	12	2	14
400	6	0	6
Sub Total	18	2	20
Grand Total	422	99	521

RESEARCH COLLABORATIONS (LOCAL AND INTERNATIONAL)

1. Patent: Masih, Jolly; Deshpande, Manojkumar; Singh, Harvinder; Malik, Bernard; Malik, Nitin; Dubinsky, Ziv; Bannor, Richard Kwasi; Maludin, Syafrizal; Rajasekaran, Dr Rajkumar; Neema, Ronhit and Lodhi, Abhay Singh (30 March 2022). A Self-Controlled Unmanned Aerial Vehicle System for Farming Applications and its Working Method Thereof. Certificate of Grant Innovation Patent, IP Australia-Australian Government, Patent Number, 2021105033.
2. Queen Elizabeth Advanced Scholar research collaboration on a three-year (April 2021 – December 2024) project titled “Water Security to Promote Gender Equity and Climate-Change Resilience in West Africa” at the University of Saskatchewan and funded by the Canadian Queen Elizabeth II Diamond Jubilee Scholarships for Advanced Scholars Program (QES-AS West Africa).
3. Ohio State University, USA and CSIR-SARI on Bundling Small Scale Irrigation and Drought index insurance to manage smallholder incomes risks and expanding their access to agricultural credit. May 2022.
4. Gendered market scan to identify opportunities and barriers for women’s economic empowerment in forest and savannah agro ecological zones of Ghana. Department of Agricultural Economics and Agribusiness, University of Ghana, Legon under a commissioned project implemented by Plan International Ghana in partnership with Global Affairs Canada (GAC).
5. A number of research collaborations with the Animal Science Department of University of Cape Coast (UCC) to study the performance of two dairy cattle breeds in Ghana and how such performance is influenced by the environmental factors.
6. A collaborative work with CSIR-Animal Research Institute (CSIR-ARI) on the effects of both genetic and non-genetic factors on the pre-weaning growth performance of sheep in northern Ghana.
7. Work with the Animal Science Department of Kwame Nkrumah University of Science and Technology (KNUST) on the evaluation of thermoregulatory genes in the second and third filial generations of local and commercial chickens in Ghana under intensive production.
8. A member of the department of horticulture and crop production is the Principal Scientist for a US\$1.89 million DANIDA funded project with several partners in Denmark, Kenya (International Centre for Insect Physiology and Ecology (ICIPE) Jomo Kenyatta University of Agriculture and Technology (JKUAT), JOUST,

MMUST in Kenya and the Makerere University in Uganda. These collaborations have produced several Web of Science and Scopus Indexed journals while several others are in the pipeline.

9. Fulbright African Research Scholar Award for the year 2022 granted to Dr. James Owusu-Kwarteng. He is collaborating with scientists from New Mexico State University's Food Safety Laboratory, USA, to develop non-thermal biocontrol for *Escherichia coli* O157:H7 in chili pepper using bacteriophage cocktail and bacteriocin produced by *Lactobacillus fermentum*.

WORKSHOPS/CONFERENCES/PUBLIC LECTURES

Department of Agribusiness Management and Consumer Studies

1. Women and Youth participation and generation of income from sustainable cocoa production". Workshop Organised by IITA and Cocoa Soils titled Reconciling different Objectives in Cocoa Landscapes from National to Local levels – Identifying Research Needs at Hillview Abokobi, Accra: from 26-27 April 2022.
2. FAO Farmer field School Field School (FFS) on Marketing and Supply Chain Management in poultry production enterprise at Kade on 9th March 2022 at MoFA Conference Room; and in Dormaa Ahenkro on 14th March 2022 at Wamfie Poultry Farmers Association Hall.
3. 5th Ghana Association of Agricultural Economist Conference – Sheila's lodge, Sunyani
4. Agro-ecology seminar: Sustainable Agriculture in Ghana, Role of Agro-ecology. 25th August, 2022. Eusbett Hotel Sunyani. Time: 10:00am. In collaboration with Agro-ecology Movement.
5. Retraining on New Students Management System. IT Directorate, UENR-Dormaa Campus, 12th August 2022.
6. Innovative Teaching and Assessment Practices in Higher Education, Centre for Professional Development, UENR-Sunyani, 10th-12th January 2022.
7. 2022 Africa after COVID-19: Resetting Policy Priorities to Transform Economies held by African Centre for Economic Transformation (ACET) in partnership with JICA, Webinar-Zoom, 22nd June.
8. 2022 AI and Sustainability held by Sustainability Research & Innovation, Webinar-Zoom, 22nd June.
9. 2022 Building Peace for Sustainability through Science held by Sustainability Research & Innovation, Webinar-Zoom, 31st March
10. Scopus as an Accredited List on April 21, 2022 via Zoom

Department of Horticulture and Crop Production

1. Stakeholder meeting on Ghana Groundnut Working Group (GGWG) and Peanut Innovation Lab Ghana Projects organized by GGWG Organizing Committee and Peanut Innovation Lab Management Entity, Miriam Hotel in Tamale, Ghana. 25th – 29th July, 2022
2. Tigernut Conference organized by Mosaic Grove of Ghana Food Movement. Theme: "Discovering Ghana's new and underutilized Crop- Tigernut" at Impact Hub, Osu

- in Accra. Date: 6th August 2022.
3. 2022 Nature Communications Early Career Researcher (ECR) peer review mentoring program Masterclass. Organized by Nature communications. Date: 15th July 2022.
 4. Chief Examiner in Agricultural Science for Course Tutors in Colleges of Education affiliated to Kwame Nkrumah University of Science and Technology (KNUST) at Senator Hotel, Kumasi. 19th-25 June, 2022.
 5. Effect of Climate Change in Agriculture for farmers in Dormaa Circuit Choirs of the Methodist Church at Aboabo on 22nd July, 2022.
 6. Facilitation on the Topic "AFTER SHS, WHAT NEXT? For final years of Salvation Army SHS at Aboabo on 13th August, 2022.
 7. Virtual Training on Partnership for Enhance and Blended Learning for 13 West African Universities from February-September, 2022.
 8. Speaking Science Ghana, Alliance for Science organized workshop, May 2022.
 9. Expects' Workshop on Agricultural Biotechnology, CSIR-SARI, CRI, OFAB, April 2022
 10. DAAD PhD Proposal Writing Workshop (Participant). 29th July 2022. Golden Bean Hotel, Kumasi.
 11. Scriptoria Grant Writing Online Course (Participant). 22 and 23 June 2022
 12. Annual coffee break sessions of the Nursing School at the University of Michigan, May 2022.
 13. Insects to Feed the World (IFW) 2022 conference in Quebec, Canada. June 12-16, 2022
 14. Colloquium on regional trade agreements and climate change. Climate, trade and the energy-food nexus: Facilitating climate action through free trade agreements in Africa, organized by GIZ in collaboration with UENR on 22nd September, 2022 at Shella's Hotel, Sunyani.
 15. Sustainable agriculture in Ghana: The role of agroecology, organized by Action Aid Ghana in collaboration with UENR on 25th August, 2022 at Eusbert Hotel, Sunyani.
 16. FERARI data harmonization and discussion workshop organized by IFDC at Suncity Hotel, Kumasi from 14-15th August, 2022.
 17. Aligning of course outcomes, instruction and assessment in higher education. University of Energy and Natural Resources Auditorium-Sunyani. 10th – 12th January, 2022.
 18. Maiden congregation public lecture on plant viruses: A threat to national food security, UENR Auditorium, Sunyani, 17th December, 2021.
 19. Fertilizer Sector Stakeholders Roundtable Workshop organized by Fertilizer Research and Responsible Implementation (FERARI) Programme of IFDC in collaboration with the Ghana Fertilizer Expansion Programme (GFEP) from September 23 – 24, 2021, at Tomreik Hotel in Accra.
 20. Regional Joint Sector Review (RJSR) in the agricultural sector, Sunyani, 30th August, 2021.
 21. Inception workshop to introduce IFDC's Ph.D students to Fertilizer Research and Responsible Implementation (FERARI) activities and partners, organized by IFDC at CSIR-Soil Research Institute, Kumasi from 18-20th March, 2021.

Department of Animal Production and Health

1. Expert Meeting on Biotechnology Developments in Ghana at CSIR-CRI Agricultural Productivity Training Centre (APTC), Fomesua on 13th April, 2022
2. Symposium on “Building Food Security on Home Grown Food and Renewable Energy organised by Department of Fisheries and Water Resources of the University of Energy and Natural Resources, Sunyani, July 6, 2022.
3. Received a visiting post-doctorate researcher, Dr. Addo Sowah, from the University of Kassel in Germany for a 2 –week departmental training on Genetic diversity of ruminant species and analysis of genetic diversity data on using PLINK between January 5-21, 2022.

Centre for Agriculture Technology, Research and Production

1. IAAS 43rd National Congress, IAAS-UENR, Hotel De Johnson, Dormaa on Sept. 3, 2022
2. GAUA National Congress 2022, UEW, Winneba- North Campus Aug. 4-6, 2022
3. Administrators Conference 2022, Tyco City Hotel, Sunyani June 23-24, 2022
4. Training the Next Generation of Experts Mar., 25, 2022
5. I.T Directorate and Centre for Professional Development, UENR Auditorium, Sunyani
6. Building and Making UENR a Better Place of Work, UENR Auditorium, Sunyani May, 6-7, 2021
7. Maiden Congregation Public Lecture, (Theme: “Plant Viruses; A Threat to National Food Security) UENR Auditorium, Sunyani, Dec., 17, 2021

PROPOSALS

1. Proposal to take over Okuafo Pa Agribusiness Centre at Kyeremasu
2. Members of the department of Animal Production and Health presented a concept note on “Alternative Livelihood Support in selected livestock communities using Indigenous Micro-organisms (IMO) communities in Newmont Ahafo operational areas” to Newmont Ahafo Development Foundation (NaDEF) on February, 2022.

GRANTS AND AWARDS

- The Canadian Queen Elizabeth II Diamond Jubilee Scholarships for Advanced Scholars Program (QES-AS-West Africa).
- US\$1.89 million DANIDA funded project with several partners in Denmark, Kenya (International Centre for Insect Physiology and Ecology (ICIPE) Jomo Kenyatta University of Agriculture and Technology (JKUAT), JOUST, MMUST in Kenya and the Makerere University in Uganda.
- Fulbright African Research Scholar Award, 2022.

FUNDING OF RESEARCH ACTIVITIES

- Fertilizer Response Trials in maize, rice and soyabeans in Bono Region of Ghana, a sub-contract awarded to UENR by the International Fertilizer Development Centre (IFDC) under the Fertilizer Research and Responsible Implementation (FERARI) programme.

PUBLICATIONS

Department of Agribusiness Management and Consumer Studies

Research interest

Agribusiness Marketing (Branding, labelling, packaging, internet of things, warehousing, communications), Product and Operations Management, Value Chain Analysis, Agri-supply chain, and Consumer Studies

Ms Helena Oppong-Kyeremeh

1. Bannor, R.K., Amfo, B. and Oppong-Kyeremeh, H. (2022). Food labelling and safety consciousness of consumers in Ghana: the case of tinned tomatoes. *Journal of Agribusiness in Developing and Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JADEE-12-2021-0326>
2. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B., Hope, L. and Kyire, C.K.S.(2022). The nexus between cocoa farmers business schools participation and impact to support livelihood improvement strategies in Ghana. *Sage Open Journal*, 1-16. doi: 10.1177/21582440221108170
3. Bannor, R.K., Amfo, B. and Oppong-Kyeremeh, H. (2022). Examining the nexus between certification of food retailers and its impact in Ghana. *The International Journal of Retail & Distribution Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJRDM-11-2021-0561>.
4. Bannor, R.K., Amfo, B., Oppong-Kyeremeh, H. and Chaa Kyire, S.K. (2022). Choice of supermarkets as a marketing outlet for purchasing fresh agricultural products in urban Ghana. *Nankai Business Review International*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/NBRI-08-2021-0059>
5. Bannor, R.K., Amfo, B, Sarquah, K., Oppong-Kyeremeh, H., and Chaa, K.K.S. Unwrapping the nexus between the off-grid system and its impact on the islands and remote villages of Ghana (2022). *International Journal of Energy Sector Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJESM-01-2022-0004>.
6. Nsiah, P., Bannor R.K. and Oppong-Kyeremeh, H. (2022). Examining the effect of rewards on employee performance to support the development of poultry agribusinesses. *Indian Journal of Economics and Development*, 18(2), 243-256.
7. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B. and Allotey, A.A. (2022). Diversification into agritourism by cocoa farmers: an investigation to support rural development and tourism policies in Ghana. *Agricultural Finance Review*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/AFR-10-2021-0136>.
8. Bannor, R.K., Oppong-Kyeremeh, H., Aguah, A.D and Chaa, K.K.S. (2022). Evidence from Ghana on the nexus between Fall Armyworm and Food Security. *International Journal of Social Economics*, 49 (4), 562-580. <https://doi.org/10.1108/IJSE-07-2021-041>.

Prof John K.M. Kuwornu

1. Ho, T.D., Kuwornu, J.K.M. and Tsusaka, T.W. (2022). Factors influencing smallholder rice farmers' vulnerability to climate change and variability in the Mekong Delta Region of Vietnam. *The European Journal of Development Research*, 34(1), 272-302.
2. Ho, T.D., Tsusaka, T.W., Kuwornu, J.K.M., Datta, A. and Nguyen, L.T. (2022). Do rice varieties matter? Climate change adaptation and livelihood diversification among rural smallholder households in the Mekong Delta region of Vietnam. *Mitigation and Adaptation Strategies for Global Change*, 27(1), 1-33.
3. Aliyar, Q., Zulfiqar, F., Datta, A., Kuwornu, J.K.M. and Shrestha, S. (2022). Drought perception and field-level adaptation strategies of farming households in drought-prone areas of Afghanistan. *International Journal of Disaster Risk Reduction*, 72(102862). <https://doi.org/10.1016/j.ijdr.2022.102862>
4. Ntiri, P., Ragasa, C., Anang, S.A., Kuwornu, J.K.M. and Torbi, E. N. (2022). Does ICT-based aquaculture extension contribute to greater adoption of good management practices and improved incomes? Evidence from Ghana. *Aquaculture*, 557, 738350. <https://doi.org/10.1016/j.aquaculture.2022.738350>
5. Khan, R.M., Zulfiqar, F., Datta, A., Kuwornu, J.K.M and Shrestha, S. (2022). Analysing the variation in farmers' perceptions of climate change impacts on crop production and adaptation measures across the Ganges' Tidal Floodplain in Bangladesh. *Local Environment*, 27(8), 968-987.
6. Szabo, S., Ahmed, S., Wiśniowski, A., Pramanik, M., Islam, R., Zaman, F. and Kuwornu, J.K.M. (2022). Remittances and Food Security in Bangladesh: An Empirical Country-level Analysis. *Public Health Nutrition*, 1-27.
7. Ofori-Sasu, D., Kuwornu, J.K.M, Dzeha, G. C., and Kusi, B. A. (2022). Risk behaviour and insurance efficiency: the role of ownership and regulations from an emerging economies. *SN Business & Economics*, 2(7), 1-30.

Dr Richard Kwasi Bannor

Research interest

Celebrity and Digital Marketing, Food Standard and Certifications, Labelling and Packaging of Agribusiness Products, Agricultural Intellectual Property Regimes, and TMQ Practices in Agribusiness Marketing and Supply Chain.

Publications

1. Atinga, E. and Bannor, R. K. (2022). Marketing Efficiency and Sales Outlet Choice among Fuelwood Harvesters in the Bono Region of Ghana. *Trees, Forests and People*, 10,100328. <https://doi.org/10.1016/j.tfp.2022.100328>
2. Bannor, R.K., Amfo, B. and Oppong-Kyeremeh, H. (2022). Food labelling and safety consciousness of consumers in Ghana: the case of tinned tomatoes. *Journal of Agribusiness in Developing and Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JADEE-12-2021-0326>
3. Bannor, R.K and Aryee, H.N.A. (2022). A decade of Celebrity endorsements studies; a bibliometric analysis to support future studies, *Indian Journal of Economics and Development*, 18(3), 689-699.

4. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B., Hope, L. and Kyire, C.K.S. (2022). The nexus between cocoa farmers business schools participation and impact to support livelihood improvement strategies in Ghana. *Sage Open Journal*, 1-16. doi: 10.1177/21582440221108170
5. Nutsugbodo, R.Y., Anafo, D., Ankamah, S and Bannor, R.K. (2022). Discrimination in the rental housing market in the Sunyani Municipality, Ghana. *Urban, Planning and Transport Research*, 10 (1), 159-180. doi: 10.1080/21650020.2022.2072947
6. Bannor, R.K., Amfo, B and Oppong-Kyeremeh H. (2022). Examining the nexus between certification of food retailers and its impact in Ghana. *The International Journal of Retail & Distribution Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJRDM-11-2021-0561>.
7. Bannor, R.K., Amfo, B., Oppong-Kyeremeh, H. and Chaa Kyire, S.K. (2022). Choice of supermarkets as a marketing outlet for purchasing fresh agricultural products in urban Ghana. *Nankai Business Review International*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/NBRI-08-2021-0059>
8. Bannor, R.K., Amfo, B, Sarquah, K., Oppong-Kyeremeh, H., and Chaa, K.K.S. Unwrapping the nexus between the off-grid system and its impact on the islands and remote villages of Ghana (2022). *International Journal of Energy Sector Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJESM-01-2022-0004>.
9. Wongnaa, C. A., Bannor, R. K., Dziwornu, R. K., Ennin, J. A., Osei, E. A., Adzikah, C., & Charles, A. (2022). Structure, Conduct and Performance of Onion Market in Southern Ghana. *Caraka Tani: Journal of Sustainable Agriculture*, 37(1), 71-88.
10. Oppong, D. and Bannor, R.K. (2022). Bibliometric analysis and systematic review of compliance with agricultural certification standards: Evidence from Africa and Asia. *All Life Journal*, 15(1), 970 – 999.
11. Nsiah, P., Bannor R.K. and Oppong-Kyeremeh, H. (2022). Examining the effect of rewards on employee performance to support the development of poultry agribusinesses. *Indian Journal of Economics and Development*, 18(2), 243-256.
12. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B and Allotey, A.A. (2022). Diversification into agritourism by cocoa farmers: an investigation to support rural development and tourism policies in Ghana. *Agricultural Finance Review*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/AFR-10-2021-0136>
13. Oppong, D. and Bannor, R.K (2022). Gender and Power Work Relationships; Evidence from Africa and Asia *Gender and Power Relations*. *Cogent Social Sciences Journal*, 8:1, 2031686. doi: 10.1080/23311886.2022.2031686.
14. Bannor, R. K and Gyekye, Y. (2022). Unpacking the nexus between broiler contract farming and its impact in Ghana (2022). *European Journal of Development Research*. <https://doi.org/10.1057/s41287-021-00489-8>
15. Amfo, B., Aidoo, R., Mensah, J. O., Adzawla, W., Appiah-Twumasi, M., Akey, E. A., & Bannor, R. K. (2022). Rice Marketing Outlets, Commercialization, and Welfare: Insights from Rural Ghana. *Journal of International Food & Agribusiness Marketing*, 1-27. doi.org/10.1080/08974438.2021.2022556
16. Bannor, R.K., Oppong-Kyeremeh, H., Aguah, A.D and Chaa, K.K.S. (2022). Evidence

from Ghana on the nexus between Fall Armyworm and Food Security. *International Journal of Social Economics*, 49 (4), 562-580. <https://doi.org/10.1108/IJSE-07-2021-0418>

Dr. Tekuni Nakuja

1. Anang, S. A., Tarkoh, B., Mensah, N. O. and Nakuja T. (2022). Effect of Diversification on Smallholder Cocoa Farmers' Livelihood: Evidence from Atwima Mponua District in the Ashanti Region, Ghana. *Bhartiya Krishi Anusandhan Patrika*, vol. (ahead of print), pages (ahead of print).
2. Kyere, G.H., Nakuja, T., Anang, A.S., Mensah, N.O. (2021). Robustness of food security and policy trust on smallholder participation in Ghana's Planting for Food and Jobs programme. *African Journal of Agricultural Research*, 17(12), 1517-1523

Dr Samuel Afotey Anang

Research Interests/Activities

Agriculture cooperative societies in food production, Livelihoods and Rural Development., Precision Agriculture and food security, Sustainable Agriculture, Gender issues and empowerment and Poverty Reduction research

Publications

1. Mensah, N. O., Amrago, E.C., Twintoh, J.J, Donkor, A., and Anang, S. A. (2022). Estimation of Market Potential and Willingness to Pay for Forestry Insurance: Evidence from Tree Growers in the Ashanti Region of Ghana. *World Journal of Science, Technology and Sustainable Development*, 19(1),1 –15.
2. Anang, S. A., Tarkoh, B., Mensah, N. O. and Nakuja T. (2022). Effect of Diversification on Smallholder Cocoa Farmers' Livelihood: Evidence from Atwima Mponua District in the Ashanti Region, Ghana. *Bhartiya Krishi Anusandhan Patrika*, vol. (ahead of print), pages (ahead of print).
3. Aryeh-Adjei, A. A., Anang, S. A., and Osei-Adusah, D. (2022). Local Participation in Community-Based Development Projects in Ghana. *International Journal of Social Ecology and Sustainable Development*, 13(1), 1-13.
4. Ntiri, P., Ragasa, C., Anang, S. A., Kuwornu, J. K. M., and Torbi, E. N. (2022). Does ICT-based aquaculture extension contribute to greater adoption of good management practices and improved incomes? Evidence from Ghana. *Aquaculture*, 557(738350), 1-24.
5. Nakuja, T., Kyere, G. H., Anang, S. A., and Mensah, N.O. (2021). Robustness of food security and policy trust on smallholder participation in Ghana's planting for food and jobs programme. *African Journal of Agricultural Research*, 17(12), 1517-1523.

Dr Nicholas Oppong Mensah

Research Interest

Risk Management, Food Banking, Agri Supply Chain, and Agribusiness Marketing

Publications

1. Mensah, N.O., Amrago, E.C., Twintoh, J.J., Donkor, A. and Anang, S.A. (2022): Estimation of Market Potential and Willingness to Pay for Forestry Insurance: Evidence from Tree Growers in the Ashanti Region of Ghana. *World Journal of Science, Technology and Sustainable Development*, 19(1), 1–15.
2. Mensah, N.O., Bazimwomit, T.K., Kambilige, S.P., Amrago, E.C., Asare, J.K., Donkor, A. and Osei Tutu, F. (2022): Impact of Formal Credit on Tomato Trader's Welfare in the Upper East Region of Ghana: A Propensity Score Matching Estimation. *World Journal of Entrepreneurship, Management and Sustainable Development*, 18(3), 345–361. DOI: 10.47556/J.WJEMSD.18.3.2022.3
3. Amrago, E.C. and Mensah, N.O. (2022). Trade credit from agrochemical vendors as an alternative source of finance for cabbage producers in the Bono East Region of Ghana. *Agricultural Finance Review*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/AFR-11-2021-0155>
4. Nyarko, B., Mensah, N.O., Boateng, K.A. and Donkor, A. (2022). Influences of E-commerce Adoption on Sales performance among Agrochemical Input Dealers in the Ghanaian City. *Cogent Business and Management*, 9:1, 2038763, DOI: 10.1080/23311975.2022.2038763
5. Anang, S.A., Tarkoh, B., Mensah, N.O., Nakuja, T. (2022). Effect of Diversification on Smallholder Cocoa Farmers' Livelihood: Evidence from Atwima Mponua District in the Ashanti Region, Ghana. *Bhartiya Krishi Anusandhan Patrika*. DOI: 10.18805/BKAP379.
6. Udimal, T.B., Peng, Z., Cao, C., Luo M., Liu, Y. and Mensah N.O. (2022). Compliance with pesticides' use regulations and guidelines among vegetable farmers: Evidence from the field *Cleaner Engineering and Technology* <https://doi.org/10.1016/j.clet.2022.100399>

Book Chapter

1. Asamoah, E.O., Mensah N.O. and Buah E.K. (2021). Financing Small and Medium Enterprise through Venture Capital. *Research Trends in Applied Research Volume - 9* Published By: Weser Books Weser Books, No. 79737 Äussere Weberstr. 57 02763 Zittau, Germany.
2. Tandoh I., Mensah N.O., Anani-Bossman A. (2022) Perception of Marketing Communication Practice: Evidence from Rural and Community Banks. In: Anning-Dorson T., Hinson R.E., Coffie S., Bosah G., Abdul-Hamid I.K. (eds) *Marketing Communications in Emerging Economies, Volume II*. Palgrave Studies of Marketing in Emerging Economies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-81337-6_7

Mr. Anthony Donkor

Research Interests/Activities

Optimization Techniques, Optimal allocation of funds and raw materials, Profit maximization and Minimization of production cost

Publications

1. Mensah, N.O., Amrago, E.C., Twintoh, J.J., Donkor, A. and Anang, S.A. (2022): Estimation of Market Potential and Willingness to Pay for Forestry Insurance: Evidence from Tree Growers in the Ashanti Region of Ghana. *World Journal of Science, Technology and Sustainable Development*, 19(1), 1–15.
2. Mensah, N.O., Bazimwomit, T.K., Kambilige, S.P., Amrago, E.C., Asare, J.K., Donkor, A. and Tutu, F.O. (2022): Impact of Formal Credit on Tomato Trader's Welfare in the Upper East Region of Ghana: A Propensity Score Matching Estimation. *World Journal of Entrepreneurship, Management and Sustainable Development*, 18(3), 345–361. DOI: 10.47556/J.WJEMSD.18.3.2022.3
3. Nyarko, B., Mensah, N.O., Boateng, K.A. and Donkor, A. (2022). Influences of E-commerce Adoption on Sales performance among Agrochemical Input Dealers in the Ghanaian City. *Cogent Business and Management*, 9:1, 2038763, DOI: 10.1080/23311975.2022.2038763

Mr. Frank Osei Tutu

Research Interest

Agribusiness Financing and Banking, Agribusiness Taxation, Agribusiness Appraisal and Auditing, Agribusiness Portfolio Management and Loans Portfolio Management

Publications

1. Mensah, N.O., Bazimwomit, T.K., Kambilige, S.P., Amrago, E.C., Asare, J.K., Donkor, A. and Tutu, F.O. (2022): Impact of Formal Credit on Tomato Trader's Welfare in the Upper East Region of Ghana: A Propensity Score Matching Estimation. *World Journal of Entrepreneurship, Management and Sustainable Development*, 18(3), 345–361. DOI: 10.47556/J.WJEMSD.18.3.2022.3

Dr Bismark Amfo

Publications

1. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B. and Allotey, A.A. (2022). Diversification into agritourism by cocoa farmers in Ghana as an alternative source of income. *Agricultural Finance Review*. <https://doi.org/10.1108/AFR-10-2021-0136>
2. Amfo, B., Aidoo, R., Osei Mensah, J., Adzawla, W., Appiah-Twumasi, Akey, E.A. and Bannor, R.K. (2022). Rice marketing outlets, commercialization, and welfare: insights from rural Ghana. *Journal of International Food and Agribusiness Marketing*. <https://doi.org/10.1080/08974438.2021.2022556>
3. Amfo, B., Osei Mensah, J. and Aidoo, R. (2022). Migrants and non-migrants' welfare on cocoa farms in Ghana: multidimensional poverty index approach. *International Journal of Social Economics* 49(3): 389-410. <https://doi.org/10.1108/IJSE-07-2021-0386>

4. Bannor, R. K., Amfo, B., Sarquah, K., Oppong-Kyeremeh, H. and Kyire, S.K.C. (2022). Unwrapping the nexus between the off-grid system and its impact on the islands and remote villages of Ghana. *International Journal of Energy Sector Management*. <https://doi.org/10.1108/IJESM-01-2022-0004>
5. Bannor, R.K., Amfo, B., Oppong-Kyeremeh (2022). Examining the nexus between food retailers certification and its impacts. *International Journal of Retail & Distribution Management*. <https://doi.org/10.1108/IJRDM-11-2021-0561>
6. Bannor, R.K., Amfo, B., Oppong-Kyeremeh, H. and Kyire, S.K.C. (2022). Choice of supermarkets as a marketing outlet for purchasing fresh agricultural products in urban Ghana. *Nankai Business Review International*. <https://doi.org/10.1108/NBRI-08-2021-0059>
7. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B., Hope, L. and Kyire, S.K.C. (2022). The nexus between cocoa farmers' business schools participation and impact to support livelihood improvement strategies in Ghana. *Sage Open*, 1-16. <https://doi.org/10.1177/21582440221108170>
8. Bannor, R.K., Amfo, B., Oppong-Kyeremeh (2022). Food labelling and safety consciousness of consumers in Ghana: the case of tinned tomatoes. *Journal of Agribusiness in Developing and Emerging Economies*. <https://doi.org/10.1108/JADEE-12-2021-0326>

Dr Lesley Hope

1. Bannor, R.K., Oppong-Kyeremeh, H., Amfo, B., Hope, L. and Kyire, C.K.S. (2022). The nexus between cocoa farmers business schools participation and impact to support livelihood improvement strategies in Ghana. *Sage Open Journal*, 1-16. doi: 10.1177/21582440221108170

Dr Maanikuu P. M. Izideen

1. Azumah, S. B. ., Lamptey, C. Y. ., Sulemana, N. ., Donkoh, S. ., Zakaria, A. ., & Maanikuu, P. M. I. (2022). An explorative study on the adoption and dis- adoption of improved rice varieties among farmers in the Northern region of Ghana. *Journal of Experimental Biology and Agricultural Sciences*, 10(2), 323–334. [https://doi.org/10.18006/2022.10\(2\).323.334](https://doi.org/10.18006/2022.10(2).323.334)
2. Lamptey, C.Y., Azumah, S. B., Maanikuu, P. M. I. (2022). Assessing Adoption Levels and Constraints to Modernized Rice Varieties Adoption by Rice Producers in Northern Ghana. *Journal of Agricultural Studies* ISSN 2166-0379 2022, Vol. 10, No. 3. doi:10.5296/jas.v10i3.19884 URL: <https://doi.org/10.5296/jas.v10i3.19884>

Dr Boahen Atta Oppong

Research Interest

Technical Efficiency, Poverty, Insurance, Marketing, Finance

Publication

1. Oppong, B. A. Onumah, E. E. Al-hassan R. M. & Mensah-Bonsu, A. (2021) Impact of Crop Productivity on Poverty among Farm Households in Ghana *Acta Economica (ACE) Acta Economica*, XIX(35), 77-94.

Mr Ebenezer Bold

Research Interest

Production and Operations Research, Total Quality Management, Knowledge and Innovation Management, International Business and Consumer

Ms Abigail Oparebea Boateng

Research Interest

Human Resource Management, Strategic management, Organisational Behavior, International Business, and Consumer Studies

Department of Horticulture and Crop Production

Prof. Charles Adarkwah

Research Interest

Integrated pest management and biological control of arthropod pests. Specifically, his research interests are centered on investigating the biology, behaviour, and population dynamics of stored-product arthropod pests and their natural enemies and to use the information acquired to optimize pest management strategies.

Publication

1. Adarkwah, C., Tuda, M., Adjei, R. R., Obeng-Ofori, D., Ulrichs, C., & Schöller, M. (2022). Evaluation of three German enhanced diatomaceous earth formulations for the management of two major storage pests in Ghana. *Journal of Stored Products Research*, 96, 101947, <https://doi.org/10.1016/j.jspr.2022.101947>

Dr James Owusu-Kwarteng

Research Interest

Food Safety; Food and Industrial Microbiology; Food Fermentation; Probiotics, Prebiotics and Health; Agri-food Processing Value Chains; Food Processing Technology; Quality Assurance.

Publications

1. Owusu-Kwarteng, J., Agyei, D., Akabanda, F., Atuna, R. A., Amagloh, F.K. (2022). Plant-based alkaline fermented foods as sustainable sources of nutrients and health-promoting bioactive compounds. *Frontiers in Sustainable Food Systems* 6:885328. doi: 10.3389/fsufs.2022.885328.
2. Owusu-Kwarteng, J., Parkouda, C., Adewumi, G. A., Ouoba, L. I. I., & Jespersen, L. (2022). Technologically relevant *Bacillus* species and microbial safety of West

African traditional alkaline fermented seed condiments. Critical reviews in food science and nutrition, 62(4), 871-888.

Dr. Samuel Kwesi Asomaning

Research Interest

Broadly varied research interests in the area of soil science. Specifically, his research interests are centered on soil fertility management and plant nutrition and soil chemistry, with special interest in soil phosphorus management, soil phosphorus fractionation and soil phosphorus sorption studies.

Publications

1. Sarfo Boateng, A., Afreh, D. N., Asomaning, S. K. Adarkwah, C., Adjei, R. R., Santo, K. G. and Sarkodie-Addo, J. (2022). Yield and Nitrogen Use Efficiency of Maize (*Zea mays* L.) Following the Application of Various Nitrogen Sources under Rainfed Conditions in the Bono Region of Ghana. *Agricultural Science Digest*. DOI: 10.18805/ag.DF-433.
2. Eduah, J. O., Nartey, E. K., Abekoe, M. K., Asomaning, S. K., Essibu, J. K., & Henriksen, S. W. (2022). Acidity and Aluminum Speciation in Biochar Amended Tropical Soils. *Communications in Soil Science and Plant Analysis*, 53(7), 913-927.

Dr Jacob Paarechuga Anankware

Research Interest

Entomology, Entomophagy, IPM and Stored product entomology. He focuses on insect rearing for food, feed and nutrition.

Publications

1. Debrah, S. K., Anankware, J. P., Asomah, S., & Obeng-Ofori, D. (2022): Substrates: a solution to the mass production of African palm weevil (*Rhynchophorus phoenicis*) (F.) (Coleoptera: Curculionidae). *Journal of Insects as Food and Feed*: 0 (0)- Pages: 1 – 8. <https://doi.org/10.3920/JIFF2021.0220>
2. Debrah, S. K., Anankware, J. P., Asomah, S., & Obeng-Ofori, D. (2022): Challenges associated with *Rhynchophorus phoenicis* Fabricius (Coleoptera: Curculionidae) farming: a case study of the Ejisu-Juaben Municipality. *Journal of Insects as Food and Feed*: 0 (0)- Pages: 1 – 10. <https://doi.org/10.3920/JIFF2021.0219>
3. Reynolds, C., Horton, M., Anankware, J. P., Perosky, J., Lee, H., Nyanplu, A, Zogbaye, B., Kofa, A., and Lori, J. R. (2022). Sustainable palm weevil farming as nutrition supplementation at maternity waiting homes in Liberia. *BMC Public Health*. <https://doi.org/10.1186/s12889-022-13706-8> Pp2-10.
4. Anankware, J. P, Debrah, S. K., Asomah, S., Obeng-Ofori, D. (2022). Influence of temperature on some selected life history parameters of the African Palm Weevil larvae *Rhynchophorus phoenicis* (F.) (Coleoptera: Curculionidae) reared on different substrates. Oral presentation during the insects to feed the world (IFW) 2022. June 12-16, 2022, Quebec, Canada.
5. Niassy, S., Omuse, E. R., Roos, N., Halloran, A., Eilenberg, J., Egonyu, J.P., Tanga,

C., Meutchieye, F., Mwangi, R., Subramanian, S., Musundire, R., Nkunika, P.O.Y., Anankware, J. P., Kinyuru, J., Yusuf, A. & Ekese, S. (2022). Safety, regulatory, and environmental issues related to breeding and international trade of edible insects in Africa Rev. Sci. Tech. Off. Int. Epiz., 2022, 41 (1).

6. Anankware, J. P., Roberts, B. J., Cheseto, X., Osuga, I., Savolainen, V. & Collins, C.M. (2021). The Nutritional Profiles of Five Important Edible Insect Species From West Africa—An Analytical and Literature Synthesis. *Front. Nutr.* 8:792941. doi: 10.3389/fnut.2021.792941.

Dr Francisca Abah Ansah

Research Interest

Mycotoxin and pathogen control; crop postharvest value chains and nutrition; mobile and scanning technologies for biosecurity, food quality and chemical residue analysis; organic and indigenous produce; packaging and shelf life studies;

Dr. Paa Kwesi Bordoh

Research Interest

Crop Quality and edible coating, Controlled and modified atmosphere packaging of fresh produce, Postharvest management of fresh produce, Storage and processing of Agric. produce, LAMP technique for early detection of postharvest diseases, postharvest pathology.

Dr. Abdulai Muntala

Research Interest

Molecular characterization, identification and detection of fungi, bacteria and viruses using both conventional and real-time PCR, Pulsed-Field Gel Electrophoresis to determine diversity among plant pathogens, Assessment of Incidence and Severity of plant pathogens, Pathogenicity assessment of plant pathogens

Publications

1. Afreh, D. N., Afari, M. A. B., Adjei, R. R., Boateng, S. A., Gyasi Santo, K. and Muntala, A. (2022). Response of two maize (*Zea mays* L.) varieties to times of NPK 15 15 15 fertilizer application. *International Journal of Agronomy*, 2022:1-7. <https://doi.org/10.1155/2022/7186913>

Dr. Daniel Ntiamoah Afreh

Research Interest

Soil fertility management, Conservation Agriculture, Sustainably increasing crop productivity through appropriate technology and management, Appropriate cropping systems that can ensure food security with less GHG emission, maintaining a healthy crop environment through Climate-Smart Agriculture.

Publications

1. Afreh, D. N., Afari, M. A. B., Adjei, R. R., Boateng, S. A., Gyasi Santo, K. and Muntala, A. (2022). Response of two maize (*Zea mays* L.) varieties to times of NPK 15 15 15 fertilizer application. *International Journal of Agronomy*, 2022:1-7. <https://doi.org/10.1155/2022/7186913>

- Yeboah, E.K., Santo, K. G. and Afreh, N. D. (2022). Productivity response of okra (*Abelmoschus esculentus*) to organic and inorganic nutrition at different spacing. *Volga Region Farmland*, 2(10): 22-35. DOI: 10.26177/VRF.2021.10.2.004.

Dr. Patrick Mawuenyegan Norshie

Research Interest

Plant Pathology, Nematology, Integrated Crop Pest and Disease Management, Environmental Profiling of Crop Protection Compounds

Dr Abdul-Aziz Khalid

Research Interest

Soil Physics/hydrology, Soil physical processes, Measurement of soil organic carbon, Water entry and retention, Nutrient uptake of plants, Soil and water conservation, Soil structure and compaction, Conservation tillage and climate change.

Dr. Kwadwo Gyasi Santo

Research Interest

Sustainable crop production for enhanced food security, Impact of cocoa-cashew intercropping on crop yield, Response of hybrid maize to fertilizer briquettes under rain-fed and irrigated conditions, Growth and yield response of soybeans to organo-mineral fertilizers, Response of groundnut to phosphate fertilizers, Response of carrot to different rates of poultry manure, Weed management and spatial arrangement in groundnut production, Maize-cowpea intercropping in managing fall armyworm, Push-pull approach in managing fall armyworm, Controlling nematodes with citronella in carrot production

Publications

- Sarfo Boateng, A., Afreh, D.N., Asomaning, S.K., Adarkwah, C., Adjei, R.R., Gyasi Santo, K. and Sarkodie-Addo, J. (2022). Yield and nitrogen use efficiency of Maize (*Zea mays* L.) following the application of various nitrogen sources under rainfed conditions in the Bono Region of Ghana. *Agricultural Science Digest*, pp. 1-5.
- Afreh, D. N., Afari, M. A. B., Adjei, R. R., Boateng, S. A., Gyasi Santo, K. and Muntala, A. (2022). Response of two maize (*Zea mays* L.) varieties to times of NPK 15 15 15 fertilizer application. *International Journal of Agronomy*, 2022:1-7. <https://doi.org/10.1155/2022/7186913>
- Yeboah, E.K., Gyasi Santo, K. and Afreh, D. N. (2022). Productivity response of okra (*Abelmoschus esculentus* L.) to organic and inorganic nutrition at different spacing. *Volga Region Farmland*, 2(10): 22-35. DOI: 10.26177/VRF.2021.10.2.004.

Dr. Esther Fobi Donkor

Research Interest

Improving the yield and nutritional contents of underutilized and neglected crops and Africa through conventional and molecular breeding for climate change challenges; Improving the yield and nutritional content of field crops using molecular tools and conventional breeding; Breeding for resistance to biotic and abiotic stress conditions; Multi-location evaluation of

field crops for stability and resilience to climate change challenges.

Publication

1. Donkor, E. F., Adjei, R. R., Amadu, B and Boateng S. A (2022) Genetic variability, heritability and association among yield components and proximate composition of neglected and underutilized Bambara groundnut (*Vigna subterranean* (L) Verdec) accessions for varietal development in Ghana. *Heliyon* 8(6). <https://doi.org/10.1016/j.heliyon.2022.e09691>
2. Mawuli, B., Donkor, E. F. Amadu, B. and Adjei, R.R. (2022) Genetic variability for yield parameters in garden eggs (*Solanum* spp.) *Journal of Genetics, Genomics and Plant Breeding* 6(1) 10-17.

Dr. Felix Amenyo Eyahanyo

Research Interest

Broadly varied research interests in the areas of horticulture and horticultural engineering. Specifically, my research interests are centred on using technology in solving agricultural problems in the areas of irrigation, protected cropping, greenhouse management, postharvest, computer vision and product identification of horticultural crops.

Dr. Kwabena Atakora

Research Interest

Yield stability methods for field crops and Climate change effects on agriculture; Integrated Nutrient Management for horticultural crops; Physiology, plant soil relations and Multi-localational trials of crops.

Dr. Mavis Owusuaa Osei-Wusu

Research Interest

General interest in the use of Molecular tools to enhance plant and human health. My current research interest is to solve food insecurity by utilizing techniques in Molecular and Biotechnology to produce biotic and abiotic stress tolerant crops.

Publication

1. Adusei-Fosu, K., Dickinson, M., Unnikrishnan, J., Scott, G., Osei-Wusu, M. & Somchit, C. (2022). A biosecurity tool: High-Intensity, Pulsed Polychromatic Light and UV-C treatments of oil palm pollen and spores of *Fusarium oxysporum* f.sp. *elaeidis*. *PhytoFrontiers*TM. <https://apsjournals.apsnet.org/doi/10.1094/PHYTOFR-09-21-0068-SC>.

Mr. Joseph Nyarko

Research Interest

Current focus is on virus diseases of pineapple; Virus diseases of horticultural, vegetable and food crops; Virus characterization, diagnostics, plant-virus-vector interactions, development of integrated crop improvement strategies; Climate change, epidemiology of viral and fungal diseases and food security

Mr. Remember Roger Adjei

Research Interest

Agronomy, Crop Modelling, Global Climate Change, Sustainable Agriculture, Plant Breeding and Genetics, Underutilized Crops, Integrated Pest Management and Biological Control of Stored Product Insect Pests.

Publications

1. Donkor, E. F., Adjei, R. R., Amadu, B., & Boateng, A. S. (2022). Genetic variability, heritability and association among yield components and proximate composition of neglected and underutilized Bambara groundnut [*Vigna subterranea* (L) Verdc] accessions for varietal development in Ghana, *Heliyon*. <https://doi.org/10.1016/j.heliyon.2022.e09691>.
2. Sarfo Boateng, A., Afreh, D. N., Asomaning, S. K. Adarkwah, C., Adjei, R. R., Santo, K. G. & Sarkodie-Addo, J. (2022). Yield and Nitrogen Use Efficiency of Maize (*Zea mays* L.) Following the Application of Various Nitrogen Sources under Rainfed Conditions in the Bono Region of Ghana. *Agricultural Science Digest*. <https://doi.org/10.18805/ag.DF-433>.
3. Afreh, D. N., Afari. M. A. B., Adjei, R. R., Sarfo Boateng, A., Santo, K. G., & Muntala, A. (2022). Response of Two Maize (*Zea mays* L.) Varieties to Times of NPK (15-15-15) Fertilizer Application. *International Journal of Agronomy*, 2022:7186913, <https://doi.org/10.1155/2022/7186913>.
4. Adarkwah, C., Tuda, M., Adjei, R. R., Obeng-Ofori, D., Ulrichs, C., & Schöller, M. (2022). Evaluation of three German enhanced diatomaceous earth formulations for the management of two major storage pests in Ghana. *Journal of Stored Products Research*, 96, 101947, <https://doi.org/10.1016/j.jspr.2022.101947>
5. Mawuli, B., Donkor, E. F., Amadu, B., & Adjei R. R. (2022). Genetic variability for yield parameters in garden eggs (*Solanum* spp.). *Journal of Genetics, Genomics & Plant Breeding* 6(1) 10-17.

Mr Samuel Novor

Research Interest

Forest Science, Agronomy.

Mr. Shadrack Asomah

Research Interest

Entomophagy, Storage Insect Pests Control and Integrated Pest Management (IPM)

Publications

1. Debrah, S. K., Anankware, J. P., Asomah, S., & Obeng-Ofori, D. (2022): Substrates: a solution to the mass production of African palm weevil (*Rhynchophorus phoenicis*) (F.) (Coleoptera: Curculionidae). *Journal of Insects as Food and Feed*: 0 (0)- Pages: 1 – 8. <https://doi.org/10.3920/JIFF2021.0220>
2. Debrah, S. K., Anankware, J. P., Asomah, S., & Obeng-Ofori, D. (2022): Challenges associated with *Rhynchophorus phoenicis* Fabricius (Coleoptera: Curculionidae)

farming: a case study of the Ejisu-Juaben Municipality. *Journal of Insects as Food and Feed*: 0 (0)- Pages: 1 – 10. <https://doi.org/10.3920/JIFF2021.0219>

3. Anankware, J. P, Debrah, S. K., Asomah, S., Obeng-Ofori, D. (2022). Influence of temperature on some selected life history parameters of the African Palm Weevil larvae *Rhynchophorus phoenicis* (F.) (Coleoptera: Curculionidae) reared on different substrates. Oral presentation during the insects to feed the world (IFW) 2022. June 12-16, 2022, Quebec, Canada.

DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

Dr. Moses Addo Nartey

1. Bempah, G., Wiafe, E. D., Nartey, M. A., Messenger, K., & Lu, C. (2022). Responses of *Hippopotamus amphibius* to environmental changes at Bui National Park, Ghana. *Acta Ecologica Sinica*.

Dr. Peter Asiedu

1. Asiedu, P., Amoah, K.O., Rhule, S.W.A., Bumbie, G.Z., Hagan, B.A (2022). Response to long-term feeding of cocoa by-products based diets on the reproductive performance of large white primiparous breeding sows. *Livestock Research for Rural Development*, 2022, 34(7)

Dr. Bernard Ato Hagan

1. Hagan, J.K., Hagan, B.A. and Ofori, S.A. (2022). Reproductive and milk yield performance of indigenous and crossbred dairy cattle breeds in Ghana as influenced by non-genetic factors. *Livestock Research for Rural Development*. Volume 34, Article #65.
2. Hagan, B.A., Salifu, S., Asumah, C., Yeboah, E.D. and Boa-Amponsem, K. (2022). Effects of genetic and non-genetic factors on body weight, pre-weaning growth, birth type and pre-weaning survivability of lambs in a sheep nucleus station. *Livestock Research for Rural Development*. Volume 34, Article #30, <http://www.lrrd.org/lrrd34/03/3430bern.html>
3. Hagan, B.A., Asumah, C., Yeboah, E.D. and Lamptey, V.K. (2022). Modeling the growth of four commercial broiler genotypes reared in the tropics. *Tropical Animal Health and Production*, 54:75-83.
4. Asumah, C., Adomako, K., Olympio, S.O., Hagan, B.A. and Yeboah, E.D. (2022). Influence of thermoregulatory (Na & F) genes on performance and blood parameters of F2 and F3 generations of crosses of local and commercial chickens. *Tropical Animal Health and Production*, 54:207-217.
5. Hagan, J.K., Owusu, B.O. and Hagan, B.A. (2022). Influence of some non-genetic factors on reproductive performance of rabbit line in a University farm. *International Journal of Livestock Research*, 12(6):18-26.
6. Asumah, C., Hagan, B.A., Yeboah, E.D., Frimpong, Y.O. and Teye, G.A. (2022). Production and marketing of pigs and pig products in the Tamale Metropolis of Ghana. *Ghanaian Journal of Animal Science*, 12(1): 59-66.
7. Asiedu, P., Amoah, K.O., Rhule, S.W.A., Bumbie, G.Z. and Hagan, B.A. (2022).

Response of long-term feeding of cocoa by-products based diets on the reproductive performance of large white primiparous breeding sows. *Livestock Research for Rural Development*. Volume 34, Article #60, <http://www.lrrd.org/lrrd34/7/3460pete.html>

8. Lamptey, V.K., Hagan, J.K., Hagan, B.A., Kruenti, F. and Osei, D.Y. (2022). The influence of sex and age on growth rate of domestic rabbits (*Oryctolagus cuniculus*). *Journal of Innovative Agriculture*, 9(2):21-27.

Mr. Christian Asumah

1. Asumah, C., Adomako, K., Olympio, O. S., Hagan, B. A. and Yeboah, E. D. (2022). Influence of thermoregulatory (Na & F) genes on performance and blood parameters of F 2 and F 3 generations of crosses of local and commercial chickens. *Tropical Animal Health and Production*, 54:207
2. Asumah, C., Hagan, B.A., Yeboah, E. D., Frimpong, Y. O. and Teye, G.A. (2022). Production and marketing of pigs and pig products in the Tamale Metropolis of Ghana. *Ghanaian Journal of Animal Science* Vol. 12 No.1
3. Hagan, B. A., Asumah, C., Yeboah, E.D. and Lamptey, V. K. (2022). Modeling the growth of four commercial broiler genotypes reared in the tropics. *Tropical Animal Health and Production* 54:75.
4. Hagan, B.A., Salifu, S., Asumah, C., Yeboah, E.D. and Boa-Amponsem, K. (2022). Effects of genetic and non-genetic factors on body weight, pre-weaning growth, birth type and pre-weaning survivability of lambs in a sheep nucleus station. *Livestock Research for Rural Development*. Volume 34, Article #30, <http://www.lrrd.org/lrrd34/03/3430bern.html>

Mr. Ernest Darkwah Yeboah

1. Hagan B.A., Salifu, S., Asumah, C., Yeboah E.D. and Boa-Amponsem, K. (2022). Effects of genetic and non-genetic factors on body weight, pre-weaning growth, birth type and pre-weaning survivability of lambs in a sheep nucleus station. *Livestock Research for Rural Development*. Volume 34, Article #30, <http://www.lrrd.org/lrrd34/03/3430bern.html>
2. Hagan, B.A., Asumah, C., Yeboah, E.D. and Lamptey, V.K. (2022). Modeling the growth of four commercial broiler genotypes reared in the tropics. *Tropical Animal Health and Production*, 54:75-83.
3. Asumah, C., Adomako, K., Olympio, S.O., Hagan, B.A. and Yeboah, E.D. (2022). Influence of thermoregulatory (Na & F) genes on performance and blood parameters of F 2 and F 3 generations of crosses of local and commercial chickens. *Tropical Animal Health and Production*, 54:207-217.
4. Asumah, C., Hagan, B.A., Yeboah, E.D., Frimpong, Y.O. and Teye, G.A. (2022). Production and marketing of pigs and pig products in the Tamale Metropolis of Ghana. *Ghanaian Journal of Animal Science*, 12(1): 59-66.

CENTRE FOR AGRICULTURE TECHNOLOGY, RESEARCH AND PRODUCTION

Mr. Bernard Quaye

1. Quaye, B., Asomani, B., Adjei Mensah, B., Benante, V., Opoku, O., Amankrah, M.A. and Atuahene, C. C. (2022). Impact of COVID-19 Pandemic on the Poultry Industry of Ghana: Case Study in Kumasi Metropolis. *International Journal of Innovative Science and Research Technology*, Volume 7, Issue 8: 1561-1572. ISSN No:-2456-2165.

Mr. Salifu Faisal

1. Atuna, R. A., Amagloh, F. C., Denwar, N. N., Asase, V. R., Faisal, S., Baako, E., ... & Andrade Laborde, J. E. (2022). Filling the protein gap in Ghana: the role of soy. *Front. Sustain. Food Syst.* 5: 781571. doi: 10.3389/fsufs.

COMMUNITY ENGAGEMENT

Department of Agribusiness Management and Consumer Studies

1. Facilitation of Training of Trainer (ToT) for Extension Officers and farmers on Post-Harvest Management for Maize, Soya and Rice value chains in some selected districts in Upper West Region, Upper East Region, North-East Region, Northern Region, Savannah Region, Brong Ahafo Region and Ashanti Region.
2. Ghana Association of Agricultural Economist (GAEE) 5th Annual Conference Planning Committee member
3. A member of the department is a secretary to the Ghana Association of Agricultural Economist middle belt
4. A member of the department is a chairperson of the Local Organising Committee of the 5th Ghana Association of Agricultural Economist Conference
5. A member of the department is the Integrated Science Team Leader for West African Examination Council, Bono Region

Department of Horticulture and Crop Production

1. A member of the department was involved in the writing of the Crop Physiology course module for HND Cashew Production for Com Cashew.
2. Field Day demonstration to farmers on the results of fertilizer trials under the Fertilizer Research and Responsible Implementation (FERARI) programme of International Fertilizer Development Centre (IFDC).

Centre for Agriculture Technology, Research and Production

1. Field Day demonstration to farmers on response of maize, soyabeans and rice to mineral fertilizers under the Fertilizer Research and Responsible Implementation (FERARI) programme of International Fertilizer Development Centre (IFDC) at CATReP

VISIT

Department of Agribusiness Management and Consumer Studies

Visiting Scholars to the University of Saskatchewan, Canada

Department of Horticulture and Crop Production

Visiting Professor to Kyushu University, Japan

FUTURE PLANS OF THE SCHOOL:

1. The department of Horticulture and Crop Production wish to establish plantation crops such as cashew, cocoa and oil palm.
2. The department of Horticulture and Crop Production is planning to procure a tractor for the school farm.
3. The department of Horticulture and Crop Production plans to also establish the Africa Research Centre of Excellence for Innovative Technology and Development (ARCETID). The main goal is to serve as a center for implementing current new ideas and bringing them to agriculture to ensure food security for the increasing population of Africa, especially Ghana.
4. Establishment of the Department of Soil Science and development of postgraduate programmes in Soil Science.

SCHOOL OF GEOSCIENCES

SCHOOL OF GEOSCIENCES

Introduction

The School of Geosciences consists of three academic departments, namely: Geography and Sustainability Science, Atmospheric & Climate Science and GeoSpatial Science (Table 1) and is likely to start Geological Science next academic year. Two of the current three Departments offer postgraduate programmes in addition to the undergraduate programme. Geo-Spatial Science department presently offers a two-year Diploma programme in Geo-information Science and hopes to run a BSc degree in the coming academic year. Five (5) additional programmes will be added to the existing programmes in 2022/2023 academic year. The academic year, 2021/2022 under review saw the school actively involved in research that may impact on communities in the Dormaa catchment area of the University and will soon engage the communities with their findings.

ADMINISTRATION OF THE SCHOOL

The following are the school office staff:

Prof. Emmanuel Arhin	- Dean
Ms. Joyce Dogeneraba	- Junior Assistant Registrar/Faculty Officer
Miss Farida Elorm Sekou	- Senior Administrative Assistant
Mr. Musah Konlan	- Senior Administrative Assistant
Mr. Derrick Oppong Kumi	- Senior Administrative Assistant

Table 1:

Serial No	Department	Name of Head of Department	Diploma	Undergraduate	Postgraduate
1	Geography and Sustainability Science	Dr. Leslie Danquah	-	Planning Sustainability &	MPhil Environmental Planning & Development
2	Atmospheric & Climate Science	Dr. Nana Agyemang Prempeh	-	Climate Change & Sustainability Development	MSc/MPhil Climate Change
3	Geo-Spatial Science	Dr. Lily Lisa Yevugah	Geoinformation Science	-	-

The school continued to vigorously pursue its mandate through teaching, research and extension services during the year under review and has developed new curricula that have passed the NCTE assessments and yet to start the NAB accreditation process. The new programmes are:

Table 2:

Serial No	Department	Programme	Remark(s) NCTE	Remark(s) NAB
1	Geography and Sustainability Science	BSc. Geography & Environmental Studies	Clearance Obtained	Awaiting date for assessment
2	Atmospheric & Climate Science	BSc. Applied Meteorology & Climate Science	Clearance Obtained	Awaiting date for assessment
3	Geo-Spatial Science	1. BSc/Diploma Geomatics 2. MPhil/MSc/ BSc. Geoinformation Science	Clearance Obtained	Awaiting date for assessment
4	Geological Science	1. BSc. Applied Geology 2. BSc. Geo-Environmental Science	Clearance Obtained	Awaiting date for assessment

The School of Geoscience started with two Departments and it is likely to increase to four by next academic year and with more new programmes coming onboard, meaning enrolment will increase. The new programmes intend to place much emphasis on the niche areas of the natural resource sciences. The current student enrolment stands at 502 whilst total number of staff is 15, the breakdown is presented in Table 3.

Table 3: STUDENTS-STAFF RATIO (SSR)

Department	Students Enrolment	Academic Staff	Staff-Students (SSR) Ratio
Geography and Sustainability Science	320	6	1:53
Atmospheric & Climate Science	157	5	1:31
Geo-Spatial Science	25	4	1:06
School of Geoscience	502	15	1:33

The personnel pyramid shown in Table 4 shows a bottom-heavy staff, suggesting more senior rank teaching staff should be employed during the subsequent academic years to augment the new programmes as well as the existing programmes.

Table 4: Academic Personnel Pyramid

Department/ Rank	Professor	Associate Professor	Senior Lecturer	Lecturer	Asst. Lec- turer	Total Per- sonnel
Geography and Sustainability Science	0	0	2	2	2	6
Atmo- spheric & Climate Science	0	0	0	5	0	5
Geo-Spa- tial Science	1	0	0	3	0	4
School of Geoscience	1	0	2	10	2	15

In line with our vision to become a school of choice in UENR, School of Geosciences (SoG) continues its research activities across its academic departments, leading to research output and publications in national and international peer-reviewed journals. Despite the numerous challenges such as inadequate funding, physical and human resources that we face, the university community at Dormaa will strive in the pursuit of its mandate of teaching, research and extension services to support the development agenda of the country. We would also continue to pursue bolder initiatives, set new benchmarks for student training to enhance the quality and innovation of our teaching and learning processes.

Research Collaborations (Local and International)

Department of Atmospheric and Climate Science

- The department is collaborating with Lancaster University to measure and model biogenic volatile organic compounds (BVOC) as part of a project titled: Bugging our models: Incorporating novel BVOC emissions into a multi-layer canopy exchange model.
- The department is collaborating with some researchers from Columbia University-US, KNUST-Ghana and Imani Ghana to work on a proposal on Green Transition. The key objective of the research is focused on the repositioning from fossil-fuel to electric vehicles: How is Ghana’s car industry gearing or being geared up to go green?

Department of Geography and Sustainability Science Dr. Emmanuel Kwabla Apiors

- Assistant Project Manager: Bundling Small Scale Irrigation and Drought Index Insurance to manage smallholder risk and expanding their access to Agricultural Credit, project is funded by USAID in partnership with the International Centre for Evaluation and Development.

Workshops/Conferences/Public Lectures -Department of Atmospheric and Climate Science

- The iCACGP-IGAC joint International Atmospheric Chemistry conference, September 11-15, 2022, Manchester, UK
- Nature-Based Solutions (NBS) International Conference: Nature-Based Solutions for food-getting prepared for a climate-resilient future, August 17th-18th August, 2022, UENR Auditorium, Sunyani.
- UENR/School of Mines and Built Environment, 2-Day Transformational Dialogue on Small-scale Mining, May 25-26, 2022, Sheila's Executive Hotel, Sunyani
- 5th International Conference on the Use of Space Technology for Water Resources Management, May 10-13, 2022, Alisa Hotel, Accra, Ghana
- University Corporation for Atmospheric Research (UCAR)/University of Energy and Natural Resources (UENR), Introduction to Global Navigation Satellite System (GNSS) and Applications to Radio Occultation and Reflection Remote Sensing Techniques, 14th May 2022, Alisa Hotel, Accra, Ghana.
- UENR 10th Anniversary Maiden Public Lecture, Prescription for better Environment and Prevention of Spread of Non- Communicable Disease: The Perspective of the Geoscientist, Professor Emmanuel Arhin, School of Geosciences, 2022, UENR Auditorium, Sunyani
- School of Geosciences, UENR Promotions and Appointments Criteria, LT4 (Old Campus-Dormaa Campus), 2022
- Centre for Professional Development (CePDev), University of Energy and Natural Resources, Sunyani, 3-day workshop training in "Innovative Teaching and Assessment Practices in Higher Education", 10-12 January, 2022, UENR Auditorium, Sunyani.
- ActionAid/University of Energy and Natural Resources (UENR), "Sustainable Agriculture in Ghana, The role of Agroecology", August 25, 2022, St. John's Conference room, Eusbett Hotel, Sunyani.
- 12th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, The West African Heat Low, Heat Band and Rain Band: Three Signatures of the West African Monsoon System for Processed-Based Climate Model Evaluation. August 25, 2022
- 11th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Potential of Remote sensing products and machine learning algorithms to improve seasonal forecasting in Ghana. July 28, 2022
- 10th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Climatic Zoning of Ghana with four selected Meteorological Variables. June 30, 2022
- 9th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, African Easterly Waves: Do they limit Atlantic Tropical

Cyclone Activity. May 26, 2022

- 8th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Climatic Controls on Rainfall Extremes and their Temporal Changes in Data-Sparse Tropical Regions. April 28, 2022
- 7th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Enhancing Climate Information for Early Warning and Decision Making - The Role of Seasonal Forecast, March 31, 2022
- 6th Meteorological Virtual Seminar Series, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Drought impacts on forecast gas exchange in Present and Future Climates, March 3, 2022
- 5th Meteorological Virtual Seminar Series-Ghana, Ghana Meteorological Agency (GMet)/Kwame Nkrumah University of Science and Technology (KNUST), "Making Weather and climate information services actionable for farmers; the value of integrating scientific and indigenous forecasts", January 27, 2022
- 4th Meteorological Virtual Seminar Series-Ghana, Ghana Meteorological Agency, KNUST & GCRF African SWIFT, Characterizing the environment of MCSs across West Africa and evaluating precipitation forecasts, December 9, 2021

Department of Geography and Sustainability Science

- Participant at Innovative Teaching and Assessment Practices for Higher Education. Centre for Professional Development. 10th to 12th January, 2022.
- Apiors E.K and Suzuki A. "Effects of Call Centre Services on Mobile Money Participation in Ghana". Africa Evidence Summit. Kigali, RWANDA June, 2022.
- Evidence to Action All-In Research Network Annual Convening, Kampala, Uganda, Sept. 2022.
- University of North Carolina Water and Health Conference, October 26, 2020 – October 30, 2020.

Department of Geospatial Science Dr. Lily Lisa Yevugah (Lecturer and Acting Head of Department)

- Participant: Partnership for Enhanced and Blended Learning West Africa Project. National Open University of Nigeria (Feb. 2022 – Date)
- Participant: ARSET Intermediate Webinar (Section B_Part1), "Monitoring and Modeling Floods Using Earth Observation", Applied Remote Sensing Training (ARSET) Program, NASA, Intermediate Webinar, 14th September 2022.
- Participant: Satellite Remote Sensing for Measuring Urban Heat Islands and Constructing Heat Vulnerability Indices. Applied Remote Sensing Training (ARSET) Program, NASA, Intermediate Webinar, 9th- 12th August, 2022.
- Presenter: Advancing the Role of Geospatial Cloud Computing in Ghana's Economy, Society, and Environment. Geospatial Society (GGS), - 25th -26th August, 2022
- Participant: Spatial Analysis of Mycobacterium ulcerans-Hosted Water Bug Critical Zones in the Amansie West District of Ghana (Dormaa Ahenkro)- 17th August, 2022
- Presenter: 2-Day Transformational Dialogue on Small-scale Mining; University of Energy and Natural Resources (UENR), - 25th -26th May 2022

- Participant: Introduction to Global Navigation Satellite Systems (GNSS) and Application to Radio Occultation and Reflection Remote Sensing Techniques-University of Cooperation for Atmospheric Research (UCAR) – 14th May 2022
- Participant: 5th International Conference on the Use of Space Technology for Water resources Wamangement UNOOSA, Accra - Ghana- 9th – 13th May 2022
- Participant: Appointments and Promotions Criteria for Senior Members, University of Energy and Natural Resources (UENR), Dormaa Ahenkro, Ghana – 11th April 2022.
- Participant: Training Workshop on the Use of the ‘New Students Management System’; University of Energy and Natural Resources (UENR), Sunyani, Ghana - 14th March 2022
- Participant: Land In focus – Urban Spaces; European Space Agency - 24th 28th January 2022
- Participant: Innovative Teaching & Learning; Assessment Practices in Higher Education Training; University of Energy and Natural Resources (UENR), Sunyani, Ghana - 10th -12th January 2022
- Participant: Introduction to the Digital Earth Africa Sandbox; De Africa – December 12, 2021

Professor Emmanuel Arhin (Dean SoG)

- Sep 12, 2022, "Virtual Course: From Innovative Ideas to Scholarly Books in Life and Earth Sciences" by Taylor and Francis Publications
- Arhin E (2022) "Prescription for Better Environment and Prevention of Spread of Non-Communicable Disease: The Perspective of the Geoscientist" at UENR University Auditorium, March 29, 2022, Sunyani-Ghana

Dr. Peter Damoah-Afari (Lecturer)

- Participant: ARSET Intermediate Webinar (Section B_Part1), "Monitoring and Modeling Floods Using Earth Observation", Applied Remote Sensing Training (ARSET) Program, NASA, Intermediate Webinar, 14th September, 2022.
- Participant: Damoah-Afari, P., Yevugah, L. L. and Osei, J. D. (Presenter). (2021), Detection and Mapping of Illegal Small-Scale Mining (Galamsey) Activities in Dormaa Municipality Using Remote Sensing. One-Day Symposium On the "The Use of Smart Technologies to Control Illegal Mining and Illegal Logging in Ghana", 10th September 2021, UENR Campus, Sunyani, Ghana.
- Participant: STEM and Engineering Education, "The Role of Academic Staff Internship in Providing Quality University Education in Ghana", Prof. Kwaku Amaning Adjei (KNUST), Ghana Institution of Engineering (GhIE) Webinar Series, 31st August 2022.
- Participant: Department of Geospatial Sciences Webinar Series, "Spatial Analysis of Mycobacterium Ulcerans-Hosted Water Bug Critical Zones in the Amansie West District of Ghana", Mr. Jeff Dacosta Osei (UENR), 17th August 2022.
- Participant: Humanitarian Applications Using NASA Earth Observations (Section B_Part4), "Assessing Climate Hazards at Refugee Camps", Applied Remote Sensing Training (ARSET) Program, NASA, Introductory Webinar, 23rd June, 2022.

- Participant: Humanitarian Applications Using NASA Earth Observations (Section B_Part3), “Detecting Agricultural and Vegetation Changes in and Surrounding Refugee Settlements”, Applied Remote Sensing Training (ARSET) Program, NASA, Introductory Webinar, 21st June, 2022.
- Participant: Humanitarian Applications Using NASA Earth Observations (Section B_Part2), “Mapping Refugee Settlement Growth and Population Change”, Applied Remote Sensing Training (ARSET) Program, NASA, Introductory Webinar, 16th June, 2022.
- Participant: Humanitarian Applications Using NASA Earth Observations (Section B_Part1), “Monitoring Urban Damage with Multi-Sensor Satellite Imagery”, Applied Remote Sensing Training (ARSET) Program, NASA, Introductory Webinar, 14th June, 2022.
- Participant: Face to Face course on Earth Observations for Water Resources Assessment and Monitoring, EOAFRICA R&D Facility, 15-19th May, 2022, ERATA Hotel, Accra, Ghana.
- Participant: School of Geosciences Seminar on “Understanding the Promotion Criteria of the University of Energy and Natural Resources”. By Pro-Vice Chancellor of UENR (Prof. Adekoya Adebayo), Dormaa Campus, 11 April, 2022.
- Participant: Public Lecturer on “Prescription for Better Environment and Prevention of Spread of Non-Communicable Diseases: The Perspective of the Geoscientist”. 10th Matriculation Lecture by Prof. Emmanuel Arhin, University of Energy and Natural Resources (UENR), Sunyani, 29th March, 2022.
- Participant: Training Workshop on Innovative Teaching and Assessment Practices for Higher Education. Centre for Professional Development (CePDev), University of Energy and Natural Resources (UENR), Sunyani, 1012th January, 2022.

Mr. Louvis Boakye (Assistant Lecturer)

- Participant: Selecting Climate Change Projection Sets for Mitigation, Adaptation, and Risk Management Applications. (Webinar)NASA Applied Remote Sensing Training Program (ARSET). 19th - 20th September, 2022. • Participant: Seminar on Agroecology; theme “Sustainable agriculture in Ghana, the role of agroecology” Action Aid and University of Energy and Natural Resources (UENR), Sunyani-Ghana. 25 th August, 2022.
- Participant: Advancing the Role of Geospatial Cloud Computing in Ghana’s Economy, Society and Environment. (Webinar) Ghana Geospatial Society. 24th August, 2022.
- Participant: Spatial Analysis of Mycobacterium ulcerans-Hosted Water Bug Critical Zones in the Amansie West District of Ghana & quote;. Department of Geospatial Sciences, University of Energy and Natural Resources (UENR). Dormaa Ahenkro, Ghana. 17th August, 2022
- Participant: Introduction to Global Navigation Satellite Systems (GNSS) and Application to Radio Occultation and Reflection Remote Sensing Techniques- the University of Cooperation for Atmospheric Research (UCAR), Accra – 14th May 2022
- Participant: 5th International Conference on the Use of Space Technology for Water Resources Management UNOOSA, Accra - Ghana- 9th – 13th May 2022

- Participant: Appointments and Promotions Criteria for Senior Members, University of Energy and Natural Resources (UENR), Dormaa Ahenkro, Ghana – 11th April 2022.

Proposals

Department of Atmospheric and Climate Science

- The department has put in a proposal entitled “IMPACT OF SOLAR RADIATION MODIFICATION (SRM) ON RAINFALL ONSET AND CESSATION OVER WEST AFRICA” to DECIMALS (Developing Country Impacts Analysis) call.
- The department has submitted a proposal aiming to attract an early career scientist from the flux measurement community to work at UENR. If the proposal is successful, the scientist will visit and work with DACS staff for a period of 6 weeks conducting research at the Bia-Tano flux site.
- The department is involved with a submitted proposal for the Joint EU project (Food Systems, Climate Mitigation and Livelihood in Sub-Saharan Africa FOLCALISA) with international partners from all over the globe and other departments within UENR (Department of Agricultural and Bioresources Engineering, Department of Agribusiness Economics and Agricultural Extension, and Department of Horticulture and Crop Production).
- The department is collaborating with the Tree Ring Laboratory of the LamontDoherty Earth Observatory, Columbia University (CU), US to work on a proposal to reconstruct the Climate of West Africa through dendrochronology measurements.

Publications (for the year under review)

Department of Atmospheric and Climate Science

- Mumuni Yahaya, Peter Damoah-Afari, Caleb Mensah, Naomi Kumi, Nana Agyemang Prempeh, Prisca Ama Anima, Climate change adaptation strategies of smallholder farmers in the Mamprugu-moaduri district of Ghana, *Journal of Energy and Natural Resource Management (JENRM)* 2022, 8 (1), 86-94. DOI:10.26796/jenrm.v8i1.196
- Nooni, I.K.; Hagan, D.F.T.; Ullah.; Lu, J.; Li, S.; Prempeh, N.A.; Gnitou, G.T.; Sian, K.T.C.L.K. Projections of Drought Characteristics Based on the CNRM-CM6 Model over Africa. *Agriculture* 2022, 12, 495. <https://doi.org/10.3390/agriculture12040495>
- Isaac Kwesi Nooni, Daniel Fiifi T. Hagan, Guojie Wang, Waheed Ullah, Jiao Lu, Shijie Li, Mawuli Dzakpasu, Nana Agyemang Prempeh, Kenny T.C. Lim Kam Sian. Future Changes in Simulated Evapotranspiration across Continental Africa Based on CMIP6 CNRM-CM6, *International Journal of Environmental Research and Public Health* 2021, 18, 6760. <https://doi.org/10.3390/ijerph18136760>
- Qin Li, Mengna Guo, Dagang Liu, Huanhuan Qiao, Williamson Gustave, Nana Prempeh, Yongqing Cai, Jingnan Peng. Structure Color Tuners of Cholesteric Cellulose Nanocrystals, *Industrial & Engineering Chemistry Research* 2021. <https://doi.org/10.1021/acs.iecr.1c01223>

- Nooni, Isaac Kwesi; Hagan, Daniel Fiifi T.; Wang, Guojie; Ullah, Waheed; Li, Shijie; Lu, Jiao; Bhatti, Asher Samuel; Shi, Xiao; Lou, Dan; Prempeh, Nana Agyemang; Sian, Kenny T. C. Lim Kam; Dzakpasu, Mawuli; Amankwah, Solomon Obiri Yeboah; Zhu, Chenxia. "Spatiotemporal Characteristics and Trend Analysis of Two Evapotranspiration-Based Drought Products and Their Mechanisms in Sub-Saharan Africa", *Remote Sensing* 2021, 13 (3), 533. <https://doi.org/10.3390/rs13030533>
- Caleb Mensah, Ladislav Šigut, Milan Fischer, Lenka Foltýnová, Georg Jocher, Otmar Urban, Cosmos Senyo Wemegah, Emmanuel K Nyantakyi, Shilpi Chawla, Marian Pavelka, Michal V Marek. Environmental Effects on Normalized Gross Primary Productivity in Beech and Norway Spruce Forests. *Atmosphere* 2021, 12 (9), 1128
- Caleb Mensah, Ladislav Šigut, Milan Fischer, Lenka Foltýnová, Georg Jocher, Manuel Acosta, Natalia Kowalska, Lukáš Kokrda, Marian Pavelka, John David Marshall, Emmanuel K Nyantakyi, Michal V Marek. Assessing the Contrasting Effects of the Exceptional 2015 Drought on the Carbon Dynamics in Two Norway Spruce Forest Ecosystems. *Atmosphere* 2021, 12(8), 988.
- AB Harper, KE Williams, PC McGuire, MC Duran Rojas, D Hemming, Anne Verhoef, Chris Huntingford, Lucy Rowland, Toby Marthews, Cleiton Breder Eller, Camilla Mathison, Rodolfo LB Nobrega, Nicola Gedney, Pier Luigi Vidale, Fred Otu-Larbi, Divya Pandey, Sebastien Garrigues, Azin Wright, Darren Slevin, Martin G De Kauwe, Eleanor Blyth, Jonas Ardö, Andrew Black, Damien Bonal, Nina Buchmann, Benoit Burban, Kathrin Fuchs, Agnès De Grandcourt, Ivan Mammarella, Lutz Merbold, Leonardo Montagnani, Yann Nouvellon, Natalia Restrepo-Coupe, Georg Wohlfahrt. Improvement of modeling plant responses to low soil moisture in JULESv4. 9 and evaluation against flux tower measurements, *Geoscientific Model Development* 2021,14 (6), 3269-3294
- A Conte, F Otu-Larbi, A Alivernini, Y Hoshika, E Paoletti, K Ashworth. Exploring new strategies for ozone-risk assessment: a dynamic-threshold case study, *Environmental Pollution* 2021, 117620
- F Otu-Larbi, A Conte, S Fares, O Wild, K Ashworth. FORCAsT-gs: Importance of stomatal conductance parameterisation to estimated ozone deposition velocity, *Journal of Advances in Modeling Earth Systems* 2021, 13 (9). e2021MS002581
- Kyere-Boateng, R., & Marek, M. V. (2021). Analysis of the Social-Ecological Causes of Deforestation and Forest Degradation in Ghana: Application of the DPSIR Framework. *Forests*, 12(4), 409. <https://doi.org/10.3390/f12040409>
- Kyere-Boateng, R., Marek, M. V., Huba, M., & Kluvankova, T. (2021). Perceived Injustices in Forest Policy Interventions are Causes of Forest Resources Degradation and Loss in Ghana: A Review. *Open Journal of Forestry*, 11(3), 171-191. www.scirp.org/journal/ojf

DEPARTMENT OF GEOGRAPHY AND SUSTAINABILITY SCIENCE

Dr. Leslie Danquah (Head of Department)

- Danquah, L., Amegbor, P.M. & Ayele, D.G. Determinants of the type of health care sought for symptoms of Acute respiratory infection in children: analysis of Ghana demographic and health surveys. *BMC Pediatr* 21, 514 (2021). <https://doi.org/10.1186/s12887-021-02990-9>.
- Kombiok E, Nyamekye KA, Adjei R, Danquah L. Determinants of Unsafe Plastic Waste Disposal among Households in the Tamale Metropolitan Area, Ghana. *Journal of Environmental and Public Health*. 2021 Oct 7;2021.
- Adjei R, Addaney M, Danquah L. The ecological footprint and environmental sustainability of students of a public university in Ghana: developing ecologically sustainable practices. *International Journal of Sustainability in Higher Education*. 2021 Jun 10.

Dr. David Anafo

- Safo Kantanka, S. N., Addaney, M., Akudugu, J. A., Anafo, D., Apeatse, R. Q., & Clarke, L. (2022). Impact of land use and climate change on forest reserves in Ghana. *African Geographical Review*, 1-20.
- Nutsugbodo, Y. R., Anafo, D., Ankamah, S. & Bannor, K. R. (2022). Discrimination in the rental housing market in the Sunyani Municipality, Ghana. *Urban, Planning and Transport Research*, 10 (1), 159-180, DOI: 10.1080/21650020.2022.2072947
- Adusu, D., Anafo, D., Abugre, S. & Addaney, M. (2022): Experiential Knowledge of urbanites on climatic changes in the Sunyani municipality, Ghana. *Journal of Urban Affairs*, DOI: 10.1080/07352166.2022.2044836

Dr. Prisca Ama Anima

- Yahaya, M., Damoah-Afari, P., Mensah, C., Kumi, Naomi., Prempeh, N.A., P.A. Anima (2022). Climate Change adaptation strategies of small holder farmers in the Mamprusi- Moaduri district of Ghana. *Journal of Energy and Natural Resource Management* 8(1), 86-94. <https://doi.org/10.26796/jenrm.v8i.196>
- P.A. Anima, A. Kumi-Kyereme, S. Mariwah & A. M. Tampah-Naah (2022) Reflections on lived experiences of teenage mothers in a Ghanaian setting: a phenomenological study, *International Journal of Adolescence and Youth*, 27:1, 264-280, DOI: 10.1080/02673843.2022.2085052

Dr. Emmanuel K. Apiors

- Apiors E.K., and Suzuki A. Effects of Mobile Money Education on Mobile Money Usage: Evidence from Ghana. *European Journal of Development Research* (2022). <https://doi.org/10.1057/s41287-022-00529-x>

Dr. Edna Agyepong

- Agyepong, Edna: Displacement, 'land scarcity', and processes of societal transformation : Social constructions and dynamics of 'land access' around Ghana's Bui Dam. - Bonn, 2022. - Dissertation, Rheinische FriedrichWilhelms-Universität Bonn. Online-Ausgabe in bonndoc: <https://nbnresolving.org/urn:nbn:de:hbz:5-67157>

Mr. Mudasiru Mahama

- Akrofi, M.M., Mahama, M. & Nevo, C.M. (2021). Nexus between the gendered socio-economic impacts of COVID-19 and climate change: implications for pandemic recovery. *SN Soc Sci* 1, 198 (2021). <https://doi.org/10.1007/s43545-021-00207-5>
- Mahama, M., Derkyi, N.S.A. & Nwabue, C.M. Challenges of renewable energy development and deployment in Ghana: perspectives from developers. *GeoJournal* 86, 1425–1439 (2021). <https://doi.org/10.1007/s10708-01910132-z>

DEPARTMENT OF GEOSPATIAL SCIENCES

Prof. Emmanuel Arhin

- Latifatu Alhassan Abubakar, Samuel Kofi Tchum, Kenneth Wiru, Charlotte Tawiah, Kwaku Poku-Asante, and Emmanuel Arhin (2022): Selenium Geo Availability in Stream Sediments in Selected Communities in the Kintampo Area of the Bono East Region of Ghana, *European Journal of Environment and Earth Sciences*, Vol 3 , Issue 2 , March 2022
- Emmanuel Arhin and Raymond Webrah Kazapoe (2021): Influence of Trace Elements in the Natural Environment and Public Health: A Medical Geology Perspective DOI: 10.9734/bpi/etdhr/v1/2156C , Print ISBN: 978-93-5547029-4, eBook ISBN: 978-93-5547-036-2
- Emmanuel ARHIN, Atta A. Y. ARHIN (2021) The application of threshold gold values based on geochemical exploration in complex regolith terrains: A case study at Lawra Greenstone Belt of Northwest Ghana, *Ghana Journal of Science, Technology and Development* Vol. 7, Issue 2. www.gjstd.org, e-ISSN: 2343-6727
- Alfred Awotwi, Geophrey, K. Anornu. Jonathan Arthur, Quaye-Ballard, Thompson Annor, Isaac Kwadwo Nti, Samuel, N. Odai, Emmanuel Arhin, Charles Gyamfi (2021): Impact of post- reclamation of soil by large-scale, small-scale and illegal mining on water balance components and sediment yield: Pra River Basin case study, *Soil & Tillage Research*, Elsevier
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Dr. Lily Lisa Yevugah (Lecturer and Acting Head)

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Community Engagements

1. Department of Atmospheric and Climate Science

- DACS participated in a grand durbar organized by Safe our Environment Foundation (SEF), an NGO with funding support from UNDP/GEF/SEP based in Bechem, Tano South Municipal, Ahafo Region and gave a talk on “How Waste Generation is leading to Climate Change”.
- DACS participated in a Seminar dubbed “After Senior High School What Next” organized by the Salvation Army Senior High School, Aboabo-Dormaa, where students were exposed to many opportunities UENR has to offer them.
- DACS gave a talk to the members of the Association of Methodists Church Choirs Ghana (GHAMECC), Dormaa circuit on the theme “THE EFFECTS OF CLIMATE CHANGE ON AGRICULTURE”.
- DACS embarked on an outreach programme to Koroaso Community School, Dormaa Central Municipal where students were introduced to the Department and its programmes and were also exposed to the Importance of Education.
- DACS collaborated with the Centre for Climate Change and Gender Studies (3CGS) to run Certificate in Climate Change and Economic Resilience programme.

2. Department of Geography and Sustainability Science Dr. David Anafo

- Member, Central Undergraduate Admissions Committee
- Member, Senior Members Disciplinary Committee
- Member, Senior and Junior Staff Appointments and Promotions Committee
- Member, Sports Committee
- Secretary, University Teachers Association of Ghana, UENR
- Reviewer, Journal of Land Use Policy, Journal of Urban Affairs, Journal of Local Environment

Dr. Prsica Ama Anima

- Speaker on the Topic “Contraceptives and Reproductive Health” Girls talk program dubbed Time with the counselor on 30th January, 2022
- Speaker on the topic “Career Independence” at Youth People Guard week celebration of the Grace Congregation on 20th April, 2022

Dr. Emmanuel K. Apiors

- Official lunch of ICED/USAID Research Grant Project by All in Project, GIMPA, Ghana
- Baseline Information Dissemination Workshop in Tamale, Ghana, All- In Research Network.
- Member: Review Committee, MPhil and PhD Agricultural and Resource Economics.

3. Department of Geospatial Science Dr. Lily Lisa Yevugah (Lecturer)

UENR:

- Acting Head: Department of Geospatial Sciences (Aug. 2022- Date)
- Member: Local Organizing Committee for inter schools quiz competition for UENR 10th anniversary celebration. (Sept. 2022 – Date)
- Coordinator: Student Surveying field Practicals (July 2022 – Date)
- Member: Quality Assurance Sub-Committee (2022 – Date)
- Member: School of Geosciences Board (Dec. 2021 – Date)
- Academic Programme Development Coordinator: Department of Geospatial Sciences (Dec. 2021- Aug. 2022)
- Member: Academic Board (2022 – Date).
- Chairperson: Committee that developed Diploma/BSc/MSc/MPhil Programme in Geomatics (2021-Date)
- Member: Committee that developed Diploma/BSc/MSc/MPhil Programme in Applied Meteorology and Climate Science (2021-Date)
- Member: Committee that developed Diploma/BSc/MSc/MPhil Programme in Geography and Sustainable Development (2021 - Date)

Other:

- Executive Member: Ghana Geospatial Society (November 2021 – Date)
- Board Member: The Gaudete Institute (June 2021- Date)
- Member: Information Technology (IT) Committee; Ghana Institution of Surveyors (2019 – Date)

Dr. Peter Damoah-Afari(Lecturer) UENR:

- Departmental Examinations Officer: Department of Geospatial Sciences (Aug. 2022 – Date).
- Undergraduate Studies Coordinator: Department of Geospatial Sciences (Aug. 2022 – Date).
- Seminar and Outreach Coordinator: Department of Geospatial Sciences (Aug. 2022 – Date).
- Acting Head: Department of Geographic Science (Aug. 2021 – July 2022).
- Member: Budgetary Sub-Committee of the Academic Board (Nov. 2021 – Date).
- Fellow: Regional Center for Energy and Environmental Sustainability (RCEES) (2019 – Date).
- Member: Committee to Design a Strategic Plan/Implementation Plan for the School of Geosciences, UENR (April 2021 – Date).
- Member: Committee for the Development of Short and Certificate Courses for Department of Geographic Science (July 2022 - Date).
- Member: Committee for the Development of Diploma/BSc/MSc/MPhil/PhD in Geomatics (April 2021 - Date).
- Member: Committee for the Development of Diploma/BSc/MSc/MPhil/PhD in Geography and Sustainable Development (April 2021 – Date).
- Member: Committee to Review a Proposal for MSc/MPhil/PhD in Sustainable Mining (March 2021).

- Chairperson: Undergraduate and Postgraduate Programmes in Geoinformation Science Development Committee (August 2020 – Date).
- Member: School of Geosciences Board (2020 – 2022).
- Member: Academic Board (2019 – 2022).
- Member: Students’ Hostel and Accommodation Management Committee, Dormaa Campus (2019 – 2021).
- Dormaa Central Municipal Assembly:
 - Member: Executive Committee, Dormaa Central Municipal Assembly (2020 – Date).
 - Member: Public Relations and Complaints Committee, Dormaa Central Municipal Assembly (2020 – Date).
 - Government Appointee from Dormaa Traditional Council: Dormaa Central Municipal Assembly (2020 – Date).
 - Chairman: Development Planning Sub-Committee, Dormaa Central Municipal Assembly (2020 – Date).
 - Member: Works Sub-Committee, Dormaa Central Municipal Assembly (2020 – Date).
 - Member: District Scholarship Review Committee, Dormaa Central Municipality (2019 – Date).
 - Member: District Census Implementation Committee (DCIC), 2021 Population and Housing Census, Dormaa Central Municipal Assembly (May 2021 - Date).
 - Chairman: District Registration Review Committee (DRRC), Dormaa Central Municipality (2020).
 - Member: Inter-Party Dialogue Committee. The National Commission for Civic Education (NCCE), Dormaa Central Municipal Assembly (2020 – Date).
 - Member: New Cemetery Planning Committee, Dormaa Central Municipal Assembly (Dec. 2021 - Date).

Dormaa Traditional Council:

- Sanaahene (Financial Secretary) (December 2015 – Date).
- Member: Judicial Committee to Settle Chieftaincy Dispute in Kofi Badukrom (March 2021 – Date).

Mr. Louvis Boakye (Assistant Lecturer)

- Research Coordinator: Department of Geospatial Sciences (Aug. 2022 – Date).
- Academic Programme Development Coordinator: Department of Geospatial Sciences. (Aug. 2022 – Date).
- Member: School of Geosciences Board (Aug. 2022 – Date).
- Member: Academic Board (Aug. 2022 – Date).
- Member: Committee for the Development of Short and Certificate Courses (Aug. 2022 –Date).

VISITS Department of Atmospheric and Climate Science

- A delegation of DACS together with the Vice-Chancellor paid an official visit to WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use - a large-scale research-focused Climate Service Centre) office in Accra, in an effort of sign an MoU with the institution to foster a stronger bond with UENR to promote the study and research in climate science and related areas.
- A delegation of DACS visited the Lancaster University, UK to engage officials of the University in ways both institutions can be beneficial to each other in areas such as research, teaching, summer school, etc.

Future Plans of The School

Department of Atmospheric and Climate Science

- The department intends to develop MPhil/MSc Applied Meteorology and Climate Science and PhD Climate Change programmes.
- The department plans to engage several relevant academic institutions (local, regional and international) and industries by signing formal MoUs to enhance its visibility and also to forge more research collaboration.
- DACS will continue to explore more opportunities to attract grants, awards and funding for research activities.
- DACS will continue to encourage its faculty to publish more papers with at least one paper per year.
- DACS will pursue its agenda of seeking for external mentoring opportunities to enrich the academic capacity of its members.

Department of Geography and Sustainability Science

The future plans of the department are outlined below:

1. Deepen research and impact through inter departmental and institutional collaborations.
2. Improve teaching and learning through inter departmental collaborative engagements.
3. Strengthen our collaboration with stakeholders and communities within our catchment.

Department of Geospatial Science

- As part of the Strategic Plan of the University, 2016-2026, the Department has planned to mount the following academic programmes:
 - ⊙ BSc in Geoinformation Science,
 - ⊙ Diploma/BSc in Geomatics
 - ⊙ MSc/Mphil/PhD in Geoinformation Science
 - ⊙ MSc/Mphil/PhD in Geomatics

The National Accreditation Board (NAB) and National Council for Tertiary Education (NCTE) documents for the above programmes have been submitted to the Quality Assurance Section of the University for Accreditation purposes.

- The Department plans to run short courses (Certificate and Diploma) in Digital Cartography, Drone Mapping, Geographic Information Systems (GIS), and Remote Sensing.

The department in consultation with the university management will be exploring the ratification of MOUs with international and local institutions for the purposes of enhancing research capacity, promoting interdisciplinary research, and improving instrumentation.

- The Department has plans to establish a state-of-the-art GIS and Remote Sensing Laboratory and center that is equipped with some necessary equipment and software.

UNIVERSITY LIBRARY

UNIVERSITY LIBRARY

1.0 Introduction

This report provides an overview of the activities that transpired in the University Library during the 2021/2022 academic year. The library was managed by a team of well-trained and dedicated staff who are ever ready to aid and also guide users on the effective use of the library services.

1.1 Directorate/Division and Staff

The library was managed by a team of well-trained and dedicated staff who are ever ready to help and also guide users on the effective use of the library services.

S/N	NAME	RANK	QUALIFICATION
1	Ms. Mercy Ama Asafu-Adjaye	Assistant Librarian	MPhil. Information Studies, MA. Information Studies, (Uni. of Ghana), BA Publishing Studies (KNUST)
2	Ms. Harriet Fosua Attafuah	Assistant Librarian	MPhil. Information Studies, BA Psychology with linguistics (Uni. of Ghana), Post Graduate Diploma in Education (VVU)
3	Mr. Selorm Anku Ankudey	Prin. Library Assistant	Msc Library and Information Science (University of Mysore, India) Bsc Computer Science (University of Ghana, Legon) Honors Diploma Information Technology Networking Stream (NIIT, India)
4	Mrs. Pearl Owusua-Amanquah	Snr. Library Assistant	BA Information Studies with Russian (Uni. of Ghana)
5	Mr. Richard Aa-som Guimenga	Snr. Library Assistant	Dip. In Librarianship (Uni. of Ghana), BA Information Studies with Sociology (Uni. of Ghana)
6	Mr. John Adamba	Snr. Library Assistant	Dip. In Librarianship, BA Information Studies with Linguistics (Uni. of Ghana)
7	Ms. Mary Asare	Snr. Library Assistant	Dip. In Librarianship (Uni. of Ghana)
8	Mr. Samuel Appiah Twumasi	Snr. Library Assistant	Dip. In Librarianship (Uni. of Ghana), BA Information Studies with Linguistics (Uni. of Ghana)

9	Ms. Elizabeth Boakyewaa Peprah	Snr. Library Assistant	BA Information Studies and Sociology (Uni. of Ghana)
10	Mr. Richard Adu-Gyamfi	Snr. Library Assistant	BA Information Studies with Linguistics (Uni. of Ghana)
11	Mr. Ebenezer Amoah Cheremeh	Snr. Library Assistant	BA Information Studies with Linguistics (Uni. of Ghana)

1.2 Major Activities over the Past Year

1. Completed Activities

- a. training for Graduate students on effective electronic information searching;
- b. training for University staff on “Practical Tips for Managing Research on Africa Using Bibliography/Sources that Work”. Facilitated by Prof Kwamina Panford;
- c. the library spearheaded the subscription to Elsevier (Scopus) which is one of the largest, most reputable abstract and citation databases for academic literature; and
- d. library Automation Completed

2. Ongoing Activities

- a. All library services
- b. Migration of library resources onto the Koha open source software
- c. User education

1.3 Other Activities

Some staff of the UENR Library attended some programmes and workshops during the period under review. Below are the various programmes and workshops attended;

Workshops/Conferences/ Seminars

- a. Ghana Library Association (GLA) Workshop on "Writing manuscripts that get published"- (Virtual);
- b. Ghana Library Association (GLA) Workshop on Developing Effective Poster Presentation Skills"- (Virtual);
- c. ProQuest Education training on Discover Ebook Central Platform- (Virtual);
- d. Scopus Training for Staff (Virtual)
 - Conducting a successful literature search: A researcher’s guide to tools, terms and techniques-
 - How to find the H Index of an Author
 - How to view citations of an Author
 - How to evaluate an article using research metrics
 - How to evaluate journal metrics
 - How to evaluate an institutional profile
 - Developing effective search strings
 - Evaluating a topic

- Creating search alerts
- e. Governing Council Meeting for Academic Libraries in Ghana;
- f. Ghana Library Association (GLA) Annual General Meeting- (Virtual)

1.4 Challenges

The library faces numerous challenges that affect its smooth running. Among such challenges are;

1.4.1 Inadequate Space

The inadequate space in the library limits the number of users who could access the library resources at a time and also makes retrieval of books difficult because most of the materials are stored in boxes since 2016.

1.4.2 Access to the Library's Electronic Resources is limited

The library's electronic section needs computers to access the subscribed academic databases by the University. However, the electronic section of the library has only three computers. As a result, accessing the databases is limited.

Secondly, access to the academic database is limited to the University's IP address only, which is on- campus. As a result, users are unable to access the academic database off-campus.

1.4.3 Lack of an Assigned Security Officer to the Library

Libraries need to create a safe and secure environment for the Library materials, patrons, as well as its staff. The lack of an assigned security officer to the Library makes handling of users difficult. This is because the library staff have consistently suffered abuse (both physical and verbal) from some users which required the intervention of a security officer.

1.4.4 Noise Emanating from Campus Programmes

Libraries need to create a safe, serene and conducive environment for patrons or users to study. However, noise emanating out of programmes organised at the University's Auditorium which is directly opposite the Library and the Cafeteria especially on weekends and weekdays in the evenings distract the smooth studies in the library.

1.5 Future Plans of the Office/Directorate/Division

It is therefore hoped that:

- 1) The library's major challenge which is Inadequate space is resolved by fast tracking the completion of the new library building;
- 2) A Remotexx software be purchased for the library to grant access to the academic databases off-campus;
- 3) Subscription for Electronic Books be initiated to supplement the hardcopy resources available;
- 4) A bindery be set up for the library to serve as an Income Generation Enterprise for the library and University at large. This will aid all graduating students the opportunity to bind their thesis at the library. Also, the entire University community as well as the general public can patronise this service. As a result, generate income for the university;
- 5) Training would be organised for all level 100 students (in batches) and introduce

- them to the academic library setting, resources available and the various informal retrieval tool;
- 6) The library would collaborate with the Students Representative Council and organize frequent trainings on effective Information search for students;
 - 7) Training would be organised for school librarians in collaboration with the Ghana Library Association (GLA);
 - 8) Training be organised for level 300 students on the various referencing styles to help them in their research writing;
 - 9) Market the library services and resources often;
 - 10) A digitization section be created to digitize resources that are not born digital which are deteriorating;
 - 11). Setting up an Institutional Repository to showcase the intellectual output of the University which would lead to visibility of the university and the staff; and
 - 12) An initiative dubbed “Time with the Librarian” for the University Basic School which is aimed at introducing the pupils to the concept of “libraries”, its “Resources” and “Benefits”

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