Vice-Chancellor's REPORT to the 5th Congregation

November 2020

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Prof. Elvis Asare - Bediako, Vice-Chancellor

Foreword

This report covers the activities of the University over the 2019/2020 Academic Year. It provides information on all major constituents of the University, namely, the offices of the Vice -Chancellor, Registrar, Schools, Departments, 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 2020, 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.

In a bid to ensure a smooth end of the 2019/2020 Academic Year, both face- to-face and online platforms were engaged for examination purposes, especially for the final year students and the larger body of continuing students .

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 relationship and partnership with stakeholders both locally and internationally. We continue to engage all Stakeholders and solicit for support from beneficiaries to support the realization of the vision of the University.

Office of the Vice-Chancellor

THE REPORT OF THE VICE-CHANCELLOR

Office of the Vice-Chancellor

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. The office of the Vice-Chancellor is staffed as indicated in the Table below:

S/N	Name	Qualification	Rank/Position
1	Prof. Elvis Asare-Bediako	PhD Plant Environmental Sciences (Plant Virology) Warwick, UK MPhil Crop Science (Plant Pathology), UCC BSc General Agriculture, UCC	Vice-Chancellor
2	Prof. Adekoya Adebayo Felix	Ph.D. (Computer Science), Abeokuta, Nigeria M.Sc. (Computer Science), Abeokuta, Nigeria B.Sc. MBA (Ogun, Nigeria), PGD Education (LASU, Nigeria)	Acting Pro Vice-Chancellor
3	Millicent Daghar	BA (CUCG)	Senior Admin. Assistant
4	Kate Mensah	BSc (KNUST)	Senior Admin. Assistant

Vision

To become a world class institution for generating, advancing and applying knowledge in energy and natural resource sciences.

Mission

The Mission of the University is to promote the development of human resources and skills required to solve critical energy and natural resources challenges of society and undertake interdisciplinary academic research and outreach programmes in engineering, science, economics and environmental policy.

Core Values

In order to realize its vision and mission, the University shall be guided by the following core values:

- Promote innovation, creativity, freedom of thought and creative expression
- Operate with integrity, commitment and transparency
- Respect for conservation of energy and the environment
- Partnership with stakeholders in skills and knowledge generation and application.

ACTIVITIES

During the academic year under review, the Vice-Chancellor performed a number of activities which included, among others, visits and interactions, meetings and conferences both in and outside the country, all in the pursuit of the interest of the University.

Resource Mobilization and Donations

Financial resource mobilization for infrastructural development of the University was largely through external donor funding, particularly, the GETFund. The Ghana National Petroleum Cooperation (GNPC) supported the construction of the University's Applications Laboratory Phase One and two.

The Vice-Chancellor also signed a contract document with MESSRS Stivo Company Ltd. for the construction of an Auditorium Block at Sunyani. The Nine Million, Two Hundred and Sixty-Five Thousand, Seven Hundred and Thirty-Three Ghana Cedis and Fifty-Seven Pesewas (GH¢9,265,733.57) Auditorium project is being sponsored by the Bank of Ghana.

Visits and Interactions

The Vice-Chancellor received a number of visiting individuals and groups during the 2019/2020 academic year.

First, the Vice-Chancellor received the National Accreditation Board's Cyclical Institutional Review team. Their purpose was to carry out an Institutional Review/Audit Exercise of the University as required by Section 8 (2) of the National Accreditation Board Act 2007, Act 744.

Second, the Chiefs of the Nsoatre Traditional Area also called on the Vice-Chancellor. Their visit was in relation to the development of the UENR Nsoatre Campus.

Workshops/Conferences/Seminars

In the course of the year 2019 – 2020, the Vice-Chancellor participated in a number of workshops, conferences and seminars. Notable among them were the following:

- The Vice-Chancellor attended the ACE Impact Project and ACE1 Project workshop on 24-27 September, 2019 in Dakar, Senegal.
- He again participated in the ACE IMPACT Regional workshop on February 24-28, 2020 in Abuja, Nigeria.
- He was invited to attend The Impact! Africa Social Entrepreneurship Summit 2019 at Nairobi, Kenya and was represented by Dr. Kusi Boachie Yiadom in the summit on 4-5 December, 2019.
- The Ag. Pro-Vice-Chancellor attended Train-the-Trainers Closing Workshop (National Multiplication Training 2017-2018 Cohort). This was a three-day workshop organized by the Centre for Quality Development (ZfQ), University of Potsdam, under the auspice of the Dialogue on Innovative Higher Education Strategies (DIES) at Mercure Hotel Potsdam City, Germany between 3rd & 5th September 2019. The NMT programme was jointly initiated by German Academic Exchange Service (DAAD) and German Rectors' Conference (HRK) with funds from the Federal Ministry for Economic Cooperation and Development (BMZ).

- The Ag. Pro Vice-Chancellor attended Certified Management Consultants (CMC) Training Workshop**.** A one-day workshop organized by the Institute of Management Consultants, Nigeria (IMC) in conjunction with the International Council of Management Consulting Institutes (ICMCI) on October 24th, 2019 at the Lagos Airport Hotel, Ikeja, Lagos.

- The Ag. Pro Vice-Chancellor attended an Orientation Session for Direct Admission into the Institute of Directors, Ghana. This was a one-day workshop organized by the Institute of Directors, Ghana on November 5th, 2019 at Cleaver House, Accra, Ghana.

- The Ag. Pro Vice-Chancellor attended a workshop on Career Accelerator for Optical Communications; a five-day workshop organized by the Optical Society Association (OSA) Foundation between 12th January and 16th January 2020 at National 4H Conference Center, Chevy Chase, Maryland United States.

Linkages and Collaborations

During the 2019/2020 academic year, the University signed an MoU with I – Green Engineering and Construction Company Limited for the construction of a 2500 capacity student hostel.

The University signed an MoU with the New Mexico Institute of Mining and Technology. The agreement is to establish a programme of academic and scientific exchange and collaboration in areas of interest and benefit to both institutions. The purpose of the cooperation is to foster collaboration, provide an opportunity for global experience and facilitate advancement of knowledge based on reciprocity, best effort, mutual benefit and frequent interactions between both institutions in the field of teaching and research.

The University also signed an MoU with the World Vision Ghana for the mutual interest of both parties such as joint proposal development for grants and research projects, joint research and publications and technology transfer.

UENR entered into a Joint Venture Agreement between Active Group (AG) to create a laundry to offer washing and cleaning services for students, the staff of the University and residents living around surrounding communities.

The University signed a Joint Venture Agreement between Blue Nectar Group (BNG) to jointly produce yoghurt and other dairy products in Ghana and other countries.

Projects

1. Tools for ensuring sustainable urban agriculture in the Sunyani Municipality.

The project is under Goal 2 of the Sustainable Development Goals (SDGs) envisioning that by 2030, the world could end hunger, achieve food security, improve nutrition and promote sustainable agriculture among others.

The ultimate objective is to protect urban agricultural investments in Ghana to provide employment, healthy food and protect the environment and deliver on our GDP growth commitments. The protected investments include all efforts contributed by the Skills Development Fund (SDF) to support the industry in their expansion of knowledge and productivity expansion. This project will establish UENR as the centre of expertise in innovative and technology transfer centre for the urban agricultural sub-sector where industry, academia, and other benefactors can access the research and training opportunities the institution offers.

The project is supported by the African Development Bank/ FC Ghana/ Ghana Association for the Conservation of Nature.

2. Erasmus Plus KA107 Programme

Erasmus+ KA107 is an international academic mobility and exchange programme involving the University of Energy and Natural Resources (UENR) and Kumasi Technical University (KsTU) with Eberswalde University for Sustainable Development (EUSD), Germany.

The Programme involves the mobilities of faculty and students between UENR/KsTU and EUSD for the next three years (2020-2023). In UENR, staff

and students from the Department of Ecotourism, Recreation and Hospitality, Department of Forest Science and Department of Environmental Management would have the opportunity of an exchange programme with the Faculty of Forest and Environment and Faculty of Sustainable Business at EUSD.

Objectives

1. To help participants acquire key skills, support their professional development and deepen their understanding of other cultures.
2. To increase the capacities, attractiveness and international dimension of the organizations taking part in the programme.

Partner Institutions

i. University of Energy and Natural Resources (UENR)
ii. Kumasi Technical University (KsTU)

Affiliated Departments at UENR:

i. Department of Ecotourism, Recreation and Hospitality
ii. Department of Forest Science
iii. Department of Environmental Management

Funding Source

Visits carried out in the framework of Erasmus+ KA107 Programme are funded by grants allocated by the European Commission to the universities located in the Programme Countries. The Programme covers the transportation costs of its participant, as well as their living expenses during their stay at a partner institution.

SCHOLARSHIP PACKAGES

The Ghana National Petroleum Corporation (GNPC) Scholarship

The Ghana National Petroleum Corporation (GNPC), through the GNPC Foundation Scholarship, awarded a scholarship to Sixty-Eight (68) graduate and undergraduate students reading Science, Information Technology, Engineering

and Mathematics (STEM) programmes for the 2019/2020 academic year. The Foundation also renewed the scholarship for its Twenty-Four (24) and Eight (8) beneficiaries for the 2018/2019 and 2017/2018 academic year respectively. The scholarships cover tuition, accommodation, living expenses, book allowance and dissertation/project work.

Governance and Administration

The University has policies that serve as a guide to ensure that staff and students can make good decisions while performing their roles in the interest of the University. The University Administration puts in efforts to lay a solid base by drafting and promulgating policies that would help in the governance and administration of the University. The University had promulgated a number of policies, some of which are the University statute, examination policy, code of ethics, quality assurance, mentoring policy, plagiarism policy, health policy and anti-sexual harassment policy.

The following policies are at their draft stage; staff developing policy, appointments and promotion policy, environmental policy and ICT policy.

UENR is a member of the Association of African Universities (AAU). Recognized staff unions and student associations on the University campus include; the University Teachers Association of Ghana (UTAG), Ghana Association of University Administrators (GAUA), Tertiary Educational Workers Union (TEWU), Federation of University Senior staff Associations of Ghana (FUSSAG), the Students Representative Council and several other Departmental and programme associations.

Challenges

As a young and growing university, UENR is faced with many challenges. Major infrastructural challenges that UENR faces include the need for a multipurpose auditorium and library for each of the campuses. Lecture hall complex for each of the campuses, laboratories with modern equipment for a world-class science

and technology university, halls of residence for 3 campuses, offices for staff and PhD students as well as housing for teaching and non-teaching staff.

Transportation, health and agricultural challenges include the need for buses and pick-up vehicles, tractors and accessories and farm machinery, an inter-campus shuttle system for staff and students and a well-equipped university clinic for all campuses.

Technical and security related challenges include fibre optic cabling of 3 campuses (ICT infrastructure), consistent high-speed internet connectivity, books and teaching aids for teaching, learning and research, walling/fencing of UENR lands to prevent encroachment, police posts, police visibility and night patrols on all campuses.

QUALITY ASSURANCE AND ACADEMIC PLANNING DIRECTORATE

Introduction

Higher Educational Institutions strive to offer quality programmes to contribute meaningfully to national development. Quality Assurance in higher education is of central importance in this regard. Quality graduates are a requisite for propelling the development agenda of every nation. Institutions of higher education must develop and implement internationally and nationally accepted standards to assure quality that meets the needs and aspirations of today's dynamic and competitive world. The University of Energy and Natural Resources is mandated to train graduates with the requisite skills to contribute to the alleviation of energy and natural resource challenges confronting the country. In achieving this, and of becoming 'a world-class institution for generating, advancing and applying knowledge in energy and natural resource sciences", the University Management has identified Quality Assurance as critical. The University has a framework for assuring and maintaining quality in all areas of its operation. The Quality Assurance and Academic Planning Directorate was set up by Statute 51 of the University Statutes to systematically

and continuously design measures and mechanisms to improve the quality of teaching, research and service delivery in all areas of the University's operation.

Departments and Staff

SN	Name	Rank/Position	Qualification
1	Alex Akwasi Opoku	Ag. Director	PhD
2	Lydia Oteng Fening	Assistant Registrar	BSc, MSc.,
3	Rita Adjei	Senior Administrative Assistant	BSc, MPhil

Completed Activities

- ✓ Completed the University's five (5) year Cyclical Institutional Review
- ✓ Facilitated accreditation of academic programmes
- ✓ Verified lecturers' teaching loads (credit hours)
- ✓ Assisted in the e-Learning activities

On-going Activities

- ✓ Facilitation of accreditation of academic programmes
- ✓ Embarking on staff auditing

Workshops/Conferences

- ✓ Virtual workshop on building the quality culture through robust quality management system education and awareness on 21st July 2020

Challenges

- ✓ Office space to accommodate staff
- ✓ Inadequate human resources for the Directorate
- ✓ Inadequate logistics to facilitate the activities of the Directorate

Future Plans

The Directorate seeks to

- ✓ Develop systems and structures for the Directorate
- ✓ Roll out tracer survey for both alumni and industries
- ✓ Secure accreditation for all existing and new programmes
- ✓ Conduct staff assessment

Office of the Registrar

REGISTRAR'S OFFICE

Introduction

The Office of the Registrar is the administrative seat 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.

Departments and Staff

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

Major Activities over the Past Year

1. Facilitation of the Promulgation of the University Statute.

2.General Mentoring and Coaching of Administrative Staff.

Other Activities

- Workshops: Staff from the General Administration Division embarked on a study tour to their counterpart in KNUST, to understudy their operations.

Future Plans of the Office

The Registrar's Office seeks to:

1. Upgrade the knowledge and skills of all levels of Administrative Staff.

2. Ensure strict adherence to and application of relevant procedures, rules and regulations within the overall policy framework of the University.

ACADEMIC AND STUDENTS' AFFAIRS DIVISION

Introduction

The Academic and Students' Affairs Division (ASAD) is one of the divisions under the Registrar's Office. The overall objective of the ASAD is to ensure that prospective and current students receive prompt assistance in terms of academic and students' affairs services. The Division has three (3) units, namely, Admissions, Students' Affairs and Examinations. The Admissions Unit coordinates all admission processes in the University. The Students' Affairs Unit serves as the students' services help desk where staff perform functions such as the issuance of certificates, transcripts, introductory/attestation letters and the certification of documents for students. The Examinations Unit coordinates examinations and examination related matters.

Staff:

Senior Members

- George Kwadwo Anane, Senior Assistant Registrar
- Elijah Ofori-Badu, Assistant Registrar
- David Takyi Abeam, Junior Assistant Registrar

Senior Administrative Assistants

- Kwame Asante
- Akwasi Hinneh Boateng
- Edward Yaw Nyameche
- Nancy Appiah Tuah
- Emmanuel Kombiok

Major Activities over the Past Year

Over the past year, the Division undertook the following major activities:

- Processing of Admissions for 5,540 applicants for the 2018/2019 Academic Year.
- Verification of 10,332 WASSCE results for 5,166 students enrolled in the 2018/2019 and 2019/2020 Academic Years.
- Collation of list of prospective candidates to the National Service Scheme for the 2020/2021 National Service Year.
- Picture taking and issuance of Student Identity Cards to first year students for the 2019/2020 Academic Year.
- Seminar on "The Art of Effectively Taking Minutes of Meetings" organized for Senior Administrative Staff at the Academic and Students' Affairs Division.

Conferences/Workshops/Seminars

- The SAR-ASAD received a Scholarship from the German Academic Exchange Service (DAAD) to participate in the 2020 University Leadership Training Programme (UNILEAD 2020) as part of the Dialogue on Innovative Higher Education Strategies (DIES). As part of the training, the SAR-ASAD participated in the following training sessions at the Carl von Ossietzky University of Oldenburg, Germany:
    - A contact phase in February/March 2020, 2020 for Modules in 'Project Management' and 'Strategic Management' in Higher Education Institutions;
    - Two online phases (January 2020 – February 2020 and March 2020 – September 2020;
    - A two-week online phase (June 22, 2020 – July 05, 2020) for a module in 'Student Engagement and Digitalisation in Higher Education'; and

- An eight-week online phase and an online session (September 13-25, 2020) in a Module in 'Human Resource Management in Higher Education Institutions'.

The Programme brought together approximately 25 young university leaders from East, West and Southern Africa, the Middle East, South East Asia and South and Central America to share innovative ways to solve inherent problems in their universities.

Future Plans of the Office

The Division has recommended to Senior Management a proposal to establish and operationalise a student career support programme to help prepare students in essential soft skills that would enable graduates to find their space in the job market.

HUMAN RESOURCES DIVISION

1.0 Introduction

The Human Resources Division under the Registrar's Offices has the mandate of Recruiting, Training and Developing Staff Capacity and Employer-Employee Relationship.

The Office plays a major role by ensuring that quality and loyal personnel are recruited and given the required training for personal and institutional development.

The Office also acts as an intermediary between staff and Management with regards to grievances in appointments, upgrading and promotions as well as welfare matters.

In the 2019/2020 academic year, the Division undertook some major activities with others still ongoing.

2.0 Staff at the Division

S/n	Name	Designation
1	Mr. Alfred Ohenenana Appiah	Senior Assistant Registrar/Ag. Head
2	Mr. Diana Obeng	Junior Assistant Registrar
3	Ms. Elsie Mark-Anthony	Senior Admin. Assistant
4	Mr. Bismark Osei	Senior Admin. Assistant
5	Mr. Clifford Asomah Kyere	Senior Admin. Assistant

3.0 Major Activities

3.1 Training and Development-

a. Leadership Training for Deans, Directors, Heads of Department/Divisions/Sections/Units/ under the theme: Attitudinal Change and Team Building for Higher Productivity at Tyco Coty Hotel from Thursday, October 03, 2019 to Friday, October 04, 2019.
b. A Two (2) Day Training Workshop for Senior Members in the University on the theme: Growing together as a University: Role of Each Senior Member from Thursday, 19th to Friday 20th March 2020 at Tyco City Hotel.
c. Training Workshop for Basic School Staff (Teaching and Non-Teaching) on Friday, July 26, 2019, at the School of Sciences upper Lecture Theater.
d. Orientation for Newly recruited Senior Members on Tuesday, June 16 -Wednesday, June 17, 2020, at the French Laboratory.

3.2 Documentation

a. Comprehensive Staff Data Compilation
b. Verification of Staff Certification (all Local Universities except the University of Ghana-Legon), International Certificates verification ongoing.

4.0 Other Activities/Programmes

a. Collaboration with the Finance Directorate in providing data for the Controller and Accountants General Department (CAGD) for the IPPD2 migration of Public Universities on GoG Mechanized Payroll.
b. Regular engagement and interaction with some Senior and Junior staff groups on their challenges and update on other Human Resources related policies.
c. Engagement with Deans and Heads of Departments (on-going) on Human Resources policies.
d. Implementation of Medical Examination exercise for newly recruited Staff before assumption of Duty (on pilot basis).

5.0 Staff Statistics

	Male	**Female**	**Total**
Senior Members (T)	156	30	186
Senior Members (NT)	34	15	49
Senior Members (Post-Ret)	5	0	5
Senior Members (Part-Time)	0	1	1
Total			**241**
Senior Staff (Permanent)	69	59	128
Senior Staff (Contract)	31	18	49
Total			**177**

Junior Staff (Permanent)	80	39	119
Junior Staff (Contract)	7	17	24
Total			**143**
Casual Staff (All Junior Staff)	13	45	58
GRAND TOTAL			**619**

6.0 Conclusion

The Human Resources Division under the Registrar's Office is committed to ensuring the general well-being of staff for efficient work output towards the fulfillment of the vision of the University.

UNIVERSITY RELATIONS OFFICE

Introduction

The University Relations Office (URO) is one of the divisions under the Registrar's Office. The office is responsible for the internal and external communication functions of the University. The Division currently has three (3) units namely: Media and Events; Documentations and Publications and; Alumni and Advancement.

Staff

Senior Members

- David Twumasi-Ankrah, Assistant Registrar
- Martina Asantewaa Anane, Junior Assistant Registrar
- Abigail Yeboah-Kyereh, Junior Assistant Registrar

Senior Administrative Assistants

- Jennifer Naa Jaaga
- James Boateng

Contract Staff

- Raymond Mensah
- Rhoda Kumi-Boateng

Major Activities over the Past Year

Over the past year, the Division undertook the following major activities:

- Renovation of the University's FM Station with State-of-the-Art equipment to boost its activities.
- A Press Soiree was organised to strengthen the collaboration between the University and the media.
- The department participated in I – Texon Educational Fair to introduce the academic programmes of the university to high school students across the country.

Challenges

Some key challenges that hinder the activities of the department are suitable office space and appropriate working tools.

Future Plans of the Office

Recommendations have been made to Management for the establishment of an Academic TV station to augment the activities of the University in the media space.

GENERAL ADMINISTRATION DIVISION

Introduction

The General Administration Division falls under the Registrar's Office and provides it day-to-day administrative support to the Registrar's Office.

The Division is primarily responsible for the coordination of the University's Security Services, providing Municipal and General Services as well as the management of University vehicles.

The Division also provides secretariat services to committees such as Welfare Services Board, Standing and Finance Committees, Budgetary Committee and other sub-committees under the Welfare Services board.

Departments and Staff

1. Mr. Hayford Asare	–	Senior Assistant Registrar
2. Ms. Phillipa Mensah	–	Junior Assistant registrar
3. Ms. Gifty Adede Mensah	–	Senior Administrative Assistant
4. Mr. Daniel Otabil Koosom	–	Assistant Transport Officer

Major Activities over the Past Year

1. Installation of CCTV at the Administration Block
2. Renovation works at the University Clinic and Cafeteria
3. Acquisition of Vehicles; Toyota Hiace 15-Seater (1) –delivered

   Toyota Hilux pick-up (2)-delivered

   Donation – Toyota Hilux pick-up (1)-delivered

   33-Seater Coaster (2)-pending receipt

   62-Seater bus (2)-pending receipt

4. Training workshop for University Drivers

Other Activities

- Study tour at KNUST –General Administration Division

Future Plans of the Office

1. Request for a well refurbished and modernized reception
2. Request for a standard postal room
3. Request for additional vehicles for the University
4. Request for a well-fenced car park
5. Request for Maintenance workshop

BUSINES DEVELOPMENT AND INCUBATION CENTRE

Introduction

Business Development Innovation and Incubation Centre was established in 2018 to assist students with entrepreneurial ideas and to serve as consultancy services for the general public including corporate institutions and organized groups.

Departments and Staff

Dr. Kusi Boachie Yiadom

Major Activities over the Past Year

The Centre undertook two projects, namely, Jobs for the Youth and Migration projects by the British Council and GIZ.

The Centre was appointed by the Government's National Entrepreneurship and Innovation Projects (NEIP) to train some youth who sought financial support from the project.

The Centre led the restructuring activities of the University Cafeteria uplift its image and capacity in serving the University Community.

Other Activities

- **Workshops**; The Head of the Centre participated in 6 workshops organized by the British Council. 4 in Accra and 2 in Kumasi.

- **Conferences**; The British Council partially sponsored Dr. Kusi Boachie to lead a team of 25 to participate in the African Youth Entrepreneurial Conference in Nairobi Kenya.
- **Seminars**; Dr. Kusi Boachie Yiadom was appointed as an external Mentor and coach by the Entrepreneurship in Higher Education (EHDE) for 28 public Universities in South Africa. These activities were carried out virtually.

Future Plans of the Office

The Centre has written some proposals for training Consultancy Services from Mastercard Foundation through NBSSI to help train and equip some 2,000 youth within the Bono Region.

We hope to get a befitting incubation Centre that would attract the student entrepreneurs.

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 does not fall below the rank of a Senior Lecturer or its equivalent grade. He or She must be appointed by the Vice-Chancellor. The functions of the Dean include promoting the welfare of Junior Members of the University, making suggestions to the University about ways of enhancing the quality of student life, overseeing the formation of student associations or societies.

DEPARTMENT AND STAFF

Dean of Students' office

1	Dr. Dominic Otoo	Dean
2	Dr. Damoah Afari	Co-ordinator, Dormaa Campus
3	Ms. Akua Yeboah Agyemang	Snr. Administrative Assistant

Counseling Unit

1	Rev. Dr. Isaac Ishmael Arthur	Head, Counselling Unit/ Chaplaincy
2	Mrs. Eva Atika Bakuri Dinye	Assistant Counsellor
3	Mr. Prince Kwame Affum	Assistant Counsellor, Dormaa Campus
4	Ms. Cindy Awuah Pokuaa	Snr. Administrative Assistant

MAJOR ACTIVITIES OVER THE PAST YEAR

1. **Capacity Building for Students**
   Some of the activities undertaken by the office to enhance the capacity of students include the following:

- A one-day leadership seminar was organized by the Dean of Students and the Assistant Registrar of Graduate School. All student leaders and class representatives were educated on basic leadership roles.

- A one-day workshop was organized by the office for the newly elected students leaders to educate them on the channels of communication in the University, campus life 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, Sunyani.

2. Student Activities

During the 2019/2020 academic year, the Student Representative Council (SRC) organized the following programme:

- USAG Senate 12/06/2019
- Peace Cup (Dormaa Campus) 21/09/2019
- USAG Congress 25/09/2020
- Secretariat Training 04/10/2019
- Akwaaba Night (Fresher Fest) 19/10/2019
- Women in Leadership 16/11/2019
- X'mas Pyrotechnics 06/12/2019
- The Ladies Fair (Wocom) 21/02/2020
- Campus Praize 22/02/2020

The Local NUGS also organized the following programmes:

- SNNIT Info Shop 05/10/2019
- NUGS Health Walk & Aerobics 12/10/2019
- NUGS Week 13th-18th/11/2019
- Educational Tour 22/11/2020
- Duvet Xperience 14/02/2020
- Pluz Colour Code 15/02/2020

3. Guidance and Counseling

The Guidance and Counseling unit is an integral part of the Dean of Students' office. During the year under review, the unit organized a number of programmes for the students. Some of these are presented below.

Orientation for Elected Executives

The University, through the Office of the Dean of Students, organized a two-day programme for elected Executives of the Students' Representative Council for the 2019/2020 academic year. The programme was aimed mainly at informing the newly-elects with the knowledge to effectively represent the student body. The two-day programme which covered from the 7th and the 8th of September, 2019, was held at the University Auditorium and was moderated by delegates from the Office of the Dean of Students including the University Counselor and the Assistant Counselor.

- **Nine Lessons and Carols Festivities**

The Chaplaincy office organized the Nine Lessons and Carols Festivities as they do every year. Some members of the university community including the Vice-Chancellor were present at the occasion.

4. **Accommodation and Hostel Management**

   The University presently has only two hostels to house it's over eight thousand (8,000) student population. The Getfund Hostel accommodates a total of six hundred and seventy-two (672) students, four hundred and twenty-four (424) males and two hundred and forty-eight (248) females, while the new hostel accommodates a total number of two hundred and fifty-seven (257) students, one-hundred and fifty (150) males and one hundred and seven (107) females. It is clear that the University lacks the hostel accommodation to house her increasing number of students. The University is, therefore left with no option than to acquire or assist students to acquire private accommodation.

5. **Sports and Recreation**

   The SRC in consultation with the Dean of Students Office supported the University sports team during the Ghana University Sports Association competition hosted by the University of Ghana. The SRC gave a polo T-shirt to each member and provision of the team.

OTHER ACTIVITIES

- **Workshops/ Conferences/Seminars**

  - **The National Commission on Civic Education** in collaboration with the Office organized a workshop in September 2019 on anti-corruption and the role of the tertiary students in the fight against corruption.

  - **The Social Security and National Insurance Trust** (SSNIT) and the National Service Secretariat in collaboration with the Office and SRC organized a programme for the final years on the activities of SSNIT and national service issues.

- **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 UENR Forensic Society to attend a number of debate competitions as outlined below.

  A: Ghana Universities Debate Championship-July, 2019

  UENR was one of the 9 universities selected across the country for a debate championship at All Nations University College in Koforidua. UENR at the end of the competition got to the quarter-finals stage and placed 3rd in public speaking

  B. Pan African Universities Debate Championship-Dec. 2019

  This was for all African Universities, 17 member universities attended including UENR. The championship was hosted by Kwame Nkrumah University of Science and Technology, KNUST, Kumasi. At the end of the competition, UENR placed 3rd in public speaking.

  C. Face-off Debate Open-February, 2020

  This was a two University completion between UENR and UEW-Kumasi branch. The completion was organized by UEW and was won by UENR. In addition, UENR won the 1st and 2nd prizes for public speaking.

- **Campus Business Pitch**

  This is a programme initiated by the Government of Ghana to support young scientists and entrepreneurs to bring their innovative ideas and get a start-up capital to bring to fruition their ideas. The programme was launched at UENR in October 2019 by officials from the head office. After a series of scrutiny two groups were selected from the University.

  One of the groups used sawdust and plastic waste to manufacture furniture. The second developed an alcohol detector to be mounted in cars to automatically demobilize the car from moving when a drunk driver sits behind the steering. Unfortunately, COVID-19 did not permit for the full run of the pitch.

➢ **Projects by the Student Representative Council (SRC):**

- Construction of a police post at Sunyani Campus
- Purchasing of two 32-seater coaster buses 1 for Dormaa campus and 1 for Sunyani and one 66-seater bus for Sunyani
- Securing of land for an SRC hostel
- Introduction of data cards for students.

➢ **Scholarships**

The SRC in collaboration with the Counseling Unit and the Office of Dean of Students through Anidaso Nsae partially supported seventy-three (73) students. By paying their fees: thirty-two (32) very needy, nineteen (19) needy and twenty-two (22) fairly needy students to pay their fees. The Obaasima Fund however, was able to help twenty-five (25) students pay half of their fees and other related expenses.

Future Plans of the Office of the Dean of Students

- The Office seeks to enhance the knowledge of students in administrative issue. Elections should be conducted earlier so that the new executives can have time to understudy the old executives before handovers. The Dean of Students and stakeholders would have the opportunity to engage student executives on the procedures of running the office of the SRC regarding all aspects of their operations.

- Publicity of student activities would 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.

Finance Directorate

FINANCE DIRECTORATE

Introduction

The Finance Directorate is responsible for preparing the University's annual budget estimates, keeping of all financial records of the University, producing periodic budgetary control reports, and preparing annual statutory financial accounts.

The Directorate is also responsible for the keeping of records of donor-funded projects, students' financial records, fixed asset and management of stores.

The Directorate also provides services to support the academic mandate of the University such as the provision of financial reports and financial sustainability reports for the accreditation of academic programmes.

Departments and Staff

The Directorate fulfills the above responsibilities through the Treasury Division, Payroll & Management Accounting Division and the Financial Accounting Division.

The Directorate has six (6) Senior Members, fifteen (15) Senior Staff and one (1) Junior Staff.

The Senior Members are as follows:

Albert Banan Abdulai	FCCA, MPhil (Admin & Org), B. Com, Dip. Educ.;	Director of Finance
Paul Nana-Nketia	ACCA, MBA, BSc. Administration	Deputy Director of Finance, Payroll & Management Accounting Division
Augustine Opoku-Mensah	ICA (GH), MBA(Finance), BSc Administration;	Senior Accountant, Treasury Division

Stephen Yaw Ntiamoah	CA,CPFA: ICA (GH), CIPFA-UK, IIA, MBA(Accounting), HND Accounting	Senior Accountant, Financial Accounting Division,
Victor Kojo Bosea	ICA(GH), BA (Business Studies)	Head of Payroll Unit; Assistant Accountant
Enoch Kyeremeh	MBA (Accounting), BSc Economics;	Head of Stores; Assistant Accountant

Conferences/Workshops/Seminars

During the 2019/2020 Academic Year, staff of the Directorate attended the following Conferences/Workshops/Seminars.

1. Workshop on "Overtime Allowance paid to Junior and Senior Staffs at Public Universities" organized by National Council for Tertiary Education/ Fair Wages and Salaries Commission from 1st to 3rd August, 2019.

2. Workshop on "Amended Public Procurement Act 2016 (Act 914)" organized by the Sunyani District Society of the Institute of Chartered Accountants Ghana on 29th August, 2019 at Eusbett Hotel, Sunyani.

3. 15th ACE I and 2nd ACE Impact Steering Committee Meetings, 11th ACE 1 and 2nd ACE Impact Workshop organized by the World Bank, 23rd to 27th September 2019 in Dakar, Senegal.

4. Workshop on "Responsibilities of the Employer" organized by SSNIT, Sunyani on 24th October, 2019.

5. Seminar on "PR Planning and Strategies, Internal Communication Strategies in the University Context, Crisis Management in Higher

Education, Effective Stakeholder Engagement in Higher Education from 14th to 15th November, 2019 at KNUST.

6. Workshop on "the Evolving Role of the 21st Century Accountant, Auditor, Finance Officer, Budget Heads and Cost Managers" organized by the Association of African Universities, Mauritius from 19th to 22nd November 2019.

7. Workshop on "2020 Budget Implementation Instructions and Internally Generated Fund (IGF)/ Donor Reporting" organized by the National Council for Tertiary Education from 13th to 14th February 2020.

8. Workshop on "Best Practices in Donor Fund Management" organized by the Association of African Universities, Kigali, Rwanda,18-21February 2020

9. **16th ACE I and 3rd ACE Impact Steering Committee Meetings 11th ACE 1 and 2nd ACE Impact Workshop** organized by the World Bank - 24 February 2020 in Abuja, Nigeria.

10. Workshop on "Unified GUSSS Management Software" organized by GUSSS Secretariat on 28th July, 2020.

11. Workshop on "Ghana Integrated Financial Management Information System (GIFMIS)" organized by the National Council for Tertiary Education from 5th August to 9th August, 2020.

12. Training on "Public Financial Management Act, 2016, Act 921 and the Public Financial Management Regulations (L.I 2378) from 24th to 25th September, 2020.

Future plans

The Directorate plans to recruit more Senior Members (when there is financial clearance) to strengthen budgeting and financial reporting in the various Schools of the University.

Internal Audit Directorate

INTERNAL AUDIT DIRECTORATE REPORT

Introduction

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

The IAU is responsible to the Vice-Chancellor and the University Governing Council as it 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 in the University's operations.

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

Departments 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	Assistant Internal Auditor	ICA, (Gh), CIPFA (Affiliate), MSc., HND Accounting
4.	Bridget Agyemang	Senior Auditing Assistant	ACCA
5.	Vera Doyo F. Setsoafia	Senior Auditing Assistant	BSc. Administration
6.	Kelvin Kubi Appiah	Senior Auditing Assistant	Bed Accounting
7.	Evans Sakyi Ampah	Auditing Assistant	HND Accounting
8.	Lydia Obiri	Auditing Assistant	HND Accounting
9.	Ruth Dufie Amoah	Senior Administrative Assistant	BSc. Development Planning

Activities over the Past Year

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.

Conference/Workshops/Seminars

Some members of staff of the Internal Audit Directorate attended the following Conferences, Workshops and Seminars during the year under review;

- ❖ Workshop on 2020 Budget Implementation Instructions and Internally Generated Fund Donor Reporting organized by NCTE in collaboration with the MOF and MOE on 13th to 14th February, 2020 at Tertiary Education Complex Conference Centre, Accra.
- ❖ Workshop on Risk-based Internal Auditing organized by IAA from 10th to 13th December, 2019 in Kumasi.
- ❖ Seminar on "PR Planning and Strategies Internal Communication Strategies in the University Context, Crisis Management in Higher Education, Effective Stakeholder Engagement in Higher Education from 14th to 15th November, 2019 at KNUST.
- ❖ Internal Audit Workshop, organized by the Institute of Chartered Accountants (Ghana) from 30th to 31st October, 2019 at the La Palm Royal Brach Hotel, Accra.
- ❖ Workshop on Procurement Auditing and Combating Procurement Fraud organized by the Chartered Institute of Purchasing and Supply (Ghana) from 18th September to 20th September, 2019 at Sun lodge Hotel Tesano, Accra.

- Workshop on Amended Public Procurement Act 2016 (Act 914) organized by the Sunyani District Society of the Institute of Chartered Accountants Ghana on 29th August, 2019 at Eusbett Hotel, Sunyani.
- Workshop on Ghana Integrated Financial Management Information System (GIFMIS), organized by the National Council for Tertiary Education in collaboration with the Finance Directorate of the Ministry of Education and the GIFMIS Secretariat of CAGD on Monday 5th to 9th August, 2019 at the Tertiary Education Complex Conference Center, Accra.

Future Plans

The Internal Audit Directorate seeks to embark on the following programmes:

- 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, government regulations and appraisal of the effectiveness and appropriateness of internal policies and procedures under current conditions.
- Programme performance evaluation.
- Continuing to liaise with external auditors in matters related to the audit of the University.

Procurement Directorate

PROCUREMENT DIRECTORATE

Introduction

The Procurement Directorate 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 and the University's Statutes. In the exercise of its mandate the directorate is to ensure that procurements are done in the most efficient manner, upholding the principles of value for money, transparency and fairness. The Procurement Directorate is headed by a Director who reports to the Vice-Chancellor.

The Directorate has chalked a number of successes both at the local and national levels since its inception in 2012. It started with one (1) member of staff who is currently the Ag. Director of Department in 2012 but now has a staffing strength of three (3) qualified and seasoned procurement professionals and one (1) Senior Administrative Assistant to support with the administrative duties of the Directorate.

Departments and Staff

The Procurement Directorate comprises of the following divisions; Goods and Services Procurement, Works Procurement and Contract Management. The Staffs of the Procurement Directorate are as follows:

NAMES	Units/Sections	RANK/POSITION	QUALIFICATIONS
Mr. John-Baptist Siddick	Ag. Director	Ag. Director of Procurement	MCIPS(Chartered), MSc (Salford) BSc (GIMPA), HND (Accra Tech Uni) PgC (Harriot)
Mr. Baffour Antoa Mensah	Works Procurement	Procurement Officer	MCIPS(Chartered), MILT, MBA, BSc, HND

Mr. Kofi Dwomoh	Goods& Services Procurement	Senior Procurement Assistant	MCISM, MSc, BSc
Mr. Samuel Kodua	RCEES Project	Senior Procurement Assistant	BSc
Ms. Philomena Doku	Administration	Senior Administrative Assistant	BBA

Major Activities over the Past Year

1. **Completed projects**

- During the year under review, the Directorate coordinated and facilitated the procurement of the underlisted Projects;
- Construction of Regional Centre of Excellence for Energy & Sustainability (RCEES) building at Sunyani valued at GH¢11,597,309.24 financed by the World Bank Group;
- Supply and Installation of Teaching and Research Laboratory Equipment valued at GH¢13,489,571.60 financed by GETFund;
- Request for Proposal for Consultancy Service to Design and Supervise Construction of the Regional Center for Energy and Environmental Sustainability (RCEES) at UENR valued at GH¢200,000.00;
- Request for Proposals for Consultancy Service for the Development of Strategic Plan for the Regional Center for Energy and Environmental Sustainability (RCEES) at UENR valued at GH¢800,000.00;
- Supply of 4X4 Vehicles and Buses to both the University and Students Representative Council (SRC) valued at GH¢3,026,769.98

2. Ongoing projects

The Directorate has successfully gone through all the procurement procedures and processes required and is awaiting the final approval by the Entity Tender Committee for the Construction of Applications Laboratory Phase 2 at Sunyani. When this project is awarded and completed, it will provide more laboratory space for both lecturers and students' research.

3. Future Projects/Activities

The long-term objective is to be a key catalyst in transforming the University into World Class status through the adoption and application of cutting-edge procurement principles and practices that ensure business continuity.

4. Other Activities

Conferences / Workshops / Seminars

1. Training Workshop by Association of Africa Universities (AAU)on grant disbursement Kigali Rwanda, March 2020
2. Conference organized by the World Bank for the Africa Centers of Excellence, Abuja, Nigeria, March 2020
3. Training workshop organized by the Public Procurement Authority on Contract Administration Manuals for Consultancy and Technical Services, February 18- 21, 2020 at Crystal Palm Hotel, Tesano, Accra.
4. Conference organized by the World Bank for the Africa Centers of Excellence in Dakar, Senegal, September 2019
5. Overview of the Public Procurement (Amendment) Act 2016(ACT 914) organized by The Institute Chartered of Accountants (Ghana), August 5-9, 2019 at Eusbett Hotel-Sunyani.
6. Ghana Integrated Financial Management Information System (GIFMIS) Training Workshop organized by the Ministry of Education and

GIFMIS Secretariat, August 5-9, 2019 at National Council for Tertiary Education (NCTE).

7. Training workshop organized by the Ghana Association of University Administrators (GAUA) on the theme Professional development in the 21st-century University Administration, July 13, 2019 at University of Cape Coast.

Future Plans of the Directorate

- The Directorate hopes a draft sustainable procurement policy submitted to management is approved and adopted in earnest. This policy will anchor and deepen the incorporation of sustainable procurement indicators in the University's procurement processes.

- Again, the Directorate plans to attend refresher courses on E-Procurement, Works and Services Procurement organized by GIMPA/World Bank and other Development Partners as well as a workshop on Public-Private Partnership (PPP) arrangements.

- Finally, the Directorate plans to explore various avenues to ensure that the government policy on E-procurement in the University is realized.

Information Technology Directorate

INFORMATION TECHNOLOGY DIRECTORATE

INTRODUCTION

The ITD is the information technology hub of the University. It was established as one of the early functional directorates of the University to provide for the information technology needs of UENR. Since then, it has undergone tremendous transformations and has made significant contributions to the growth of UENR.

Progressively, the University has built the capacity of the directorate in Information and Communication Technologies (ICT) with the objective of facilitating and enhancing the quality of teaching and learning, research, and delivery of efficient administrative services. In the last four years, the IT Department has engineered a significant improvement in the UENR ICT services.

Expansion of the University's campuses (Sunyani and Dormaa) wide area Network in the Sunyani and Dormaa Campuses through the following:

- Redesigned the network to provide levels of security
- Increased internet bandwidth from 45Mbps to 155Mbps from Vodafone GH and 155mbps from GARNET
- Provided 1200 meters of fibre backbone
- Secured 2km fibre optic cable from Raduis
- Acquired managed switches
- Developed in-house application packages
- Connected to the GARNET and announcement of Public IPs
- Developing a Budgeting System for the Finance Directorate which is at its final stage.
- Redesigned and developed the Online Admissions System with increased functionality and complete automation using modern Software Development Technologies which is also at its final stages

It is worth noting that most of these improvements took place this academic year which has made it possible to keep the University's website and all other services running to efficiently as expected.

STAFFING

NAME	QUALIFICATION	DESIGNATION	AREA OF SPECIALIZATION
Gilbert K. Mensah	MSc. Information Technology (SMU, India)	Programmer Analyst	Software Developer
Asare Yawson Kojo Francis	MSc.IT (C)	Snr. ICT Assistant	Web Design and Application Development
Amura Augustine	BSc. Computer Science	Snr. ICT Assistant	Networking and Security
Bosrotsi Glenn Edwin	BSc. Computer Science	Snr. ICT Assistant	Network and System Analyst
*Awiti Judith	MSc. Information Technology (SMU, India)	Snr. ICT Assistant	
Anku Ankudey Selorm	Master of Library and Information Science	Snr. ICT Assistant	
Annan-Fynn George	BSc. Computer Science	Snr. ICT Assistant	Software Development
Afrifa Frederick Gyasi Yaw	BSc. Computer Science	Snr. ICT Assistant	Software Support Services and Help Desk
Amoah-Boateng Seth	BED. Computer Science (CUCG)	Snr. ICT Assistant	Networking
Lawson Kobina Oppong	BSc. Computer Science	Snr. ICT Assistant	Software Development

Korankye- Yeboah Sandrah	MBA HRM	Snr. Administrative Assistant	

MAJOR ACTIVITIES OVER THE PAST YEAR

Completed projects

The university is now connected to:

- Ghana Academic and Research Network (GARNET)
- World Wide Education Roaming (Eduroam)

Other improvements to the network include:

- UENR Domain Name Services
- Active Directory Services
- UENR Cloud Services
- Network Sedimentation
- UENR E-learning Mini Studio
- UENR E-learning Platform (Online)
- Interface for Finance directorate to sell forms

80% of Buildings on campus are now connected to the fiber backbone

Ongoing projects

i. Redesign and develop the Online Admissions System with increased functionality and complete automation using modern software development technologies which are also at its final stages.
ii. Setting up of Data Recovery (DR) site at KNUST
iii. Implementation of Wireless throughout Campus
iv. Installation of CCTV on Campus

Future projects

I. Continue to improve the Student Information System to become more robust with more functionalities using modern software development technologies.

II. Develop an Enterprise Resource Planning (ERP) system for the university community which will encompass but not limited to the following;

- A Human Resource system that will automate the processes of the staff of the University.
- A comprehensive Finance Management system to eventually replace the present **Ebizframe** used by Finance Directorate.
- A transparent procurement system to streamline the evaluation, selection, and authorization of contracts with all suppliers.
- A Stores management system to automate the processes of requisition, approval and issuance.
- A hospital management system to automate all processes from the outpatient department through consultancy to laboratory and dispensary.
- A hostel management system with reports regarding room availability, room allocation, student transfer and evacuation.

iii. Expansion of the network infrastructure with a 3 million USD World Bank facility to provide:

- 48-core fiber ring for Sunyani campus
- High reliability and secure `network
- Improve the facilities at the Data Center

OTHER ACTIVITIES WORKSHOPS/ CONFERENCES/SEMINARS

1. **FRANCIS KWADWO ASARE YAWSON**
   a. CYBER SECURITY Conference Training – Advance Information Technology Institute; Ghana- India Kofi Annan Centre of Excellence in ICT, December 2019.

2. **AUGUSTINE AMURA**
   a. CYBER SECURITY Conference Training – Advance Information Technology Institute; Ghana- India Kofi Annan Centre of Excellence in ICT, December 2019.

3. **GEORGE ANNAN-FYNN**
   a. CYBER SECURITY Conference Training – Advance Information Technology Institute; Ghana- India Kofi Annan Centre of Excellence in ICT, December 2019.

4. **AFRIFA FREDERICK GYASI YAW**
   a. Workshop on Advanced Fire Information System (AFIS) UENR August 2020

FUTURE PLANS OF THE DIRECTORATE

iv. Expansion of the network infrastructure with a 3 million USD World Bank facility to provide:
    - 48-core fiber ring for Sunyani campus
    - High reliability and secure network
    - Improve the facilities in the Data Center

v. To have a complete building for the Information and Technology Directorate.

vi. Provision of ICT infrastructure at Dormaa Campus.

Works and Physical Development Directorate

WORKS AND PHYSICAL DEVELOPMENT DIRECTORATE

Introduction

The Works and Physical Development Directorate is responsible for the overall development and maintenance of the physical environment of the University and the provision of essential services in an effective and efficient manner. The Directorate assists all sections of the University in developing their briefs, supervision of all infrastructural works and facilities.

It also exercises oversight responsibility for the activities and operations of the Estate Organization which is primarily responsible for the management of the University's landed properties and facilities.

The Estate Organization's key operations include space allocation, facilities management, environmental and sanitation management.

Departments and Staff

The Directorate is made up of the following departments:

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

Staffing

The mandate of the Directorate is fulfilled through a team of professionals in the built environment, technical staff and Junior Staff.

NAME	RANK/POSITION	QUALIFICATION
Ing. Christian Yeboah Nuako	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)

Ing. John Awotwi	Structural Engineer	BSc, MSc. P.E. GhIE
Surv. Matthew Arhin	Quantity Surveyor	BSc, MSc (KNUST), MGhIS
Arc. Kwaku Safroadu Amankwah	Architect/Clerk of Works	BSc, M.Arch, A.G.I.A (KNUST)
Surv. Kwaku Obeng Mireku, Esq.	Asst. Estate Officer	BSc, MSc (UCEM, UK), LLB(KNUST), BL, MGhIS
Surv. Maxwell Ofori, FMP	Junior Assistant Estate Officer	HND, BSc (KsiTU), MSc (UCC), MGhIS, FMP

Major Activities over the Past Year

5. Completed Projects

For the past year, only two (2) projects funded with Internally Generated Funds (IGF) were completed. They are the Skills Laboratory which commenced in 2018 and the Clinic Extension which also commenced in 2018.

During the year under review, other key activities were undertaken including the following:

i. The sinking of three successful boreholes.

ii. Processes initiated at the Lands Commission to register the University lands at Sunyani and Nsoatre are at the completion stage.

iii. Technical support and construction supervision for the establishment of a Police Post which is co-funded by the UENR 2019/202 SRC is ongoing to beef up security on campus.

6. Ongoing Projects

There are ten GETFund ongoing projects at various stages of completion and one auditorium project which is co-funded with Internally Generated Funds and the Bank of Ghana.

7. **Future Projects**

   In view of the dwindling GETFund allocation to the University for funding infrastructural projects, it is prudent to put on hold new projects and channel the limited resources to complete outstanding projects.

   However, GNPC funded projects the construction of Applications Laboratory Phase II would most likely commence before the year ends.

Other Activities

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

- 3-Day Training Seminar on Prota Structural Engineering Software with BIM Integrator for Designing Reinforced Concrete and Steel Design; organized by Ghana Institution of Engineers on the 24th -26th September 2019, at Engineers Centre Accra.
- 2-Day Training Workshop for Deans, Directors and Heads of Departments and Units on the theme: Attitudinal Change and Team Building for Higher Productivity; organized by the HR Division held on October 3rd and 4th 2019 at Tyco City Hotel, Sunyani.
- 2-Day Training Workshop for Senior Members on the theme: Growing together as a University, the role of the Senior Member; organized by the HR Division held on March 19th to 20th 2019 at Tyco City Hotel, Sunyani.
- A day training in the use of grasscutter and hedge trimer for selected staff at C.Woerman workshop, Kumasi on 21 August 2020.
- Virtual seminar organized by the Valuation and Estate Surveying Division of the Ghana Institution of Surveyors (GhIS) on the theme: Expanding the frontiers of the Surveying and Estate Surveying Profession."
- 5-Days (AGM) from 15th to 23rd February 2020; on the theme: Surveying and Emerging Technologies for National Development.

Future Plans of the Directorate

With the successful sinking of the boreholes, processes have been initiated to improve upon the University's water distribution network to make water readily available to the University Community. Due to the high demand for on-campus hostel accommodation for our students, the Directorate is giving the technical support to management on preliminary discussions and negotiations with two promising investors to construct hostel facilities to ease the accommodation problems faced by our students.

School of Graduate Studies

SCHOOL OF GRADUATE STUDIES

Philosophy/Objectives

The school seeks to provide excellence in postgraduate 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.

The School exists to provide postgraduate education, undertake energy, natural resources and allied fields related research and disseminate knowledge. Its key focus is to train students to be innovative in critical thinking to solve problems in the contemporary world of work.

Graduate Programmes Offered

The School 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 runs Nine (9) Programmes in the various Schools of the University, through regular and weekend modes namely:

- MSc/PhD Sustainable Energy Management
- MSc/PhD Environmental Engineering Management
- MPhil/PhD Social Forestry and Environmental Governance
- MPhil/PhD Crop Sciences
- MPhil Applied Statistics
- MPhil/PhD Computer Science
- MPhil Mathematics
- MSc/MPhil Environmental Planning and Sustainability

- ❖ MBA/MPhil Agribusiness Management
- ❖ MSc/MPhil Climate Change

Student Enrolment

The School has a student population of about Six Hundred and Sixty-Three (663).

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	160	92	252
Total Population	**528**	**135**	**663**

Scholarships

The University continually benefits from the Ghana National Petroleum Commission (GNPC) Scholarship for both undergraduate and postgraduate students. The scheme gave scholarships to five (5) postgraduate students in addition to four (4) postgraduate students who were already on the scholarship.

Staffing

The current staff strength of the School is as follows:

Name	Qualifications	Position
Prof. John K.M. Kuwornu	B.A (UG, Legon) MSc., PhD (Wageningen)	Dean
Prince Awuah	M. A (HRM), UCC BEd. (Social Science), UEW, Winneba	Assistant Registrar
Ms. Ellen Adoma Boateng	B.A. (KNUST)	Principal Administrative Asst.
Mr. Ebenezer Asare Baffour	B.Com (UCC)	Senior Administrative Asst.

Activities

The SGS, which acts as a co-coordinator to all Departments that run graduate programmes in the University, performs among other duties, the following:

- Co-ordinates and liaises with the Central Administration, Schools and Departments on general graduate issues.
- Organizes seminars for students and members of staff on graduate issues.
- Organizes and conducts oral examinations for final year graduate students to defend their thesis, which is one of the major activities of the school.
- Administers and process applications for prospective applicants.
- Assists various Departments in the organization of interviews for applicants seeking admission into various programmes, issuing of admission letters and registration of students.
- Receives and approves thesis synopsis, examination results, proposals for

new programmes and withdrawal of non-performing and present graduating students at congregation.

- Assist in the screening and appointment of External and Internal Examiners for Departments.

Future Plans

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

- MPhil in Applied Statistics
- MBA in Information Technology Management
- MPhil/PhD in Information Technology

Infrastructure/Equipment

- The Graduate School building houses the Resource Centre which provides internet access and other resources to facilitate research activities among graduate students. The Centre, is however small for the increasing number of students. The current seating capacity is eight (8). A much bigger centre is needed to accommodate more students.
- The conference room of the Graduate School which is used for meetings, also serve as proposal/thesis presentations hall. Meanwhile, owing to the multiple use for the facility, there is always pressure to find different venues for different events and this has always become a bother to the School. The School also lacks adequate resources for teaching and learning, for example, projectors and screens for teaching sessions and presentations.
- Information and Communication Infrastructure – Establishment of an E-learning Centre is very necessary for a more effective e-learning in the era of COVID-19

School of Engineering

SCHOOL OF ENGINEERING

INTRODUCTION

The School of Engineering seeks to train future engineers to address problems relating to energy. It focuses on the development of human capacity to manage and solve problems of extracting, collecting, converting and utilizing energy and natural resources. Its philosophy is to provide students with competitive skills and professional leadership within the energy and engineering sectors.

ADMINISTRATION OF THE SCHOOL

The Dean oversees the day to day running of the School with the help of Four (4) other Senior Lecturers as Departmental Heads. The School also has faculty Officer and other administrative assistants who discharge administrative duties.

Currently, the School has two (2) Centres under its jurisdiction.

NAME	RANK	POSITON	DESIGNATION
Ing. Prof. Nana Sarfo Agyemang Derkyi	Associate Professor	Dean	School of Engineering
Ing. Dr. Emmanuel Amankwah	Senior Lecturer	Head	Mechanical & Manufacturing Engineering Department
Dr. Thomas Atta-Darkwah	Senior Lecturer	Head	Computer & Electrical Engineering Department
Ing. Dr. Francis Attiogbe	Senior Lecturer	Head	Energy & Petroleum Engineering Department
Ing. Dr. Amos T. Kabobah	Senior Lecturer	Head	Civil & Environmental Engineering Department
Ing. Dr. Emmanuel K. Nyantakyi	Senior Lecturer	Head	Earth Observation, Research and Innovation Centre (EORIC)

Ing. Dr. Eric Antwi Ofosu	Senior Lecturer	Ag. Director	Regional Center for Energy and Environmental Sustainability (RCEES)
Miss Bernice Osei Twenewaa	Assistant Registrar	Faculty Officer	School of Engineering

Academic Programmes for the School of Engineering

- BSc. Agricultural Engineering
- BSc. Computer Engineering
- BSc Civil Engineering
- BSc. Electrical and Electronic Engineering
- BSc. Mechanical and Manufacturing Engineering {BSc, Top-Up}
- BSc. Petroleum Engineering
- BSc. Renewable Energy Engineering
- Dip. Electrical and Electronic Engineering
- PhD /MSc. Environmental Engineering Management
- PhD/ MSc. Sustainable Energy Management
- Dip in Computer and Electrical Engineering

STAFF AND STUDENTS STATISTICS

STUDENTS' ENROLMENT HISTORY (FOR THE PAST FIVE (5) YEARS

(Undergraduate Programmes)

DEPARTMENT	PROGRAMMES	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Mechanical and Manufacturing Engineering	Mechanical Engineering	45	56	84	108	97
	Agricultural Engineering	16	11	11	15	15
Computer and Electrical Engineering	Electrical and Electronic Engineering	104	185	121	160	165
	Computer Engineering	43	66	69	58	99

	Diploma Electrical and Electronic Engineering	-	-	-	41	63
Civil and Environmental Engineering	Environmental Engineering	26	15	27	22	39
	Civil. Engineering	0	0	22	63	102
Energy and Petroleum Engineering	Pet. Engineering	26	15	66	81	84
	Renewable Engineering	28	28	29	29	47
Total		**260**	**348**	**400**	**548**	**664**

(Postgraduate Programmes)

DEPARTMENT	PROGRAMMES	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Civil and Environmental Engineering	MSc. Environmental Engineering Management	11	11	17	7	29
	PhD Environmental Engineering Management	8	4	10	9	12
Energy and Petroleum Engineering	MSc Sustainable Energy Management	10	3	24	12	17
	PhD Sustainable Energy Management	5	0	8	7	14
Total		**34**	**18**	**59**	**35**	**72**

STAFF STATISTICS

DEPARTMENT	No. of LECTURERS	RESEARCH FELLOW	RESEARCH ASSISSTANTS	TECHNICIANS	NON-TEACHING STAFF	TOTAL
Mechanical and Manufacturing Engineering	11			1		
Computer and Electrical Engineering	11			1		

Civil and Environmental Engineering	7					
Energy and Petroleum Engineering	11		3			
EORIC	1	1	1	3		
NON-TEACHING STAFF					6	
SUB TOTAL	41	1	4	5	6	**57**
TOTAL	**57**					

RESEARCH COLLABORATIONS/INTERNATIONAL COLLABORATIONS & PARTNERSHIP

The School has signed a Memorandum of Understanding (MOU) with Jiangsu University in China, Tomsk Polytechnic University, Russia and New Mexico Institute of Mining and Technology. The Departments have collaboration with industrial companies who offer industrial training for staff and students and also provide input into the development and restructuring of our curriculum. Example of such Institutional Partners are GhIE, HUAWEI, Erasmus Mundus, Expro Oilfield Services Ghana limited, Ghana National Petroleum Corporation, Ghana Energy Commission, Ghana Grid Company Limited, etc

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

The Department of Civil and Environmental Engineering was split from Energy and Environmental Engineering in 2018 to run a four-year BSc. Environmental and Civil Engineering and two-year MSc/PhD Environmental Engineering

Management Programmes with the aim of fully integrating Civil and Environmental Engineering Technologies and Management principles to meet the challenging demands of the industries.

The BSc Environmental Engineering was mounted in the 2013/2014 academic year by the Department of Energy and Environmental with the aim of fully integrating Environmental Engineering Technologies and Management principles to meet the challenging demands of the industries as well as other biotic and abiotic activities in Ghana and in the West Africa sub-region.

The Civil Engineering Programme provides knowledge and skills in Civil Engineering fundamental, application and designs that prepares students for the practices of Civil Engineering at the Professional level with the skills necessary to meet the technical and social challenges of the future.

The Department Administration is constituted by the following personnel:

1. Ing. Dr. Amos T. Kabobah - Head of Department

2. Joyce Okrah (Miss) - Administrative Assistant

Future plans of the department.

The Department in the near future intends to mount the following programmes.

1. MSc/PhD Geotechnical Engineering
2. MSc/PhD Climate change and Environmental Modelling
3. MSc/PhD Public Health Engineering
4. Hosting of 2021 UN Conference on Space Technologies for Water Management in Accra May 2021.

Teaching Staff

The Department is staffed by the following faculty members.

Name	Qualification	Rank	Area of Specialization
Ing. Dr. Amos Tiereyangn Kabo-Bah	PhD (Hohai) MSc (ITC) BSc (KNUST)	Senior Lecturer	• Civil Engineering • Hydrology • Water Resources • Remote Sensing • Geographic Information Systems • Climate Change Modelling
Ing. Dr. Francis Attiogbe	PhD (SUNY-ESF) MSc. BSc (KNUST)	Senior Lecturer	Environmental and Resource Engineering
Ing. Dr. Eric Antwi Ofosu	PhD MPhil BSc (KNUST)	Senior Lecturer	Hydropower, Hydrology, Irrigation, Water Resources Management, Project Management, Energy Management
Ing. Dr. Emmanuel Kwesi Nyantakyi	PhD (Yangtze) MSc. BSc (KNUST)	Senior Lecturer	Application of Landmark in the analysis of Seismic data and its interpretations, Structural and Petroleum Geology, Oil and Gas Storage Transportation, Geochemistry, Sedimentology, General Civil Engineering.
Ing. Dr Mark Amo-Boateng	PhD (Hohai) MSc. BSc (KNUST)	Lecturer	• Civil Engineering • High Performance Computing • Computational Fluid Dynamics • Artificial Intelligence

			• Hydrological Modelling and Forecasting • Earth Observation • Innovation and Technology • Cleantech & Biotech • 3D Printing and Rapid Prototyping • New Energy Technologies
Ing. Dr. Francis Atta Kuranchie	PhD (ECU Australia MSc. (LIU-Sweden), BSc (KNUST)	Lecturer	Waste Management, Sustainability, Energy Efficiency, Construction Materials
Ing. Dr Prince Antwi-Agyei	PhD (London School of Hygiene and Tropical Medicine MSc & BSc (KNUST)	Lecturer	• Environmental sanitation and health • Low cost sanitation technologies • Faecal sludge management • Solid waste engineering and management • Health risk assessment • Water supply • Food hygiene and safety • Wastewater management • Wastewater use for urban agriculture • Hygiene Promotion and Behavior change design interventions

Ing. Dr. Amos Tiereyangn Kabo-Bah

(Publications)

1. Obeng, M., Gyamfi, S., Derkyi, N. S., **Kabo-bah, A. T**., & Peprah, F. (2020). Technical and economic feasibility of a 50 MW grid-connected solar PV at UENR Nsoatre Campus. *Journal of Cleaner Production*, *247*, 119159.
2. Oti, J. O., **Kabo-Bah, A. T**., & Ofosu, E. (2020). Hydrologic response to climate change in the Densu River Basin in Ghana. *Heliyon*, *6*(8), e04722.
3. Mensah, C., Atayi, J**., Kabo-Bah, A. T**., Švik, M., Acheampong, D., Kyere-Boateng, R., ... & Marek, M. V. (2020). Impact of urban land cover change on the garden city status and land surface temperature of Kumasi. *Cogent Environmental Science*, *6*(1), 1787738.
4. Akpoti, K., **Kabo-Bah, A. T**., Dossou-Yovo, E. R., Groen, T. A., & Zwart, S. J. (2020). Mapping suitability for rice production in inland valley landscapes in Benin and Togo using environmental niche modeling. *Science of the total environment*, *709*, 136165.
5. Akpoti, K., **Kabo-bah, A. T.,** Dossou-Yovo, E., Groen, T., & Zwart, S. J. (2019). Mapping suitability for rice production in inland valley landscapes in Benin and Togo using environmental niche modeling. Science of the total environment, 136165.
6. Akpoti, Komlavi, **Amos T. Kabo-bah,** and Sander J. Zwart. "Agricultural land suitability analysis: State-of-the-art and outlooks for integration of climate change analysis." Agricultural systems 173 (2019): 172-208.
7. Okyereh, S. A., Ofosu, E. A., & **Kabobah, A. T**. (2019). Modelling the impact of Bui dam operations on downstream competing water uses. Water-Energy Nexus, 2(1), 1-9.
8. Kabo-bah, A. T., Amo-Boateng, M., **Kabo-bah, K.,** Sey, N. E. N., Siabi, E., Okyereh, S., & Sarquah, K. (2019). Sendai Framework Implementation–A Regional Assessment of Wildfires in West Africa. Contributing Paper to GAR 2019.

9. Ward, S., Scott Borden, D., **Kabo-bah, A.,** Fatawu, A. N., & Mwinkom, X. F. (2019). Water resources data, models and decisions: international expert opinion on knowledge management for an uncertain but resilient future. Journal of Hydroinformatics, 21(1), 32-44.
10. Speich Sabrina, Lee Tong, Muller-Karger Frank, Lorenzoni Laura, Pascual Ananda, Jin Di, Delory Eric, Reverdin Gilles, Siddorn John, Lewis Marlon R., Marba Nuria, Buttigieg Pier Luigi, Chiba Sanae, Manley Justin, **Kabo-Bah Amos Tiereyangn**, Desai Kruti, Ackerman Abby (2019). Oceanobs19: An Ocean of Opportunity. Frontiers in Marine Science, 6, 570.

Workshops/Conferences/Public Lectures

1. Africa Regional Data Cube (ARDC) training taking place in Accra from 22-24 May, hosted by the Global Partnership for Sustainable Development Data (GPSDD)
2. 12th GEO Programme Board Meeting, Geneva, Switzerland, 7-8 February, 2019
3. OceanObs'19 Joint Session Meeting, 29-30 March 2019, UNESCO, 7 Place de Fontenoy, 75007 Paris, France
4. GEO Data Technology Workshop, 23 Apr - 25 Apr 2019, Vienna, Austria
5. Climate Change & Geo-information Science Week Celebration on the theme "The Role of Geoscientists' in the Socio-economic Development of Ghana", 25 – 31 March 2019, University of Energy and Natural Resources (UENR), Dormaa Campus.
6. GEO LDN Initiative Principles Meeting, 29-30 April 2019, UN Campus Bonn, Germany

Ing. Dr. Eric Ofosu Antwi

(Publications)

1. Thomas, A. D., **Ofosu, A. E**., Emmanuel, A., De-Graft, A. J., Ayine, A. G., Asare, A., & Alexander, A. (2020). Comparison and Estimation of Four Infiltration Models. *Open Journal of Soil Science*, *10*(2), 45-57.
2. Domfeh, M. K., Gyamfi, S., Amo-Boateng, M., Andoh, R., **Ofosu, E. A.,** & Tabor, G. (2020). Free surface vortices at hydropower intakes:-A state-of-the-art review. *Scientific African*, e00355.
3. Domfeh, M. K., Gyamfi, S., Amo-Boateng, M., Andoh, R., **Ofosu, E. A**., & Tabor, G. (2020). Numerical simulation of an air-core vortex at a hydraulic intake using Open FOAM. *Scientific African*, e00389.
4. Domfeh, Martin Kyereh, Samuel Gyamfi, M. A. R. K. Amo-Boateng, Robert Andoh, **Eric Antwi Ofosu**, And Gavin Tabor. "Numerical Simulation of An Air-Core Vortex and its Suppression at an Intake Using Open foam."
5. P. N. A. Asare, F. A. Kuranchie and **E. Ofosu** (2019), Evaluation of incorporating plastic wastes into asphalt materials for road construction in Ghana. Cogent Environmental Science. (2019), 5: 1576373. https://doi.org/10.1080/23311843.2019.1576373.
6. Gyasi, S. F., Boateng, A. A., Awuah, E., & **Antwi, E. O**. (2019). Ellucidating the incidence and the prevalence of Schistosomiasis spp infection in riparian communities of the Bui dam. *Journal of Parasitic Diseases*, *43*(2), 276-288.
7. Okyereh, S. A., **Ofosu, E. A.,** & Kabobah, A. T. (2019). Modelling the impact of Bui dam operations on downstream competing water uses. *Water-Energy Nexus*, *2*(1), 1-9.

Workshops/Conferences/Public Lectures

1. Quality Assurance for Higher Education Leaders (QAHEL) Workshop. Hosted by the Association of African Universities, African Quality Assurance

Network (AfriQAN). Rockview Hotel Royale,Abuja – Nigeria, March 2-4th, 2020.2. 11th Africa Higher Education Centers of Excellence (ACE) I and 2nd Ace Impart Workshops. Darkar-Senegal, September 23 - 27th, 2019.

3. 10th Session of the Irena Assembly, Abu Dhabi Sustainability Week at Abu Dhabi. Hosted by the IRENA. January 10-12th, 2020.

4. Validation of findings of the Off-Grid Solar Market Assessment in Ghana, Regional Off-Grid Electrification Project. Hosted by ECREEE

5. Africa Higher Education Centers of Excellence (ACE) Workshop, Abuja, Nigeria, Febuary 24-28th ,2020.

6. Konrad Adenauer Stiftung, Institute of Green Growth Solutions, Environment house, No.7, Nii Klu Osae Avenue, East Legon –Ghana.

7. Sustainable Energy Management Professional (SEMP) Certification Training Course, Hosted by the Energy Commission of Ghana at the African Regent Hotel, Accra, December 16-20, 2019.

Ing. Dr. Francis Attiogbe

(Publications)

1. Francis, R. C., Luukkonen, A., **Attiogbe, F. K**., & Kamdem, D. P. (2020). Bicarbonate Anion and Taed as Activators in Peroxide Bleaching of a Mechanical Pulp. *Cellulose Chemistry and Technology*, *54*(3-4), 319-326.
2. Angnunavuri, P. N., **Attiogbe, F**., Dansie, A., & Mensah, B. (2020). Consideration of Emerging Environmental Contaminants in Africa: Review of Occurrence, Formation, Fate, and Toxicity of Plastic Particles. *Scientific African*, e00546.
3. **Attiogbe, F. K**., Abdul Rahim Mohammed, and Quarm Kingslove. "Assessing the potential health impact of selected heavy metals that pollute Lake Amponsah in Bibiani, Western North Region, Ghana." *Scientific African* (2020): e00531.

4. Kuranchie, F. A., Angnunavuri, P. N**., Attiogbe, F.**, & Nerquaye-Tetteh, E. N. (2019). Occupational exposure of benzene, toluene, ethylbenzene and xylene (BTEX) to pump attendants in Ghana: Implications for policy guidance. *Cogent Environmental Science*, *5*(1), 1603418.
5. **Attiogbe, F**., Nkansah, A., & Kuranchie, F. A. (2019). Shared household septic tank: A case study of Fiapre in the Brong Ahafo Region of Ghana. *African Journal of Environmental Science and Technology*, *13*(3), 126-134.
6. Angnunavuri, P. N., Kuranchie, **F. A., Attiogbe**, F., & Nerquaye-Tetteh, E. N. (2019). The potential of integrating vehicular emissions policy into Ghana's transport policy for sustainable urban mobility. *SN Applied Sciences*, *1*(10), 1201.
7. **Attiogbe, F. K**., Ayim, N. Y. K., & Martey, J. (2019). Effectiveness of black soldier fly larvae in composting mercury contaminated organic waste. *Scientific African*, *6*, e00205.

Workshops/Conferences/Public Lectures

1. Quality Assurance in Research-Completing the research cycle: Publications and Intellectual property (copyrights and patents) organized by Association of African Universities (AAU), August 25, 2020.
2. "Students and their research project supervisors: practical experiences" organized by AAU, August 19, 2020.
3. Pedagogical Scenario and online activities organized by AAU, July 8, 2020.
4. The essential of a learning strategy organized by AAU, July 1, 2020.
5. Use of e-learning and digital resources in post COVID-19 era organized by AAU, June 24, 2020.
6. Africa Higher Education Centres of Excellence (ACE) Workshop, Sheraton Hotel, Abuja, Nigeria, February 24-28, 2020
7. EEISHEA Knowledge Sharing Conference, KNUST, Kumasi, 29-30 October 2019

8. Erasmus+ Project: Enhancing Entrepreneurship, Innovation, and Sustainability in Higher Education in Africa (EEISHEA), Sheila's Executive Hotel, Sunyani, April 30-May 3, 2019.

9. Erasmus+ Project: Enhancing Entrepreneurship, Innovation, and Sustainability in Higher Education in Africa (EEISHEA), Work Package 2: Student-Centred Learning, KTH, Sweden, March 5-8, 2019.

Ing. Dr. Emmanuel Kwesi Nyantakyi

(Publications)

1**. Nyantakyi E.K**, Obiri-Yeboah A, Mohammed G. A., Domfeh M. K., Obeng-Ahenkorah N. K., (2020). Partial Replacement of Cement with Glass Bottle Waste Powder in Concrete for Sustainable Waste Management: A Case Study of Kumasi Metropolitan Assembly, Ashanti Region, Ghana. ***Journal of Civil Engineering Research***, Vol. 10 No. 2, 2020, pp. 29-38. doi: 10.5923/j.jce.20201002.01.

2. **Nyantakyi E. K**., Obiri-Yeboah A., Obeng-Ahenkora N. K., Domfeh M. K., Mohammed G. A, (2020). Investigating Occupational Health and Safety of Workers on Selected Construction Sites in the Sunyani Municipality, Ghana, ***Journal of Safety Engineering***, Vol. 9 No. 1, 2020, pp. 1-8. doi: 10.5923/j.safety.20200901.01.

3. Uba F., Fiagbe Y., Forson F., Opoku R., **Nyantakyi E.K**., (**2020**). CFD Modeling and Analysis of the Trajectory and Behaviour of Oil Pollutant Particles in the Ghanaian Territorial Waters. **Scientific African (2020)**, doi: https://doi.org/10.1016/j.sciaf.2020.e0041

4. Uba F., Essandoh E., **Nyantakyi E.K**., Anumah P., (**2020**). Hydrodynamic Model for Operational Forecasting in Coastal Waters of Ghana. **Open Journal of Modelling and Simulation**, 8, 48-59. https://doi.org/10.4236/ojmsi.2020.82004

5. Mohammed S, Morgan A., **Nyantakyi E.K.**, (**2020**). On the influence of uncited publications on a researcher's h-index. **Scientometrics 122,** 1791–1799. https://doi.org/10.1007/s11192-020-03356-1, www.springer.com

Workshops/Conferences/Public Lectures

1. 2-day Leadership Training Workshop for Deans, Directors and Heads of Departments at Tyco Hotel, Sunyani from 15th to 16th October 2019.
2. African Universities Fair in Lagos, Port Harcourt and Abuja between 7th and 13th July, Nigeria
3. 2019 Annual strategic management workshop of the Ministry of Roads and Highways on the theme "Ghana Beyond Aid: Strategies for Sustainable Investments and Road Asset Preservation" from 7th to 10th May 2019, at Anita Hotel, Kumasi
4. 3rd Face-to-Face Workshop in University of Energy and Natural Resources, Sunyani, Ghana
5. Co-funded by the Erasmus+ Programme of the European Union from 31st April to 3rd May 2019.
6. 50th Ghana Institution of Engineering Annual Conference on the theme 'Engineering and Innovation: Catalysts to Ghana Beyond Aid' at Volta Hotel, Akosombo between 26th and 30th March 2019
7. Faculty Development for Scholarship and Training Workshop at Association of African Universities (AAU), Trinity House, East Legon, Accra between 19th and 22nd March 2019.
8. 10th Africa Higher Education Centers of Excellence (ACE I) Workshop and ACE Impact Bootcamp between February 18 -27, 2019 in Djibouti.
9. Good Assessment Practices in Higher Education: Improving Teaching and Learning at Sheila's Executive Lodge, Fiapre between 16th and 17th January 2019

Service to the Community

(i) Membership of National Committees/Professional Bodies
August 2019 to date: Member, Entity Tender Committee, Middle Belt Development Authority (Bono, Bono East, Ahafo, Ashanti and Eastern Regions)
April 2018 to date: **Council Member**, Ghana Institution of Engineering (GhIE)
April 2018 to date: **Chairman**, Ghana Institution of Engineering (GhIE), Ashanti Regional Branch
April 2018 to date: **Member**, Education and Training Committee of the Ghana Institution of Engineering (GhIE)
(ii) Membership of Editorial Boards of UENR Journals
December 2019 to date: Sectional Editor, Engineering
(iii) Assessment of Applicant to Senior Lecturer
13th January 2020: **Assessor**, Wa Polytechnic, Wa-Upper West Region

Ing. Dr Mark Amo-Boateng

(Publications)

1. Domfeh, M. K., Gyamfi, S**., Amo-Boateng, M.,** Andoh, R., Ofosu, E. A., & Tabor, G. (2020). Free surface vortices at hydropower intakes: -A state-of-the-art review. *Scientific African*, e00355.
2. Domfeh, M. K., Gyamfi, S., **Amo-Boateng, M.,** Andoh, R., Ofosu, E. A., & Tabor, G. (2020). Numerical simulation of an air-core vortex at a hydraulic intake using OpenFOAM. *Scientific African*, e00389.
3. **Amo-Boateng, M.** (2020). Tracking and Classifying Global COVID-19 Cases by using 1D Deep Convolution Neural Network. *medRxiv*.
4. Domfeh, M. K., Gyamfi, S., **Amo-Boateng, M**., Andoh, R., Ofosu, E. A., & Tabor, G. (2020) Numerical Simulation of An Air-Core Vortex and Its Suppression at an Intake Using Open foam.
5. Siaw-Yeboah, F., Boateng, M. A., & Peprah, A. K (2020). Digitizing Processed Food and Medicinal Products for Consumers 'safety In Ghana, Using Barcode Technologies.

Workshops/Conferences/Public Lectures

10. Spoilage Detection in Fruits and Vegetables Using AI and Spectral Imaging. *International Conference on Engineering, Applied Sciences and System Modelling*. Sunyani, Ghana -13 December, 2019
11. Turning Waste Batteries into Power-banks for Homes & Offices. *International Conference on Engineering, Applied Sciences and System Modelling*. Sunyani, Ghana 9-13 December, 2019
12. Fast Optimization of Very Large-Scale Problems on the Edge. *International Conference on Engineering, Applied Sciences and System Modelling*. Sunyani, Ghana. 9-13 December, 2019
13. Advance Fire Information Alert System for Farmers. *International Conference on Engineering, Applied Sciences and System Modelling.* Sunyani, Ghana. 9-13 December, 2019
14. Fundamentals of Accelerated Computing Using CUDA C/C++. *Nvidia Deep Learning Institute (DLI) Workshop (Hands-on).* Sunyani, Ghana. 28 – 29th October, 2019
15. Earth Observation Infrastructure at UENR and its economic benefits for Ghana & West Africa. *Africa Geospatial Data and Internet Conference 2019.* Accra, Ghana 24 October, 2019
16. Improving Satellite Images Resolutions with Generative Adversarial Network. *4th GeoData Technology Workshop*. Vienna, Austria. 25th April, 2019

Dr. Atta Kuranchie Francis

(Publications)

1. Ntibrey, Richard Agbo Kwabena, Samuel Fosu Gyasi, and **Francis Atta Kuranchie**. "Assessment of greywater reuse as a potential mitigation measure for water shortages and sanitation problems in senior high schools." *Water and Environment Journal* (2020).

2. Ntibrey, R. A. K., **Kuranchie, F. A**., & Gyasi, S. F. (2020). Antimicrobial and coagulation potential of Moringa oleifera seed powder coupled with sand filtration for treatment of bath wastewater from public senior high schools in Ghana. *Heliyon*, *6*(8), e04627.
3. Owusu, F., **Kuranchie, F. A**., Odonkor, S., Frimpong, K., & Muri, M. (2020). Biomass Stove for Pelletized Sawdust Fuel in Ghana. *Combustion Science and Technology*, *192*(9), 1719-1730.
4. **Kuranchie, F. A.,** Angnunavuri, P. N., Attiogbe, F., & Nerquaye-Tetteh, E. N. (2019). Occupational exposure of benzene, toluene, ethylbenzene and xylene (BTEX) to pump attendants in Ghana: Implications for policy guidance. *Cogent Environmental Science*, *5*(1), 1603418.
5. Angnunavuri, P. N., **Kuranchie, F. A**., Attiogbe, F., & Nerquaye-Tetteh, E. N. (2019). The potential of integrating vehicular emissions policy into Ghana's transport policy for sustainable urban mobility. *SN Applied Sciences*, *1*(10), 1201.
6. Attiogbe, F., Nkansah, A., & **Kuranchie, F. A**. (2019). Shared household septic tank: A case study of Fiapre in the Brong Ahafo Region of Ghana. *African Journal of Environmental Science and Technology*, *13*(3), 126-134.
7. Owusu, F., **Kuranchie, F. A.**, Odonkor, S., Frimpong, K., & Muri, M. (2020). Biomass Stove for Pelletized Sawdust Fuel in Ghana. *Combustion Science and Technology*, *192*(9), 1719-1730.
8. Asare, P. N. A., **Kuranchie, F. A.**, & Ofosu, E. A. (2019). Evaluation of incorporating plastic wastes into asphalt materials for road construction in Ghana. *Cogent Environmental Science*, *5*(1), 1576373.

Ing. Dr Prince Antwi-Agyei

Research Collaborations

1. **Co-Investigator (May 2018 – April 2020):** 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).

2. **Co-Investigator and Ghana team lead (November 2018 – March 2020):** 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).

3. **Co-Investigator and Ghana team lead (February 2018 – July 2019):** Urban sanitation costs and low-income consumers' willingness-to-pay' project under the Urban Sanitation Research Initiative in Ghana, Kenya and Bangladesh. Research Lead: Aquaya Institute (USA). Project funded by WSUP, UK.

Workshops/Conferences/Public Lectures

1. Water and Health Conference: Where Science Meets Policy. Side event on shared/Limited sanitation. University of North Carolina, Chapel Hill, USA. October 7-11
2. Leading Integrated Research for Agenda 2030 (LIRA 2030 Africa): Annual Research Forum. Management of Shared Sanitation in low-income settlements in Ghana and Kenya. Université Cheikh Anta Diop de Dakar, Senegal. March 25 - 27, 2019

Service to the Community

1. Board Member. Trimark Aquaculture Business Centre Board of Directors. A Public - Private partnership between TriMark Aquaculture Centre and Kumasi Metropolitan Assembly (KMA)

GRANT AND AWARDS FOR THE DEPARTMENT

1. **2019 to 2023.** Africa Centers of Excellence (ACE) Impact. Regional Center for Energy and Environmental Sustainability (RCEES). University of Energy and Natural Resources. Amount: **USD 6million.** Funding: The World Bank

Dr Amos Kabo-bah -Expert Member, G-CLASS Hydroterra: An Earth Explorer mission for Water Cycle Science (2019-2027): A mission to observe and understand rapid processes of the water cycle over land.

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

The Department Administration is constituted by the following personnel:

1. Ing. Dr. Emmanuel Amankwah- Head of Department

2. Mr. George Nii Amon Dsane - Senior Administrative Assistant

Future Plans

- To have a well-equipped state-of-the-art LAB and Workshop for the department.
- To develop and run MSc, MPhil and PhD programmes
- To establish and operate Service Garage, Washing bay and welding facilities.
- Ensure our programmes are always designed to make our students globally competitive.
- Increase students' enrolment of the Agricultural Engineering programme.

Teaching Staff

There are two (2) Senior Lecturers, eight (8) Lecturers, one (1) Assistant Lecturer, and one (1) Senior Technician in the Department. Their names and qualifications are given in the Table below.

Name	Qualification	Rank	Area of Specialization
Dr. Emmanuel Amankwah	PhD(KNUST), MSc.(KNUST),	Senior Lecturer	Soil and Water Eng. Environmental and Resource Management Climate Change Renewable Energy Resources
Dr. Thomas Atta-Darkwa	PhD(KNUST), MSc.(KNUST), BSc(KNUST)	Senior Lecturer	Irrigation and Drainage Design Systems Waste Water Treatment and System Design
Dr. Edward Awafo	PhD(KNUST), MSc.(KNUST),	Lecturer	Food and Postharvest Engineering Energy Policies and Technologies Climate Change and Development
Mr. Ebenezer Nyarko Kumi	MSc. (KNUST), BSc. (KNUST)	Lecturer	Solar PV Systems Energy Planning Power Plant Engineering Solar Air-Conditioning
Mr. Gilbert A. Akolgo	MSc(UG), BSc.(KNUST)	Lecturer	Thermo-chemical conversion of biomass and co-products

			Design of systems and devices to reduce post-harvest losses Agricultural mechanization.
Mr. Eric O. Essandoh	MSc.(KNUST), BSc(KNUST)	Lecturer	Energy (with preference in Wind Energy Studies) Development of biocompatible Prostheses Design of innovative farm implements and Expansion of the Scope of the Welding Industry in Ghana
Dr. Felix Uba	PhD. (KNUST) MSc.(KNUST), BSc.(KNUST)	Lecturer	Thermal comfort analysis Heating and cooling load analysis and simulation Numerical simulation of particles Energy analysis of solar systems
Mr. Eric Akowuah	PhD (KNUST), MSc. Mech. Eng., BSc. Mech. Eng. Diploma in Education.	Lecturer	Design and Manufacturing, Biomechanics, Applied Mechanics
Mr. Prosper Owusu Achaw	MSc. Makerere University-Uganda B.Sc. (KNUST)	Lecturer	Agro-Environmental Engineering, Waste Management

Mr. Adu-Poku Asamoah Kofi	Mphil.(KNUST) BSc. (KNUST)	Lecturer	Thermo Fluids and Energy systems
Mr. Divine Ashigbi Mawunyo	MSc. (KNUST) BSc. (KNUST)	Assist. Lecturer	Vibration Analysis Control of nonlinear uncertain systems
Mr. Bright O. Adunu	Bsc. (KNUST)	Snr. Technician	Thermo-fluid and energy systems

DR. EMMANUEL AMANKWAH

Research Activities/Interests

- Environmental Management
- Water Resource Management
- Climate Change
- Renewable Energy Systems

Research and Publications

- **Emmanuel Amankwah,** Edward Awafo & Thomas Atta-Darkwah, 2020. Socioeconomic Impact of Development Projects on the Livelihood of Farmers: A Case Study of the Bui Dam Hydroelectric Project. Journal of Geography, Environment and Earth Science International 24(1) 34-44
- Sebiawu E. G., Mensah J. N. & **Amankwah, E.** 2020. Bioaccumulation of Heavy Metals Concentration in Some Selected Cereals Grown Near Illegal Mine Sites at Poyentanga in Wa of the Upper West Region, Ghana. European Journal of Environment and Earth Sciences, 1(3) 1-7.
- Akolgo, G.A., Kemausuor, F., Awafo, E.A., **Amankwah, E.,** Atta-Darkwa, T., Essandoh, E.O., Bart-Plange, A. & de Freitas Maia, C.M.B. 2020. Biochar as a Soil Amendment Tool: Effects on Soil Properties and

Yield of Maize and Cabbage in Brong-Ahafo Region, Ghana. *Open Journal of Soil Science, 10*, 91-108

- Atta-Darkwa, T., Antwi, E.O., **Amankwah, E.,** Ankamah, D, J., Akolgo, G.A., Asare, A. and Antwi, A. 2020. Comparison and Estimation of Four Infiltration Models. Open Journal of Soil Science, 10, 45-57
- Amankwah, E. 2019. Impact of Climate variability and change on agricultural productivity in the three northern regions of Ghana. American Journal of Environmental Science and Technology. 3 (1), 30-41, ISSN 2687-1964

Conferences/Workshops/Seminars

- RLC / ZEF Alumni Workshop on Agricultural and Social Transformation – *Securing Livelihood in Sub-Saharan Africa,* Bonn, Germany from 1st July – 3rd July 2019.
- Study Tour to Hannover Messe (Fair) on Energy Exhibition in relation to Fostering Rapid Growth of Decentralized Renewable Energy to Boost Energy Access in Developing Countries, Hannover, Germany from 1st April to 6th April 2019.
- Seminar of International DAAD Alumni Advanced Training Seminar on Fostering Rapid Growth of Decentralized Renewable Energy to Boost Energy Access in Developing Countries, Cottbus, Germany from 24th March to 30th March 2019.
- Seminar on Professional Development Interactive Seminar, Circle Institutional Strengthening Programme, UENR, Sunyani on 21st February 2019.
- Workshop on Good Assessment Practices in Higher Education: Improving Teaching and Learning Workshop, UENR, Sunyani from 16th – 17th January 2019.

DR. THOMAS ATTA-DARKWA

Research Activities/Interests

- Irrigation and drainage Systems design
- Groundwater flow modelling and pollution transport systems
- Groundwater recharge
- Parameter estimation using mathematical models
- Agricultural water management
- Soil and Water Conservation

Research and Publications

- Emmanuel Amankwah, Edward Awafo & **Thomas Atta-Darkwah**. 2020. Socioeconomic Impact of Development Projects on the Livelihood of Farmers: A Case Study of the Bui Dam Hydroelectric Project. Journal of Geography, Environment and Earth Science International, 24(1) 34-44
- **Atta-Darkwa**, T., Asomaning, S. K., Agbeshie, A. A., Danso, E. O., Akolgo, G. A., Amankwah, E., & Owusu, P. A. 2020. Assessment of physicochemical properties of Besease wetland soils, Ghana. African Journal of Agricultural Research, 15(4), 509-523
- Agbeshie, A.A, Abugri, S., Adjei, R., **Atta-Darkwa,** T., & Anokue, J. 2020. Impact of Land Use Types and Seasonal Variations on Soil Physico-chemical Properties and Microbial Biomass Dynamics in a Tropical Climate, Ghana. Advances in Research, 21(1), 34-39
- Akolgo, G. A., Essandoh, E. O., **Atta-Darkwa, T**., Uba, F., Kemausuor, F., & Akimsah, J. 2020. Evaluation of A Locally Manufactured Maize Thresher in Sunyani West Municipality of Ghana. African Journal of Applied Research (AJAR), 6(1), 61-75

- **Atta-Darkwa, T**., Antwi, E.O., Amankwah, E., Ankamah, D, J., Akolgo, G.A., Asare, A. and Antwi, A. 2020. Comparison and Estimation of Four Infiltration Models. Open Journal of Soil Science, 10, 45-57

Conferences/Workshops/Seminars

- Erasmus+ Project Workshop on Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa (EEISHEA). Erasmus+ Programme of the European Union in collaboration with University of Energy and Natural Resources and Aalborg University. Sheila's Executive Lodge, Dumesua-Sunyani, 30th April – 3rd May, 2019

DR. EDWARD A. AWAFO

Research Activities/Interests

- Postharvest losses and their control/management
- Climate change and development
- Bioenergy

Research and Publication(s)

- Emmanuel Amankwah, **Edward Awafo** & Thomas Atta-Darkwah. 2020. Socioeconomic Impact of Development Projects on the Livelihood of Farmers: A Case Study of the Bui Dam Hydroelectric Project. Journal of Geography, Environment and Earth Science International, 24(1), 34-44
- Agyeman, V.K., **Awafo, E.,** Kemausuor, F., Agyenim, F.B. and Decker, E.H. 2020. Renewable energy resources for pilot project implementation in Ghana. Council for Scientific and Industrial Research (CSIR).
- **Awafo, E. A.,** Derkyi, M.A. and Bannor, R. 2020. Final field study report on hybrid mini-hydro – solar PV system. Submitted to Council for Scientific and Industrial Research (CSIR), Ghana. Technical Report

- **Awafo, Edward;** Addo, Ahmad; Bart-Plange, Ato. 2020. Performance Analysis of a Desiccant Evaporative Cooling System for Mango Fruit Storage in the Savannah and Transitional Zones of Ghana. Agricultural Engineering, In Press

Conferences/Workshops/Seminars

- Validation workshop on feasibility studies conducted on renewable energy resources for the implementation of a pilot project in Ghana. It was organized by Council for Scientific and Industrial Research (CSIR) at Accra on 28 May 2019.
- A technical meeting on unlocking socioeconomic opportunities through climate actions. It was orgnised by the United Nations environment Programme (UNEP) in collaboration with the Environmental Protection Agency (EPA) and KNUST at Accra from 29 – 30 May 2019.
- Workshop for capacity building in curriculum development to mount new programmes – NCTE and NAB requirement. It was at UENR, Sunyani from 27 – 29 September 2018.
- Dialogue on Ghana's Energy Crisis: A key stakeholders' discussion on promoting alternative sources of energy. Association of African Universities (AAU) at Accra organized it on 29 November 2018.

MR. EBENEZER NYARKO KUMI

Research Activities/Interests

- Solar Cooling Systems
- Energy Management, Planning and Policy

Research and Publication(s)

- Akolgo, G. A., E. O. Essandoh, S. Gyamfi, T. Atta-Darkwa, **E. N. Kumi**, and C. Maia (2018). "The potential of Dual Purpose Improved Cookstove

for Low Income Earners in Ghana - Improved Cooking Methods and Biochar Production" Renewable and Sustainable Energy Reviews - 2018 Vol. 82 No. 1 pp. 369-379

- Gyamfi, S., F. Amankwah Diawuo, **E. N. Kumi**, F. Sika and M. Modjinou (2018). "The energy efficiency situation in Ghana." Renewable and Sustainable Energy Reviews - Vol. 82 No. 1 pp. 1415-1423

Conferences/Workshops/Seminars

- Solar Photovoltaic Training of Trainers at The Centre for Renewable Energy and Industrial Maintenance (CERMI)Praia – Cabo Verde,11th-22nd March 2019

DR. ERIC AKOWUAH

Research Activities/Interests

- Design of user-friendly speed ramps.
- Design and manufacture of energy harvesters
- Design of Low wind speed turbine blades for harvesting wind energy
- Design and construction of fixtures and basic machines tools for mechanical workshops.
- Biomechanics of pregnant occupants

Research and Publication(s)

- **Akowuah, E.,** Andoh, P. Y., & Ampofo, J. (2019). Development of Biomechanical Model and FEA Modal Analysis of the Gravid Human Uterus Exposed to Ramp-Induced Vibration. *African Journal of Applied Research (AJAR)*, *5*(1), 46-59.

- **Akowuah, E**., Ampofo, J., & Andoh, P. Y. (2019). Evaluation of Ramp-Induced Vibration Exposure Level for a Pregnant Woman Commuting

Along Urban Roads in Ghana. *African Journal of Applied Research (AJAR)*, *5*(1), 60-73.

Conferences/Workshops/Seminars

- Participant: 2nd Conference on Computing and Sustainable Societies (COMPASS 2019) organised by ACM SIGCAS, Alisa Hotel, North Ridge, Accra, Ghana, 3rd—5th July, 2019.

MR. ERIC OSEI ESSANDOH
Research Activities/Interests

- Energy (with preference in Wind Energy)
- Engineering Design
- Welding

Research and Publication(s)

- **Essandoh E.O.,** Akolgo, G. A., Gyamfi, S., Atta-Darkwa, T., E. N. Kumi., and Maiab. C.M.B. 2018. The potential of a dual purpose improved cookstove for low income earners in Ghana – Improved cooking methods and biochar production. Renewable and Sustainable Energy Reviews 82 369–379

MR. GILBERT AYINE AKOLGO
Research Activities/Interests

- Agricultural Machinery Design
- Renewable Energy Application to Agriculture
- Post-Harvest and Food Process Technology

Research and Publication(s)

- **Akolgo, G. A**., Essandoh E.O., Gyamfi, S., Atta-Darkwa, T., E. N. Kumi., and Maiab. C.M.B. 2018. The potential of a dual purpose improved cookstove for low income earners in Ghana – Improved cooking methods and biochar production. Renewable and Sustainable Energy Reviews 82 369–379

MR. PROSPER ACHAW OWUSU

Research Activities/Interests

- Renewable Energy
- Waste Management
- The application of plastic-based diesel (PBD) on DI engines.

Research and Publication(s)

- Isaac Oluk, Christine Betty Nagawa, Noble Banadda, Peter Tumutegyereize and **Prosper Achaw Owusu**. 2020. Development of maize cob-based biochar filter for water purification. Water and Environment Journal, 0, 1-10
- Sherien E., A. Radwan, N. Banadda, N. Moustafa, **P.A. Owusu**, and I. Janjareh. 2020. Mathematical models comparison of biogas production from anaerobic digestion of microwave pretreated mixed sludge. Renewable Energy Journal, 155, 1009-1020
- Thomas Atta-Darkwa, Samuel Kwasi Asomaning, Alex Amerh Agbeshie, Eric Oppong Danso, Gilbert Ayine Akolgo, Emmanuel Amankwah, **Prosper Achaw Owusu.** 2020. Assessment of physicochemical properties of Besease wetland soils, Ghana. African Journal of Agricultural Research. 14 (4): 509-523

Conferences/Workshops/Seminars

- Professional Development Interactive Seminar in **Sunyani, Ghana** on **21 February 2019.** It was organized by the University of Energy and Natural Resources Counselling Unit.

- Good Assessment Practices in Higher Education: Improving Teaching and Learning in **Sunyani, Ghana** from **16-17 January 2019**. It was organized by the University of Energy and Natural Resources.

MR. DIVINE MAWUNYO ASHIGBI

Research Activities/Interests

- Active Control of Vibrations in Drill-Strings
- Vibration Response Based Crack Diagnosis in Beam-like Structures using Fuzzy Inference System
- A low-cost inverted pendulum for Automatic control 1 & 2 laboratory experiments

Conferences/Workshops/Seminars

- Good assessment practices in higher education: improving teaching and learning - January, 2019

MR. KOFI ASAMOAH ADU-POKU

Research Activities/Interests

- Renewable Energy

- Waste Management

- The application of plastic-based diesel (PBD) on DI engines.

Research and Publication(s)

- F. Zhang, D. Appiah, K. Chen, S. Yuan, **K.A. Adu-Poku,** Y. Wang. 2020. Dynamic characterization of vortex structures and their evolution mechanisms in a side channel pump", Journal of Fluids Engineering, 2020, SCI 142(11)
- F. Zhang, D. Appiah, F. Hong, J. Zhang, S. Yuan, **K.A. Adu-Poku**, and W. Xueyuan. Energy Loss Evaluation in a Side Channel Pump under Different Wrapping Angles using Entropy Production Method. International Communications in Heat and Mass Transfer. 2020 (113)
- F. Zhang, **K.A. Adu-Poku**, B. Hu, D. Appiah, and K. Chen. Flow theory in the side chambers of the radial pumps. Physics of Fluids 32(4), 041301. (SCI)
- S. N. Asomani, J. Yuan, L. Wang, D. Appiah and **K.A. Adu-Poku**. The Impact of Surrogate Models on the Multi-Objective Optimization of Pump-As-Turbine (PAT). Energies. 13(9), 2271. (SCI
- F. Uba, E.O. Essandoh, G. Akolgo and **K.A. Adu-Poku**. Determination of Attrition Rate of Locally Manufactured Plates for Corn Milling. African Journal of Applied Research 6, (1) 13-32

DR. FELIX UBA

Research Activities/Interests

- Thermal comfort analysis
- Heating and cooling load analysis

Research and Publications

- Uba, F., Fiagbe, Y. A., Opoku, R., Forson, F. K., & Nyantakyi, E. K. (2020). CFD MODELLING AND ANALYSIS OF THE TRAJECTORY AND BEHAVIOUR OF OIL POLLUTANT PARTICLES IN THE GHANAIAN TERRITORIAL WATERS. Scientific African, e00411.

- Uba, F., Essandoh, E. O., Nyantakyi, E. K., & Anumah, P. (2020). Hydrodynamic Model for Operational Forecasting in Coastal Waters of Ghanaf. Open Journal of Modelling and Simulation, 8(02), 48.
- Uba, F., Essandoh, E. O., Akolgo, G. A., & Adu-Poku, K. A. (2020). Determination of Attrition Rate of Locally Manufactured Plates for Corn Milling. African Journal of Applied Research (AJAR), 6(1), 13-32.
- Akolgo, G. A., Essandoh, E. O., Atta-Darkwa, T., Uba, F., Kemausuor, F., & Akimsah, J. (2020). Evaluation of A Locally Manufactured Maize Thresher in Sunyani West Municipality of Ghana. African Journal of Applied Research (AJAR), 6(1), 61-75.

GRANT AND AWARDS FOR THE DEPARTMENT

WASCAL - Waste to Energy Project

Computer and Electrical Engineering Department

The Department Administration is constituted by the following personnel:

1. Dr. Thomas Atta-Darkwah- Head of Department

2. Ellen Baidoo (Mrs)- Principal Administrative Assistant

Teaching Staff

The following constitute the teaching staff of the Department. Their names ad qualifications are given in the Table below.

Name	Qualification	Designation	Area of Specialization
Nana Prof. K. Diawuo	(PhD New Castle UK); MSc, BSc (KNUST)	Associate Professor	Semiconducting Devices, Linear Electronics, VLSI

Mr. Kankam O. Adu	MSc (London)	Lecturer (on study leave)	Electronics
Mr. Samuel Osei Fobi	MEng (UK) BSc. (KNUST)	Lecturer	Electrical Machines/ Drives Control
Mr. Samuel T. Kodauh	MEng (South Korea) BSc. (KNUST)	Lecturer	Semiconductors & Nanotech.
Mr. Isaac Kofi Otchere	MSc. (UAE) BSc. (KNUST)	Lecturer	Electrical Power Quality Enhancement
Mr. Andrew Quansah	MSc, BSc (KNUST)	Lecturer	Microelectronics and wireless systems
Mr. Desmond O. Ampofo	MPhil (KNNUST), BSc (KNUST)	Lecturer	Electrical Power Engineering
Mr. Twum Nana Duah	MSc& BSc (KNUST)	Assistant Lecturer	Electrical Power system Eng./Solar and Wind Energy
Mr. Joseph Owusu	MSc &BSc, (KNUST)	Assistant Lecturer	Digital Electronic Design, Embedded Systems, RF Microwave and Antenna Design
Mr. John Gyabaah Ansu	MSc (UENR) BSc (KNUST)	Assistant Lecturer	Renewable energy and smart grid Power system optimisation
Mr. Kwabena Amoako Kyeremeh	MSc (Milan) BSc (KNUST)	Assistant Lecturer	Optimization of power system Control of microgrids Power system operation

NANA PROF. KWASI DIAWUO

Research Activities/Interests

- Spatial Distribution of mobile antenna in a relatively low dense environment
- MIMO antenna system application in wireless radio networks

- Jennifer Mintah Gyamfuaa, Willie K. Ofusu, Koffi Agbeblewu Dotche and **K. Diawuo** "Investigation of the User Redial and Its Effect on the Network Congestion in Call Admission: A Case Study in Ghana", *Book Chapter: Proceedings of the Future Technologies Conference (FTC)*, Volume 2, January 2019', DOI: 10.1007/978-3-030-02683-7_42

MR. SAMUEL OSEI FOBI

Research Activities/Interests

- ❖ Electrical Machines
- ❖ Drives Control

Conferences/Workshops/Seminars

- ❖ Participant: Good Assessment Practices Workshop Presentations, QAPU-UENR, 16th to 17th January, 2019

- ❖ Participant : Fibre Optics Awareness, Jovtech Fibertech Solutions 28th February, 2019

MR. SAMUEL TWENEBOAH-KODUAH

Research Activities/Interests

- Nanotechnology application for the provision of renewable clean energy
- Communication systems-Power usage of wireless sensor networks
- Microcontroller and Embedded systems and application

- 5G, NOMA, IoT and Routing in MANET and MANET Applications.

Conferences/Workshops/Seminars

Huawei instructors training on HCIA switching and routing, 2020

MR. DESMOND OKWABI AMPOFO

Research Activities/Interest

- Optimization of Power system networks
- Investigation of penetration limits of Renewable Generation in electrical Power distribution networks
- Power system stability

Outreach Programmes/Extension Service

- Voluntary Service: Part of a team of engineers that develop energy conservation strategies for a remote school in Somaliland. (Funded by Zayed Future Energy Prize, UAE and Engineers without borders (EWB) January, 2014-June, 2015.

MR. ISAAC KOFI OTCHERE

Research Activities/Interest

- Power quality enhancement deploying Active power filters
- Static reactive power compensation.
- Application of power electronics in renewable energy systems
- Grid interconnection issues, electric power quality

Conferences/Workshops/Seminars

- Participant: Sustainable Energy, Ghana Renewable Energy Fair & National Energy Symposium, Accra – Ghana, October, 2019.

- Participant: "Adaptive PI-GA Based Technique for Automatic Generation Control with Renewable Energy Integration," *IEEE PES*/IAS PowerAfrica, Kenya, Virtual , August, 2020
- Participant: Investigation of Voltage Stability for Transmission Network with High Penetration of Wind Energy Sources, *IEEE PES*/IAS PowerAfrica, Kenya, Virtual , August, 2020
- Policy Review of Impact of Distributed Generation on Power Quality, *IEEE PES*/IAS PowerAfrica, Kenya, Virtual , August, 2020

Publication (s)

I. K. Otchere, K. A. Kyeremeh and E. A. Frimpong, "Adaptive PI-GA Based Technique for Automatic Generation Control with Renewable Energy Integration," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

I. K. Otchere, B. Arhin, K. Amoako and E. A. Frimpong, "Investigation of Voltage Stability for Transmission Network with High Penetration of Wind Energy Sources," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

I. K. Otchere, K. A. Kyeremeh and N. T. Duah, "Policy Review of Impact of Distributed Generation on Power Quality," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

MR. KANKAM O. ADU

Publication(s)

- Nerrisa E. L. Anku, Adu-Gyamfi, **A. Kankam,** A. Takyi, R. Amponsah. ''A Model for Photovoltaic Module Optimization. Journal of Mechanical Engineering and Automation 5(2):72-79Doi:10.5923/j.jmea.2015050.02

MR. NANA TWUM DUAH

Research Activities/Interest

- Power qualities challenges and mitigation of grid-connected PV systems.
- Stability of Integration microgrid into an external grid.
- Scalability of Microgrid.

Conferences/Workshops/Seminars

- Otchere, K. Kyeremeh, **N.T. Duah** (2020)"Policy Review of Impact of Distributed Generation on Power Quality "Presented at 2020 IEEE PES/IAS PowerAfrica Conference August 25- 28,2020, Virtual Conference.
- Good assessment practices in higher education: improving teaching and learning. January 2019, Sunyani.
- 2nd African workshop on emerging Trends in circuits and systems, May 2019, KNUST.
- 5th Ghana Renewable Energy (RE) fair and National Energy symposium, Theme: Opportunities for RE and Energy efficiency in a Contained energy sector, October 2019, Accra.

Publication(s)

- **N.T. Duah** and P. K. Asamoah " Renewable Energy in Africa; Potential, Impact and The way forward" elektrika journal of electrical engineering. ISSN:0128-4428, VOL.17, NO.1, April 2018.

- **N.T. Duah** and P. K. Asamoah "Higher efficiency and Effective use of primary fuel using combined heat and power" journal of sustainable energy. ISSN:2067-5534, VOL.11, No. 1, June 2020.

- **I. K. Otchere**, K. A. Kyeremeh and N. T. Duah, "Policy Review of Impact of Distributed Generation on Power Quality," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

MR. JOSEPH OWUSU

Research Activities/Interest

- Digital Electronic Design, Embedded Systems, RF Microwave
- Antenna Design
- Wireless communication

Conferences/Workshops/Seminars

- Good Assessment Practices in higher education (UENR Quality Assurance), Sheila's Lodge, Sunyani, Bono Region, 16th – 17th January 2019
- 2nd African Workshop on Emerging trends in Circuits and Systems (IEEE), IDL Conference Centre, KNUST, 13th – 14th May 2019
- Africa Digital Summit and Expo- The state of Ghana Digital Economy: Unlocking Africa's Digital Future, Kofi Annan ICT Centre, Accra, 31st August 2019
- Security, IT and CADD Seminar, CAD Ghana - Engineering design and project management institute, Accra, 31st August, 2019

MR. KWABENA AMOAKO KYEREMEH

Publication (s)

I. K. Otchere, K. A. Kyeremeh and E. A. Frimpong, "Adaptive PI-GA Based Technique for Automatic Generation Control with Renewable Energy Integration," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

I. K. Otchere, B. Arhin, K. Amoako and E. A. Frimpong, "Investigation of Voltage Stability for Transmission Network with High Penetration of Wind Energy Sources," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

I. K. Otchere, K. A. Kyeremeh and N. T. Duah, "Policy Review of Impact of Distributed Generation on Power Quality," *2020 IEEE PES/IAS PowerAfrica*, Kenya, 2020.

Research Activities/Interest

- **Optimization of power system**
- **Control of microgrids**
- **Power system operation**

MR. GYABAAH ANSU JOHN

Research Activities/Interest

- Renewable energy and smart grid
- Power system optimisation

Conferences/Workshops/Seminars

- Huawei academy workshop, Accra February, 2020
  International conference on engineering and mathematical modelling.

- GIZ/AGI Energy efficiency and renewable energy workshop. Accra, August 2020.

ENERGY AND PETROLEUM ENGINEERING DEPARTMENT

The Department Administration is constituted by the following personnel:

1. Ing. Dr. Francis Attiobge - Head of Department

2. Matilda Asafo- Agyei (Miss)- Administrative Assistant

FUTURE PLANS OF THE DEPARTMENT

1. Establishment of a **Center for Advanced Research in Oil and Gas (CAROG)** to research petroleum big data analysis, improved recovery techniques, and environmental sustainability.
2. Development of a postgraduate study in Petroleum Engineering and Renewable Energy Technologies.
3. Development of new MSc and Ph.D. programs in Sustainable Transportation Systems.
4. Make the department vibrant and a cell or hub for Entrepreneurship, Innovation, and Placement
5. Improvement in R&D activities in the department
6. Making digital departmental library
7. More concentration on interdisciplinary projects
8. Organize national level conferences, paper presentations & project competition
9. Carry out activities for the development of faculty
10. Initiate new techniques in developing the students to face modern methods of personality tests and interviews
11. Also, the department plans to mount the following short courses:
    - Introduction to CFD Application for Renewable Energy Engineers
    - Biogas Technologies
    - Small Hydropower Development
    - Wind Energy Technologies
    - High-Performance Computing for Engineers

Teaching Staff

The following constitute the teaching staff of the Department. Their names ad qualifications are given in the Table below.

NO	FULL NAME OF STAFF	HIGHEST QUALIFICATION /YEAR OBTAINED AND INSTITUTION	RANK	AREA OF SPECIALIZATION
1	Ing. Prof. Nana Sarfo Agyemang Derkyi	PhD, Mphil, BSc (KNUST)	Associate Professor	Chemical Engineering, Renewable Energy Technologies
2	Ing. Dr. Samuel Gyamfi	PhD (Canterbury), MSc, Aachen,Germany), BSc (KNUST)	Senior Lecturer	Energy Systems
3	Mr. Emmanuel Acheaw	MSc Petroleum Geoscience University of Ghana.	Lecturer	- Petroleum Geoscience - Drilling Engineering Techniques - Fluid Machinery - Clean Energy
4	Ing. Justice Sarkodie-Kyeremeh	MSc Oil and Gas Engineering, Robert Gordon University	Lecturer	Drilling Technology Oil Well Cement Design
5	Ing. Prosper Anumah	MSc Petroleum Geoscience/UG	Lecturer	Petroleum Geoscience Reservoir Characterization and simulation Reservoir Engineering

				Petroleum Engineering
6	Mr. Yaw Akyampon Boakye-Ansah	MSc. Oil and Gas Engineering (University of Aberdeen) BSc. Petroleum Engineering (KNUST)	Lecturer	• General Petroleum Engineering • Reservoir Engineering
7	Mr. Felix Amankwah Diawuo	1. MSc Energy Engineering & Management, Instituto Superior Técnico, IST, Lisbon 2. MSc Mechanical Engineering, Royal Institute of Technology KTH, Sweden Environmental Pathways for Sustainable Energy Systems, BSc (KNUST)	Lecturer	• Demand Side Management strategies (Energy efficiency and Demand Response) • Renewable energy technologies: Solar, Wind, etc. • Energy Economics and Policies • Energy & Exergy Optimization/Thermo-economic analysis on power plant • Energy systems modelling • Electrical power systems design and power generation modelling • Smart grid
8	Mr. Anthony Morgan	Msc. Petroleum Engineering (University of	Assistant Lecturer	• Enhance Oil Recovery Techniques

		Aberdeen-Scottland) BSc. Petroleum Engineering (KNUST)		• Drilling fluid formulation • Application of Artificial Intelligence • Reservoir Characterization
9	Mr. Shaibu Mohammed	MSc Petroleum Engineering; African University of Science and Technology, Nigeria	Assistant Lecturer	Well Test analysis; Production data analysis; Petroleum Reservoir Engineering.

Ing. Prof. Nana Sarfo Agyemang Derkyi

Research and Publication

1. Mahama, M., **Derkyi, N. S. A**., & Nwabue, C. M. (2020). Challenges of renewable energy development and deployment in Ghana: perspectives from developers. *GeoJournal*, 1-15.

2. Präger, F., Paczkowski, S., Sailer, G., **Derkyi, N. S. A**., & Pelz, S. (2019). Biomass sources for a sustainable energy supply in Ghana–A case study for Sunyani. *Renewable and Sustainable Energy Reviews*, *107*, 413-424.

3. Michael Obeng, Samuel Gyamfi, **Nana Sarfo Derkyi**, Amos T. Kabo-bah, Forson Peprah, (2019) Technical and economic feasibility of a 50MW grid-connected solar PV at UENR Nsoatre Campus. Journal of Cleaner Production. 1-13

Conferences/Workshops/Seminars

Ing. Dr. Samuel Gyamfi

Publications (or Articles):

1. **Domfeh M. K, Gyamfi S., Amo-Boateng M., Andoh R., Antwi E. O., Tabor G. (2020)** Numerical simulation of an air-core vortex at a hydraulic intake using OpenFOAM Scientific African Volume 8 (2020) e00389. https://doi.org/10.1016/j.sciaf.2020.e00389.
2. **Osabutey G. Opoku A. A., Gyamfi S. (2020)** A Statistical Mechanics Approach to the Study of Energy Use Behaviour. Journal of Applied Mathematics Volume 2020, Article ID 7384053, 14 pages https://doi.org/10.1155/2020/7384053.
3. **Domfeh M. K, Gyamfi S., Amo-Boateng M., Andoh R., Antwi E. O., Tabor G. (2020)** Free surface vortices at hydropower intakes: –A state-of-the-art review Scientific African Volume 8, July 2020, e00355. https://doi.org/10.1016/j.sciaf.2020.e00355
4. **Obeng M., Gyamfi S., Derkyi N. S., Kabo-bah T. A, Peprah F. (2020)** Technical and economic feasibility of a 50 MW grid-connected solar PV at UENR Nsoatre Campus. Journal of Cleaner Production. 247, 20 Feb 2020, 119159. https://doi.org/10.1016/j.jclepro.2019.119159

Conference Papers:

1. **Martin Kyereh Domfeh, Samuel Gyamfi, Mark Amo-Boateng, Robert Andoh, Eric Antwi Ofosu, Gavin Tabor (2020)**. "Numerical simulation of an air-core vortex and its suppression at an intake using OpenFOAM." The 15th OpenFOAM Workshop, Arlington, Virginia, USA, June 22 - 25.
2. **Forson Peprah, Samuel Gyamfi, Michael Obeng, Mark Amo Boateng (2019). "**Smart Solar Powered Egg Incubator Based on GSM/IoT. 2nd International Conference on Engineering, Applied Sciences & System Modeling 'ICEASSM' 2019 Eusbett International Conference Centre, Sunyani 11th Dec 2019

Prosper Anumah

Research/ Publications

1. Ahedor, M. K.-N., **Anumah, P.,** & Sarkodie-Kyeremeh, J., 2020. Post-Drill Pore Pressure and Fracture Gradient Analyses of Y-Field in the Offshore Tano Basin of Ghana. Society of Petroleum Engineers. doi:10.2118/203659-MS
2. Morgan, A., Akanji, L., Udoh, T., Mohammed, S., **Anumah, P**., & Kyeremeh, S. J., 2020 Fractional Flow Behaviour and Transport Mechanisms During Low salinity and Protein Enzyme Biosurfactant EOR Flooding. Society of Petroleum Engineers. doi:10.2118/203600-MS
3. Ejeh, C., Afgan, I., Shittu, R., Sakirudeen, A. and **Anumah, P**., 2020. Investigating the Impact of Velocity Fluctuations and Compressibility to Aerodynamic Efficiency of a Fixed-wing Aircraft. Results in Physics, p.103263. https://doi.org/10.1016/j.rinp.2020.103263
4. Uba, F. , Essandoh, E. , Nyantakyi, E. and **Anumah, P**., 2020. Hydrodynamic Model for Operational Forecasting in Coastal Waters of Ghana. Open Journal of Modelling and Simulation, 8, 48-59. doi: 10.4236/ojmsi.2020.82004.
5. **Anumah, P.,** Mohammed, S., Sarkodie-Kyeremeh, J., Aggrey, W. N., and Morgan, A. (2019). Petrophysical Evaluation of the Reservoir in the K - Field, Offshore Ghana. In SPE Nigeria Annual International Conference and Exhibition. Society of Petroleum Engineers. doi:10.2118/198796-MS
6. Mohammed, S., **Anumah, P**., Sarkodie-Kyeremeh, J., Morgan, A., and Acheaw, E. (2019). Analysis of Boundary-Dominated Gas Well Production Data. In SPE Nigeria Annual International Conference and Exhibition Society of Petroleum Engineers. doi:10.2118/198732- MS
7. Aggrey, W.N., Asiedu, N.Y., Adenutsi, C.D., **Anumah, P**., 2019. A novel non-ionic surfactant extract derived from Chromolaena odarata as shale inhibitor in water based drilling mud. Heliyon, 5(5), p.e01697. https://doi.org//10.1016/j.heliyon.2019.e01697

8. Asamoah BD, Asare A, **Anumah P.**, 2019. Heavy metal concentration in sediments and soils of Tano river basin at Abesim water works, Ghana. Acad. J. Environ. Sci. 7(8): 110-117
9. Aggrey, W.N., Prempeh, K.O., Morgan, A., **Anumah, P**., 2019. Thermodynamic modelling of the effects of high temperatures on brine fluid density. Journal of Petroleum Engineering & Technology, 9(1), pp.26-35

Justice Sarkodie-Kyeremeh

Research/ Publications

1. Morgan, A., Akanji, L., Udoh, T., Mohammed, S., Anumah, P., and **Sarkodie-Kyeremeh. J**., 2020 Fractional Flow Behaviour and Transpoq1rt Mechanisms During Low salinity and Protein Enzyme Biosurfactant EOR Flooding. Society of Petroleum Engineers. doi:10.2118/203600-MS
2. Ahedor, M. K.-N., Anumah, P., and **Sarkodie-Kyeremeh, J**., 2020. Post-Drill Pore Pressure and Fracture Gradient Analyses of Y-Field in the Offshore Tano Basin of Ghana. Society of Petroleum Engineers. doi:10.2118/203659-MS
3. Morgan, A., Akanji, L., Udoh, T., Mohammed, S., Aggrey Nkrumah, W. and **Sarkodie-Kyeremeh, J**., 2020, August. Experimental Determination of Protein Enzyme Bio- Surfactant Properties for Enhanced Oil Recovery. In SPE Nigeria Annual International Conference and Exhibition. Society of Petroleum Engineers.
4. Anumah, P., Mohammed, S., **Sarkodie-Kyeremeh, J**., Aggrey, W. N., and Morgan, A. (2019). Petrophysical Evaluation of the Reservoir in the K - Field, Offshore Ghana. In SPE Nigeria Annual International Conference and Exhibition. Society of Petroleum Engineers. doi:10.2118/198796-MS

5. Mohammed, S., Anumah, P., **Sarkodie-Kyeremeh, J**., Morgan, A., and Acheaw, E. (2019). Analysis of Boundary-Dominated Gas Well Production Data. In SPE Nigeria Annual International Conference and Exhibition Society of Petroleum Engineers. doi:10.2118/198732-MS

Felix Amankwah Diawuo

Research/ Publications

1. **Diawuo F.A.,** Scott I.J., Baptista P.C., Silva C.A., 2020. Assessing the costs of contributing to climate change targets in sub-Saharan Africa: The case of the Ghanaian electricity system. Energy Sustain Dev 2020; 57:32– 47. doi: 10.1016/j.esd.2020.05.001
2. **Diawuo F.A**., Sakah M, de la Rue du Can S., Baptista P.C., Silva C.A., 2020. Assessment of multiple-based demand response actions for peak residential electricity reduction in Ghana. Sustain Cities Soc 2020;59:102235. doi:10.1016/j.scs.2020.102235
3. **Diawuo FA** (2020) Lighting Energy Need and Sustainability. In: W. LF, A. A, L. B, et al. (eds) Affordable and Clean Energy, Encyclopedia of the UN Sustainable Development Goals. Springer Nature, pp 1–13
4. Sakah M., De la Rue du Can S., **Diawuo F.A**., Delight M., Kuhn C., 2019. A study of appliance ownership and electricity consumption determinants in urban Ghanaian households. Sustain Cities Soc 2019;44:559–81. doi:10.1016/j.scs.2018.10.019.
5. **Diawuo F.A.,** Sakah M., Pina A., Baptista P.C., Silva C.A.,2019. Disaggregation and characterization of residential electricity use: Analysis for Ghana. Sustain Cities Soc 2019;48:101586. doi:10.1016/j.scs.2019.101586

Anthony Morgan

Research/ Publications

1. **Morgan, A**., Akanji, L., Udoh, T., Mohammed, S., Aggrey Nkrumah, W., & Sarkodie-Kyeremeh, J. (2020, August 11). Experimental Determination of Protein Enzyme Bio-Surfactant Properties for Enhanced Oil Recovery. Society of Petroleum Engineers. doi:10.2118/203599-MS
2. **Morgan, A**., Akanji, L., Udoh, T., Mohammed, S., Anumah, P., & Kyeremeh, S. J. (2020, August 11). Fractional Flow Behaviour and Transport Mechanisms During Low salinity and Protein Enzyme Bio-surfactant EOR Flooding. Society of Petroleum Engineers. doi:10.2118/203600-MS
3. Mohammed, S., **Morgan, A.** & Nyantakyi, E. On the influence of uncited publications on a researcher's h-index. Scientometrics 122, 1791–1799 (2020). https://doi.org/10.1007/s11192-020-03356-1
4. Mohammed, S., Anumah, P., Sarkodie-Kyeremeh, J., **Morgan, A.**, & Acheaw, E. (2019, August 5). Analysis of Boundary-Dominated Gas Well Production Data. Society of Petroleum Engineers. doi:10.2118/198732-MS
5. Anumah, P., Mohammed, S., Sarkodie-Kyeremeh, J., Aggrey, W. N., & **Morgan, A.** (2019, August 5). Petrophysical Evaluation of the Reservoir in the K - Field, Offshore Ghana. Society of Petroleum Engineers. doi:10.2118/198796-MS
6. Aggrey, W.N., **Morgan, A**., Prempeh, K.O., and Anumah, P., Thermodynamic modelling of the effects of high temperatures on brine fluid density. Journal of Petroleum Engineering & Technology, 9(1), pp.26-35. 2019

Shaibu Mohammed

Research/ Publications

1. **Mohammed, S.** Anthony, M. and Emmanuel, K. N. (2020). On the Influence of Uncited Publications on Researcher's h-index. Scientometrics 122:1791–1799 https://doi.org/10.1007/s11192-020-03356-1.
2. Anthony, M., Lateef, A., Tinuola, U., **Mohammed, S.,** Anumah, P. and Sarkodie, J. K. (2020). Fractional Flow Behaviour and Transport Mechanisms During Low salinity and Protein Enzyme Bio-surfactant EOR Flooding. Nigeria Annual International Conference and Exhibition. SPE 203600-MS. http://dx.doi.org/10.2118/203600-MS.
3. Anthony M, Lateef A, Tinuola U, **Mohammed, S.,** Wilberforce A. and Sarkodie, J. K. (2020). Experimental Determination of Protein Enzyme Bio-Surfactant Properties for Enhanced Oil Recovery. Nigeria Annual International Conference and Exhibition. SPE 203599-MS. http://dx.doi.org/10.2118/203599-MS.
4. **Mohammed, S**. Anumah, P., Justice, S. K. and Anthony, M. (2019). Analysis of Boundary-Dominated Gas Well Production Data. Nigeria Annual International Conference and Exhibition. SPE 198732-MS. http://dx.doi.org/10.2118/198732-MS.
5. Anumah, P., **Mohammed, S.** and Justice, S. K. (2019). Petrophysical Evaluation of th Reservoir in the South Tano Field – Offshore Ghana. Nigeria Annual International Conference and Exhibition. SPE 198796-MS. http://dx.doi.org/10.2118/198796-MS.

Emmanuel Acheaw

Research/ Publications

Mohammed, S., Anumah, P., Sarkodie-Kyeremeh, J., Morgan, A., and **Acheaw, E.** (2019). Analysis of Boundary-Dominated Gas Well Production Data. In SPE

Nigeria Annual International Conference and Exhibition Society of Petroleum Engineers. doi:10.2118/198732-MS

GRANTS AND AWARDS/DONATIONS FOR THE DEPARTMENT

1. Two faculty members have been awarded scholarships to study Ph.D. Petroleum Engineering at the New Mexico Tech. University.
2. Commissioning of 500W off-grid and 1.5KW grid-tied solar systems donated and installed by Tino Solutions Ltd. November 14, 2019.
3. EIT KIC InnoEnergy Mobility grant
4. Level Up local markets by utilizing biogenic residues. Federal Ministry of Education and Research, Germany **funded project, to turn waste to electricity for UENR Campus.** (€ 1, 700,000.00).
5. 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)

EARTH OBSERVATION RESEARCH AND INNOVATION CENTRE (EORIC)

Strength and Capacity of Staff

	NAME	POSITION	AREA OF EXPERTISE
1	Dr. Emmanuel K. Nyantakyi	Senior Lecturer and Head, EORIC	Highway and Transportation Engineering, Structural Geology, Petroleum Geology and Geochemistry
2	Dr. Kamila Kabo-bah	Lecturer, Head of Earth Observation and Partnership Section	GIS, Remote sensing, GNSS, mathematical modelling, cartography
3	Dr. Amos T. Kabo-bah	Senior Lecturer	Water Resources Engineering, GIS and Remote sensing
4	Dr. Prince Antwi-Agyei	Lecturer	Environmental Engineering
5	Dr. Mark Amo-Boateng	Lecturer	Environmental Engineering
6	Mr. Caleb Mensah	Lecturer	Meteorologist/climate Scientist
7.	Mr. Thomas Agyei	Lecturer	Soil Carbon, Forest Ecology
7	Mr. Martin Kyereh Domfeh	Asst. Research Fellow	Water Resources Engineering, CFD
8	Mr. Nana Ekow Nkwa Sey	Senior Technician	Satellite Ground System Manager/ Satellite Technician/ Website and software developer
9	Mr. Ellogah Quashie Trinity	Senior Technician	Satellite Technician
10	Mr. Evans Yaw Adom	Technician	Satellite Technician
12	Mrs. Irene Asantewaa Appia-Fei	Snr. Administrative Assistant	Administrative work

Publications

Dr Kamila Kabo-bah

1. O'Carroll A.G., Armstrong E.M., Beggs H., Bouli M., Casey K.S., Corlett G.K., Dash P., Donlon C.J., Gentemann Ch. L., Hoyer J.L., Ignatov A., **Kabo-bah Kamila**, Kachi M., Kurihara Y., Karagali I., Maturi E., Merchant Ch.J., Marullo S., Minnett P., Pennybacker M., Ramakrishnan B., Ramsankaran R., Santoleri R., Sunder S., Picart S.S., Vazquez- Cuervo J., Wimmer W., (2019), Observational Needs of Sea Surface Temperature, (in:) Frontiers in Marine Science, section Ocean Observation.
2. **Kamila J. Kabo-bah,** Tang Guoan, Xin Yang, Jiaming Na, Liyang Xiong, **2020.** Spatial fractal properties of Loess Plateau in the Northern Shaanxi Province of China. Nanjing Normal University Journal, Vol 43 (2)
3. **Kamila J. Kabo-bah,** Tang Guoan, Xin Yang, Jiaming Na, Liyang Xiong, **2019.** Fractal dimension of Catchment Boundary Profile (CBP) of Small Watersheds in Northern Shaanxi Province of China. Nanjing Normal University Journal, vol 42(4)
4. Kabo-bah, Amos T., Mark Amo-Boateng, **Kamila Kabo-bah,** Nana Ekow Nkwa Sey, Ebenezer Siabi, Samuel Okyereh, and Khadija Sarquah. "Sendai Framework Implementation–A Regional Assessment of Wildfires in West Africa." Contributing Paper to GAR **2019**
5. Anne G. O'Carroll, Edward M. Armstrong, Helen M. Beggs, Marouan Bouali, Kenneth S. Casey, Gary K. Corlett, Prasanjit Dash, Craig J. Donlon, Chelle L. Gentemann, Jacob L. Høyer, Alexander Ignatov, **Kamila Kabo-bah,** Misako Kachi, Yukio Kurihara, Ioanna Karagali, Eileen Maturi, Christopher J. Merchant, Salvatore Marullo, Peter J. Minnett, Matthew Pennybacker, Balaji Ramakrishnan, RAAJ Ramsankaran,Rosalia Santoleri, Swathy Sunder, Stéphane Saux Picart, Jorge Vázquez-Cuervo, Werenfrid Wimme, **2019**. Observational needs of sea surface temperature. Frontiers in Marine Science, 6

Mr Martin Domfeh

1. Martin Kyereh Domfeh, Samuel Gyamfi, Mark Amo-Boateng, Robert Andoh, Eric Antwi Ofosu and Gavin Tabor. Numerical simulation of an air-core vortex at a hydraulic intake using OpenFOAM. *Scientific African (2020),* Volume 8, July 2020, e00389. https://doi.org/10.1016/j.sciaf.2020.e00389

2. Martin Kyereh Domfeh, Samuel Gyamfi, Mark Amo-Boateng, Robert Andoh, Eric Antwi Ofosu and Gavin Tabor. Free surface vortices at hydropower intakes: - A state of the art review. *Journal of Scientific African,* Volume 8, July 2020, e00355. https://doi.org/10.1016/j.sciaf.2020.e00355

3. Martin Kyereh Domfeh, Samuel Gyamfi, Mark Amo-Boateng, Robert Andoh, Eric Antwi Ofosu, Gavin Tabor (2020). "Numerical simulation of an air-core vortex and its suppression at an intake using OpenFOAM." The 15th OpenFOAM Workshop, Arlington, Virginia, USA, June 22 - 25.

COMMUNITY ENGAGEMENTS FOR THE SCHOOL OF ENGINEERING

The School celebrates the "World Engineering Day" and "Engineering Week" which seeks to invite various personalities from partnering institutions to engage and interact with students on their experiences and challenges in the job market. The Departments partake in the Annual Science Festival organized by the University for Junior and Senior High School students. The participants are introduced to projects developed by the departments and exhibitions.

CHALLENGES OF THE SCHOOL

There are a number of challenges the School faces since the University is young. Some of these are as follows but not limited to;

1. Inadequate teaching staff in certain specialized areas.

2. Inadequate Office and Library space for faculty members and students.

3. Lack of laboratory equipment and workshops which intend hampers student's practical.

VISITS IN THE SCHOOL

1. New Mexico Tech. University visited the School, leading to the signing of a Memorandum of Understanding (MOU) which has seen two faculty members from the Department of Energy and Petroleum Engineering being awarded scholarships.

2. Mr. Michele Velenderić (Managing Director) for Green Power Brains Company, Munich, Germany visited the Department of Energy and Petroleum Engineering to collaborate with his Company, Bochum University of Applied Sciences, and the Japanese Company In Detail in the fields of off-grid electrification, mini-grid power trade with Blockchain technology, electromobility, circular economy, and food production.

3. **Dr. Raymond Francis** of the Department of Chemical Engineering, SUNY-ESF, Syracuse, New York visited to discuss possible areas of collaboration.

4. TOMSK Polytechnic University (TPU), and Rosatom Technical Academy, from the Russian Federation visited UENR and TPU signed a Memorandum of Understanding (MoU) on a cross-university collaboration including KNUST and Ghana Atomic Energy Commission, to develop human capacity for Ghana Government's Nuclear Power Programme.

5. A delegation from Ghana National Gas Company visited for discussion on Gas Challenge 2019.
6. Three (3) Professors from Denmark and Spain visited the School on the Erasmus+ Project no. 586416 - Enhancing Entrepreneurship, Innovation, and Sustainability in Higher Education in Africa (EEISHEA).

School of Sciences

SCHOOL OF SCIENCES

Introduction

The School of Sciences was established in 2013/2014 academic year and it is the third of the Schools established by the University. The vision of the School is to become a center of excellence for applied scientific knowledge and innovative research in the field of sciences, energy and natural resources. Its mission is to advance, generate and disseminate scientific information and research for the development of human resources and the society through competitive science related disciplines. The main objective of the school is to equip students with requisite skills and competencies to address energy and natural resource challenges.

Departments and Research Centers/Institutes

The School has four (4) Departments as follows:

1. **Department of Basic and Applied Biology**
   The main objective of this Department is to conduct competitive research, and produce high-quality graduates and scientists who are fit for industries and research institutions. The Department conducts research across a wide range of topics and targets both fundamental and practical applications of applied biology. Research activities are organized broadly in the following fields: Haematology, Histotechnology, Microbiology, Chemical Pathology, Molecular Biology, Genetic Sequencing, Nanotech-Biodiagnostics, Diagnostic Imagery, Public Health, Infectious Disease Control, Neglected Tropical Diseases, Non-Communicable Diseases etc.

2. **Department of Chemical Sciences**
   The Department of Chemical Sciences engages in teaching, research, consultancy, community service, and outreach programmes. The Department envisions to become a leading Department recognized for

its excellence in research, innovation, scholarship, and collaboration. The mission of the department is to foster and nurture frontiers in the Chemical Sciences by attracting astute faculty and top-calibre students that will strive to provide solutions to critical energy and natural resource challenges in Ghana and beyond. The Department runs a BSc. programme in Chemistry and working to roll out two additional BSc programmes in Biochemistry and Physics, as well as a postgraduate programme in Chemistry.

3. **Department of Computer Science and Informatics**

   The Department of Computer Science and Informatics is concerned with the theory, design, development and application of computer systems and information processing techniques.

   The vision of the Department is to build a strong research and teaching environment that responds swiftly to the challenges of the 21st century largely related to energy and natural resources, engineering and management.

   The mission of the Department is to provide quality undergraduate and graduate education in both the theoretical and applied foundations of computer science and train students to effectively apply this education to solve real-world problems.

4. **Department of Mathematics and Statistics**

   The vision of the Department is to produce highly skilled professionals in Mathematics, Statistics, Actuarial Science and related programmes and to empower students to demonstrate, articulate and value the acquired knowledge and skills. Among the core activities of the Department is to design programmes that conform to international best practices; provide teaching and research; and roll out more undergraduate and postgraduate training programmes.

Academic Programmes

I. Department of Basic and Applied Biology

i. Undergraduate Programmes:

a. BSc. Biological Science
b. BSc. Medical Laboratory Science
c. BSc. Nursing

ii. New Programme under Development

a. MPhil Microbiology
b. MPhil Environmental Science
c. BSc. Environmental Science

II. Department of Chemical Sciences

i. Undergraduate Programmes:

a. BSc. Chemistry

ii. New Programme under Development

a. BSc. Physics
b. BSc. Biochemistry
c. MPhil Chemistry

III. Department of Computer Science and Informatics

i. Undergraduate Programmes:

a. BSc. Computer Science
b. BSc. Information Technology
c. Diploma Computer Science
d. Diploma Information technology

ii. Postgraduate Programmes

a. MPhil/MSc Computer Science

b. PhD Computer Science

iii. New Programme under Development

i. BSc Business Computing

ii. Diploma Cyber Security and Digital Forensics

IV. Department of Mathematics and Statistics

i. Undergraduate Programmes:

a. BSc. Mathematics
b. BSc. Statistics
c. BSc. Actuarial Science
d. Diploma Statistics
e. Diploma Insurance

ii. Postgraduate Programmes

a. MPhil Applied Mathematics

b. New Programme under Development

PhD Mathematics
PhD Statistics
MPhil/MSc Statistics

Administration of the School

The School Administration is constituted by the following personnel:

Dean and HOD's

1.	Prof. Adebayo Felix Adekoya	Dean
2.	Dr. Samuel Fosu Gyasi	HOD, Basic & Applied Biology
3.	Dr. Ismaila Emahi	HOD, Chemical Sciences
4.	Dr. Benjamin Asubam Weyori	HOD, Computer Sci. & Informatics

5. Dr. Sampson Takyi Appiah — HOD, Mathematics & Statistics

Administrative Staff

1. Ms. Yvonne Claire Dumenu, Officer) — Assistant Registrar (Faculty
2. Mrs. Priscilla A. Owusu Ansah — Senior Administrative Assistant
3. Ms. Paschalina Baatuolkuu — Senior Administrative Assistant
4. Mr. Victor Ferkah — Senior Administrative Assistant
5. Ms. Kate Mensah — Administrative Assistant

School Coordinators and Officers

1. Dr. Alex A. Opoku — School Postgraduate Coordinator
2. Mr. Owusu Nyarko-Boateng Coordinator — School Industrial Attachment
3. Mr. Benjamin Darko Asamoah — School Exam's Officer

Staff and Students Statistics

Staff population of the School

S/n	Ranks	Male	Female	Total Number
1	Associate Professors	2	0	2
2	Senior Lecturers	6	0	6
3	Lecturers	34	7	41
4	Assistant Lecturer	5	2	7
5	Technical Instructors	0	1	1
6	Senior/ Technicians	3	1	4
7	Assistant Registrar	0	1	1
8	Senior/ Administrative Asst.	1	3	4
9	**Grand Total**			**66**

Student Population of the School

	Programme	Male	Female	Total
Department of Mathematics & Statistics				
1	BSc. Actuarial Science	155	56	211
2	BSc. Statistics	48	6	54
3	BSc. Mathematics	58	13	71
4	Diploma in Statistics	7	5	12
5	Diploma in Insurance	15	8	23
6	MPhil Applied Mathematics	24	3	27
	Sub Total	**307**	**91**	**398**
Department of Basic & Applied Biology				
7	BSc. Biological Science	173	118	291
8	BSc. Medical Lab. Sciences	228	126	354
9	BSc. Nursing	63	148	209
	Sub Total	**464**	**392**	**856**
Department of Chemical Sciences				
10	BSc. Chemistry	90	29	119
	Sub Total	**90**	**29**	**119**
Department of Computer Science & Informatics				
11	BSc. Computer Science	239	43	282
12	BSc. Information Technology	320	41	361
13	Diploma in Computer Science	76	19	95
14	Diploma in Information Technology	177	33	210
	MPhil Computer Science	21	2	23
	MSc. Computer Science	17	1	18
	PhD Computer Science	20	0	20
	Sub Total	**870**	**139**	**1009**
	Grand Total			**2382**

Research Collaborations/International Collaborations & Partnership

Department of Basic & Applied Biology

- Amidase enzymes as novel potential therapeutic enzymes in *O. volvulus*, Experimental Parasitology Unit, Academic Medical Centre of the University of Amsterdam, the Netherlands
- International Citizen Project on COVID-19, Global Health Institute, University of Antwerp, Belgium
- University of AAhus Denmark
- Center for Malaria Research, University of Health and Allied Science, (UHAS), Ho, Ghana.
- School of Public Health, Kwame Nkrumah University of Science and Technology-Kumasi, Ghana

Department of Chemical Sciences

- The department established collaborative relationship with Seeding Labs in the USA, which resulted in the award of laboratory equipment worth over USD 100, 00.00 to the department.
- The department was also granted a charter opportunity by the Council of the American Chemical Society (ACS) to establish an international student chapter of the ACS.
- Dr. Ismaila Emahi (current head of the department) has been awarded an Africa-Oxford (AfOx) Collaborative Fellowship with the Department of Chemistry at the University of Oxford in the UK.

Workshops/Conferences/Public Lectures

Department of Basic and Applied Biology

- World Health Organization Webinar themed 'How will the New NTD Roadmap contribute to Sustainable and Resilient Health Systems'. Held on 8th July, 2020

- World Health Organization High-level webinar themed 'Neglected Tropical Diseases and COVID-19: Why we need the New NTD Roadmap more than ever. Held on 27th June, 2020

- African Center for Disease Control and Prevention Virtual Conference on Africa's Leadership Role in COVID-19 Vaccine Development and Access. Held on 24-25 June 2020

Department of Chemical Sciences

- Materials for Renewable and sustainable Energy: from research to development, Amonoo Neizer IDL center, KNUST, 3rd - 5th June, 2019.
- DAAD workshop on Navigating Women's Careers in Higher Education, Capital View Hotel, 10th – 12th April, 2019.
- 'Enhancing your scientific writing skills for academic excellence' Ghana Science Association (GSA)- UENR Local, UENR, Sunyani, 28th March, 2019.
- 'Mentor-mentee pairing', UENR, Sunyani, 28th February, 2019.
- Good Assessment Practices in Higher Education: Improving Teaching and Learning organized, Sheila's Executive Lodge Fiapre, 16th -17th January, 2019.
- Workshop on intellectual property (IP): unraveling the complexities of intellectual property. University of Energy and Natural Resources' Auditorium. 19th September, 2019.
- UDS-DRI/CIWAS International WASH Conference: WASH and the Sustainable Development Goals (SDGs): Successes to date, Challenges, Lessons learned and the way forward. UDS, Tamale Campus, Wednesday 16th – Thursday, 17th January, 2019

- 31st Biennial Conference of Ghana Science Association on the theme: Promoting Science, Technology and Innovation for Sustainable Growth and Development. 30th July to 2nd August, 2019 at University of Cape Coast, Ghana.

- 2nd African, Scientific, Research and Innovations Council (ASRIC) Congress on the theme: Freeing Africa from Poverty, Hunger, and Diseases. Reiz Continental Hotel, Abuja, Nigeria. November 23, 2019

Department of Computer Science and Informatics

- Strengthening the delivery of Post-Graduate Education in African Universities through Innovations in Teaching and Learning Technologies. A five-day training workshop organized by the Association of African Universities (AAU) held at the African Centre of Excellence (ACE) in Aqua Fish, Lilongwe University of Agriculture and Natural Resources (LUANAR), Lilongwe, Malawi between 4th & 8th February 2019.

- Certified Management Consultants (CMC) Training Workshop. A one-day workshop organized by the Institute of Management Consultants, Nigeria (IMC) in conjunction with the International Council of Management Consulting Institutes (ICMCI) on October 24th, 2019 at the Lagos Airport Hotel, Ikeja, Lagos.

- Enhancing Entrepreneurship, Innovation, and Sustainability in Higher Education in Africa (EEISHEA). A four-day Erasmus+ Project workshop organized by the University of Energy and Natural Resources, Sunyani and co-funded by Erasmus + Programme of the European Union held at Sheila's Lodge, Dumasua - Sunyani, between April 30th and 3rd May, 2019.

- Train-the-Trainers Closing Workshop (National Multiplication Training 2017-2018 Cohort). A three-day workshop organized by the Centre for Quality Development (ZfQ), University of Potsdam under the auspice of the Dialogue on Innovative Higher Education Strategies (DIES) at Mercure Hotel Potsdam City, Germany between 3rd & 5th September 2019. The NMT programme is jointly initiated by German Academic Exchange Service (DAAD) and German Rectors' Conference (HRK) with funds from the Federal Ministry for Economic Cooperation and Development (BMZ).

- Career Accelerator for Optical Communications. A five-day workshop organized by the Optical Society Association (OSA) Foundation between 12th January and 16th January 2020 at National 4H Conference Center, Chevy Chase, Maryland United States.

- Career Accelerator for Optical Communications. A five-day workshop organized by the Optical Society Association (OSA) Foundation between 12th January and 16th January 2020 at National 4H Conference Center, Chevy Chase, Maryland United States.

- International Conference on Artificial Intelligence and Soft Computing (ICAISC) Organized by Academics World in Munich, Germany 3rd - 4th July 2019.

- The optical society of UENR (OSU) organized a 3-day Optix'20 Summer School for the students of UENR. The training was facilitated by the OSA traveling lecturer Dr. Robert Woodword.

- Five students from the Department of Computer Science and Informatics participated in the 2020 OSA students' chapters' leadership training.

- The Department of Computer Science and Cyber Ghana organized a Cyber Security Awareness Conference at the University of Energy and

Natural Resources Auditorium on 6th April 2018 for graduate and undergraduate students.

- Digitization towards the achievement of Sustainable Development Goals of Ghana. A conference organized by the Institute of ICT Professional Ghana (IIPGH) in collaboration with the Department of Computer Science and Informatics at UENR Auditorium on 28th March 2019.
- The Optical Society of UENR (OSU) in collaboration with the Department of Computer Science and Informatics Celebrated the International Day of Women and Girls in Science on the Theme: The Evolution of STEM-The Unshakable Foundation of Science at Notre Dame Girls Senior High School, Fiapre – 11Th February 2020.
- The 4Th GEO Data Technology Workshop, Organized by Group on Earth Observations(GEO) at the United Nations headquarters, Vienna-Austria,23rd to 25th April 2019.
- Gender mainstreaming in higher education; behind the scenes, KNUST (IDL conference room), Kumasi, 6th -7th December 2019.
- Workshop on enhancing your scientific writing skills for academic excellence, French Lab, UENR, Sunyani, 28th March 2019.

Department of Mathematics and Statistics

- A staff training programme for members of the Department on the theme: "Growing Together as a Department – the Role of Each Member" was organized on Tuesday, 26th November, 2019 at Tyco City Hotel. Prof. Daniel Mireku-Gyimah was the keynote speaker for the training.

- Spring School: Complex Networks Mathematics, Department of TU Darmstadt Darmstadt, Germany, 2nd-6th March 2020.

- Probability, Analysis and Applications Dr. Alex Akwasi Opoku Senior Lecturer DAAD-AIMS Accra September 29 to October 3, 2019.

- Data Analysis, Theory and Applications (DATA) Killian Asampana Asosega Lecturer AIMS Ghana, East Legon, Accra July 29 to August 4, 2020.

- IBM Academy Career Training for BIG DATA Engineer Killian Asampana Asosega Lecturer University of Winneba, Kumasi Campus Sept 1-6, 2020.

Grant and Awards/Donations

Department of Chemical Sciences

- 2020 Africa-Oxford (AfOx) Collaborative Fellowship.
  Prestigious research fellowship grant aimed at strengthening research collaboration between top African young scientists and seasoned scientists at the University of Oxford, UK. Awarded to Dr. Ismaila Emahi.

- Seeding Labs Instrumental Access Program Award.
  Laboratory equipment worth over $110,000.00 from Seeding Labs, USA donated to the Department of Chemical Sciences.

- Starter Grant
  $300 starter grant received from the American Chemical Society (ACS) to launch student-chapter of the society at the University of Energy and Natural Resources. Awarded to Dr. Ismaila Emahi, Faculty Advisor of the ACS.

Department of Computer Science and Informatics

- Won CISCO Learning Center Scholarship worth $3000 for online professional training at the 2019 Subsea Optical Fiber Communications, international Summer School in Polvijarvi, Finland (OSA and Google) from 5th-9th August, 2019

- The optical society of UENR (OSU) won a grant worth $4,530.00 from Optical Society of America (OSA) to design and fabricate five decontaminator UV Chamber to be distributed to five selected hospitals in the Bono region of Ghana. The selected hospitals include Sunyani Central Hospital, Sunyani Municipal Hospital, SDA Hospital Sunyani, UENR Clinic and St Joseph's Hospital Duayaw Nkwanta. The presentation of the UV Chamber to the hospitals is scheduled to take place on Friday 17th Oct. 2020.

- The optical society of UENR (OSU) received $340 from the Optical Society of America (OSA) on the 12th June 2020 as a seed fund to support OSU's local activities.

Funding of Research Activities

- AMC Medical Research B.V., Academic Medical Centre, University of Amsterdam, the Netherlands.

- PATH Funded Dynamics of Health Utilization Survey in the Context of RTSS,S vaccination Project

Publications (for the year under review)

Staff of the School produced One Hundred and Three (103) refereed journal articles, Eleven (11) conference papers which is a total of one hundred and thirteen (113) publications during the period under review.

	Publication	QTY.
1	Journal Articles	103
2	Conference Papers	11
3	Books	-
	Total	**113**

Community Engagements

- 2020-date Expert on skin related Neglected Tropical Diseases, World Health Organization, Geneva, Switzerland

- Independent Monitoring of Polio Vaccination in the Sunyani Municipality (WHO) 12 – 13th January, 2020.

- Patron, International Association for the Exchange of Students for Technical Experience (IAESTE) – UENR Chapter

- UENR Rep, Organization for Women in Science for the Developing World (OWSD) Ghana chapter.

- UENR Science Festival Organized from 12th to 15th February, 2020 at the University of Energy and Natural Resources, Sunyani.

- Facilitator, Ghana College of Nurses and Midwives in Specialist Paediatric Nursing, 2017 - to date

- Examiner, Nursing and Midwifery Council of Ghana, 2008 - to date

- University representation on Regional Nutrition Coordination Committee by the Dept. of Basic & Applied Biology

- The School through its Departments undertake outreach programmes in the various second-cycle institutions in the Region and beyond.

- Some members of the School have assisted in the modelling of COVID-19 data in Ghana by the Ghana Academy of Arts and Sciences (GAAS).

- Consultant – Preparation of topics on differential equations for SEIP by GES, Ghana, September, 2019.

- Chief Examiner for Core – Mathematics, WASSCE 2020.

- Facilitation, A four-day workshop organized by GES for Maths teachers from Greater Accra, Central, Volta, Oti and Eastern Regions, January 2020

- Member, Information & Communication Technology Committee, Institute of Directors (IoD), Ghana, June 2020 – Date.

- Member, GEO Equality, Diversity & Inclusion Subgroup of GEO Programme Board, Group on Earth Observations (GEO), Geneva, Switzerland July 2020 – Date

- Member, Education Committee, Internet Society (ISOC) Ghana July 2020 – Date.

Visits

Prof. A.F. Adekoya organized industrial visit (field trips) to Northern Electricity Distribution Company (NEDCO) on 12th November, 2020 and Ghana Grid Company Limited (GRIDCO) on 19th November, 2019 for BSc. Information Technology, Level 300 offering Energy Informatics.

Future Plans of the School

- Establishment of a Center
  The School is in the process of establishing an Infectious Disease Research Centre.

- Development of New Programmes
  The School and its Departments are working towards rolling out more undergraduate and postgraduate programmes e.g. BSc. Environmental Science, BSc. Biochemistry, BSc. Physics, BSc Business Computing, Diploma Cyber Security and Digital Forensics, MPhil Microbiology, MPhil Environmental Science, PhD Statistics, PhD Mathematics, MPhil Chemistry etc.

- Creation of new Departments
  Plans are under way to create new Departments in the School. For instance the Department of Computer Science and Informatics is currently proposing to split into two separate departments by the 2021/2022 academic year.

- Infrastructural Development
  Among the School's priorities is infrastructural development. The Department of Basic and Applied Biology is working towards the construction of a three-Storey building facility to serve as Biology Laboratory, lecture theaters and offices for the Department.

List of Staff of the School of Sciences

S/N	NAME	RANK	QUALIFICATION & SPECIALIZATION
Department of Basic and Applied Biology			
1	Dr. Samuel Fosu Gyasi	Senior Lecturer	PhD Microbiology
2	Dr. Daniel Antwi Berko	Lecturer	PhD Immunology
3	Dr. (Mrs.)Sandra Abankwah Kwarteng	Lecturer	PhD Medical Entomology
4	Dr. Emmanuel Timmy Donkoh	Lecturer	PhD Chemical Pathology, Biological Chemistry
5	Dr. Kenneth Bentum Otabil	Lecturer	PhD Clinical Microbiology/Parasitology
6	Mr. Bismark Ofosu Bamfo	Lecturer	MPhil Plant Ecology
7	Mr. David Ofosu Ntiamoah	Lecturer	MSc Hematology/ Med. Lab. Technology
8	Ms. Dorice Akosua Berkoh	Lecturer	MPhil Chemical Pathology
9	Ms. Diana Baafi	Technical Instructor	Master of Public Health
10	Mr. Akwasi Asamoah	Senior Lab. Technician	Medical Laboratory Science
11	Ms. Banleman Banan	Senior Lab. Technician	Medical Laboratory Science
12	Ms. Paschalina Baatuolkuu	Senior Admin. Asst.	BSc. Business Administration
	Department of Chemical Sciences		
1	Prof. Emmanuel Marfo-Owusu	Associate Professor	PhD Chemistry, X-ray Crystallography
2	Dr. David Adu-Poku	Lecturer	PhD Physical/Analytical Chemistry (Surface Science & Kinetics)

3	Dr. Ismaila Emahi	Lecturer	PhD Bio analytical Chemistry
4	Dr. Selina Ama Saah	Lecturer	PhD Inorganic Chemistry and Nanotechnology
5	Mr. Benjamin Darko Asamoah	Lecturer	MSc Synthetic Inorganic Chemistry
6	Mr. Patrick Opare-Sakyi	Lecturer	MPhil Organic Chemistry
7	Mr. Alfred Kpebbesaan Bienibour	Lecturer	MPhil Geophysics
8	Mr. Augustine Boakye	Senior Lab. Technician	BSc. Applied Chemistry
9	Mr. Edward Annoh	Lab. Technician	Science Laboratory Technology
10	Ms. Kate Mensah	Administrative Assistant	Secretaryship and Management Studies
Department of Computer Science and Informatics			
1	Prof Adebayo Felix Adekoya	Associate Professor	PhD Computer Science
2	Dr. Benjamin Asubam Weyori	Senior Lecturer	PhD Computer Engineering
3	Mr. Daniel Adu Gyamfi	Lecturer	Meng Computer Science and Technology
4	Mr. Augustine Takyi	Lecturer	MEng Communication and Information Systems
5	Mr. Obed Appiah	Lecturer	MPhil Computer Science
6	Mr. Christopher Bombie Ninfaakang	Lecturer	MSc Computer Science
7	Mr. Patrick Kwabena Mensah	Lecturer	MSc Computer Science
8	Mr. Peter Appiahene	Lecturer	Mphil Information Computer Technology
9	Mr. Peter Nimbe	Lecturer	Mphil Science
10	Mr. Kwame Agyemang	Lecturer	Mphil Computer Science

11	Mr. Anokye Acheampong Amponsah	Lecturer	Mphil Information Technology
12	Mr. Ebenezer Quayson	Lecturer	MPhil ComputerScience
13	Mr. Owusu Nyarko-Boateng	Lecturer	MPhil Information Technology
14	Mrs. Faiza Umar Bawah	Lecturer	MPhil Computer Science
15	Mr. Nicodemus Songose Awarayi	Assistant Lecturer	MPhil Computer Science
16	Mr. Vivian Akoto-Adjepong	Assistant Lecturer	MPhil Computer Science
17	Mr. Victor Ferkah	Senior Admin. Asst.	Bsc. Public Health
Department of Mathematics and Statistics			
1	Dr. Sampson Takyi Appiah	Senior Lecturer	PhD Mathematics
2	Dr. Alex Akwasi Opoku	Senior Lecturer	PhD Mathematics
3	Dr. Dominic Otoo	Senior Lecturer	PhD Applied Mathematics
4	Dr. Elvis Kobina Donkoh	Lecturer	PhD Applied Mathematics, 2015, KNUST
5	Dr. Iddrisu Wahab Abdul	Lecturer	PhD Applied Statistics
6	Dr. (Mrs.) Baaba A. Danquah	Lecturer	PhD Applied Mathematics
7	Dr. Kwame Piesie Frimpong	Lecturer	PhD Pure Mathematics
8	Dr. Abdul-Karim Iddrisu	Lecturer	MSc Statistics
9	Mr. Johnson De-Graft Ankamah	Lecturer	MSc Industrial and Applied Mathematics MSc Mathematics
10	Ms. Sylvia Ankamah	Lecturer	MPhil Statistics
11	Mr. Isaac Akoto	Lecturer	MPhil Statistics
12	Mr. Charles Kwofie	Lecturer	MPhil Actuarial Science
13	Mr. Richard Kwame Ansah	Lecturer	MPhil Pure Mathematics

14	Mr. Eric Okyere	Lecturer	MSc Industrial and Applied Mathematics Masters (Industrial Mathematics)
15	Mr. Yaw Osei	Lecturer	MPhil Business Consulting and Enterprise Risk Management
16	Ms. Akuye-Shika Odametey	Lecturer	MPhil Mathematics
17	Mr. Kwaku Opoku-Ameyaw	Lecturer	MPhil Statistics
18	Mr. Killian Asampana Asosega	Lecturer	MPhil Mathematical Statistics
19	Mr. Daniel Gyamfi	Lecturer	MPhil Applied Mathematics
20	Mr. Francis Kwame Bukari	Lecturer	Master of Philosophy Actuarial Science
21	Mr. Kassim Tawiah	Assistant Lecturer	MPhil Statistics
22	Mr. Williams Kumi	Assistant Lecturer	MSc Thesis based
23	Mrs. Priscilla A. Owusu Ansah	Senior Admin. Asst.	Bachelor of Commerce

School of Natural Resources

SCHOOL OF NATURAL RESOURCES

Overview of the School of Natural Resources

The School of Natural Resources (SoNR) has a proud history of being the pioneer school among the seven schools at the University of Energy and Natural Resources. The School was established to provide a vibrant robust leadership and innovation in natural resources to meet the increasing knowledge and research demand of societal, industrial and environmental needs. The School takes a comprehensive approach to teaching, research and engagements that encompasses social and economic needs whilst protecting the planet's natural resources for now and future generations. It is dedicated to producing highly skilled graduates' whiles generating, advancing and applying science-based information for the sustainable management and utilization of natural and environmental resources. The School is made up of four (4) academic Departments running diploma and degree programmes and one research Centre. Some key academic specialities include but not limited to forest conservation, ecology, fire science, hospitality, ecotourism, fisheries and aquaculture and land management. The philosophy of the School is hinged on an active partnership approach, preparing future leaders and providing solutions in the sustainable management of forest and other natural resources focusing more on SDGs.

Departments and Research Centre

The School is made up of the following Departments and Centre:

- Department of Ecotourism, Recreation and Hospitality
- Department of Forest Science
- Department of Fisheries and Water Resources
- Department of Environmental Management
- Centre for Climate Change and Gender Studies (3CGs)

Student Statistics in the School of Natural Resources

The School currently has a student population of 980. The enrolment figure are given in Table 1.

Table 1: Student population in the School

Year/Level	Male	Female	Total
100	188	220	408
200	127	197	324
300	74	72	146
400	66	36	102
Total	**455**	**525**	**980**

Staffing

The following are the staff at the School's Office

- Dr. (Mrs) Mercy A. A. Derkyi - Dean
- Mr Charles Kojo Aidoo - Assistant Registrar/Faculty Officer
- Mr Clement Gyamfi - Senior Administrative Assistant

Collaboration

The School is currently collaborating with National and International institutions such as:

- Forestry Commission
- Ghana National Fire Service
- Eberswalde University for Sustainable Development- Germany
- Form Ghana
- Ministry of Lands and Natural Resources
- University of Houston Downtown-USA

- Lakehead University, Canada

These are aimed at building the capacity of staff and students to broaden their knowledge base and enhance their ability to contribute towards national development.

Achievements within the Year

- With Management support, the School and its Departments and Centre acquired a 15 seater Mini Urvan Bus
- Initiated the establishment of its Integrated Natural Resources Practical station at Zinko, Sunyani
- Established research and exchange programme collaboration with Lakehead University, Canada and Eberswalde University for Sustainable Development- Germany

DEPARTMENT OF ECOTOURISM, RECREATION AND HOSPITALITY

Over view

The Department of Ecotourism, Recreation and Hospitality is among the four departments of the School of Natural Resources. The Department seeks to produce graduates capable of working either as employees or as entrepreneurs in the tourism sector. Graduates from the Department are equipped with strong and vibrant leadership skills to manage ecotourism prospects of the country and manage the hospitality sector of the tourism industry to meet the increasing demand for recreation, tourism, biodiversity conservation and green species. The Department offers and prepares students for a four-year degree in BSc. Natural Resources Management (Ecotourism option), BSc. Wildlife and Range Management, BSc. Hospitality Management (Regular & Weekend) and Diploma in Hospitality Management.

Activities Over the Past Year

- Departmental participation in the 10th Annual Delegates' Conference (Promoting occupational standards in Hospitality and Tourism: The role of academia and industry) organized by the Institute of Hospitality, at Takoradi Technical University, Ghana, 16th-19th October 2019.
- Developed BSc. Tourism and Event Management programme for accreditation.
- MPhil/MSc. Nature Conservation and Rural Development is being developed.

Future Plans

- The Department soon intends to mount MPhil/MSc Nature Conservation and Rural Development and MPhil/MSc. Hospitality Management.
- Develop a training centre and short courses (with Ghana Tourism Authority) to build the capacity of the employees in the Tourism and Hospitality Sector.

Teaching Staff

There are four Senior Lecturers, four Lecturers (one on study leave), one Assistant Lecturer, one Technical Instructor, and two Technicians in the Department. Their names and qualifications are given in Table 2.

Table 2: Staff in the Department

Name	Academic Qualification	Designation	Area of specialization
Dr Yaw Boakye Agyeman	PhD (Waterloo); MSc (Wageningen); BSc (KNUST)	Senior Lecturer	Nature conservation, Ecotourism, Social dimension of climate change

Dr. (Mrs.) Daniella D. Sedegah	PhD (UG); MPhil (UG); BSc (UDS)	Senior Lecturer	Gender studies Community development
Mr Richard Obour	MPhil (KNUST); BSc (KNUST)	Senior Lecturer/HoD	Wildlife ecology and development
Dr. Ricky Y. Nutsugbodo	PhD (UCC); MPhil (UCC); BSc (UCC)	Lecturer	Transport studies, Accommodation, Ecotourism development, Entrepreneurship in hospitality
Mr James A. Ohemeng	MPhil (KNUST); BSc (UCC); PG. Dip.(UCC); Dip. Ed. (UCC)	Senior Lecturer	Ornithology Nature-based Tourism
Ms Mildred N. Deri	MPhil (UCC); B. Tech (HTU); HND (ATU)	Lecturer	Environmental issues in tourism and hospitality
Ms Olivia N. A. Tetteh	MSc (KNUST); BSc (KNUST); HND (ATU); Dip. Ed.(UEW)	Lecturer	Food Science & safety
Mr Sampson Wireko-Gyebi	MPhil (UCC); BSc (UCC)	Lecturer	Tourism Events Management Leisure and Recreation
Ms Grace N. Baah	MPhil (UCC); BSc (UCC)	Asst. Lecturer	Culinary Tourism Tourism/ Hospitality Branding
Ms Perpetual Zaazie	M.Tech. (UEW), B.Ed.(UEW),	Technical Instructor	Ethnic cuisine
Miss Abena Gyamfuaa	HND (STU)	Technician	Ethnic cuisine
Mr Francis B. Asamoah	BSc (KNUST)	Technician	Habitat Ecology & Species Conservation

DR. YAW BOAKYE AGYEMAN

Research Activities/Interests

- Ecotourism development, management and marketing
- Conservation and poverty reduction
- Livelihood vulnerability and adaptation to climate change
- Local ecological knowledge and conservation/climate change
- Human-wildlife Conflict

Selected Publications

Agyeman, Y. B., & Baidoo, S. (2019). Farmers' perceptions of strategies for managing wildlife crop depredation in Ghana. *International Journal of Biodiversity and Conservation, 11* (6), 165-174.

Mensah, A., Sanful, P., **Agyeman, Y. B**., Trolle, D. Nunoo, F., & Asase, M. (2019). Sustainable ecosystem services of Lake Bosumtwi, Ghana-implications for livelihoods and food security. *Nature and Fauna, 32* (2), 58-62.

Agyeman, Y. B. (2019). Ecotourism as an adaptation strategy for mitigating climate change impacts on local communities around protected areas in Ghana. In W. L. Filho (Ed.), *Handbook of Climate Change Resilience* (pp. 1-19). Switzerland, Cham: Springer.

Agyeman, Y. B., Yeboah, A. O., & Ashie, E. (2019). Protected areas and poverty reduction: The role of ecotourism livelihood in local communities in Ghana. *Journal of Community Development*, 1-19.

Agyeman, Y. B., Aboagye, O. K. & Ashie, E. (2019). Visitor satisfaction at Kakum National Park in Ghana. *Journal of Tourism Recreation Research*, 1-12.

Outreach Programmes/Extension Services

- **Acting Head,** Department of Ecotourism, Recreation and Hospitality 2018/2019
- **Member**, University Academic Board

- **Member**, School of Natural Resources Board

- **Member,** Quality Assurance and Planning Committee
- **Member,** School of Natural Resources Appointment & Promotion Committee
- **Patron**, Natural Resources Student Association
- **Technical Advisor**, Status, distribution, and abundance of vulnerable African White-bullied Pangolin (*Phataginus tricuspis*) in human-dominated forest landscapes around the Asukese Forest (Rufford Funded)
- **Lead Scientist**, Building resilience of Lake Bosumtwi to climate change (RELAB) Project funded by the Ministry of Foreign Affairs of Denmark (MFA) Grant
- **Reviewer:** Journal of Hospitality and Tourism Research, Journal of Wildlife Management and Wildlife Monographs, Journal of Tourism Recreation Research.

DR. (MRS.) DANIELLA DELALI SEDEGAH

Research Activities/Interests

- Rural Development
- Climate Change
- Gender Studies
- Natural Resource Management & Community Development

Selected Publications

Adu-Okoree, B. I., **Sedegah, D. D**., & Parku, E. (2020). How Do They Cope: Traumatic Impact of Broken Homes on the Academics of the Children Living in Ga East Municipality, Ghana. Journal of Education, Society and Behavioural Science, 33(7),15-26.https://doi.org/10.9734/jesbs/2020/v33i730240

Adu-Okoree, B. I., **Sedegah, D. D.,** Kuyiba, P.-P. W., & Sedegah, S. K. (2020). Access and Impact of Microcredit on Economic Activities of Organized Women Groups in the Adentan Municipality, Ghana. Journal of Economics, Management and Trade, 26(2), 92-100. https://doi.org/10.9734/jemt/2020/v26i230231

Sedegah, D. D., Ajayi, A., & Adu-Okoree, B. (2020). Socio-demographic and Economic Dynamics of Climate Change and Adaptation: A Study on Rural Farmers in Oyo State, Nigeria. Journal of Agriculture and Ecology Research International, 21(2), 31-38. https://doi.org/10.9734/jaeri/2020/v21i230130

Sedegah D.D. Agyei-Ohemeng J, Asiem G (2019), Effect of Bui Hydroelectric Dam on Household Livelihood Diversification. International Journal of Geography and Regional Planning 5(1): 101 - 107, ISSN:2021- 6

Outreach Programmes/Extension Services

- **Member,** University Academic Board
- **Member,** School of Natural Resources Board

MR. RICHARD OBOUR

Research Activities/Interests

- Wildlife Ecology and Development
- Environmental Ecology
- Traditional Conservation of Wildlife

Selected Publications

Mustapha, S., Agyei-Ohemeng, J., **Obour, R.,** Asamoah, B. F. and Apraku W. (2020). Diversity, Abundance and Distribution of Birds in and Around Kakum National Park in Respect to Habitat Type. *Ecology and Sustainable Development*, Vol. 3, No. 2, May 2020.

Obour. R., Samua, D., Ankomah, P. and Trent. L. (2019). Accessibility to Elephants as Tourism Flagship Species: The Case of Mole National Park. *African Journal of Hospitality and Tourism Management*. Pp. 18-32 (1).

Outreach Programmes/Extension Services

- **Member,** School of Natural Resources Board.
- **Member,** School of Natural Resources Appointment & Promotion Committee.
- **Member,** School Examination Moderation Committee.
- **Chairman**, Advisory Board of the Nursing and Midwifery Training College, Seikwa.

Conferences/Workshops/Seminars

- *Participant***:** A two-day leadership training for deans, directors, heads of departments/ divisions/ sections/ units on attitudinal change and team building for higher productivity. October 3 – October 4 2019, Tyco City Hotel, Sunyani.

- *Participant***:** Sensitization workshop towards the establishment of an office for International Relations. 24TH January 2020: UENR Auditorium.

DR. RICKY YAO NUTSUGBODO

Research Activities/Interests

- Transport studies
- Accommodation
- Ecotourism development
- Entrepreneurship in hospitality

Selected Publications

Nutsugbodo, R. Y., Mensah, C. A., Amenumey, E. K., & Owusu C. A. (2020). Women's participation in ecotourism development within the Kakum Conservation Area, Ghana: Implications for community planning. *Tourism Planning and Development.* https://doi.org/10.1080/21568316.2020.1751693

Outreach Programmes/Extension Services

- **School Examinations Officer,** School of Natural Resources, University of Energy and Natural Resources
- **Board Member,** Ghana Association of Tourism Students (GATS)
- **Cognate Member,** School of Natural Resources Representative on the School of Engineering Board, University of Energy and Natural Resources, Sunyani
- **School Representative,** Dean of Students Board, University of Energy and Natural Resources
- **Patron**, Association of Hospitality Students, University of Energy and Natural Resources, Sunyani

MR. JAMES AGYEI-OHEMENG (Contract)

Research Activities/Interests

- Charcoal trade be a sustainable enterprise
- Protecting bat colonies in Ghana
- Nature-based Tourism in Ghana.

Selected Publications

Agyei-Ohemeng, J.; Adu, B. Y., Asamoah, B. F. and Opoku-Ohemeng. (, 2020). Nuisance Activities of Straw Colored Fruit Bats (*Eidolon helvum*) on the University of Energy and Natural Resources, *Ghana. Ecology and Sustainable Development,* Vol. 3, No. 1,

Mustapha, S., **Agyei-Ohemeng, J.,** Obour, R., Asamoah, B. F. and Apraku W. (2020). Diversity, Abundance and Distribution of Birds in and Around Kakum National Park in Respect to Habitat Type. *Ecology and Sustainable Development,* Vol. 3, No. 2, May 2020.

Agyei-Ohemeng, J., Adu, B. Y., and Asamoah, B. F. (2019). Ecological status of birds in Sunyani using their foraging habits. *Journal of Biodiversity and Environmental Sciences* (JBES) ISSN: 2220-6663 (Print) 2222-3045 (Online) Vol. 14, No. 6, p. 62-69.

Sedegah, D. D., **Agyei-Ohemeng, J**.. and Asiem**,** G. (2019). Effect of Bui Hydroelectric Dam on Household Livelihood Diversification, *International Journal of Geography and Regional Planning,* Vol. 5 (1), 101-107.

Agyei, Y. F., Afrifa, A. B. and **Agyei-Ohemeng, J.** (2019). Human-monkey Conflict and community wildlife management: The case of Boabeng-Fiema monkey sanctuary and Fringed communities in Ghana, *International Journal of Biosciences* | IJB | ISSN: 2220-6655 (Print) 2222-5234 (Online) http://www.innspub.net Vol. 14, No. 6, p. 302-311.

Agyei-Ohemeng, J., Adu, B. Y, and Asamoah, F. (2019). Ecological status of birds in Sunyani using their foraging habits. *Journal of Biodiversity and Environmental Sciences* (JBES) ISSN: 2220-6663 (Print) 2222-3045 (Online) Vol. 14, No. 6, p. 62-69.

Outreach Programmes/Extension Services

- **Coordinator,** Student Industrial Attachment, School of Natural Resources

- **Chairman,** Student Hostel Committee

MS. MILDRED NUONG DERI

Research Activities/Interests

- Environmental issues in tourism and hospitality
- Job satisfaction and turnover intention among hotel employees

Outreach Programmes/Extension Services

Convocation Representative, University Academic Board

Departmental Coordinator, Industry Relations

MS. OLIVIA NAA AYORKOR TETTEH

Research Activities/Interests

- Food science and safety

MR. SAMPSON WIREKO-GYEBI

Research Activities/Interests

- Work-related stress
- Tourism Events Management
- Leisure and Recreation
- Accommodation and Transport Studies

Selected Publication

Wireko-Gyebi, S., Baah, N. G., & Nutsugbodo, R. Y. (2019), University students' use of sharing economy vehicles. *Paper presented at the 10th Annual Delegates' Conference of Institute of Hospitality, Takoradi, Ghana.* October 16-19, 2019).

Outreach Programmes/Extension Services

- **Coordinator,** Industrial Attachment, Department of Ecotourism, Recreation and Hospitality.

Conferences/Workshops/ Seminars

- *Participant:* Promoting occupational standards in Hospitality and Tourism: The role of academia and industry, organized by the Institute of Hospitality, Ghana, 16th-19th October 2019.

MS NANCY GRACE BAAH

Research Activities/Interest

- Culinary Tourism
- New Technologies and Branding in Tourism and Hospitality
- Social Media and Social Networking in Hospitality Management
- Entrepreneurship in Tourism and Hospitality

Selected Publications

Baah, N. G., Bondzi-Simpson, A., & Ayeh, J. K. (2019). How neophilia drives international tourists' acceptance of local cuisine. *Current Issues in Tourism*, 1-17. doi:10.1080/13683500.2019.1619676

Wireko-Gyebi, S., **Baah, N. G.,** & Nutsugbodo, R. Y. (2019), University students' use of sharing economy vehicles. *Paper presented at the 10th Annual Delegates' Conference of Institute of Hospitality, Takoradi, Ghana.* October 16-19, 2019).

Outreach Programme/ Extension Services

- Industrial Relations and Students Industrial Attachment Coordinator, Department of Ecotourism, Recreation and Hospitality.

Conferences/Workshops/ Seminars

- *Participant:* The resilience and vulnerability of small lodgings in Florida: The impact of Covid-19, webinar organized by Rosen College of Hospitality Management, May 20 2020.
- *Participant:* Promoting occupational standards in Hospitality and Tourism: The role of academia and industry, organized by the Institute of Hospitality, Ghana, 16th-19th October 2019.
- *Participant:* Unravelling the complexities of Intellectual Property (I.P.), UENR, 19th - 20th September 2019.

MS PERPETUAL ZAAZIE

Research Activities/Interests

- Gastronomy in Ghana
- Ethnic cuisine

Outreach Programmes/Extension Services

- Departmental Coordinator, Special Event

MS ABENA GYAMFUAA

Research Activities/Interests

- Ethnic cuisine

Outreach Programmes/Extension Services

- Coordinator, Alumni Relations

MR. FRANCIS BOAFO ASAMOAH

Research Activities/Interests

- Ecosystems and conservation ecology
- Amphibian assemblages monitoring
- Biodiversity monitoring
- Primate conservation

Outreach Programmes/Extension Services

Participant: Paving the way; Learning from Ghana's Voluntary Partnership Agreement (VPA) Process to help meet cocoa commitments, Fern, Accra, Ghana. 2018; Reducing deforestation with a commodity supply chain approach, good growth partnership at Tropical Forest Alliance 2020, UNDP. Accra, Ghana. 2018; Biocultural trainers' workshop, A Rocha Ghana. Bobiri Forest Reserve, Ashanti. 2018.

Selected Publication

Mustapha S., Agyei-Ohemeng, J., Obour, R., **Asamoah, B. F.** and Apraku W. (2020). Diversity, Abundance and Distribution of Birds in and Around Kakum National Park in Respect to Habitat Type. *Ecology and Sustainable Development*, Vol. 3, No. 2, May 2020.

DEPARTMENT OF FISHERIES AND WATER RESOURCES

Introduction

The Department of Fisheries and Water Resources (DFWR), was established in 2013 by a statute of the University of Energy and Natural Resources, under the School of Natural Resources. DFWR is Bono's foremost Centre directly concerned with research and training of fisheries/ aquaculture scientists and practitioners among her institutions of higher learning. It is the only Department in Ghana to run combined degree in Fisheries and Aquaculture.

The vision of DFWR is to become a leading department in teaching, research and community outreach in advancing a world with food security, employment and water management. Currently, the Department runs a BSc. Natural Resources Management with Specialization in Fisheries and Aquaculture (both Regular and Top-Up). Upcoming programmes include BSc. AquaBusiness and Fisheries, MSc. Fisheries Management, MSc. Sustainable Aquaculture.

Activities Over the Past Year

During the year under review, DoFWR in collaboration with the Fisheries and Aquaculture Society and Sunyani Fish Farmers Association celebrated the 2018 World Fisheries. The Department, with the support of management, acquired the improved *Ahotor Fish Smoker,* which is one of its kind the region. The Department also joined the Top-Up BSc. Natural Resource Management (Fisheries and Aquaculture option). The Department also made contributions to the national fisheries and aquaculture sector. A staff was nominated to serve on the National Committee on Aquaculture by the Ministry of Fisheries and Aquaculture Development (MoFAD). Two members were appointed as Executive Members of the Fisheries and Aquaculture Society of Ghana (FASoG). Also, the Department assessed the impact of the 2019 closed fishing season by visiting all the four coastal regions. The Department joins a consortium to run the management and capacity building of small pelagic fisheries in West Africa (GREPPAO) project valued at €1.5m Euros.

Future Plans

The Department is in discussion with Shanghai Ocean University (China) for collaboration in the areas of teaching (undergraduate and postgraduate), research and staff development. The proposed fields are fisheries economics and management, aquaculture, fisheries (resources, fishing technology) and hydrobiology. The Department is the process of establishing a new aquaculture facility. Sponsorships have been solicited from some cooperate bodies which are

yielding positive response so far. Moreover, the Department would be going into fish processing and utilization to ensure that the general public gets quality fish for consumption.

Teaching/Supporting Staff

There are one Senior Lecturer, three Lecturers, one Assistant Lecturer and two Demonstrators in the Department. Their names and qualifications are given in Table 3.

Table 3 Staff in the Department

Name	**Qualification**	**Designation**	**Area of Specialization**
Dr Berchie Asiedu	BSc. UG, MSc. UG. PhD UG (Ghana)	Senior Lecturer	Fisheries, Aquaculture, Bio-economics, fish post-harvest operations, climate change, ocean governance
Dr Peter Sanful	BSc. KNUST PhD (KNUST)	Lecturer	Limnology
Dr Seyram Sarah Blossom Sefute	BSc. MSc. PhD (Ibadan)	Lecturer	Fish Nutrition and Health
Mr Amos Asase	BSc., MPhil UG (Ghana)	Lecturer	Aquaculture, Fisheries Management and Sciences
Mr. Samuel Kweku Konney Amponsah	BSc. MPhil UG (Ghana)	Assistant Lecturer	Fish Stock Assessment
Mr Eric Justice Darko	CEMBA; BSc. Finance; HND Statistics, Cert. General Agricultural Science	Principal Technician	Aquaculture Finance, Strategic Aquaculture Marketing, Aquaculture Statistics, Hatchery management
Mr Samuel Henneh	BSc. Natural Resources	Senior Technician	Fisheries Aquaculture

	Management (UENR)		
Juliana Aninagyei-Siaw	B.A. (GIMPA), CEMBA (KNUST)	Principal Administrative Assistant	Administration/Management

Dr BERCHIE ASIEDU

Research Collaborations

- Regional Program for the Improvement of Regional Governance of Fisheries in West Africa (PESCAO)
- UENR, UDS and Shanghai Ocean University: Aquaculture development

Workshops/ Conferences/ Public Lectures

- Intellectual Property (I.P.) workshop. Organized by UENR at Sheila Executive Lodge, Sunyani. March 10, 2020
- Workshop on capacity building tools for dissemination of research results by the West African researchers in the project GREPPAO. Millennium Beach Resort, Grand-Popo, Benin. February 3-5, 2020
- Workshop on the assessment of socio-economic and biological impacts of the 2019 fisheries closed season. A.H. Hotel, Accra. January 28, 2020

Grant and Awards

- Newmont Gold Ghana Ltd: GHS 20,000.00 for the establishment of an aquaculture facility at UENR.

Funding of Research Activities

- Management and resilience of small pelagic fisheries in West Africa (GREPPAO) 2019-2022

Selected publications

Iyiola, A.O., **Asiedu, B.** and Fawole, J. F. (2020). Possible effects of COVID-19 on sustainability of aquatic ecosystems: An overview. *Aquatic Research*, 3(4), 177-187. https://doi.org/10.3153/AR20016

Amponsah, S.K.K., **Asiedu, B.** and Failler, P. (2020). Population parameters of *Oreochromis niloticus* (L) from a semi-open lagoon (Sakumo II), Ghana and its implications on management. *Egyptian Journal of Aquatic Biology & Fisheries*, 24(2): 195 – 207

Alabi–Doku, B.N., Chen., S., Ampofo-Yeboah, A. and **Asiedu, B.** (2020). Ghana's Fisheries Policies; Evolution and Performance. *Asian Journal of Fisheries and Aquatic Research*,7(1): 11-22. **DOI** https://doi.org/10.9734/ajfar/2020/v7i130107

Asiedu, B., Annor-Baah., G., Annor-Baah., P., Nunoo, F.K.E. and Failler, P. (2019). Illegal, Unreported and Unregulated (IUU) fishing activities on fisheries sustainability: Evidence from Lake Volta, Ghana. *International Journal of Fisheries and Aquatic Sciences,* 7(4)-14-20

Apraku, A., Huang, X., Yusuf, A, Cornel, A., Ayisi, L. C. and **Asiedu, B.** (2019). Impact of dietary oil replacement on muscle and liver enzymes activity, histomorphology and growth-related genes on Nile tilapia. *Comparative Biochemistry and Physiology, Part C 223:15–25*

DR PETER SANFUL

Research Collaborations

- Building Resilience of Lake Bosumtwi to Climate Change (RELAB)
- University of Presov, Erasmus + International Credit Mobility

Workshops/Conferences/Public Lectures

- Global Lake Ecological Observatory Network (GLEON), 21st All Hands Meeting, Huntsville, Ontario, Canada, 3rd – 8th November, 2019.

- Zooplankton Taxonomy Workshop, Czech Republic, 7-9th April 2019
- 31st Biennial Conference of the Ghana Science Association

Grant and Awards

- EU Erasmus + International Credit Mobility

Refereed Journal Papers

Otoo, N.E.G., **Sanful, P.O.,** Iddrisu, W.A., Amfoh S and Okyere K.B. 2019. Understanding water quality dynamics in aquaculture ponds in Sunyani, Ghana; insights from Partial Least Squares (PLS) – Path Modeling. Journal of Fisheries and Aquaculture Research, 4:28-42

Mensah, A**., Sanful, P. O.,** Agyeman Y., Trolle, D., Nunoo, F. and Asase A. 2019. Sustainable ecosystem services of lake Bosumtwi, Ghana – implications for livelihoods and food security. Nature and Faune Journal. 32: 58 - 61

Conference Proceedings

Sanful, P.O., Trolle, D., Agyeman, Y., Rinke, K., Opuni-Frimpong, E., Antwi, M., Mensah, A. M., Nunoo, F.K.E., Davidson, T., Thodsen, H., Lauridsen, T., Nielsen, A., Boehrer, B., Shatwell, T., Asare, A., Damoah, A., Asase, A., Amfoh, S., Yeboah, A., Kwakye, E., & Baidoo, S. (2019). *Understanding and predicting climate forcing effects on hydrodynamics, ecosystem productivity and anthropogenic responses to enhance resilience of Lake Bosumtwi (Ghana, West Africa).* Global Lake Observatory Network (GLEON) 21 All Hands Meeting. Huntsville, Ontario, Canada. 3rd- 8th November 2019.**Poster Presentation**

Sanful, P.O., Trolle, D., Agyeman, Y., Rinke, K., Opuni-Frimpong, E., Antwi, M., Mensah, A. M., Nunoo, F.K.E., Davidson, T., Thodsen, H., Lauridsen, T., Nielsen, A., Boehrer, B., Shatwell, T., Asare, A., Damoah, A., Asase, A., Amfoh, S., Yeboah, A., Kwakye, E., & Baidoo, S.

(2019). *A comprehensive and integrated approach to sustainable management and building resilience of Lake Bosumtwi to climate change: preliminary results of the RELAB Project.* 31st Biennial Conference of the Ghana Science Association. University of Cape Coast. July 29 – August 2, 2019. **Oral Presentation**

DR. SEYRAMSARAH B. SETUFE

Research Collaborations

Management and Resilience of Small Pelagic Fisheries in West Africa (GREPPAO)

Workshops/ Conferences/ Public Lectures

" Enhancing your scientific writing skills for academic excellence" organized by Ghana Science Association (GSA) Sunyani branch 2nd Conference on Fisheries and Coastal Environment-Fisheries and Coastal Governance in Contemporary times. Organized by University of Cape Coast, USAID, MOFAD and University of Rhodes Islan, August 19-21 in Accra, Ghana.

Grant and Awards

International Course on Responsible aquaculture for food security and economic progress sponsored by Orange Knowledge Fellowship Program. (OKP)- Wageningen-Netherlands

Selected Publications

Setufe S.B., Ajani E. K., Emikpe B O., and Ogunbanwo S. T. (2019): Antibacterial potential of *Lactobacillus plantarum* from fermented food origin as probiotic candidate in the treatment of African catfish (*Clarias gariepinus*) bacterial diseases. Book of Abstracts of the 2nd Conference on

Fisheries and Coastal Environment. "Fisheries and Coastal Governance in Contemporary Times", August 19-21, 2019 in Accra, Ghana.

Setufe S. B., Ajani E. K., Emikpe B O., and Ogunbanwo S. T. (2020): Wound-healing Potentials of Dietary *Lactobacillus plantarum* and *Psidium guajava* Leaf Meal in *Clarias gariepinus* Juveniles. Acta Vet Eurasia. 46: 7-14.

MR AMOS ASASE

Selected Publications

Nantui, F.M. and **Asase, A**. (2020). Climate change adaptation strategies and fish catchability: The case of inland artisanal fishers along the Volta Basin in Ghana. *Fisheries Research*, 230, 105675. doi.org10.1016/j.fishres.2020.105675.

Asase, A., Acolatse, E. S., Apraku, A. K. & Darko, J. E. (2019). Potential for the culture of *Tilapia guineensis* (Bleeker, 1862): A comparative growth performance with Nile tilapia (*Oreochromis niloticus*) in a freshwater pond. *Journal of Fisheries and Coastal Management*, 1 (1), 20-23. doi:10.5455/jfcom.20190401124703.

Mr Amponsah, Samuel Kweku Konney
Funding for research activities
USAID-SFMP

Workshop
Meeting of the science and technical working group (STWG) to assess the possible impact of the proposed 2019 closed season. 13th – 14th March 2019. Venue: A.H. Hotel, Ghana.

Conferences
2nd Conference on Fisheries and Coastal Environment (CFCE), 2019. 19th – 21st August 2019. Venue: Mensvic Hotel, Ghana. Role played: Oral presentation

Research collaboration

Collaborator: University of Ghana

Research: Socio-Economic Impact of closed fishing season on artisanal fisheries in Ghana.

Selected Publications

Amponsah, S.K.K, Asiedu, B., Failler, P. (2020). Population parameters of *Oreochromis niloticus* (L) from a semi-open lagoon (Sakumo II), Ghana and its implications on management. *Egyptian Journal of Aquatic Biology and Fisheries*, Vol. 24(2): 195 – 207 (2020)

Olapade, O.A, Dienye, H.E. and **Amponsah, S.K.K** (2019). A Preliminary study of growth pattern, condition factor and population structure of Sicklefin Mullet, Liza falcipinus (Val, 1836) in the New Calabar River, Nigeria. *Turkish Journal of Science and Technology*, 14 (1), 15 – 22.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Introduction

The Department of Environmental Management (DEM) is under the School of Natural Resources. Like any other academic department, DEM is mandated to build competencies and promote teaching, scholarship, research and outreach programmes aimed at solving problems that are critical to the development of the nation. The Department has research interests in:

- Land Reclamation and Restoration Practices
- Soil Quality Analysis
- Fire Safety and Disaster Management
- Environmental Impact Assessment &Auditing
- Environmental Policy Analysis, Law & Governance
- Environmental Risk Analysis & Management

- Natural Resources (air, land, water & mineral resources) Management
- Climate Change and Sustainability Management
- Solid Waste Technology and Management
- GIS & Remote Sensing Technologies/Geospatial analysis
- Ecological Economics & Modeling.

The Department runs some programmes (both regular and weekends). These programmes include Diploma in Fire, Safety and Disaster Management; BSc Natural Resources Management (with an option in Land Reclamation and Restoration); and BSc Fire and Disaster Management. Other programmes such as BSc Environment, Resources and Sustainability, 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 for accreditation. These programmes, when accredited, will be the first of its kind in any of the Universities in Ghana.

Future Plans

The Department intends to mount a BSc Programme in Environment, Resources and Sustainability as well as postgraduate programmes in Disasters and Humanitarian Emergencies and Environment, Water and Sustainability.

Teaching Staff

The Department has one Senior Lecturer, seven Lecturers, one Assistant Lecturers, one Technical Instructor and one Technician (on Contract) in the Department. Their names and qualifications are given inTable 4.

Table 4: Teaching Staff at the Department

Name	Qualification	Designation	Area of specialization
Fred Owusu-Ansah	PhD (SUNY), MPhil. (U.G.) BSc. (U.G.)	Senior Lecturer/HoD	Environmental Science, Management and Policy; Environmental Impact Assessment and Auditing; Water & Wetland Resources Management and Policy; Natural Resources Administration Law & Policy; Public Policy Analysis and Development; Environmental Risk Analysis.
Mary Antwi	PhD (KNUST), MSc. (Morocco), BSc. (KNUST)	Lecturer	GIS and Remote Sensing
Kwame Oppong Hackman	PhD (China), MSc. (U.K.), BSc. (KNUST), Teachers Certificate 'A'	Lecturer	Environmental/ Ecological Modelling and GIS and Remote Sensing
Paul K. Nsiah	MSc., BSc. (KNUST) PhD. (Germany)	Lecturer	Environmental Resource Management, Natural Resources
Benjamin O. Carlis-Paittoo	Dip(GIMPA) PGD(GIMPA) MSc. (UCC)	Lecturer	Fire Science
Thomas Agyei	MSc. (Finland), B.Ed (UEW), Certificate 'A'	Lecturer	Environmental Biology

Alex Amerh Agbeshie	MPhil. (KNUST), BSc. (UDS)	Lecturer	Soil Science/agronomy
Austin Asare	MPhil., BSc. (KNUST)	Lecturer	Forest Management and Silviculture
Samuel Opoku Mensah	MSc., BSc. (KNUST)	Assistant Lecturer	Environmental Resources Management
Joseph Asako Azumyarn	MSc. (UCC) BSc. (UCC), B.Ed (UEW) HND (S-Poly)	Technical Instructor	Fire Science and Disaster Management
Daniel Adusu	BSc. (UENR)	Technician	Land Reclamation and Restoration

DR FRED OWUSU-ANSAH (SENIOR LECTURER & HOD)

Research Activities/Interests:

- Climate Change and Variability: Implications for Crop Production in Ghana.
- Characterization of Water Treatment Residues: Implications for Land Application.
- Mining and Rural Livelihood: Promoting Sustainable Compensation Framework for Household Farmers 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 Impacts

Selected Publication(s):

Owusu-Ansah, F (2020). Famers' Education and Risk Perception of Large Scale Mining in Ghana. *Current World Environment (International Journal)*, Vol. 15, No. (Special Issue 1) 2020, 47-75. **ISSN: 0973-4929**. www.cwejournal.org

Internationalization:

- Reviewer, Journal of Environmental Protection - JEP, USA
- Article Editor, Sage Publications Inc.: C.A., 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:

- American Water Resources Association **Conference on** Making Good Decisions: Utilizing Decision-Making Science & Geospatial Data to Streamline Water Planning & Management. ***Speaker: Maria T. Gibson***

(Hydrogeologist), Integrated Groundwater Resources. Live Streaming Participation via AWRA's Webinar Center, WOODBRIDGE, VA, USA. July 17, 2020

- American Water Resources Association **Conference on** *Developing Pathways to Solutions to Wicked Water Problems*. Speaker: Sharon B. Megdal, Director (University of Arizona Water Resources Research Center). Live Streaming Participation via AWRA's Webinar Center, WOODBRIDGE, VA, USA. July 15, 2020.

- Technologies in Practical Remote Education Seminar. Organized by **E DIBON International** (Innovating Engineering and Technical Teaching Equipment)**, Madrid, Spain.** Live Streaming Participation via **EDIBON Cloud Learning** Webinar Platform, July 01, 2020.

- American Water Resources Association **Conference on** *Why Geophysics is Needed for Water Resources Management*. **Speaker: Max Halkjaer, (**Service Line Leader, Water Resources Management**).** Live Streaming Participation via AWRA's Webinar Center, WOODBRIDGE, VA, USA. May 20, 2020

- The 6th International Congress on Environment and Social Responsibility in Mining. Organized by GECAMIN Centro de Mineria (PUCV), CiSGER (Universidad del Desarrollo, The University of Queensland, Sustainable Mineral Institute, Australia, SQM (Solution for Human Progress). Hotel Sheraton, Santiago, Chile. Live Streaming Participation via GECAMIN Platform. September 4 – 6, 2019

- A 4-Day Erasmus+ Project Workshop on *Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa (EEISHEA)*. Co-funded by the Eramus+ Programme of the European Union, UENR,

Ghana, and AALORG University, Denmark. Sheila's Executive Hotel, Sunyani, Ghana. April 30 – May 3, 2019.

- American Water Resources Association Conference on *Preparing for a Climate with more Extremes: Results from California Fourth Climate Change Assessment*. Organized by American Water Resources Association, West Federal St, Middleburg, VA, USA. Live Streaming Participation via AWRA Webinar Platform. April 10, 2019.

- **The 34th International Conference on *Solid Waste Technology and Management*.** Organized by Widener University, School of Engineering and the National Centre for Resource Management and Technology. Live Streaming Participation via Widener University Webinar Platform, Annapolis (Washington, DC area) USA. March 31 – April 3, 2019.

- GlobeScan SustainAbility Summit: The Future of Business and Sustainability Leadership. *Under the theme: Building Trusted Leadership to Create a Better Future*. Organized by GlobeScan Incorporated and *World Association of Opinion and Marketing Research Professionals,* Toronto, Canada. Live Streaming Participation via GlobeScan/EcoMatcher's Webinar Platform. March 27, 2019.**s**

- SDG Progress Forum: Presenting Survey Highlights. Organized by GlobeScan Incorporated, **San Francisco**, USA. Live Streaming Participation via GlobeScan/EcoMatcher's Webinar Platform. March 26, 2019.

- American Water Resources Association Conference on *Setting Conditions for the Success of Integrated Water Resources Management*. Organized by American Water Resources Association, West Federal St, Middleburg, VA, USA. Live Streaming Participation via AWRA Webinar Platform. March 25-27, 2019.

- Sustainable Livelihoods and Development Network for Africa Triennial Conference – 2019. **Theme**: African Development Beyond Slogans: New Approaches and Sustainable Outcomes. Organized by SLIDEN AFRICA, at **Oscarpak Royal Hotel, West Legon, Accra, Ghana, March 4 – 7, 2019.**

- UENR – ACU Professional Development Interactive Seminar. Organized by CGCC, UENR, Sunyani. February 21, 2019.

- SDG Innovation and Collaboration: Innovation and Collaboration on the SDGs in Africa. CEO Roundtable Discussions held in Nairobi. Organized by Huawei and GlobeScan in partnership with the Ministry of ICT, ICT Authority in Kenya and the SDG Partnership Platform of the U.N.'s Kenya Office. Live Streaming Participation via GlobeScan/Huawei's CSR Program in Africa Webinar Platform, January 29, 2019

DR MARY ANTWI (LECTURER)

Research Activities/Interests:

- GIS and remote sensing technologies/Geospatial analysis
- Integrated soil fertility management
- Land management systems
- Environmental management/Disaster risk modelling
- Surveying and mapping

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 Bosumtwi to Climate Change (RELAB) project funded by DANIDA, in partnership with Aarhus University, Denmark.

Selected Publications

Amproche, A.A., **Antwi, M.**, Kabo-bah, A.T. (2020). Geospatial Assessment of Land Use and Land Cover Patterns in the Black Volta Basin, Ghana. Journal of Remote Sensing and GIS. Vol. 9 (1), 1000269. 1-7. DOI: 10.35248/2469-4134.20.9.269

Antwi, M. (2020). Integrated soil fertility management as a potential for Ghana's development: A geospatial approach, In The challenge of African Potentials: Conviviality, Informality and Futurity. Editors: Yaw Ofosu-Kusi and Motoji Matsuda. Langaa RPCIG publications, Cameroon. ISBN: 9789956551149; 276 pp.

Peter Sanful, Yaw Agyeman, Dennis Trolle, Emmanuel Opuni-Frimpong, **Mary Antwi**, Adelina Mensah, Francis Nunoo, Thomas Davidson, Hans Thodsen, Torben Lauridsen, Anders Nielsen, Austin Asare, Asha Damoah, Amos Asase, Elizabeth Kwakye, Sylvia Baidoo, Augustine Yeboah, Solomon Amfoh (2019). A multidisciplinary and integrated approach to sustainable management and building resilience of Lake Bosumtwi to Climate Change: Preliminary Results of the RELAB Project. Presented at the 31st Biennial Conference by the Ghana Science Association at the University of Cape Coast, Ghana. Conference Theme: Promoting Science, Technology and Innovation for sustainable growth and development.

Conferences/Workshops/Seminars:

- Research Paper Writing Workshop and Retreat organized by the office of Grants and Research (KNUST) and WABER conference at Kwame Nkrumah University of Science and Technology from July 30 to August 1, 2019.
- Researcher Connect Workshop on Academic writing and Publications organized by the British Council at the Accra City Hotel from the 13th to March 16, 2019.

- Good Assessment practices in Higher Education: Improving Teaching and Learning Workshop organized by the Quality Assurance Unit of University of Energy and Natural Resources, Sunyani at the Sheila's Executive Hotel from the 16th to January 17, 2019.

DR KWAME OPPONG HACKMAN (LECTURER)

Research Activities/Interests:

- Remote sensing application in land use
- Ecological assessment of land use
- Mobile technology for large scale data collection

Community Engagement:

- Academic tutor (2019/2020) – BSc Natural Resources (Level 200), UENR
- Head of research section – Center for Climate Change and Gender Studies (3CGS), UENR
- Journal reviewer – Methods in Ecology and Evolution, International Journal of Remote Sensing, PeerJ, Scientific African.

Partnership/ Collaboration:

- Professor Peng Gong, Tsinghua University, China: Through this collaboration, I have negotiated and secured full funding for Miss Precious Opoku Dapaah to do her PhD in Tsinghua University under the supervision of Professor Peng Gong.
- Dr Xuecao Li, Iowa State University, USA: Dr Li is my research collaborator. We have already worked collaboratively and published a paper on the urbanization of Kumasi. We are currently working on producing a West Africa capital city atlas.

Selected Publication(s):

Hackman, K.O., Li, X., Asenso-Gyambibi, D., Asamoah, E. A., Decardi-Nelson, I. (2020). Analysis of geo-spatiotemporal data using machine learning algorithms and reliability enhancement for urbanization decision support. *International Journal of Digital Earth*. https://doi.org/10.1080/17538947.2020.1805036

Conferences/Workshops/Seminars:

- Southeast Asian Satellite Application Workshop, Xi'an, Shaanxi, China (Sep 4 - 6, 2019)
    - Gave an oral presentation on the topic, "*Potentials of ZY-3 Imagery for Geospatial Applications in Ghana.*"
- The 31st Biennial Conference (Ghana Science Association), University of Cape Coast, Ghana (July 29 - August 1, 2019)
    - Gave an oral presentation on the results of my latest research project entitled, "The 31-Year Urbanization History of Kumasi from Space."
- AfriGEOSS Symposium University of Energy and Natural Resource (UENR), Ghana (June 11 - 15, 2017)
    - Representative of Tsinghua University's Global Earth Observation Group to give a presentation on our freely available global land cover maps, all-season global land cover samples, and our global land cover mapping portal (a platform for anyone in the world to map land cover anywhere)
    - A poster on landscape biodiversity assessment using simple land-cover based ecological models
- IPBES Workshop on Scoping on Regional & Global Assessments of Biodiversity & Ecosystem Services UNESCO Headquarters, Paris (France) (Aug 17 - 22, 2014)
    - IPBES Regional Assessments Expert for Africa (Ghana's representative)

- International Symposium on Land Cover Mapping for the African Continent UNEP Headquarters, Nairobi (Kenya) June 25 - 27, 2013
    - Member of the land-use/cover expert group from Tsinghua University
- International Workshop on Biodiversity Modelling with GLOBIO-3 and CLUE-S ITC, Enschede (The Netherlands) Nov 1 - 4, 2011
    - Gave a presentation on the application of GLOBIO-3 for modelling biodiversity on a national scale.

  Participated in the workshop on the use of the CLUE-S land-use model

Consultancy/Outreach Programmes/Extension Services:

- Feb 2020 – Present: GIS/Remote Sensing Scientist for WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use)
- Aug 2020 – Present: Two (2) PhD students co-supervision at the Federal University of Technology (Minna, Nigeria) and KNUST under the WASCAL Graduate Study Programme.
- Mar 2019 – Feb 2020: Data Scientist consultant to Syecomp Limited (Accra) in charge of the design and programming of the credit scoring component of their MasterCard funded "mfarmPay" product to rural farmers.

Dr Paul Kofi Nsiah (Lecturer)

Research Activities/Interest

- Mine land reclamation.
- Restoration/rehabilitation of disturbed landscapes/forests.
- The use of biological geotextiles in erosion and sediment control
- Mine-spoil amendment for vegetation establishment in reclamation
- Assessing ecological integrity of reclaimed lands.

Selected Publication(s)

Nsiah, P. K., and Schaaf, W. (2020). Subsoil amendment with poultry manure as topsoil substitute for promoting successful reclamation of degraded mine sites in Ghana. Journal of Natural Resources and Development 2020; 10: 01- 12; Doi: https://www.jnrd.info/2020/07/10-5027-jnrd-v10i0-01/

Damptey, F.G; Birkhofer, K; **Nsiah, P.K.** and Enrique G, De la Riva, E. G. (2020). Soil properties and biomass attribute in a former gravel mine area after two Decades of forest restoration. Land 2020, 9, 209; www.mdpi.com/journal/landdoi:10.3390/land9060209

Nsiah, P. K., and Schaaf, W. (2019). Effect of topsoil stockpiling on soil properties and organic amendments on tree growth during gold mine reclamation in Ghana. Journal of the American Society of Mining and Reclamation; Vol.8, No.1. Doi: http://dx.doi.org/10.21000/JASMR19010045

Conferences, Workshops/Seminars

- American Society of Mining and Reclamation Annual Conference, third – June 7 2019; Big Sky, Montana; USA.

- April 2015 to Date: DAAD Scholarship Award to undertake doctoral study at in Environmental Resources Management at Brandenburg Technology University, Cottbus–Germany.

MR. ALEX AMERH AGBESHIE (LECTURER)

Research Activities/Interests:

- Biochar influence on soil properties
- Biogeochemical characterization of soils under different Land-use of Ghana
- Climate-smart agriculture for sustainable land and water management
- Nutrient cycling on reclaimed lands for long term soil sustainability and environmental protection
- Quantifying the effect of soil pollution on the functioning of soil, plant and water systems.

Internationalization:

- Member, British Society of Soil Science
- Research Fellow, Building Stronger Universities (BSU III), KNUST sponsored by DANIDA

Community Engagement:

- December 2019: Facilitator – Training of farmers in the production of biochar for enhanced soil productivity under the Building Stronger Universities III (BSU III) – DANIDA Project
- April 2019: Facilitator – Development of Tools for Ensuring Urban Agriculture in the Sunyani Municipality (Soil and Fertilizer Management) under the Skills Development Fund (SDF II)

Partnership/ Collaboration:

- Tools for ensuring sustainable urban agriculture in Sunyani municipality. Sponsored by Skills Development Fund (SDF II)
- Harnessing the bioeconomic potential of bioresources in the Owabi Catchment Area. Sponsored by DANIDA under the BSU III

Selected Publication(s):

Agbeshie, A. A., Logah, V., Opoku, A., Tuffour, H. O., Abubakari, A., & Quansah, C. (2020). Mineral nitrogen dynamics in compacted soil under organic amendment. *Scientific African*, e00488.

Atta-Darkwa, T., Asomaning, S. K., **Agbeshie, A. A**., Danso, E. O., Akolgo, G. A., Amankwah, E., & Owusu, P. A. (2020). Assessment of physicochemical properties of Besease wetland soils, Ghana. *African Journal of Agricultural Research*, *15*(4), 509-523.

Tuffour, H. O., Abubakari, A., **Agbeshie, A. A**., Khalid, A. A., Tetteh, E. N., Keshavarzi, A., ... & Danso, L. (2019). Pedotransfer functions for estimating saturated hydraulic conductivity of selected benchmark soils in Ghana. *Asian Soil Research Journal*, 2(2): 1-11.

Conferences/Workshops/Seminars:

- 16th – 17 January 2019: Quality Assurance Planning Unit. Good assessment practices in higher education. UENR, Sunyani.

Consultancy/Outreach Programmes/Extension Services:

- December 2019: Facilitator – Training of farmers in the production of biochar for enhanced soil productivity under the Building Stronger Universities III (BSU III)– DANIDA Project
- December 2019: Facilitator–Development of Tools for Ensuring Urban Agriculture in the Sunyani Municipality under the SDF (II) call – DANIDA Project

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

Selected Publication(s):

Yalley, M. K., Adusu, D., Bunyamin, A. R., Okyere I., &**Asare, A.** (2020). Natural Regeneration of Indigenous Tree Species in ***Broussonetia papyrifera*** Invaded Sites in Pra -Anum Forest Reserve**.** Hindawi International Journal of Forestry Research Volume 2020, Article ID 6347962, 9 pages https://doi.org/10.1155/2020/6347962.

Asare, A., Asante, W. A., Owusu-Prempeh, N., Opuni Frimpong, E., & Adusu, D. (2020). Comparative Analysis of Understorey Floristic Diversity and Carbon Stocks in Poorly and Intensively Managed Tectona grandis Plantations. *International Journal of Forestry Research*, *2020*.Volume 2020, Article ID 8868824, 13 pageshttps://doi.org/10.1155/2020/8868824

Thomas, A.-D., Ofosu, A.E., Emmanuel, A., De-Graft, A.J., Ayine, A.G., **Asare, A.** and Alexander, A. (2020). Comparison and Estimation of Four Infiltration Models. Open Journal of Soil Science, 10, 45-57. https://doi.org/10.4236/ojss.2020.102003

Asare, A., Asamoah, B. D., & Sanful, P. O. (2019). Assessment of Heavy Metal Contaminants Using Pollution Indices in Ankobra River at Prestea Huni-Valley District, Ghana. Journal of Geoscience and Environment Protection, 7, 25-35. https://doi.org/10.4236/gep.2019.79003

Krampah, F., Lartey-Young, G., Sanful, P. O., Dawohoso, O., &**Asare, A.** (2019). Hydrochemistry of Surface and Groundwater in the Vicinity of a Mine Waste Rock Dump: Assessing Impact of Acid Rock Drainage (ARD). Journal of Geoscience and Environment Protection, 7, 52-67.https://doi.org/10.4236/gep.2019.71005

Conferences/Workshops/Seminars

- 2020: Presentation on "Drivers of Land Use and Land Cover Change using GIS and Logistic Regression Approach" during RELAB Project Annual meeting in June 2020.
- 2019: Participant: Workshop on Data Analysis and Applied statistics and Basic Ecological Modelling organized for students on RELAB Project by Aarhus University at Sheila's Executive hotel, Sunyani, from 6th to May 8, 2019.

Consultancy/Outreach Programmes/Extension Services:

- Work Package Four (WP4) Member, Building Resilience of Lake Bosumtwi to Climate Change (RELAB Project) www.relabproject.uenr.edu.gh: (Jan 2018 – Dec 2022).

MR. SAMUEL MENSAH OPOKU

Research Activities/Interests:

- Forest carbon stock (above & below ground) assessment
- Ecosystem Ecology
- Urban agriculture (Water use and management)
- Environmental degradation, monitoring and restoration
- Biodiversity and conservation
- Climate change and land use

Internationalization:

- Graduate student (PhD in Forest Science), College of Forest Resources and Environment Science, Michigan Technological University. Houghton, MI, USA.

Partnership/ Collaboration:

- Skill Development Fund (SDF)-II-2-0623: Tools for sustainable urban agriculture in the Sunyani municipality. SDF Ghana/University of Energy and Natural Resources.

Selected Publication(s):

E. Opuni-Firmpong, **S. M. Opuku**, A. J. Storer and E. O. Mensah (2020). Silvicultural systems for plantation mahogany In Africa: Effect of mixed-species stands on growth and *Hypsipyla* attack of African mahogany (*Khaya anthotheca* And *Khaya ivorensis*). *Ghana J. Forestry*, *Vol. 36 (1),* 72 – 88 (awaiting printing).

Conferences/Workshops/Seminars:

- Good Assessment Practices in Higher Education: Improving Teaching and Learning. A workshop by Quality Assurance and Planning Unit of University of Energy and Natural Resources, Sunyani, Ghana. 16-17th January 2019.

MR JOSEPH ASAKO AZUMYARN, (TECHNICAL INSTRUCTOR)

Research Activities/Interests:

- Compressive emergency plan for the Management of hazardous materials Disasters
- Structural fire resistance
- Wildfire management
- Fire investigations
- Domestic and industrial fire safety

Community Engagement:

- Security and safety committee member 2019 to date
- Fire sub-committee chairman
- Departmental Industrial Attachment coordinator 2019/2020 academic year

MR BEN CARLIS-PAITTOO (LECTURER)

Research Interests

- Fire and Arson Investigation
- Risk Management
- Conflict Resolution
- Disaster Resilience

CONFERENCES/WORKSHOPS/ SEMINARS

- Ghana Urban Forum, 14th -15th Feb 2020.
- Maxim Project Services Ltd. (Certificate in Practical Cost Estimating of Engineering and Capital Projects) 30th – July 31, 2019.
- Vehicle Fleet Management Workshop, 1st to October 10, 2019
- International Conference on Entrepreneurship, Business Technology (ICEBUT)
  August 25th – 27th, 2019.
- Ghana College of Physicians and Surgeons (Professional Development Programme on Toxicology), October 31, 2019.
- IFC – EPA Environmental and Social Risk Management on IFC Standards,
  27th – 30th August 2019.
- Ghana College of Physicians and Surgeons (Medical Knowledge Fieta), 24th – 27th September 2019

Selected Publication

Carlis-Paittoo, B.O: Gambrah, E. (2019); Incident Command System Implementation in Ghana: A Case Study of Sunyani Municipality; International Journal of Technology and Management Research (IJTMR).

DEPARTMENT OF FOREST SCIENCE

Introduction

The Department of Forest Science is one of the five Departments of the School of Natural Resources. The Department seeks to empower human resources with requisite knowledge and skills in natural resources management, especially in the area of forest resource management, social forestry and environmental governance. The rationale is to train professionals to sustainably manage the nation's forest resources for enhanced resource conservation, revenue generation and fringe communities' livelihood security. The Department runs an undergraduate programme in Natural Resource Management with options in Social Forestry and Forest Resource Management. At the graduate level, the Department runs a Masters of Philosophy and Doctor of Philosophy programmes in Social Forestry and Environmental Governance.

The Department has a curatorial unit responsible for producing quality forest and ornamental seedlings for commercial purposes and also for the beautification of the University landscape. The Unit serves as a practical learning field for the students in nursery management. The Unit has 11 staff members made up of the Principal Curator of the Unit, National Service Person (annually posted), four permanent workers (a male and three females) and five casual workers (a male and four females).

Teaching and supporting staff

There are five Senior Lecturers (two on Contract), one Lecturer, two Senior Technicians, one Principal Curator and one Senior Administrative Assistant in the Department, as shown in Table 5.

Table 1: Names, qualification, designation and specialties of staff

Name	Qualification	Designation & Position	Area of Specialization
Dr Simon Abugre	PhD, MSc.,(KNUST) BSc. (UDS)	Senior Lecturer/HoD	Agroforestry, Agriculture, Extension education
Dr (Mrs) Mercy Derkyi	PhD (UvA-AISSR), MSc. & BSc. (KNUST)	Senior Lecturer/ Dean	Forestry, Agroforestry; Natural Resource Governance and Conflict Management
Mr Alexander Baffour Afrifa	MSc. & BSc. (KNUST)	Senior Lecturer (contract)	Development Policy &Planning; Forest Management
Mr Isaac K. Abebrese	Mphil &BSc. (KNUST)	Senior Lecturer (Contract)	Silviculture, Forest Management &Ecology, Forest Policy
Mr Daniel Akoto Sarfo	MSc. & BSc. (KNUST)	Senior Lecturer	Forest Management
Mrs N.Y. Opuni-Frimpong	MSc. (Michigan Tech), B.A. (KNUST)	Lecturer	Forestry, Policy & Law

Anthony Baidoo	BSc. (KNUST) MPhil (UENR)	Assistant Lecturer	Forest Management
Ms Amanda Sarfo Boateng	BSc. (KNUST)	Senior Administrative Assistant	Crop Science (Agronomy)
Mr Edward Kander	B.Ed(UEW)	Principal Curator	Agriculture

Programmes in the Department

The Department runs an undergraduate programme in Natural Resource Management with options in Social Forestry and Forest Resource Management. It also runs PhD/MPhil in Social Forestry and Environmental Governance. The enrolment history of the MPhil/PhD in Social Forestry and Environmental Governance programme which started in the 2016/2017 are as follows:

PhD/MPhil enrolment

Programme	Academic year			
	2016/2017	2017/2018	2018/2019	2019/2020
MPhil	33	24	23	19
PhD	10	12	11	3

The enrolment figures for 2019/20 academic year for the undergraduate students in the Department are indicated in the tables below

Undergraduate Students' Statistics

Level	**Male**	**Female**	**Total**
300	22	4	26
400	11	3	14

DR. SIMON ABUGRE

Research Interest

- Allelopathic potential of tree species
- Land use management
- Collaborative forest management
- Soil and water conservation

Selected publications

Novor, S. and **S. Abugre** (2020). Growth performance, undergrowth diversity and carbon sequestration potentials of tree species stand combinations, Ghana. *Open Journal of Forestry* 10: 135 – 154.
Agbeshie, A. A., **Abugre, S.,** Adjei, R. Atta-Darkwa, T., and Anokkye, J. (2020). Impact of Land Use Types and Seasonal Variations on Soil Physico-chemical Properties and Microbial Biomass Dynamics in a Tropical Climate, Ghana. Advances in Research 21(1): 34-49.

Agyemang, G., **Abugre, S.,** Owusu-Prempeh, N. (2020). Drivers of Smallholder Plantation Forestry in the Tano North District of Ghana. Journal of Natural Sciences Research 10 (6): 26 – 33.

Agyemang, G., **Abugre, S.** and Thevathasan, N. V. (2019). Spatial distribution of smallholder teak plantations and its implications on growth. Ghana Journal of Forestry vol. 35:

Abugre, S., Nyamaah E. and Adusu, D. (2019). Natural regeneration of indigenous tree seedlings under *Broussonetia papayrifera* stand. *Journal of Energy and Natural Resources Management* Vol. 5(1): 1-7.
Agbeshi, A.A., **Abugre, S**., Mensah-Opoku, S. and Mensah-Opoku, E. and Opuni-Frimpong, N. Y. (, 2019). Tools for sustainable urban agriculture: Water, Soil and Fertilizer Management. Adwinsa Publications (G.H.) Ltd. Accra.

Conferences/ Workshops Attended

- Resource Person at a training workshop for Peace Corps on use of fodder tree species in Ghana held on Wednesday, March 11, 2020, at Techiman.

D.R. (MRS.) MERCY DERKYI

Research Interest

Research interest is in the forest-agriculture landscape from social and governance perspectives. With specialities in the field of forest governance, forest conflict management, food security value chain, gender and climate change, natural resource policy and law, forest ergonomics, and research methods from the social perspective.

Current Projects:

- **Co-applicant** "Access-Authority Nexus in Farmer-Herder Conflicts" from 2019-2023. With DKK 11,689,232 from the Ministry of Foreign Affairs of Denmark (MFA) in collaboration with KNUST (Lead Institution), University of Development Studies and University of Cophengan, Demark.
- **Project Member:** Hybrid Waste to Energy as a Sustainable Solution for Ghana (Waste2Energy) 4 years (01.01.2020 – 31.12.2023), €5.069.316,14 funded under Internationalization strategy of research policy

Selected Publications

Bannor, Richard & Oppong-Kyeremeh, Helena & **Derkyi, Mercy** & Adombila, Albert & Amrago, Ernest (2020). Village savings and loans association participation and impact on off-farm income among rural women. Journal of Enterprising Communities: People and Places in the Global Economy. ahead-of-print. 10.1108/JEC-04-2020-0058.

Abraham Zakaria, Suhiyini I. Alhassan, John K. M. Kuwornu, Shaibu B. Azumah, **Mercy A. A. Derkyi** (2020) Factors Influencing the Adoption of Climate-Smart Agricultural Technologies Among Rice Farmers in Northern Ghana. Earth Syst Environ DOI 10.1007/s41748-020-00146-w

Workshops

Global Challenges Research Fund (GCRF), Global Impact Acceleration Account (GIAA) International Forum on Global Health and Wellbeing in Accra, Ghana 20-22 March 2019

Joint UEA –JIC workshop –Responding to Environmental Changes University of East Anglia, Norwich, United Kingdom January 19-February 2 2019

International Workshop on Forest landscapes in times of changing climate and water resources in Corvallis, Oregon, United States of America. IUFRO Taskforce September 13-14, 2018

MR DANIEL SARFO AKOTO
Research Interest

- Socio-economic and ecological dimensions of forest and other woody plants

Selected Publication

Daniel S. Akoto, Samuel T. Partey, Manfred Denich, Michael Kwaku, Christian Borgemeister, Christine B. Schmitt (2020). "Towards bamboo agroforestry development in Ghana: evaluation of crop performance, soil properties and economic benefit." *Agroforest Syst*. https://doi.org/10.1007/s10457-020-00493-7

Conferences Attended

- Regional Bamboo Bioenergy Workshop at Royal Beulah Hotel in Accra from Tuesday 26th to Thursday, November 28, 2019
- International Conference/ Webinar session on Bamboo for soil and water conservation held on Tuesday, June 30, 2020. Beijing, China. By International Bamboo and Rattan Organization (INBAR)- Regional Webinar Team organized at Fumesua, Kumasi, -Ghana

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

Selected Publications

Agyei, F.Y., **Afrifa, A.B.,** and Nti, T. (2020). Fringe Community Attitudes Towards Wildlife. The Case of Monkeys at Boabeng-Fiema Monkey Sanctuary, Ghana. International Journal of Research Culture Society (Accepted for Publication).

Afrifa, A.B, Ofori-Attah, R., and Sarpong A. (2019**).** The Growth Performance of *Triplochiton scleroxylon, Terminalia superba* and *Ceiba pentandra* in Pure and Mixed Stand at the Jimira Forest Reserve in the Nkawie Forest District. Journal of Natural Sciences Research, 9(4),56 – 61.

Agyei, F.Y, **Afrifa, A.B.** and Agyei-Ohemeng, J. (2019). Human-Monkey Conflict and community Wildlife Management: A Case of Boabeng-Fiema Monkey Sanctuary and Fringed Communities in Ghana. International Journal of Biosciences, 14(6), 302-311.

Workshops Attended

Farmers' sensitization workshops organized by the Centre in collaboration with an NGO, Environment and Women Association of Ghana (EAWAG) with financial support from Global Greengrants Fund from 12th to February 19, 2019, at Boffourkrom, Nkwadum, Pepewase, Asantefo Sreso, and Koase. The workshops were under the theme "Promoting best Farming Practices that conserve Biodiversity, Mitigate Climate Change and Promote Environmental Sustainability".

MRS NANA YEBOAA OPUNI-FRIMPONG (Lecturer)

Research Interest

- Urban forestry
- Natural Resources Economics and sustainable rural economies/ livelihoods.
- Management, use and ecology of medicinal plants

Selected publications

Opuni-Frimpong, N.Y., Hammond, P. and Bannor, R. K. (2019). Tools for sustainable urban agriculture: Marketing and Bookkeeping. Adwinsa Publications (G.H.) Ltd. Accra.

Opuni-Frimpong, E., Adarkwah, C., Ansah, F.A. and **Opuni-Frimpong, N. Y**, (2019). Tools for sustainable urban agriculture: Agrochemical Use and Pest Management. Adwinsa Publications (G.H.) Ltd.Accra.

Agbeshi, A.A., Abugre, S., Mensah-Opoku, S. and Mensah-Opoku, E. and **Opuni-Frimpong, N. Y**. (2019). Tools for sustainable urban agriculture: Water, Soil and Fertilizer Management. Adwinsa Publications (G.H.) Ltd. Accra.

Opuni-Frimpong, N. Y, Opuni-Frimpong, E., Adarkwah. C., Hammond, P., Ansah, F. A., Agbeshi, A.A., and Abugre. S. (2019). Tools for

sustainable urban agriculture: Farmers' Manual. Adwinsa Publications (G.H.) Ltd. Accra.

Conferences/Workshops Attended

- Climate Change Adaptation in Food Security and Natural Resources Management. Makerere University, Kampala, Uganda. January 27 – February 7 2020.
- Pedagogical Leadership in Africa (PedaL) Western Hub Training. Swiss Spirit Hotel and Suites Alisa, Accra, Ghana. July 31 – August 8 2019.
- Africa Climate Week Conference. Accra International Conference Centre, Accra. 18 -22nd March 2019.

MR ANTHONY BAIDOO (Assistant Lecturer)

Research Interest

- Forestry and Climate Change
- Forest Resources and Land use
- Forest Ecology and Inventory
- Collaborative Forest Management

Workshops Attended

- Farmers' sensitization workshops organized by the Centre for Climate Change and Gender Studies in collaboration with an NGO, Environment and Women Association of Ghana (EAWAG) with financial support from Global Greengrants Fund from 12th to February 19, 2019, at Boffourkrom, Nkwadum, Pepewase, Asantefo Sreso, and Koase. The workshops were under the theme "Promoting best Farming Practices that conserve Biodiversity, Mitigate Climate Change and Promote Environmental Sustainability".
- Ghana Gender University workshop at Centre for Gender Studies, University of Ghana, Legon. Date: 12th and 13th December 2019

CENTRE FOR CLIMATE CHANGE AND GENDER STUDIES (3CGS)

Introduction

Research Collaborations

Circle uptake four (4) project, Learning Platform Programme: Theme: Climate-smart innovations from below" strengthening stakeholders' capacity to manage forest-agriculture landscape through a learning platform.

Workshops and Conferences Attended

- Gender Training Workshop at the University of Ghana, Legon
- Gender Mainstreaming Conference, KNUST

Service to the Community

Farmers sensitization workshop on promoting best farming practices that conserve biodiversity, mitigate climate change and promote environmental sustainability at Boffourkrom and its environs. In partnership with Environment and Agriculture Women Association of Ghana (EAWAG)

Future Plans of the Centre

Sunyani Climate Summit 2021

School of Agriculture and Technology

SCHOOL OF AGRICULTURE AND TECHNOLOGY

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 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 education. As a result, the programmes offered by the School provide graduates with 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 are valued by employers, professional organizations and academic institutions.

Departments

Currently, the School has the following Departments:

- Department of Agricultural Economics, Agribusiness and Extension
- Department of Horticulture and Crop Production
- Department of Animal Production and Health

Administration of the School

The following personnel constitute the School Administration:

Dr. Richard Kwasi Bannor-	Dean	
Mr. Clement K. Kuusoyir	-	Faculty Officer
Mr. Kwame Affum	-	Counselling Assistant
Mr. Musah Konlan	-	Senior Administrative Assistant
Ms. Joyce Yeboah	-	Senior Administrative Assistant

Academic Programmes under each Department

Name of Department	Programmes	Head of Department
Agricultural Economics, Agribusiness and Extension	B.Sc. Agribusiness	Dr. James Owusu-Kwarteng
	MBA Agribusiness Management	
	MPhil Agribusiness Management	
Department of Horticulture and Crop Production	B.Sc. Agriculture (Options in Horticulture and Crop Production)	Dr. Charles Adarkwah
	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)	

Student Statistics

Programme	Year/Level	Male	Female	Total
Diploma (Agriculture)	100	24	10	34
	200	22	12	34
	Total	**46**	**22**	**68**
B.Sc. Agriculture (Horticulture, Crop Production and Animal Production option)	100	28	6	34
	200	48	6	54
	300	79	15	94
	400	78	11	89
	Total	**233**	**38**	**271**
B.Sc. Agribusiness	100	26	14	40
	200	22	8	30
	300	31	11	42
	400	19	6	25
	Total	**98**	**39**	**137**
M.Sc. Crop Science	2nd Year	2	0	2
MPhil. Crop Science	1st Year	33	2	35

	2nd Year	32	3	35
PhD Crop Science	1st Year	5	0	5
	2nd Year	4	0	4
	Total	**76**	**5**	**81**
MBA Agribusiness Management	1st Year	3	0	3
	2nd Year	3	3	6
MPhil Agribusiness Management	1st Year	21	0	21
	2nd Year	19	1	20
	Total	**46**	**4**	**50**

DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRIBUSINESS AND EXTENSION

The Department offers both undergraduate and postgraduate market-driven programmes in Agribusiness Management. The programmes are BSc. Agribusiness, MBA Agribusiness Management and MPhil Agribusiness Management. Our programmes are designed to cover all business, economics and community development disciplines so that students will be able to apply concepts from these disciplines to agribusiness and allied industries. The main aim of our programmes is 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 of courses in agribusiness, applied economics and community development.

Our innovative programmes, distinguished faculty and competitive students place the Department among one of the best in the provision of agribusiness, applied economics and community development education in the sub-region.

ACTIVITIES OVER THE PAST YEAR

During the period under review, the Department undertook the following activities:

- DAEAE in collaboration with Agrihouse Foundation launched the *AgStud-UENR* Chapter
- Collaborative Research with a scientist from the University of Applied Forest Sciences Rottenburg on Consumer Preference for Regional Products in Germany and Ghana.
- Collaborated with faculty of Agriculture, KNUST to win and execute the consultancy for the Okuafo Pa Agribusiness Project (2018-2020)
- Collaboration with the School of Engineering to win Hybrid Waste to Energy as a Sustainable Solution for Ghana (2020-2023)
- Facilitated the singed MoU between UENR and World Vision International

FUTURE PLANS

- Commencement of BSc. Agricultural and Resource Economics and BSc. Agriculture (Extension option)
- Initiate several international exchange programmes between staff and students of the Department and other universities.
- Develop special modules for training of communities around the University.

TEACHING STAFF

There is one full Professor, one Senior Lecturer, five Lecturers and one Assistant Lecturer in the Department. Their names and qualifications are given in the table below:

Lecturers in the Department of Agricultural Economics, Agribusiness and Extension

Name	Qualifications	Area of Specialization	Position
Prof. John K. M. Kuwornu	PhD, Agricultural Economics and Marketing and MSc. Agricultural Economics and Management (Wageningen University, The Netherlands), B.A. Economics with Political Science (UG)	Agricultural Economics, and Agribusiness Management	Full Professor, Dean of Graduate Studies
Dr. Richard Kwasi Bannor	PhD Agribusiness (SKRAU, India), Masters, Agricultural Administration (UG), BSc. Agriculture (UCC)	Agribusiness	Senior Lecturer, Dean of SOAT
Ms. Helena Oppong-Kyeremeh	MPhil Agricultural Economics (KNUST) BSc. Agriculture (UCC)	Agribusiness and Consumer Economics	Lecturer, Examination Officer and *Agstud* Coordinator
Dr. Tekuni Nakuja	PhD and M.Sc. Agricultural Economics (University of Saskatchewan, Canada),	Agricultural Economics, International Trade and Policy	Lecturer

	MPhil Agricultural Economics (UG), BSc. Agriculture (Agricultural Economics), UG.		
Dr. Samuel Afotey Anang	PhD Agricultural Economics and Management (SCAU, China), MPhil Agricultural Extension (UG), BSc. Agriculture (UG)	Agricultural Economics, Extension and Community Development	Lecturer
Dr. Nicholas Oppong Mensah	PhD Agribusiness Management and MBA Marketing and Corporate Strategy (KNUST), MPhil Agribusiness (UG) BSc. Chemistry (UCC)	Agribusiness and Business Management	Lecturer and Postgraduate Coordinator
Mr. Anthony Donkor	MSc. Industrial Mathematics (KNUST) BSc. Electrical Engineering (KNUST	Operations Research and Statistics	Lecturer, Industrial Attachment coordinator and SOAT Top Up Coordinator
Mr. Frank Osei Tutu	MPhil and MBA Finance (KNUST), Chartered Institute of Bankers (CIB-Ghana) Institute of Chartered Accountants (ICA-Gh) Bachelor of Commerce (UCC), Ghana	Accounting and Finance	Assistant Lecturer, Projects and Seminar Coordinator

Prof. John K.M. Kuwornu

Research Interests

Agribusiness Management
Agricultural Economics
Agribusiness Marketing
Agricultural Policy
Climate Change Economics
Food Security
Commodity Futures Markets

Publications

1. Apipoonan, C., Szabo, S., Tsusaka, T. W., Gunawan, E., **Kuwornu, J. K. M.** (2020). Socio-economic and Environmental Barriers to Increased Agricultural Production: New Evidence from Thailand. *Outlook on Agriculture*, *In Press*.

2. Roy, D., Datta, A., **Kuwornu, J.K.M.**, Zulfiqar, F. (2020). Comparing farmers' perceptions of climate change with meteorological trends and examining farm adaptation measures in hazard-prone districts of northwest Bangladesh. *Environment, Development and Sustainability*, 1-23. https://doi.org/10.1007/s10668-020-00989-3

3. Martey, E., and **Kuwornu, J. K. M**. (2020). Perceptions of climate variability and soil fertility management choices among smallholder farmers in Ghana. *Ecological Economics*, 180, 106870.

4. Appiah, S., Antwi-Asare, T. O., Agyire-Tettey, F. K., Emmanuel Abbey, **Kuwornu, J. K. M**., Cole, S., Chimatiro, S. K. **(2020).** Livelihood vulnerabilities among women in small-scale fisheries in Ghana. *European Journal of Development Research,* 1-29. *https://doi.org/10.1057/s41287-020-00307-7.*

5. **Kuwornu, J. K. M**., Moreno, M. L., Martey, E. **(2020).** Assessment of the factors influencing the export of coconut from the Philippines. *International Journal of Value Chain Management, 11(4),366-388.*

6. Bello, S. D., Salin, K. R., **Kuwornu, J. K. M**. **(2020).** Willingness to adopt aquaculture as an alternative livelihood option a case study of the fishers and livestock farmers of Adamawa State, Nigeria. *International Journal of Value Chain Management, In Press.*

7. Roy, D., Datta A., **Kuwornu, J. K. M. (2020).** Comparing farmers' perceptions of climate change with meteorological trends and examining farm adaptation measures in hazard-prone districts of northwest Bangladesh. *Environment, Development and Sustainability, In Press.*

8. Apipoonyanon, C., Szabo, S., **Kuwornu, J. K. M.,** & Ahmad, M. M. **(2020).** Local participation in community forest management using theory of planned behaviour: evidence from Udon Thani Province, Thailand. *The European Journal of Development Research*, *32*(1), 1-27.

9. Martey, E., Etwire, P. M., & **Kuwornu, J. K. M. (2020).** Economic impacts of smallholder farmers' adoption of drought-tolerant maize varieties. *Land Use Policy*, *94*, 104524.

10. Jitmun, T., **Kuwornu, J. K. M,** Datta, A., & Anal, A. K. **(2020).** Factors influencing membership of dairy cooperatives: Evidence from dairy farmers in Thailand. *Journal of Co-operative Organization and Management*, *8*(1), 100109.

11. Chanthawong, A., Dhakal, S., **Kuwornu, J. K. M.,** & Farooq, M. K. **(2020).** Impact of subsidy and taxation related to biofuels policies on the

economy of Thailand: A dynamic CGE modelling approach. *Waste and Biomass Valorization*, *11*(3), 909-929.

12. Rodthong, W., **Kuwornu, J. K. M.,** Datta, A., Anal, A. K., & Tsusaka, T. W. **(2020).** Factors Influencing the Intensity of Adoption of the Roundtable on Sustainable Palm Oil Practices by Smallholder Farmers in Thailand. *Environmental Management*, *66*(3), 377-394.

13. Shaibu, M. T., Onumah, E. E., Al-Hassan, R. M., & **Kuwornu, J. K. M. (2020).** Comparative assessment of vulnerability of smallholder livestock farmers to climate change in North-West Ghana. *Local Environment*, 1-17.

14. Bannor, R.K., Abele, S**., Kuwornu, J. K. M.,** Oppong-Kyeremeh, H. and Yeboah, E.D. **(2020).** Consumer segmentation and preference for indigenous chicken products. *Journal of Agribusiness in Developing and Emerging Economies*, DOI: https://doi.org/10.1108/JADEE-08-2020-0162

15. Zakaria, A., Alhassan, S. I., **Kuwornu, J. K. M.,** & Azumah, S. B. **(2020).** Beyond Participation: The Effect of Fertilizer Subsidy on the Adoption of Certified Seeds Among Rice Farmers in Northern Ghana. *The European Journal of Development Research*, 1-26.

16. Apipoonyanon, C., **Kuwornu, J. K. M.,** Szabo, S., & Shrestha, R. P. **(2020).** Factors influencing household participation in community forest management: evidence from Udon Thani Province, Thailand. *Journal of Sustainable Forestry*, *39*(2), 184-206.

17. Alhassan, S. I., Shaibu, M. T., **Kuwornu, J. K. M.,** Damba, O. T., & Amikuzuno, J. **(2020).** The nexus of land grabbing and livelihood of

farming households in Ghana. *Environment, Development and Sustainability*, 1-29

18. Zakaria, A., Alhassan, S. I., **Kuwornu, J. K. M.,** Azumah, S. B., & Derkyi, M. A. **(2020).** Factors Influencing the Adoption of Climate-Smart Agricultural Technologies Among Rice Farmers in Northern Ghana. *Earth Systems and Environment*, 1-15.

19. Clottey, J. K., **Kuwornu, J. K. M.,** & Egyir, I. S. **(2020).** Analysis of smallholder pig value chains in Ghana. *Development in Practice*, 1-10.

20. Moreno, M. L., **Kuwornu, J. K. M.,** & Szabo, S. **(2020).** Overview and Constraints of the Coconut Supply Chain in the Philippines. *International Journal of Fruit Science*, 1-18.

21. Prasertsaeng, P., Routrary, J. K., Ahmad, M. M., & **Kuwornu, J. K. M. (2020).** Factors influencing farmers' satisfaction with the activities of horticultural cooperatives in Thailand. *International Journal of Value Chain Management*, *11*(1), 42-62.

22. Sharma Pandit, S., **Kuwornu, J. K. M.,** Datta, A., Yaseen, M., & Anal, A. K. **(2020).** Analysis of marketing information sources among smallholder vegetable farmers. *International Journal of Vegetable Science*, *26*(1), 96-105.

23. Kemeze, F. H., Miranda, M. J., **Kuwornu, J. K. M.,** & Anim-Somuah, H. **(2020).** Smallholder Farmer Risk Preferences in Northern Ghana: Evidence from a Controlled Field Experiment. *The Journal of Development Studies*, 1-15.

24. Kemeze, F. H., Miranda, M. J., **Kuwornu, J. K. M.,** & Amin-Somuah, H. **(2020).** Drought Experience, Risk Preferences and Adoption of

Improved Production Technologies among Smallholder Farmers in Ghana, available at https://aede.osu.edu/sites/aede/files/imce/files/Miranda/Kemze%20et%20al%20%20Drought%20Experience%2C%20Risk%20Preferences%20and%20Adoption.pdf

Dr. Richard Kwasi Bannor

Research Interests

Agricultural and rural marketing
Consumer studies
Agricultural value chains and supply chains
Agricultural Intellectual Property Regimes
Agribusiness SMEs Development
Community and rural development studies

Publications

1. **Bannor, R.K.**, Abele, S., Kuwornu, J.K.M., Oppong-Kyeremeh, H. and Yeboah, E.D. (**2020**). Consumer segmentation and preference for indigenous chicken products. *Journal of Agribusiness in Developing and Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JADEE-08-2020-0162

2. **Bannor R.K.**, Oppong-Kyeremeh, H., Derkyi, M., Adombila, A.Y. and Amrago, E.C. (**2020**). Village Savings and Loans Association Participation and Impact on Off-Farm Income Among Rural Women. *Journal of Enterprising Communities: People and Places in the Global Economy* 14 (4), 539-562. https://doi.org/10.1108/JEC-04-2020-0058

3. **Bannor, R.K.**, Oppong-Kyeremeh, H., Abele, S., Osei Tutu, F., Chaa Kyire, S.K. and Agyina, D. (**2020**). Seedling production and choice among cashew farmers in Ghana: a profitability analysis. *World Journal*

of Entrepreneurship, Management and Sustainable Development 16 (2), 109-129. https://doi.org/10.1108/WJEMSD-11-2019-0089

4. **Bannor, R.K**., Kumar, G.A.K., Oppong-Kyeremeh, H., and Wognaa, C.A. (**2020**) Adoption and Impact of Modern Rice Varieties on Poverty in Eastern India. *Rice Science* 27 (1), 56-66. https://doi.org/10.1016/j.rsci.2019.12.006

5. Dapaah Opoku, P., **Bannor, R.K**. and Oppong-Kyeremeh, H. (**2020**). Examining the willingness to produce organic vegetables in the Bono and Ahafo regions of Ghana. *International Journal of Social Economics* 47 (5), 619-641. https://doi.org/10.1108/IJSE-12-2019-0723

6. Oppong-Kyeremeh, H. and **Bannor, R.K**. (**2020**). Fruits and Vegetables Consumption Behaviour: A Case Study of Rural and Urban Households in the Techiman Municipality, Ghana. *Agricultural Research* (*Under publication production*). DOI: 10.1007/s40003-020-00505-z

Dr. Tekuni Nakuja

Research Interest

International trade policy
Food markets
Food safety and food security

Publication

1. **Zoogah, A., Nakuja., T. (2020).** Modernizing extension services to improve rice productivity. Lessons from Ghana's Planting for Food and Jobs program. *Journal of Agricultural Extension and Rural Development* (Accepted).

Workshops/Conferences/Public Lectures

1. **Nakuja, T.** (*participant*). Agritech in Ghana- What experiences, what expectations post COVID-19 (August 7, 2020). Organizers: Ghana Association of Agricultural Economists.

2. **Nakuja, T.** (*participant*). Thinking aloud: What are the critical issues for agri-food policy attention in Post-Covid 19 era (June 5, 2020). Organizers: Ghana Association of Agricultural Economists.

Dr. Nicholas Oppong-Mensah

Research Interest

Agric Insurance and Risk Management
Pensions
Corporate social responsibility
Marketing
International Business and Trade

Publication

1. Tandoh, I., **Oppong Mensah N.** (**2020**). Marketing Communication Mix and Competitive advantage: The case of Rural Banks in Ghana. International. *Journal of Psychosocial Rehabilitation* 24(08), 5190-5203. DOI: 10.37200/IJPR/V2418/PR280529

2. Tandoh, I., **Oppong Mensah, N**. (**2020**) Examining the Factors and Constraints Influencing the Choice of Marketing Communication Mix Elements in Rural and Community Banks (RCB's) in Ghana. *Test Engineering and Management Volume* (83) pp.16096-16110

3. Charles Quansah, Agyemang Frimpong, Ronald Osei Mensah and **Nicholas Oppong Mensah** (**2020**). Processes of Acquiring Large Scale Land by Investors in the Pru District of Ghana: A critical Inquest. *Earth and Environmental Science Research and Reviews,* Vol 3.

4. Thomas Bilaliib Udimal, Mingcan Luo, E Liu, **Nicholas Oppong Mensah** (**2020**) How has formal institutions influenced opportunity and necessity entrepreneurship? The case of brics economies, *Heliyon*. DOI: https://doi.org/10.1016/j.heliyon.2020.e04931

5. **Oppong Mensah, N**., Yeboah, E., Donkor, A., Osei Tutu, F., & Kaanye Dier, R. (**2019**). Determinants of credit access of cocoa farmers. *Applied Studies in Agribusiness and Commerce*, 13(3-4), 73-78. https://doi.org/10.19041/APSTRACT/2019/3-4/9

Ms. Helena Oppong-Kyeremeh

Research Interest

Consumer Studies
Agricultural Value Chains
Marketing of Agricultural Produce
Food Security
Gender research in Agribusiness
Rural and Sustainable Development

Publication

1. Bannor, R.K., Abele, S., Kuwornu, J.K.M., **Oppong-Kyeremeh, H**. and Yeboah, E.D. (**2020**). Consumer segmentation and preference for indigenous chicken products. *Journal of Agribusiness in Developing and Emerging Economies* Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JADEE-08-2020-0162

2. Bannor R.K., **Oppong-Kyeremeh, H**., Derkyi, M., Adombila, A.Y. and Amrago, E.C. (**2020**). Village Savings and Loans Association Participation and Impact on Off-Farm Income Among Rural Women. *Journal of Enterprising Communities: People and Places in the Global Economy* 14 (4), 539-562. https://doi.org/10.1108/JEC-04-2020-0058

3. Bannor, R.K., **Oppong-Kyeremeh, H**., Abele, S., Osei Tutu, F., Chaa Kyire, S.K. and Agyina, D. (**2020**). Seedling production and choice among cashew farmers in Ghana: a profitability analysis. *World Journal of Entrepreneurship, Management and Sustainable Development* 16 (2), 109-129. https://doi.org/10.1108/WJEMSD-11-2019-0089

4. Bannor, R.K., Kumar, G.A.K., **Oppong-Kyeremeh, H**., and Wognaa, C.A. (**2020**) Adoption and Impact of Modern Rice Varieties on Poverty in Eastern India. *Rice Science* 27 (1), 56-66. https://doi.org/10.1016/j.rsci.2019.12.006

5. Dapaah Opoku, P., Bannor, R.K. and **Oppong-Kyeremeh, H**. (**2020**). Examining the willingness to produce organic vegetables in the Bono and Ahafo regions of Ghana. *International Journal of Social Economics* 47 (5), 619-641. https://doi.org/10.1108/IJSE-12-2019-0723

6. **Oppong-Kyeremeh, H**. and Bannor, R.K. (**2020**). Fruits and Vegetables Consumption Behaviour: A Case Study of Rural and Urban Households

in the Techiman Municipality, Ghana. *Agricultural Research* (Under Production). DOI:10.1007/s40003-020-00505-z

Dr. Samuel Afotey Anang

Research Interest

Agricultural production value chain
Livelihoods and Rural Development.
International Trade
Sustainable Agriculture
Gender issues and empowerment
Poverty Reduction research

Workshops/Conferences/Public Lectures

1. **Anang, S. A.** (*Participant*). AAU zoom virtual Quality Assurance workshop in research & project grants proposals writing, Association of African Universities, September 10, 2020.
2. **Anang, S. A.** (*Participant*). Thinking aloud: What are the critical issues for agri-food policy attention in Post-Covid 19 era? Ghana Association of Agricultural Economists (Southern Zone), June 5, 2020
3. **Anang, S. A.** (*Participant*). Good assessment practices in higher Institutions of learning, UENR, Sunyani, 2019.

Mr. Anthony Donkor

Research Interest

Optimization Techniques
Optimal allocation of funds and raw materials

Profit maximization
Minimization of production cost

Publications

1. Oppong Mensah, N, **Donkor, A**, Yeboah, E Osei Tutu, F, and Kaanye Dier, R. **(2019)** Determinants of Credit Access of Cocoa Farmers. Evidence from Bono Region, Ghana Applied Studies in Agribusiness and Commerce Vol 13, pp73-78

Workshops/Conferences/Public Lectures

- Good assessment practices in higher Institutions of learning, UENR, Sunyani, 2019.
- Developing the culture of publication and how to prepare a manuscript for publication, UENR-Sunyani, 2018

Mr. Frank Osei Tutu

Research Interest

Corporate Governance
Corporate Finance
Agribusiness
Microfinance
Taxation
International Financial Reporting Standards

Publications

1. Bannor, R.K., Oppong-Kyeremeh, H., Abele, S., **Osei Tutu, F.,** Chaa Kyire, S.K. and Agyina, D. (2020). Seedling production and choice among cashew farmers in Ghana: a profitability analysis. *World Journal*

of Entrepreneurship, Management and Sustainable Development 16 (2), 109-129. https://doi.org/10.1108/WJEMSD-11-2019-0089

2. Oppong Mensah, N., Yeboah, E., Donkor, A., **Osei Tutu, F.,** and Kaanye Dier, R. (2019). Determinants of credit access of cocoa farmers. *Applied Studies in Agribusiness and Commerce*, 13(3-4), 73-78. https://doi.org/10.19041/APSTRACT/2019/3-4/9

DEPARTMENT OF HORTICULTURE AND CROP PRODUCTION

The Department of Horticulture and Crop Production was established in the 2013/2014 academic year to offer agricultural education to students for a future career as a professional crop scientist or agronomist. The Department offers a 4-year Bachelor of Science undergraduate degree in Agriculture, with coverage on a curriculum that will 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 specialization in Entomology, Postharvest technology, Agronomy, and Pathology.

Achievements:

1. Norman E. Borlaug International Agricultural Science and Technology Fellowship Award (**Borlaug Fellowship**) – **2019**. Research stay at Delaware State University, USA, with funding from U.S Department of Agriculture (USDA) (**US$ 50,000**).

Future Plans:

1. Establish the Department of Food Science and Technology

List of Staff

Name	Qualifications	Rank	Area of Specialization
Dr Charles Adarkwah	PhD Agricultural Sciences (Humboldt, Germany), MSc. International Agriculture (Humboldt, Germany), BSc. Agriculture (UCC)	Senior Lecturer (Head)	Crop Science/Postharvest Entomology
Dr James Owusu-Kwarteng	PhD and MPhil Food Science (UG), B.Sc. Applied Biology (UDS)	Senior Lecturer (Head, DAEAE)	Food Microbiology
Dr Samuel K. Asomaning	PhD and MPhil Soil Science (UG), B.Sc. Agriculture (UG)	Lecturer	Soil Fertility Management and Plant nutrition; Soil chemistry.
Dr Jacob P. Anankware	PhD (KNUST) Entomology and MPhil Entomology (UG), B.Sc. Applied Biology (UDS)	Lecturer	Entomology (Entomophagy, IPM and Stored product entomology)
Dr Francisca Abah Ansah	PhD Management of Innovations in Agriculture and Food System (University of Foggia, Italy), MPhil Postharvest Technology & Science and B.Sc. Agriculture (UG)	Lecturer	Post-harvest Science and Technology

Dr Paa Kwesi Bordoh	PhD Bioscience (University of Nottingham, Malaysia Campus), MSc Plant Science (Hebrew University of Jerusalem, Isreal), B Sc. Agriculture Technology (UDS)	Lecturer	Post-harvest Biotechnology
Dr Abdulai Muntala	PhD (Antalya, Turkey), MSc. (Ibadan, Nigeria), BSc. (Tamale, Ghana)	Lecturer	Molecular Plant Pathology/Crop Protection
Dr Daniel Ntiamoah Afreh	PhD Crop Cultivation and Farming System (Chinese Academy of Agricultural Sciences, Beijing, China), M.Sc. in Tropical and International Agriculture (Georg-August-Universität, Göttingen, Germany), B.Sc. Agriculture (KNUST)	Lecturer	Agronomy
Dr Patrick M. Norshie	PhD (Crop Protection (Harper Adams University, UK), MSc. Crop Protection (University of Ghent, Belgium) B.Sc. Agriculture (KNUST)	Lecturer	Nematology
Dr Abdul-Aziz Khalid	PhD and M.Sc. Soil Science (KNUST), BSc Agriculture (UCC)	Lecturer	Soil and water Conservation

Dr Kwadwo Gyasi Santo	PhD and MPhil Agronomy (KNUST), B.Sc. Agriculture (UCC)	Lecturer	Agronomy
Ms. Esther Fobi Donkor	MSc. Plant breeding and Genetics (Hawasa University, Ethiopia), MPhil (Agronomy (UEW), B.Ed. Agriculture (UEW)	Lecturer	Plant breeding, Plant Genetics, Biotechnology
Mr Samuel Novor	M.Sc. Forest Science (UENR), B.Sc. Agriculture (KNUST)	Senior Research Assistant	Forest Science
Mr Remember Roger Adjei	B.Sc. Agriculture (UCC)	Senior Research Assistant	Agronomy, Plant Breeding, Plant Genetics, Biotechnology

Dr Charles Adarkwah

Research Interest

Integrated pest management and biological control of arthropod pests. Specifically, the research interests are centered on investigating the biology, behaviour, and population dynamics of stored-product arthropod pests and their natural enemies and on using the information acquired to optimize pest management strategies.

Publications

1. **Adarkwah, C**., Obeng-Ofori, D., Opuni-Frimpong, E., Ulrichs, C. & Schöller M. **(2019):** Predator-parasitoid-host interaction: biological control of *Rhyzopertxha dominica* and *Sitophilus oryzae* by a combination of *Xylocoris*

flavipes and *Theocolax elegans* in stored cereals. Entomologia Experimentalis et Applicata 1–11, 2019, doi: 10.1111/eea.12760.

2. Naa Ayorkor Tetteh, O., Ulrichs, C., Huyskens-Keil, S., Inga M., Amaglob, NK., Oduro, IN., **Adarkwah, C**., Obeng-Ofori, D., Förster N., **(2019)** Effects of harvest techniques and drying methods on the stability of glucosinolates in *Moringa oleifera* leaves during post-harvest. Scientia Horticulturae 246,998–1004.

Outreach Programmes/Extension Services

Facilitator at the Okuafopa agribusiness center at Kyeremasu in the Dormaa Central Municipality of the Bono Region.

Dr James Owusu-Kwarteng

Research Interest

Publications

1. **Owusu-Kwarteng, J.**, Parkouda, C., Adewumi, G. A., Ouoba, L.I., Jespersen, L. (**2020**). Technologically relevant Bacillus species and microbial safety of West African traditional alkaline fermented seed condiments. *Critical Reviews in Food Science and Nutrition* (*Accepted for publication*).

2. Motey, G.A., Johansen, P.G., **Owusu-Kwarteng, J.**, Ofori, L.A., Obiri-Danso, k., Siegumfeldt, H., Larsen, N., Jespersen, L. (**2020**). Probiotic potential of *Saccharomyces cerevisiae* and *Kluyveromyces marxianus* isolated from West African spontaneously fermentedcereal and milk products. *Yeast,* 1-10. doi.org/10.1002/yea.3513

3. **Owusu-Kwarteng, J**., Akabanda, F., Agyei, D., Jespersen, L. (**2020**). Microbial safety of milk production and fermented dairy products in Africa. *Microorganisms* 8, 752. doi:10.3390/microorganisms8050752.

4. Sarpong, F., Setorglo, J., **Owusu-Kwarteng, J.**, Amaglo, N.K., Amenorfe, L. (**2020**). Guar gum and sodium chloride coating delays chlorophyll degradation in okra during storage at 25°C. *International Journal of Vegetable Science*. doi.org/10.1080/19315260.2020.1759173.

5. Madilo, F.K., **Owusu-Kwarteng, J.**, Kunadu, P.H., Tano-Debrah, K. (**2020**). Self-reported use and understanding of food label information among tertiary education students in Ghana. *Food Control* 108, 106841. doi.org/10.1016/j.foodcont.2019.106841

6. Johansen, P.G, **Owusu-Kwarteng, J**., Parkouda, C., Padonou, W.S., Jespersen, L. (**2019**). Occurrence and importance of yeasts in indigenous fermented food and beverages produced in Sub-Saharan Africa. *Frontiers in Microbiology* 10, 1789. doi: 10.3389/fmicb.2019.01789

7. Agyei, D., **Owusu-Kwarteng, J**., Akabanda, F., Akomea-Frimpong, S. (**2019**). Indigenous African fermented dairy product: Processing technology, microbiology and health benefits. *Critical Reviews in Food Science and Nutrition*, Doi: 10.1080/10408398.2018.1555133

Workshops/Conferences/Public Lectures

1. **Owusu-Kwarteng, J.** (*Participant; Borlaug fellow*). 2019 World Food Prize symposium and award ceremony, Des Moines, Iowa, USA from October 15-18, 2019.

Dr Samuel Kwesi Asomaning

Publications

1. Atta-Darkwa T, **Asomaning S.K**, Agbeshie A.M, Oppong Danso E, Akolgo G. A, Amankwah E and Owusu P. A **(2020).** Assessment of physicochemical properties of Besease wetland soils, Ghana. *Afr. J. Agric. Res*. Vol. 15(4), pp. 509-523, April, 2020.

2. **S. K Asomaning.** "Processes and factors affecting phosphorus sorption in soils" March, **2020.** A Chapter in Open Access book, "Sorption in 2020s" ISBN: 978-1-83880-114-4 DOI: 10. 5772 / intechopen U.K 90719.

Dr Jacob P. Anankware

Research Interest

Entomophagy (Edible insects)
Integrated Pests and Vector Management (IPM)
Stored Product Entomology

Publications

1. Savolainen, V, Clottey, V.A., Doubi, B.T.S., Konan, J.L., Quain, M., Bezeng, B.S., Logah, V., Wireko-Kena, A., Osekre, E.A., Atuah, L., Angui, C.M.V., Ameka, G., Turkson, B., Ansah, B., **Anankware, J.P**., Boafo, H.A., Agyei-Dwarko, D., Tilly Collins C.M. **(2020).** Systems thinking creates opportunities for a circular economy and sustainable palm agriculture in Africa. *Journal of Current Research in Environmental Sustainability*, https://doi.org/10.1016/j.crsust.2020.05.001.

2. Katrina M. Coley, Joseph E. Perosky, Aloysius Nyanplu, Alphonso Kofa, **Jacob P. Anankware**, Cheryl A. Moyer, Jody R. Lori **(2020).** Acceptability and feasibility of insect consumption among pregnant women in Liberia. *Maternal & Child Nutrition*. https://doi.org/10.1111/mcn.12990.

3. Commander, T.N., **Anankware, J. P.,** Onwugbuta O.R., and D. Obeng-Ofori **(2019).** Econometrics of Domestication of the African Palm Weevil (*Rhynchophorus phoenicis* F.) Production as Small-Scale Business

in Ghana, Edible Insects, Heimo Mikkola, IntechOpen, DOI: 10.5772/intechopen.90259.

Outreach Programmes/Extension Services

September, 2020: Consultant for the University of Michigan, in-charge of establishing palm larvae farms in three (3) maternity waiting homes in Bong County, Liberia.

April to May 2019: Consultant for Neat Eco-Feeds Ltd. Trained, empowered and built a sustainable Black Soldier fly rearing system for the company. My consultancy services for one complete cycle was US$5,000.00.

Dr Francisca Abah Ansah

Research Interest

Fresh-cut fruits and vegetable, phytochemical studies, 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; agricultural technology development and innovation transfer; participatory research methods and sustainable learning processes; gender analysis; food security.

Publications

Ansah, F. A., Nkpebu, J. Y., and Bordoh, P. K. **(2020).** Effect of Household Processing on Chlorpyrifos residues in Garden Eggs. Poster presented at the International Symposium: Sustainable Food Systems – Going beyond Food Security, Justus-Liebeg University, Giessen – Germany, 07 – 08 February 2020

Conferences/Workshops/Seminars

1. Effect of Household Processing on Chlorpyrifos residues in Garden Eggs. Food Symposium 2020, "Sustainable Food Systems – going beyond Food Security" Giessen, Germany 7-8 February 2020.
2. Roundtable Conference for Gender Centres in Higher Institutions in Ghana, CEGENSA
3. Improving Rice Integrity and Managing Food Fraud, Sasakawa Center, University of Cape-Coast, Ghana

Outreach Programmes/Extension Services

1. Maize Postharvest Lead Facilitator, Market -Focussed Training in Agricultural Value Chains for Youth Empowerment and Job Creation In Ghana, Okuafo Pa Project – ENI Funded.
2. MoFA collaboration for the training of farmers in the Dormaa Area

Dr Paa Kwesi Bordoh

Research Interest

Minimally-processed (fresh-cut) and ready-to-eat fruit and vegetable products, Edible coating to improve postharvest quality of fresh produce, Early detection of postharvest diseases using molecular techniques (LAMP diagnostics), Postharvest handling and packaging of fresh produce and packhouse practices, Quality assurance/sensory evaluation of fresh produce, Mechanism of postharvest treatments in postharvest disease management.

Publications

1. **Bordoh, P.K**, Ali, A., Dickinson, M., Siddiqui, Y., Romanazzi, G. 2019. A review on the management of postharvest anthracnose in dragon fruits caused by *Colletotrichum* spp. *Crop Protection*. Vol. 130, 105067. https://doi.org/10.1016/j.cropro.2019.105067

2. **Bordoh, P. K.,** Ali, A., Dickinson, M., & Siddiqui, Y. **(2020).** Antimicrobial effect of rhizome and medicinal herb extract in controlling postharvest anthracnose of dragon fruit and their possible phytotoxicity. *Scientia Horticulturae*, 265, 109249.

3. **Bordoh, P. K.,** Ali, A., Dickinson, M., Siddiqui, Y., & Romanazzi, G. **(2020).** A review on the management of postharvest anthracnose in dragon fruits caused by Colletotrichum spp. *Crop Protection*, 130, 105067.

Conferences/Workshops/Seminars

1. Effect of Household Processing on Chlorpyrifos residues in Garden Eggs. Food Symposium **2020**, "Sustainable Food Systems – going beyond Food Security" Giessen, Germany 7-8 February 2020

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. **Muntala Abdulai,** H Basım, CKS Saba **(2020).** Rapid identification and detection of *Xanthomonas phaseoli* pv. *manihotis*, causing bacterial blight disease in cassava by real-time PCR using LNA probe. *Intl J Agric Biol*, 23:259–268.

2. **Muntala Abdulai,** Patrick Mawuenyegan Norshie, Kwadwo Gyasi Santo **(2020).** Incidence and severity of taro (Colocasia esculenta L.) blight disease caused by Phytophthora colocasiae in the Bono Region of Ghana. *SSRG International Journal of Agriculture & Environmental Science* , Volume 7 Issue 2.

3. K. G. Santo, **A. Muntala**, and P. M. Norshie **(2020).** Agro-Morphological Traits and Root Yield Of An Improved Cassava (Manihot Esculenta Crantz) Variety Under Nutrient-Applied Conditions In Offinso Municipality Of Ghana. EJFOOD, *European Journal of Agriculture and Food Sciences* Vol. 2, No. 3.

4. Kwadwo Gyasi Santo, Joseph Sarkodie-Addo, **Abdulai Muntala (2020).** Performance of Two Cassava (Manihot Esculenta Crantz) Varieties Under Organic and Inorganic Nutrition: Chemical Composition Of Roots. *Research Journal of Agriculture* Vol. 7 No. 2.

5. **Muntala Abdulai** and Stephen Larbi-Koranteng **(2019).** Scanning electron microscopy of *Xanthomonas phaseoli* pv. *manihotis*, the causal agent of cassava bacterial blight disease. *Journal of Global Biosciences*, Volume 8(10), pp. 6508-6518.

Outreach Programmes/Extension Services

Educating farmers on the diseases of cashew trees in the Dormaa- Central municipality

Dr Daniel Ntiamoah Afreh

Research Interest

Soil Fertility Management on Productivity, Nitrogen Use Efficiency, Climate Change and Sustainability, Cropping systems.

Publications

1. Agyei, D G,. **Afreh, D.N.** and Dzomeku, I.K. **(2019).** Effect of Seed Coating and Burkina Rock Phosphate on the Growth and Yield of Rice. *The Journal of Agricultural Sciences*, 3(14):172-180.

Conferences/Workshops/Seminars

1. Good Assessment Practices in Higher Education: Improving Teachinng and Learning Workshop Organized by the University of Energy and Natural Resources, Sunyani. 16th – 17th January, 2019
2. Circle Institutional Strengthening Programme: Professional Development Training Organized by the University of Energy and Natural Resources, Sunyani and UKAid. 21st February 2019.
3. Plant Breeding E-Learning Workshop (Participant) Kwame Nkrumah University of Science and Technology (KNUST), Ghana in collaboration with Iowa State University, Ames, USA. (Supported by Alliance for a Green Revolution in Africa (AGRA) and Funded by Bill and Melinda Gates Foundation held at KNUST (11th – 15th March 2019)
4. Capacity Building in Curriculum Development to Mount New Programme: NCTE and NAB requirement.

Outreach Programmes/Extension Services

Facilitator in the ENI project at the Okuafopa agribusiness center at Kyeremasu in the Dormaa Central Municipality of the Bono Region.

Dr Patrick Mawuenyegan Norshie

Research Interest

Publications

1. Abdulai, M., **Norshie, P.M.** and Santo, K.G., **(2020)** Incidence and severity of taro (*Colocasia esculenta* L.) blight disease caused by Phytophthora colocasiae in the Bono Region of Ghana. *SSRG International Journal of Agriculture & Environmental Science*, Volume 7 Issue 2: 52-63

2. Santo, K.G., Muntala, A. and **Norshie, P.M., (2020).** Agro-Morphological Traits And Root Yield Of An Improved Cassava (Manihot Esculenta Crantz) Variety Under Nutrient-Applied Conditions In Offinso Municipality Of Ghana. *European Journal of Agriculture and Food Sciences*, *2*(3). DOI: http://dx.doi.org/10.24018/ejfood.2020.2.3.47

Dr Abdul-Aziz Khalid

Publications

1. Tuffour, H. O., Abubakari, A., Agbeshie, A. A., **Khalid, A. A**., Tetteh, E. N., Keshavarzi, A., ... & Danso, L. **(2019).** Pedotransfer functions for estimating saturated hydraulic conductivity of selected benchmark soils in Ghana. *Asian Soil Research Journal*, 1-11.

2. Khalid, A. A., Tuffour, H. O., Abuba-kariand, A., & Novor, S. **(2019).** Conservation Tillage and Organic Matter management on Soil Structure. *Madridge J Agric Environ Sci*, *1*(1), 14-18.

Dr Kwadwo Gyasi Santo

Research Interest

Organic and inorganic fertilizers in cassava production, 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

1. **Gyasi Santo, K.**, Sarkodie-Addo, J., Afreh, D.N. and Asomaning, S.K. (2020). Effect of time of weeding and plant density on the performance of a local variety of groundnut (*Arachis hypogaea* L.) under rain-fed conditions in Ghana. *Journal of Agriculture and Veterinary Sciences*, 13(9):17-24.

2. **Gyasi Santo, K.**, Sarkodie-Addo, J., Yusif, I. and Acheremu, K. (2020). Growth response of a local cultivar of groundnut (*Arachis hypogaea* L.) to weeding and plant spacing in a forest-savanna transition zone of Ghana. *Journal of Agriculture and Veterinary Sciences*, 13(5):18-26.

3. **Gyasi Santo, K**., Abdulai, M. and Norshie, P. M. (2020). Agro-morphological traits and root yield of an improved cassava (*Manihot esculenta* Crantz) variety under nutrient-applied conditions in Offinso municipality of Ghana. *European Journal of Agriculture and Food Sciences*, 2(3):1-5.

4. Abdulai, M., Norshie, P. M. and **Gyasi Santo, K**. (2020). Incidence and severity of taro (*Colocasia esculenta* L.) blight disease caused by *Phytophthora colocasiae* in the Bono Region of Ghana. *SSRG International Journal of Agriculture and Environmental Science*, 7(2):52-63.

5. **Gyasi Santo, K.**, Sarkodie-Addo, J. and Abdulai, M. (2020). Performance of two cassava (*manihot esculenta* crantz) varieties under organic and

inorganic nutrition: chemical composition of roots. *Researchjournali's Journal of Agriculture*, 7(2):1-14.

6. **Gyasi Santo, K.** and Sarkodie-Addo, J. (2019). Response of cassava (*Manihot esculenta* Crantz) to fertilizers. *Journal of Global Biosciences*, 8(10): 6469-6480.
7. **Gyasi Santo, K.** and Sarkodie-Addo, J. (2019). Performance of cassava (*Manihot esculenta* Crantz) varieties under different soil amendments. *Journal of Experimental Agriculture International*, 41(3):1-7.

Conferences/Workshops/Seminars

1. Unravelling the complexities of intellectual property, UENR, Sunyani, 2019
2. Enhancing scientific writing skills for academic excellence, UENR, Sunyani, 2019
3. AGRA Plant Breeding e-learning Resources, KNUST, 2019
4. CIRCLE Institutional Strengthening programme in Professional development, UENR, Sunyani, 2019
5. Good Assessment Practices in Higher Education: Improving Teaching and Learning, UENR, Sunyani, 2019

Outreach Programmes/Extension Services

Facilitator, ENI Ghana project at the Okuafopa agribusiness centre at Kyeremasu in the Dormaa Central Municipality of the Bono Region

Ms. Esther Fobi Donkor

Research Interest

Characterization and evaluation of Orphan and Underutilized crops in Africa, Breeding of Orphan crops in Africa for yield, disease resistance and nutritional qualities, Breeding for Yield, Disease resistance and Nutritional Improvement in crops

Publications

1. **Donkor, E. F.,** Ohene-Asare, D., & Adjei, R. R. **(2020)** Association and variability studies for yield and yield components of robusta coffee hybrids (Coffea canephora). *Journal of Genetics, Genomics & Plant Breeding* 4(3) 103-111
2. **Donkor, E.,** Nyadanu, D., & Dapaah, H. **(2019).** Germplasm collection and morphological characterization of local accessions of tigernut (Cyperus esculentus L.) in Ghana for conservation and utilization. *Journal of Plant Breeding and Crop Science*, *11*(8), 196-205.

Conferences/Workshops/Seminars

1. Reach and Teach Science in Africa Online workshop. Course Title: Molecular Plant Breeding and Data Analysis' 22nd August 2020
2. OWSD Ghana Chapter Webinar series 1. Theme: Grantsmanship – getting the basics right. 11th August 2020
3. OWSD Ghana Chapter Webinar series 2. Theme: Sustaining Your Research Pace. 14th August 2020
4. Reach and Teach Science in Africa Online workshop. Course title: Principles of High Throughput Sequencing. 27th June, 2020
5. GSA WEBINAR 2020. Theme: Using Science, Technology and Innovation in the Current Pandemic and Beyond. Tuesday 28th and Wednesday 29th July, 2020.

6. Launch of African Plant Breeders Association and Maiden International Conference (Participant) At the University of Ghana, Legon, 22nd October – 25th October, 2019
7. Plant Breeding E-Learning Workshop (Participant) Kwame Nkrumah University of Science and Technology (KNUST), Ghana in collaboration with Iowa State University, Ames, USA. (Supported by Alliance for a Green Revolution in Africa (AGRA) and Funded by Bill and Melinda Gates Foundation held at KNUST (March 2019)

Outreach Programmes/Extension Services

Facilitator in the maize module of the ENI project at the Okuafopa agribusiness center at Kyeremasu in the Dormaa Central Municipality of the Bono Region.

Mr Samuel Novor

Research Interest

Forest Science

Publications

1. **Novor, S.,** & Abugre, S. **(2020).** Growth Performance, Undergrowth Diversity and Carbon Sequestration Potentials of Tree Species Stand Combinations, Ghana. *Open Journal of Forestry, 10*, 135-154.

Mr Remember Roger Adjei

Research Interest

Plant Breeding, Plant Genetics, Underutilized Crops, Biotechnology, Integrated Pest Management and Biological Control of Stored Product Insect Pests,

Publications

1. Donkor, E. F., Ohene-Asare, D., & **Adjei, R. R. (2020).** Association and variability studies for yield and yield components of robusta coffee hybrids (*Coffea canephora*). *Journal of Genetics, Genomics & Plant Breeding* 4(3) 103-111

Conferences/Workshops/Seminars

1. Launch of African Plant Breeders Association and Maiden International Conference (Participant) At the University of Ghana, Legon, 22nd October – 25th October, 2019
2. Plant Breeding E-Learning Workshop (Participant) Kwame Nkrumah University of Science and Technology (KNUST), Ghana in collaboration with Iowa State University, Ames, USA. (Supported by Alliance for a Green Revolution in Africa (AGRA) and Funded by Bill and Melinda Gates Foundation held at KNUST (March 2019)

Outreach Programmes/Extension Services

1. Training of Trainers in Bio-Entomology (Resource Person) Held at Don Bosco Technical Institute, Sunyani on 28th August – 2nd September 2019.

DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

Preamble:

The Department of Animal Production and Health was established as one of the Agriculture majors' options in the 2014/2015 academic year. The aim was to educate students in becoming well-trained, skilled and critical thinking professionals who can work in multidisciplinary teams all over the world.

The Department offers a 4-year Bachelor of Science undergraduate degree in Animal Production and Health. The programmes have been designed to

produce competent professionals who are versatile with the needed knowledge and skill to provide crucial solutions to the ever-evolving and expanding livestock industry in Ghana, Africa and the world.

The Department's current areas of specialization are within Animal nutritional science, Genetics and Breeding and Animal Health.

Achievements:

The Department, in collaboration with the School of Agriculture and Technology, established the Poultry farm for the School's Model Farm.

List of Staff

Name	Qualification	Rank	Area of Specialization
Dr Yaw Oppong Frimpong	PhD. (KNUST), MSc. (KNUST), B.Sc. (KNUST)	Lecturer	Animal Nutrition, Human-Animal Zoonotic Interaction
Dr Duodu Addison	PhD/M.Sc., B.Ed. Agriculture (UEW)	Lecturer	Animal Breeding and Genetics
Mr Ernest Darkwah Yeboah	MSc. (JAU, China), BSc. (UG)	Lecturer	Animal Science/Animal Nutrition
Mr Christian Asumah	MSc., B.Sc. (KNUST)	Lecturer	Animal Breeding and Genetics

Dr Yaw Oppong Frimpong

Research Interest

Animal Nutrition, Human-Animal Zoonotic Interaction

Publications

1. Amoah, K. O., Boateng, M., Okai, D. B., **Frimpong, Y. O.** and Appiah-Kubi, M. **2020.** The effects of diet particle size on growth performance and carcass traits of albino rats. *Ghanaian Journal of Animal Science*, 10(1):98-103

2. Boateng, M., Okai, D. B., **Frimpong, Y. O.,** Amoah, K. O., Boateng, E. A. and Atuahene, P. Y. **2020**. Dried yam peel meal (DYPM) as a partial replacement for maize in diets of albino rats. *Ghanaian Journal of Animal Science*, 10(1):104-110

3. Boateng, M., **Frimpong, Y. O.,** Okai, D. B., Amoah, K. O., Frimpong, B. and Anane, E. **2020**. A preliminary study on different types of soybean meal on the Ghanaian market. *Ghanaian Journal of Animal Science*, 10(1):111-116

4. Damsere, J. D., Boateng, M., Amoah, K. O., **Frimpong, Y. O.,** and Okai, D. B. **2020.** The response of pigs to diets containing varying levels of cocoa placenta meal (CPM) supplemented with an exogenous enzyme complex. *African Journal of Agricultural Research*, 15(4), 538-545.

5. Burimuah, V., Sylverken, A., Owusu, M., El-Duah, P., Yeboah, R., Lamptey, J., **Frimpong, Y. O.,** Agbenyega, O., Folitse, R., Tasiame, W., Emikpe, B., Owiredu, E. W., Oppong, S. Adu-Sarkodie, Y., Drosten, C. **2020.** Sero-prevalence, cross species infection and serological determinants of prevalence of Bovine Coronavirus in cattle, sheep and goats in Ghana. *Veterinary Microbiology*, https://doi.org/10.1016/j.vetmic.2019.108544

6. Boateng, M., Okai, D. B., Amoah, K. O., Boateng, J. O., **Frimpong, Y. O.** and Atuahene, P. Y. **2020.** Occurrence of blood and meat spots in eggs processed and sold by commercial fried eggs (chibom) sellers at three locations in the Ashanti Region of Ghana. *Ghanaian Journal of Animal Science*, 10(1):51-57

7. El-Duah, P., Meyer, B., Sylverken, A., Owusu, M., Gottula, L. T., Yeboah, R., Lamptey, J., **Frimpong, Y. O.,** Burimuah, V., Folitse, R., Agbenyega, O., Oppong, S., Adu-Sarkodie, Y. and Drosten, C. **2019.** Development of a whole virus ELISA for serological evaluation of domestic livestock as possible hosts of human coronavirus NL63. *Viruses*, 11 (43):1-18

8. El-Duah, P., Sylverken, A., Owusu, Yeboah, R., Lamptey, J., **Frimpong, Y. O.,** Burimuah, V., Antwi, C., Folitse, R., Agbenyega, O., Oppong, S. and Adu-Sarkodie, Y. **2019**. Potential Intermediate Hosts for Coronavirus Transmission: No Evidence of Clade 2c Coronaviruses in Domestic Livestock from Ghana. *Tropical Medicine and Infectious Disease*, 4, 34; doi: 10.3390/tropicalmed40100 34. 11pp.

9. Boateng, M., Okai, D. B., Amoah, K. O., Opoku-Asenso, A., Aye, K. A. and **Frimpong, Y. O. 2019.** Cocoa placenta meal: Yield estimates, nutrient composition and response of albino rats to diets containing graded levels with or without Xyme™, an exogenous enzyme-probiotic complex. *Bulletin of Animal Health and Production in Africa*, 67(2):141-150.

10. Antwi, C., Mensah, P. A., Arthur, F. K. N., **Frimpong, Y. O.** and Baah, J. **2019.** Feeding differing direct-fed microbials and its influence on growth and haematological parameters of growing lambs. *Transitional Animal Science*, 3(4), 053

Dr Duodu Addison

Research Interest

Animal Breeding and Genetics

Publications

1. Zagbede, G. A., Annor, S. Y., **Duodu, A. and** Arhin, E. **(2019).** Effects of Strain and Non-genetic Factors on the Egg Qualities and Carcass Characteristics of Indigenous Guinea Fowl (*Numida meleagris*), *International Journal of Applied Agricultural Sciences*. Vol. 5, No. 2, pp. 39-44. doi: 10.11648/j.ijaas.20190502.12
2. Twumasi, G., Kyere, C. G., Annor, S. Y., **Doudu, A**., Korankye, O. and Nyameah, D. **(2020).** Effect of Egg Size on Reproductive Traits Keet Mortality and Growth Performance of the Pearl Guinea Fowl (*Numida meleagris*). *Asian Journal of Research in Animal and Veterinary Sciences.* 5(2): 24-29.
3. **Doudu, A.,** Annor, S. Y., Kagya-Agyemang J. K., Zagbede, G. A. and Kyere G. **(2020).** Phenotypic and Genetic Parameter Estimates for Local Guinea Fowl Production and Some Other Traits. *Asian Journal of Biochemistry, Genetics and Molecular Biology. ISSN: 2582-3698*
4. Kyere, G., Korankye, O., **Duodu, A.,** Twumasi, G. and Dapaah, K. P. **(2020).** Effect of different lighting regime on growth and reproductive performance of the Guinea fowl (*Numida meleagris*). *World Journal of Advanced Research and Reviews, 07(02), 294–302*
5. **Doudu,** A., Annor, S. Y., Kagya-Agyemang J. K. and Zagbede, G. A. **(2020).** Sheep Red Blood Cell (SRBC) antigen as an indicator trait for disease resistance in indigenous Guinea fowls (*Numida meleagris). Bull. Anim. Hlth. Prod. Afr., (2020), 68, 231-239.*

Conferences/Workshops/Seminars

1. **Duodu, A**. (*Participant*). Good Assessment Practices in Higher Education: Improving teaching and learning, held at Sheila's Executive Hotel by Quality Assurance, Sunyani, from 16/01/2019 to 17/01/2019
2. **Duodu, A**. (*Participant*). 7th All Africa Conference on Animal Agriculture, held at Accra International Conference Center, Accra-Ghana, from 29th July – 2nd August, 2019.

Mr Ernest Darkwah Yeboah

Research Interest

Nutritional Physiology, Antibiotic alternatives in monogastric nutrition

Publications

1. Bannor, R.K., Abele, S., Kuwornu, J.K.M., Oppong-Kyeremeh, H. and **Yeboah, E.D.** (2020) "Consumer segmentation and preference for indigenous chicken products", *Journal of Agribusiness in Developing and Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JADEE-08-2020-0162

2. Yeboah, R., Adjorlolo, L.K., **Yeboah, E.D.,** Timpong-Jones, E.C., Adogla-Bessa, T. (2019) "Effect of Water Hycyinth and dried cassava peels supplementation on in-sacco degradation and rumen parameters in sheep fed NaOH-treated straw", *Conference proceedings- 8th Asan-Nias Joint Annual Meeting,* Umuahia- Abia State, Nigeria, pg 1185-1190

Conferences/Workshops/Seminars

Participant - The 7th **All Africa Conference on Animal Agriculture** (AACAA) Accra International **Conference** Centre, Ghana from 29th July to 2nd August, 2019

Outreach Programmes/Extension Services

Facilitator at the Okuafopa agribusiness center at Kyeremasu in the Dormaa Central Municipality of the Bono Region.

Mr Christian Asumah

Research Interest

Animal Breeding and Genetics

Outreach Programmes/Extension Services

Facilitator at the Okuafopa agribusiness center at Kyeremasu in the Dormaa Central Municipality of the Bono Region.

School of Geosciences

SCHOOL OF GEOSCIENCES

The Act of Parliament establishing the University of Energy and Natural Resources (Act 830, 2011) provides for the establishment of the School of Geosciences among other Schools. The School of Geosciences became fully functional on 1st August, 2020, following the appointment of a Dean to head the School. The School of Geosciences is one of the two Schools operating in the Dormaa Ahenkro Campus of the University of Energy and Natural Resources. The mandate of the School of Geosciences is to promote teaching and research in the core sciences of the earth such as geo-information science, geological science, atmospheric and climate science, geophysics, geochemistry, meteorology, environmental science, exploration and mining geoscience as well as hydrogeology and oceanography. The School of Geosciences will gradually mount academic programmes in these subdisciplines of Geosciences to position the University of Energy and Natural Resources as an institution of choice for the study of earth sciences.

The School of Geosciences is systematically positioning itself to contribute meaningfully towards the realisation of the University mandate of generating, advancing and applying knowledge to solve critical energy and natural resources challenges of society. Products of the School of Geosciences would be equipped with knowledge and skills to effectively conduct environmental scan, locate water, various forms of mineral deposits as well as energy resources and facilitate the sustainable extraction and utilisation of these vital resources for national development. The knowledge generated through environmental assessment would also go a long way to help in understanding and protecting the planet and planetary resources.

Dr. Jonas Ayaribilla Akudugu currently heads the School of Geosciences as Acting Dean.

Departments

The School of Geosciences is currently made up of the following Departments:

- Department of Geographic Sciences
- Department of Planning and Sustainability

STUDENT STATISTICS/POPULATION IN SCHOOL OF GEOSCIENCES

The first batch of students for the School were admitted in August, 2017. Currently, the School of Geosciences has an undergraduate student population of three hundred and twenty-eight (328) and thirty-nine (39) postgraduate students.

Current Undergraduate Student Enrolment

Level	Male	Female	Total
Level 100	103	46	149
Level 200	62	34	96
Level 300	30	6	36
Dip 100	20	7	27
Dip 200	12	8	20
Total	227	101	328

DEPARTMENT OF GEOGRAPHIC SCIENCES

The Department of Geographic Sciences was established in the 2018/2019 Academic Year and is one of two (2) departments under the School of Geosciences, Dormaa Ahenkro Campus. The Department focuses on key programmes which are of direct and immediate interest to current national developmental goals. These include Climate Change, Sustainable Development, and Geoinformation Science. At present, the department runs a 4-year BSc. Climate Change and Sustainable Development programme and a 2-year Diploma in Geoinformation Science. The Department also runs a 2-year MSc/MPhil Climate Change programme. The department aims generally at the provision of specialized training in geosciences and allied academic disciplines in order to help address pressing environmental, energy and developmental challenges.

ACTIVITIES OVER THE PAST YEAR

- The Department conducted service courses for selected climate change related programmes in sister departments of the University
- The Department celebrated its maiden Climate Change and Geoinformation Science week (25th-27th March 2019) under the theme: *The role of geoscientists' in the socio-economic development of Ghana*. It aimed at exposing students to current trends in Earth Observation and related disciplines and how they could be leveraged to support the development of Ghana.
- As part of student sensitization, the department facilitated student participation in climate change workshops on the Sunyani campus. Global Climate and Ecosystems (26th Feb, 2019- 27th Feb, 2019).
- The Department collaborated with the Department of Geomantic Engineering, KNUST to provide students with practical training and exposure to evolving photogrammetry, mapping and surveying

equipment and techniques (23rd – 26 October 2019). Two Technicians/Instructors were sent from KNUST to Dormaa Ahenkro Campus for the training/practical exercise.

FUTURE PLANS

- The Department is spearheading a collaboration with the Earth Observation and Research Innovation Centre (EORIC) for the installation of GEONETCAST System on the Dormaa Ahenkro campus to facilitate teaching, learning and research on geographical data acquisition, processing and interpretation.
- The Department plans to mount BSc. Geoinformation Science and short courses (certificate and Diploma) in Surveying, Mapping and allied disciplines.
- The Department in consultation with the University's management will be exploring the ratification of MOUs with international and local institutions for purposes of enhancing research capacity, promoting interdisciplinary research and improving instrumentation.
- The Department will soon mount Bachelor of Science degree in Geo-information Science Applied Geology.

TEACHING STAFF

There are six (6) Lecturers in the Department as shown in the table below.

Name	Qualification	Designation	Area of Specialization
Dr. Peter Damoah-Afari	PhD (PolyU, Hong Kong), MSc (ITC Enschede, The Netherlands), BSc. (Hons) (KNUST, Ghana)	Lecturer	Remote Sensing; GIS; GNSS; Database Systems; Synthetic Aperture Radar (SAR) Interferometry; Digital Image Processing; Hyperspectral Remote Sensing; Control Surveying; Engineering

			Surveying; Cadastral Surveying; Topographic Surveying; Hydrographic Surveying; Photogrammetry; Land Law and Registration; Cartography
Dr. Leslie Danquah	PhD, MA, BA (KNUST, Ghana)	Lecturer	Biometeorology of Child Health; Child Environmental Health; Domestic Water Use; Domestic Water Quality Assessment and Monitoring
Dr. Nana Agyemang Prempeh	PhD, MEng (NUIST, China P.R.), BSc (UG, Ghana)	Lecturer	Atmospheric Pollution Monitoring and Control; Climate Change and Environment; Environmental Health
Dr. Abdul-Wadood Moomen	PhD (Curtin University of Technology, Australia), BSc (UG, Ghana)	Lecturer	Remote Sensing; Digital Image Processing, Natural & Environmental Resource Inventory, Hyperspectral Remote Sensing, Land use. Geographic Information Systems; Mobile Mapping, PPGIS, Spatial Data Infrastructure, Land Information Management. Environmental Sciences;

			Physical Geography, Environmental Security
Mr. Richard Kyere-Boateng	MPhil (UG, Ghana), B.ED. (UCC, Ghana) A-3 Year Cert "A" (Berekum College of Education) [on Study Leave)	Lecturer	Population Studies; Development Studies; Spatial planning and climate change governance; Global change responses and sustainable development; Social-ecological dimensions of forest ecosystem services governance; Sustainability science, planning and governance; Climate Change Mitigation and Adaptation Issues.
Mr. Caleb Mensah	MPhil., BSc. (Hons) (KNUST) [on Study Leave)	Lecturer	Tropical Meteorology and Climatology; Numerical Weather Modelling for Extreme Weather and Climate Prediction; Long-term Eddy Covariance Flux Measurements

DR. PETER DAMOAH-AFARI

Research Activities/Interests

- SAR Interferometry for Deformation Monitoring and Measurements.
- Integration of GIS and Remote Sensing for Environmental Monitoring.
- Hyperspectral Remote Sensing for Vegetation, Mineral and Pollution Mapping.

- Land Registration and Cadastre for Sustainable Development

Conferences/Workshops/Seminars

- ***Participant*:** Capacity Building Training Workshop. Training in Policy Development; Interpretation Relationship; Time Management; Monitoring and Evaluation; Supervision; and Communication Skills. The Institute of Local Government (ILGS), Dormaa Municipal Assembly, Dormaa-Ahenkro, Ghana, 15th September, 2020.
- ***Participant*:** 2020 Orientation and Training Programme for Members of Metropolitan, Municipal and District Assemblies (MMDAS). The Ministry of Local Government and Rural Development (MLGRD) in Collaboration with the Institute of Local Government (ILGS), Dormaa Municipal Assembly, Dormaa-Ahenkro, Ghana, 19th – 20th August, 2020.
- ***Participant*:** The 3rd Mine Monitoring Workshop. An Overall Approach to Deformation Monitoring over a Mine and Engineering Sites. Golden Tulip Hotel, Accra, Ghana, 15-16th April, 2019.

Outreach Programmes/Extension Services

- ***Head***: Department of Geographic Science (2020 – Date).
- ***Coordinator for Dean of Students***: UENR, Dormaa Ahenkro Campus (2019 – 2020).
- ***Member***: Dean of Students Board (2019 – 2020).
- ***Member***: School of Agriculture and Technology Board (2019 – 2020).
- ***Member***: School of Geosciences Board (2020 – Date).
- ***Member***: Academic Board (2019 – Date).
- ***Member***: Students' Hostel and Accommodation Management Committee, Dormaa Ahenkro Campus (2019 – Date).
- ***Fellow***: Regional Center for Energy and Environmental Sustainability (RCEES) (2019 – Date).

- ***Government Appointee from Dormaa Traditional Council***: Dormaa Municipal Assembly (2020 – Date).
- ***Chairman:*** Development Planning Sub-Committee, Dormaa Municipal Assembly (2020 – Date).
- ***Member:*** Works Sub-Committee, Dormaa Municipal Assembly (2020 – Date).
- ***Member***: Executive Committee, Dormaa Municipal Assembly (2020 – Date).
- ***Member***: Public Relations and Complaints Committee, Dormaa Municipal Assembly (2020 – Date).
- ***Member:*** District Scholarship Review Committee, Dormaa Municipality (2019 – Date).
- ***Chairman:*** District Registration Review Committee (DRRC), Dormaa Municipality (2020).

DR. LESLIE DANQUAH

Research Activities/Interests

- Exploring Biometeorological Factors, and their Interrelationships with Child Health in Urban and Rural Contexts.
- Environmental Exposures and Ways of Mitigating Potentially Negative Impacts on Children.
- Domestic Water Use, Domestic Water Quality Assessment and Monitoring.

Conferences/Workshops/Seminars

- ***Participant***: Global Climate and Ecosystems. Public lecture by Prof. Michal V. Marek, Professor, Czech Globe, 26th Feb, 2019- 27th Feb, 2019.

Outreach Programmes/Extension Services

- **Committee Member:** Committee on harmonization of Grading System and classification of Degrees for Diploma Programmes (2019).
- **Representative of School of Geosciences to Graduate School Board** (2020 – Date)
- **Representative of Department of Geographic Science to School of Geoscience Board** (2020 – Date)**.**
- ***Head***: Department of Geographic Science (2018 – 2020)
- ***Member***: School of Agriculture and Technology Board (2017 – 2020)

DR. NANA AGYEMANG PREMPEH

Research Activities/Interests

- Atmospheric Pollution Monitoring and Control
- Environmental Health and Climate Change
- Air Quality Assessment and Monitoring
- Environmental Sustainability

Publication(s)

- Caleb Mensah, Julia Atayi, Amos T. Kabo-bah, Marian Švik, Daniel Acheampong, Richard Kyere-Boateng, **Nana Agyemang Prempeh**, Michal V. Marek (2020). Impact of Urban Land Cover Change on the Garden City Status and Land Surface Temperature of Kumasi, Cogent Environmental Science, 6 (1), 1787738. doi/full/10.1080/23311843.2020.1787738
- Ja Bawk Marip, Xuyin Yuan, Hai Zhu, Jian Xu, Hongmeng Ye, Huihua Zhou, Isaac Kwesi Nooni, Solomon Obiri Yeboah Amankwah, **Nana Agyemang Prempeh**, Eyram Norgbey (2020). Spatial variations in and environmental significance of nitrogen forms in river sediments from

two different watersheds in eastern China, Environmental Monitoring Assessment, 192, 351. https://doi.org/10.1007/s10661-020-08283-5

- Marip, J.B., Yuan, X., Zhu, H., Nooni, I.K., Amankwah, S.O., **Prempeh, N.A**., Norgbey, E., Yuguda, T.K., Khaing, Z.M (2020). Spatial Distribution and Environmental Significance of Phosphorus Fractions in River Sediments and Its Influencing Factor from Hongze and Tiaoxi Watersheds, Eastern China. Int. J. Environ. Res. Public Health, 17(16), 5787; https://doi.org/10.3390/ijerph17165787.
- Ja Bawk Marip, Xuyin Yuan, Hai Zhu, Isaac Kwesi Nooni, Solomon Obiri Yeboah Amankwah, **Nana Agyemang Prempeh**, Eyram Norgbey, Taitiya Kenneth Yuguda, Zaw Myo Khaing (2020). Spatial Distribution and Environmental Significance of Phosphorus Fractions in River Sediments and Its Influencing Factor from Hongze and Tiaoxi Watersheds, Eastern China. Int. J. Environ. Res. Public Health, 17(16), 5787; https://doi.org/10.3390/ijerph17165787.

Conferences/Workshops/Seminars

- ***Participant***: Quality Assurance Practice Unit (QAPU), UENR, Training programme on Institutional Intellectual Property (IP), 10th March 2020, Sheila's Executive Hotel, Sunyani-Fiapre.
- ***Participant***: Regional Center for Energy and Environmental Sustainability (RCEES), UENR/University of Twente (UT), Netherlands, Geostatistical Modelling, Prediction and Simulation of Environmental Data, 4th-7th February 2020, RCEES Conference Room, University of Energy and Natural Resources (UENR), Sunyani.
- ***Participant***: Center for Climate Change and Gender Studies (3CGS), UENR/ The Association of Commonwealth Universities (ACU)/ Climate Impact Research Capacity and Leadership Enhancement (CIRCLE), Climate Smart Innovations from Below: Strengthening Stakeholders' Capacity to manage Forest-Agriculture Landscape through Learning Platform-Training for the Sunyani Learning Platform

2020 (SLP 2020) Executives- Proposal Writing and Fundraising, 31st January, 2020, Graduate School Conference Room, University of Energy and Natural Resources (UENR), Sunyani.

- ***Participant***: Center for Climate Change and Gender Studies (3CGS), UENR/ The Association of Commonwealth Universities (ACU)/ Climate Impact Research Capacity and Leadership Enhancement (CIRCLE), Climate Smart Innovations from Below: Strengthening Stakeholders' Capacity to manage Forest-Agriculture Landscape through Learning Platform-Sunyani Learning and Collaborative Platform 2020 (SLCP 2020), 23rd January, 2020, University of Energy and Natural Resources (UENR) Auditorium, Sunyani.
- **Participant:** Center for Climate Change and Gender Studies (3CGS), UENR/ The Association of Commonwealth Universities (ACU)/ Climate Impact Research Capacity and Leadership Enhancement (CIRCLE), Climate Smart Innovations from Below: Strengthening Stakeholders' Capacity to manage Forest-Agriculture Landscape through Learning Platform, 22nd November, 2019, French Laboratory, University of Energy and Natural Resources (UENR), Sunyani.
- ***Participant***: Ghana Standards Authority/Alliance for Green Revolution in Africa (AGRA), National Aflatoxin Sensitization and Management Project, 31st May, 2019, University of Energy and Natural Resources (UENR) Auditorium, Sunyani.
- ***Participant***: Quality Assurance Practice Unit (QAPU), UENR/Office of the Pro-Vice Chancellor, UENR, Capacity Building in Curriculum Development, 24th May, 2019, University of Energy and Natural Resources (UENR) Auditorium, Sunyani.
- ***Participant***: Ghana Science Association (GSA), UENR Chapter/Office of the Vice Chancellor, UENR, Enhancing your Scientific writing skills for Academic Excellence, 28th March 2019, French Laboratory, UENR, Sunyani.

- ***Participant***: Global Climate and Ecosystems. Public lecture by Prof. Michal V. Marek, Professor, Czech Globe, 26th Feb, 2019- 27th Feb, 2019.
- ***Participant***: University of Energy and Natural Resources, UENR/The Association of Commonwealth Universities (ACU), Professional Development Interactive Seminar, 21st February 2019, French Laboratory, UENR, Sunyani.
- ***Participant***: Quality Assurance Practice Unit (QAPU), UENR/Office of the Pro-Vice Chancellor, UENR, Good Assessment Practices in Higher Education: Improving Teaching and Learning, 16th–17th January 2019, Sheila's Lodge, Sunyani-Fiapre.

Outreach Programmes/Extension Services

- ***Examinations Officer***: School of Geosciences (2020 - Date)
- ***Examinations Officer***: Department of Geographic Science (2019- 2020)
- ***Seminar and Outreach Coordinator***: Department of Geographic Science (2018 - Date)
- ***Member***: University Examination Audit committee (2020 – Date)
- ***Member***: Science Festival Board (2020 – Date)
- ***Member***: School of Agriculture and Technology Board (2018 – 2020)
- ***Member***: Academic Board (2019 – 2020)
- ***Member***: Examinations Malpractice Committee (2019)
- ***Member***: RE-SIT Grading Amendment Committee (2019)
- ***Member***: Curriculum Review Committee for NAB & NCTE (2020)
- ***President***: Sunyani Learning and Collaborative Platform (2020 – Date)

DR. ABDUL-WADOOD MOOMEN

Research Activities/Interests

- Artisanal Small-scale Mining (ASM) & Low Value Minerals Mining (LVMM)
- Environmental Impact Assessment & Auditing
- Exploration Techniques
- Geographies of the commons; spaces & places
- Geological Mapping
- Mining & Climate Change
- Mine Development
- Planetary boundaries and Space Resources
- Precision agriculture
- Resettlement
- Spatial Data Capture and Management
- Spatial Planning & Land Use
- Sustainable Development
- Sustainable Mining

Awards

CopHack Winners | 2nd Prize; Global Sustainable Technologies & Innovation Conference (G-STIC); Copernicus Hackathon (CopHack). Brussels, Belgium. **20th - 22nd November 2019**. The Use of Copernicus Sentinel Satellite data for Monitoring Acid-Mine Drainage (AMD)Contamination in active and extinct Mine sites, Sweden.
https://toni_m_delhoyo.users.earthengine.app/view/rawmatcopsdghackathon.

Publication(s)

- **Abdul-Wadood Moomen,** Michela Bertolotto, Pierre Lacroix, David Jensen, **(2019).** *Inadequate Adaptation of Geospatial Information for Sustainable Mining towards Agenda 2030 Sustainable Development Goals.* Journal of Cleaner Production 238:117954. https://doi.org/10.1016/j.jclepro.2019.117954.
- **Abdul-Wadood Moomen,** David Jensen, Pierre Lacroix, Michela Bertolotto **(2019).** *Assessing the Policy Adoption and Impact of Geoinformation for enhancing Sustainable Mining in Africa*. Journal of Cleaner Production 241:118361. https://doi.org/10.1016/j.jclepro.2019.118361.
- **Abdul-Wadood Moomen,** I Yussif **(2019)**. *Evaluation of Farmland availability and Large-Scale Mining Sector Activities at Village Scale*. IEEE Xplore. The 8th International Conference on Agro-Geoinformatics. Istanbul, Turkey. Conference Date: 2019/7. Extended Paper. Refereed? Yes. **DOI:** 10.1109/Agro-Geoinformatics.2019.8820560.
- **Abdul-Wadood Moomen,** Michela Bertolotto, Pierre Lacroix, David Jensen, **(2019)**. *Exploring Spatial Symbiosis of Agriculture and Mining for Sustainable Development in Northwest Ghana.* IEEE Xplore. The 8th International Conference on Agro-Geoinformatics. Istanbul, Turkey. Conference Date: 2019/7. Extended Paper. Refereed? Yes. **DOI:** 10.1109/Agro-Geoinformatics.2019.8820500.

Conferences/Workshops/Seminars

- ***Participant and Contestant***: Global International Sustainable Technology and Innovation Conference (G-STIC). The European Space Agency (ESA) Copernicus Hackathon. Brussels, Belgium, **20-22nd November 2019**.

- **Participant and Presenter**: Harnessing the Extractive Industries for Development (EX4DEV19). Seminar Theme: T*he link between Artisanal and Small-Scale Mining (ASM) and the Sustainable Development Goals (SDGs)*. Surrey Business School, University of Surrey, Guilford Surrey, UK. Presentation title: *Mapping the potential ramifications of Illegal Artisanal Small-Scale Mining Activities onto the Sustainable Development Goals in Northwest Ghana*. **8th November 2019**.
- ***Participant***: Annual General Meeting, Inter-Governmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). United Nations Headquarters, Geneva, Switzerland, **15-18th October 2019**.
- **Participant and Presenter**: The 'CAROLINE' "Collaborative Research for a Responsive and Innovative Europe" research workshop. Presentation title: *Exploring the Spatial Symbiosis of Agriculture and Mining for Sustainable Development in Northwest Ghana*. The Irish Research Council (IRC), Dublin, Ireland. **25th September 2019.**
- **Participant and Presenter:** The 8th International Conference on Agro-Geoinformatics (Agro-Geoinformatics). Istanbul Technical University (ITU), Turkey. Presentation title: *Exploring Spatial Symbiosis of Agriculture and Mining for Sustainable Development in Northwest Ghana.* **16-19th July 2019**.
- **Participant and Presenter:** The 8th International Conference on Agro-Geoinformatics (Agro-Geoinformatics). Istanbul Technical University (ITU), Turkey. Presentation title: *Evaluation of Farmland availability and Large- Scale Mining Sector Activities at Village Scale.* **16-19th July 2019**.
- ***Participant***: RawMatCop Academy 2019: Copernicus for Raw Materials, Discover the Potential! Bologna, Italy, **17-20th June 2019.**
- ***Participant/Attendee:*** *Environmental Security and Sustaining peace.* MOOC Training workshop organizing by the United Nations (UN) and allied academic institutions. **3rd March – 29th April 2019**.
- ***Participant***: Quality Assurance Practice Unit (QAPU), UENR/Office of the Pro-Vice Chancellor, UENR, Good Assessment Practices in Higher

Education: Improving Teaching and Learning. UENR, Sunyani. **16 – 17th January 2019.**

Outreach Programmes/Extension Services

- ***Member***: Academic Board (2020 – Date)
- ***Postgraduate Studies Coordinator***: Department of Geographic Science (2018 - Date)
- ***Reviewer***: Natural resource Forum, Wiley Journal (2019 to date)
- ***Reviewer***: Environmental Pollution, Elsevier (2018 to date)
- ***Reviewer***: Journal of Agricultural Economics, Elsevier (2018 to date)
- ***Reviewer***: Journal of Environmental Planning and Management, Taylor & Francis (2018 to date)
- ***Reviewer***: Environment, Development & Sustainability, Springer (2017 to date)
- ***Reviewer***: Resources Policy, Elsevier (2016 to date)
- ***Reviewer***: Land Degradation & Development, Wiley Journal (2016 to date)
- ***Reviewer***: Corporate Social Responsibility and Environment, Wiley (2016 to date)
- ***Reviewer***: Journal of Cleaner Productions, Elsevier (2016 to date)
- ***Reviewer***: Aviation, Taylor & Francis (2015 to date)

Web of Science Researcher ID: X-8644-2019;

MR. RICHARD KYERE-BOATENG

Research Activities/Interests

- Spatial planning and climate change governance.
- Global change responses and sustainable development.
- Social-ecological dimensions of ecosystem services governance.

- Sustainability planning and forest carbon governance.
- Climate change mitigation and adaptation strategies.
- Anthropogenic factors of global environmental change.

Publication(s)

- Caleb Mensah, Julia Atayi, Amos T. Kabo-bah, Marian Švik, Daniel Acheampong, **Richard Kyere-Boateng**, Nana Agyemang Prempeh, Michal V. Marek (2020). Impact of Urban Land Cover Change on the Garden City Status and Land Surface Temperature of Kumasi, Cogent Environmental Science, 6 (1), 1787738. doi/full/10.1080/23311843.2020.1787738.

Conferences/Workshops/Seminars

- ***Participant***: International Conference on Sustainable Development. Columbia University, New York, U.S.A., September 24-25, 2019.
- ***Participant***: One-day workshop on "How to write a competitive project proposal" Thursday 10th October 2019, at Global Change Research Institute, CAS, Brno, The Czech Republic.
- ***Participant***: One-day workshop on "How to write a project proposal and apply for funding" Monday 16th September 2019 at Global Change Research Institute, CAS, Brno, The Czech Republic.
- ***Participant***: One-day workshop on "Ecosystem services governance and climate change mitigation" Monday 12th August 2019 at the Department of the Human Dimensions of Global Change, Prague, the Czech Republic.
- **Participant and Co-Trainer:** Two-day workshop in Economic Game Theory of Forest by InnoForESt at the Thunen Institute of Forest Ecosystems, Schicklerstraße 5, 16225 Eberswalde, Berlin, Germany (November, 2019).

- **Participant and Co-Trainer:** Two-day workshop in Economic Game Theory of Forest at InnoForest, Trento, Italy (December, 2019).

MR. CALEB MENSAH

Research Activities/Interests

- Tropical Meteorology/Climatology
- Numerical Weather Modeling for Extreme Weather and Climate Prediction
- Long-term Eddy Covariance Flux Measurements

Publication(s)

- **Caleb Mensah**, Julia Atayi, Amos T. Kabo-bah, Marian Švik, Daniel Acheampong, Richard Kyere-Boateng, Nana Agyemang Prempeh, Michal V. Marek (2020). Impact of Urban Land Cover Change on the Garden City Status and Land Surface Temperature of Kumasi, Cogent Environmental Science, 6 (1), 1787738. doi/full/10.1080/23311843.2020.1787738.
- Acosta, M.; Krkoška Lorencová, E.; Grieco, E.; Bombelli, A.; Beck , J.; Salmon , E.; Helmschrot, J.; Bamba Sylla, M.; Pavelka, M.; Vačkář, D.; **Mensah, C.**; Jorch, V. (2019). Findings From Seacrifog Stakeholders Consultation Workshops. In Mirtl, M. (Eds): The International Long Term Ecological Research Network, 2nd Open Science Meeting, P. 19. 02. -07. 09.
- **Mensah, C.**, Šigut, L., Foltýnová, L., Jocher, G., Acosta, M., Kowalska, N., ... & Marek, M. (2019). The Effect Of Drought In 2015 On Carbon Fluxes In Two Norway Spruce Forest Ecosystems With Contrasting Elevation And Age. In Geophysical Research Abstracts (Vol. 21). European Geosciences Union (EGU) 2019, 7. – 12. 04. 2019. Vienna-Rakousko, Austria.

Conferences/Workshops/Seminars

- ***Participant and Presenter:*** Findings from the SEACRIFOG Stakeholders Consultation Workshops in Africa. The International Long Term Ecological Research Network, 2nd Open Science Meeting, Leipzig, Germany, 2nd – 7th September, 2019.
- ***Participant and Presenter***: The effect of drought in 2015 on carbon fluxes in two Norway spruce forest ecosystems with contrasting elevation and age. European Geosciences Union General Assembly, Vienna, Austria, 7th - 12th April, 2019.

Outreach Programmes/Extension Services

- ***Examinations Officer***: Department of Geographic Science (2020 - Date)
- ***Industrial Attachment Coordinator***: Department of Geographic Science (2020 - Date)

DEPARTMENT OF PLANNING AND SUSTAINABILITY

The Department of Planning and Sustainability was established in August, 2018. Currently the Department runs a 4-year BSc Planning and Sustainability programme and a 2-year MSc/MPhil Environmental Planning and Development programme. The Department's mission is to train professional planners with the requisite knowledge, skills and competencies to apply sustainability principles to regional and local development planning, in Ghana and beyond.

ACTIVITIES FOR THE PAST YEAR

During the year under review, the Department expanded its community outreach programme to 13 additional communities in the Dormaa Municipality. The Level 200 students of the BSc Planning and Sustainability

programme were deployed in the Dormaa Municipality to profile 13 communities. The Level 300 students were also deployed in 8 communities in the Dormaa Municipality to analyse the development situation of those communities and design action plans to address their developmental challenges.

Staffing

Name	Qualification	Designation	Area of Specialisation
Dr. Jonas Ayaribilla Akudugu	PhD (Bonn), MSc (KNUST), BA (UDS)	Snr. Lecturer/ Ag. Dean SG	Local Economic Development
Dr. David Anaafo	PhD (Uni. of Tasmania, Australia), MSc & BSc (KNUST)	Snr. Lecturer/ HoD	Sustainable Property and Pro-poor Land Policy
Dr. Benjamin Bilalam Jabik	PhD (UG), MSc & BSc (KNUST)	Lecturer	Climate Change, Development Policy and Planning, Settlement Planning, Monitoring and Evaluation
Mrs Rejoice Selorm Wireko-Gyebi	MSc & BSc (KNUST)	Lecturer	Health and Safety; Risk Assessment; Policy Analysis
Mr Kingsley Atta Nyamekye	MSc (Chile), BSc (KNUST)	Asst. Lecturer	Regional Planning

DR. JONAS AYARIBILLA AKUDUGU
Research Activities/Interests

- **Research Interests:** Local economic development planning/promotion, decentralisation and local development, community livelihoods and development, sustainability science/studies

Publications

1. Kyere, R., Addaney, M. & **Akudugu, J. A**. (2019): Decentralisation and Solid Waste Management in Urbanising Ghana: Moving beyond the Status Quo. In: Hosam El-Din Saleh (ed), Municipal Solid Waste Management, pp. 1-20. London, IntechOpen. DOI: 10.5772/intechopen.81894

2. Bunyamin, A. R., Anaafo, D., **Akudugu, A. J.** & Adusu, D. (2019). The crumbling backbone of the savannah woman: Adjusting to the declining Shea and Locust tree densities in Northern Ghana. Journal of Culture, Society and Development. Vol 54, 20-31. DOI: 10.7176/JCSD/54-05

Conferences/Workshops/Seminars

- **Presenter:** Constraints to Micro and Small Enterprise Growth and Competitiveness: Micro and Meso Level Assessment. A paper presented at the International Conference on Entrepreneurship, Business and Technology, Organised by the Methodist University College of Ghana, 26th -27th August 2019, Accra
- **Participant:** Ghana Institute of Planners at 50: Planning for Ghana Beyond Aid. 48th Annual General conference of Ghana Institute of Planners, La Palm Royal Beach Hotel, Accra, 26th-27th November, 2019

DR. DAVID ANAAFO

Research Activities/Interests

- **Research Interests:** Sustainable property and pro-poor land policy; decentralisation and local governance; urban planning in mid-sized, growth and transition cities; and environmental change and sustainable development

- **On-going research activities:** 20 years of medium-term development planning in Ghana; reflective planning practice; and decentralised district health management in Ghana.

Publications

3. **Anaafo, D.,** and Takyi, A. S. (2020). Democratising participation in spatial planning in Ghana: What role for evolving digital technologies? *International Planning Studies, 1-13*
4. Bunyamin, A. R., **Anaafo, D.**, Akudugu, A. J. & Adusu, D. (2019). The crumbling backbone of the savannah woman: Adjusting to the declining Shea and Locust tree densities in Northern Ghana. *Journal of Culture, Society and Development. Vol 54, 20-31*. DOI: 10.7176/JCSD/54-05
5. **Anaafo, D.** (2019). Rhetorically decentralised, practically recentralised: A review of the local governance system of Ghana. *Commonwealth Journal of Local Governance 2018, 21: 6516, - https://doi.org/10.5130/cjlg.v0i21.6516*

DR. BENJAMIN BILALAM JABIK

Research Activities/Interests

- **Research Interests:** Climate change and development; environment and sustainability; NGO management; cash transfer; and microenterprise development

Publication(s)

1. Jabik B. Benjamin (2019): Small Scale Farming versus Large Scale Farming in Ghana: Issues and Prospects. https://www.yara.org.za/blogs-land-governance-property-rights-2

Conferences/Workshops/Seminars

- Presenter: 11th Annual Agrarian Summer School, Social Policy in the Global South: The challenge of socio-economic justice and Agro-ecological Development, 21-25 January 2019, Harare, Zimbabwe.
- Participant: YARA Theory Workshop: The Character of the Agrarian Question in Contemporary Africa. 13th - 17th May 2019, University of the Western Cape Cape Town, South Africa.
- Presenter: Annual Conference on "Over a Decade of Promoting M&E in Ghana: Achievements, Challenges and Prospects". 10th - 12th December, 2019, Tomreik Hotel, East Legon, Accra
- Participant: SEED Business Development Service and Training of Trainers on Enterprise Incubation. 11th – 13th March, 2020, Ghana Innovation Hub Accra Digital Center (Kan Dapaah Block)
- Speaker: The Civil Society Organizations New Year School, 2020, Regentropfen College of Applied Sciences- Namoo/Kansoe (Near Bolgatanga)- Upper East

Outreach Programmes/Extension Services

- Trainer: Training of the Spiritan Unit on "Development Programmes Design, Monitoring and Evaluation". 2nd -4th July, 2019, Spiritan University, Ejisu/Kumasi.
- Investigator: Technical Mapping and Scoping of Female Head Porters (Kayayei) in Urban Market Centres in Three Regions in Ghana (Funded by UNFP)
- Investigator: Scoping study to establish the bases for a cash transfer pilot project in some selected cocoa producing communities in Ghana (Funded by International Cocoa Initiative)

- Investigator: The Role of Savings for Transformation to Child Wellbeing in Ghana (Funded by World Vision International)
- Consultancy Services to National Board for Small Scale Industries.

MRS REJOICE SELORM WIREKO-GYEBI

Research Activities/Interest

- Research Interests: Health and safety; risk assessment; and policy analysis.

Publications

1. **Wireko-Gyebi R.S.**, King R.S., Braimah I. and Lykke A.M. (2020), Local knowledge of risks associated with artisanal small-scale mining in Ghana, International Journal of Occupational Safety and Ergonomics, DOI:10.1080/10803548.2020.1795374
2. **Wireko-Gyebi R.S.**, Asibey M.O., King R.S., Amponsah O., Braimah I., Darko G. and Lykke A.M. (2020). Perceptions of small-scale miners on interventions to eradicate small-scale mining in Ghana. Sage Open, DOI: 10.1177/2158244020963668 (In press)

Conferences/Workshops/Seminars

- **Participant:** Ghana Institute of Planners at 50: Planning for Ghana Beyond Aid. 48th Annual General conference of Ghana Institute of Planners, La Palm Royal Beach Hotel, Accra, 26th-27th November, 2019

MR. KINGSLEY ATTA NYAMEKYE

Research Activities/Interests

- **Research Interests:** Land use planning in promoting sustainable cities; environmental sustainability; and social capital and healthcare.

Publication(s)

1. Opoku, R., Amoah, P. A., & **Nyamekye, K. A**. (2020). Householders' Perception about Sustaining the Useful Life of Long-Lasting Insecticide-

treated Nets in Ghana. International Health, doi: 10.1093/inthealth/ihaa019

Conferences/Workshops/Seminars

- **Participant:** Sustainable Development through Effective Knowledge Sharing: Concepts, Methods and Processes Worskshop, Organised by Centre for International Migration and Development (CIM) and GIZ, Eusbet Hotel- Sunyani, 28th -30th August 2019, Sunyani, Ghana
- **Participant:** 48th Annual General conference- GIP at 50: Planning for Ghana Beyond Aid, La Palm Royal Beach Hotel, Accra, 7th-9th November, 2019

School of Management Sciences and Law

SCHOOL OF MANAGEMENT SCIENCES AND LAW

Introduction

The School of Management Sciences and Law came into existence in the 2018/2019 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. Besides, the School assists the undergraduate population of the University to improve upon their language and communication skills in English and French.

Presently, it consists of two Departments and five subsumed sections. These are: Department of Entrepreneurship and Business Sciences (DEBS), which is subdivided into Entrepreneurship and Economics sections; and Department of Languages and General Studies (DLGS) which is also subdivided into French, English and General Studies sections. The Department is pivotal to the University because it has teaching responsibilities for Ghanaian and African Studies, as well as French and English for the University's entire undergraduate student population.

Administration of the School

The leadership and coordination roles of the School of Management Sciences and Law are primarily undertaken by the following personnel:

1. Prof. Yaw Ofosu-Kusi: Dean
2. Mrs. Mary Yebo-Okrah: Faculty Officer
3. Stephanie Aidoo: Senior Administrative Assistant
4. Mary Magdalene Tanguo: Senior Administrative Assistant

DEPARTMENT OF ENTREPRENEURSHIP AND BUSINESS SCIENCE

The Department was established in August, 2016 and currently runs two programmes. The first is the four-year Resource Enterprise and Entrepreneurship degree programme which was first mounted in 2014 at the School of Natural Resources, under the Department of Environmental

Management. In August 2016, the Department of Entrepreneurship and Business Sciences was established to host the programme, still under the School of Natural Resources. The second is a two-year diploma programme in Enterprise Management.

New Programme Development

The Department developed BSc. Economics and BSc Resource Accounting programmes in 2019. After lengthy consultations with the required authorities, especially the National Council for Tertiary Education (NCTE), admistrative approval was granted in early 2020 for the BSc Economics programme. The programme is therefore expected to take off in the 2020/21 academic year. The BSc Resource Accounting programme is still being assessed by NCTE for administrative approval.

Future Plans

The Department intends to mount in the foreseeable future MBA/MPhil/PhD programmes in Entrepreneurship, and other management studies.

Academic Programmes

Undergraduate Programmes of the Department are:

d. BSc. Resource Enterprise and Entrepreneurship
e. Diploma in Enterprise Management

PROGRAMME ACCREDITATION AND RE-ACCREDITATION			
FACULTY/ DEPARTMENT	**PROGRAMMES**	**DATE PROGRAM WAS ACCREDITED**	**DATE PROGRAM ACCREDITATION EXPIRES**
Entrepreneurship and Business Sciences	BSc Resource Enterprise & Entrepreneurship		
	BSc Economics	NCTE, Administrative Approval granted	Awaiting NAB Accreditation
	BSc Resource Accounting	Under NCTE Consideration	

Staff and Students Statistics

Academic Year	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Number of Students	268	390	614	703	1,063
Number of staff	3	5	7	11	11
Staff/Student Ratio	1: 89	1:78	1:88	1:71	1:96

Research Collaborations/International Collaborations & Partnership

1. 2018-2020: British Academy's Tracking the UK's International Challenges: 'Children's Rights, Perceptions of Justice, Rights, and Equality: The Challenge of Children's Representation' The Co-Researcher are: Professor Yaw Ofosu-Kusi (University of Energy and Natural Resources, Sunyani, Ghana; Dr Afua Twum Danso Imoh (University of Bristol, UK), Prof. Karl Hanson (University of Geneva,

Switzerland), Professor Bengt Sandin (Linkoping University, Sweden), Dr Jonathan Josefsson (Linkoping University, Sweden), Prof. Sarada Balagopalan (Rutgers University, USA), Dr Didier Reynaert (University College Ghent, Belgium)

2. Professor Kwamina Panford (Northeastern University, USA): Six-months fellowship in 2021 with the School of Management Sciences and Law, UENR, under the Carnegie African Diaporan Fellowship Programme for collaboration in curriculum development in law and public policy.
3. Erasmus+ Project on **Enhancing Entrepreneurship, Innovation and Sustainability in Higher Education in Africa (EEIS-HEA) and the Africa Center of Excellence for Development Impact (ACE-Impact).**

Workshops/Conferences/Public Lectures

PROF. YAW OFOSU-KUSI

Deliberative Disobedience as a Strategy for Claiming Authority and Representation in the Family. Presented at the British Academy's "Tracking the UK's International Challenges Conference", African Regents Hotel, Accra, Ghana, 28th – 31st January 2020

Mobility as African Potential; Discussant, 9th African Forum, Nov. 29 – Dec. 01, 2019, Lusaka, Zambia, Sept. 2019

Street Life as Labour: The Work, Labour and Economic Life of Accra's Street Children; Presented at the Conference on "Children's Rights, Perceptions of Justice, Rights, and Equality: The Challenge of Children's Representation", University of Sheffield, Sheffield, UK, 11-13th September 2019

Funding of Research Activities

2018-2020: British Academy's Tracking the UK's International Challenges: 'Children's Rights, Perceptions of Justice, Rights, and Equality:

The Challenge of Children's Representation' (Co-Researchers: Dr Afua Twum Danso Imoh (University of Bristol, UK), Prof. Karl Hanson (University of Geneva, Switzerland), Professor Bengt Sandin (Linkoping University, Sweden), Dr Jonathan Josefsson (Linkoping University, Sweden), Prof. Sarada Balagopalan (Rutgers University, USA), Dr Didier Reynaert (University College Ghent, Belgium)

Publications (for the year under review: 2019/2020)

Staff of the Department of Entrepreneurship and Business Science produced 11 refereed journal articles; 3 conference papers; 2 books; and 2 book chapters.

PROF. YAW OFOSU-KUSI

Ofosu-Kusi, Y. & Motoji, M. (2020) (Eds.) *The Challenge of African Potentials: Conviviality, Informality and Futurity*, Bamenda, Cameroon: Langaa RPCIG [12 chapters, 254pp]

Ofosu-Kusi, Y. (2020) 'The Future African Society: Informality as a Potential for Development and Progress'. In Y. Ofosu-Kusi & M. Motoji (Eds.) *The Challenge of African Potentials: Conviviality, Informality and Futurity*, Bamenda, Cameroon: Langaa RPCIG

Kleeberg-Niepage, A., **Ofosu-Kusi, Y**., Rademacher, S. & Tressat, M. (Eds.) (2020) *Children, Childhood and the Future: Cross-cultural Perspectives,* Newcastle-upon-Tyne: Cambridge Scholars Publishing

Ofosu-Kusi, Y. (2020) 'Chlidren, Childhood and the Future: An African Perspective'. In A. Kleeberg-Niepage**, Y. Ofosu-Kusi,** S. Rademacher, & M. Tressat (eds.) (2020) *Children, Childhood and the Future: Cross-cultural Perspectives,* Newcastle upon Tyne: Cambridge Scholars Publishing

DR. EMMANUEL OPOKU MARFO

Marfo, E.O. (2019). "Heralds of Corporate Irresponsible Behavior: Using Partial Least Square Approach of Structural Equation Modeling", *International Journal of Engineering Research in Africa,* Vol. 42, No.1, pp. 172-188.

MR. DANIEL BERKO

Hammond, P., **Berko, D.,** & Amissah, E. (2020): Sources of Lifecycle Funding and Entrepreneurial Firms' Size as Measured by the Number of Employees. *Research Journal of Finance*, 8(3), ISSN 2348-0963

Abiire, A. M., **Berko, D.,** Adeniyi A., Atindaana, P. A. (2020). A Qualitative Analysis of Revenue Mobilization at Local Government Level in Ghana: Evidence from Bongo District. Research Journal of Finance and Accounting, 11(16), ISSN 2222-1697.

MR. PAUL HAMMOND

Hammond, P., Berko, D. and Amissah, E. (2020). Source of lifecycle funding and entrepreneurial firm's size as measured by the number of employees. *Researchjournali's journal of finance, Vol. 8, No. 3*

Amissah, E., **Hammond, P**. and Djimatey, R. (2020). The Effects of International Financial Reporting Standards on Reporting Quality of Financial Institutions in Ghana. *International Journal of Accounting and Financial reporting, Vol.10, No.2. Pp94-118*

Opuni-Frimpong, N.Y., **Hammond, P**. and Bannor R.K. (2019). Tools for Sustainable Urban Agriculture: Marketing and Bookkeeping. Skills Development Fund. 968-9988-838-5-1

MR EDMOND EMISSAH

Hammond, P., Berko, D. and Amissah, E. (2020). Source of lifecycle funding and entrepreneurial firm's size as measured by the number of employees. *Researchjournali's journal of finance, Vol. 8, No. 3*

Amissah, E., **Hammond, P**. and Djimatey, R. (2020). The Effects of International Financial Reporting Standards on Reporting Quality of Financial Institutions in Ghana. *International Journal of Accounting and Financial reporting, Vol.10, No.2. Pp94-118*

MS. GENEVIEVE GYASI

Gyasi, Genevieve (2020): "*The Impact of Fiscal Deficit on Economic Growth: Using the Bounds Test Approach in The Case of Morocco"* MPRA Paper 98925, University Library of Munich, Germany

Gyasi, Genevieve, 2020. "**The Impact of Trade Agreement Policy on Employment**," MPRA Paper 101307, University Library of Munich, Germany

Community Engagements

S/N	Name	Date	Service
1	Prof Yaw Ofosu-Kusi	October 2019 2010 – Date 2013 – Date	1. Member, Evaluation Committee for Re-appointment of Pro-Vice-Chancellor, University of Energy and Natural Resources, Sunyani 2. Member, Editorial Board of ***Childhood*** (A journal of global child research) Published by SAGE and the Norwegian Centre for Child Research, Norwegian University of Science and Technology, Trondheim, Norway. 3. Series Co-editor, Culture and History in Africa, Lit

			Verlag Berlin, Germany, http://lit.verlag.de
1	Dr. Emmanuel Opoku Marfo	2020 2020 2020 2020 2020 2020 2020 2020 2020 2019 – 2020 2019 – 2020	Head, Department of Entrepreneurship and Business Sciences. Member, Academic Board, UENR Scholarship Committee Member, Sunyani Municipal Assembly Resource Person, Capacity Building, Tano North Municipal Assembly Members and Staff. Member, Advisory Board of Yamfo College of Health (Municipal REP). Member, Curriculum Documents Review Committee for NCTE and NAB approval (UENR) Member, Board, School of Management Sciences and Law (DEBS Rep) Member, School Appointment and Chairman, Graduate Programmes Development Committee- (SMSL) Chairman, UTAG-UENR Transport Committee Academic Tutor, UENR Chief Invigilator, first Semester Examinations, Chief Invigilator, Second Semester Examinations. Resource Person, Workshop for final year students project writing.
2	Dr. Emmanuel Adu-Boahen	2019/2020	1. Member, Quality Assurance and Planning Unit

			2. Member, Academic Board
3	Mr. Paul Hammond	2019/2020	1. School Examination Officer 2. Co-Ordinator, Top-up 3. Chairman, Audit Committee of UTAG,
4	Mr. Michael Ayikwei Quarshie	2019/2020	1. Patron, UENR Cadet Corps 2. Member, UTAG UENR Local Executive
5	Mr. Justice Boateng Dankwah	2019/2020	1. Department Exams Officer 2. Member, SMSL Board
6	Mr. Amissah Edmond	2019/2020	1. Member, University Basic School Board 2. Patron, Entrepreneurship and Business Sciences students' Association (EnSA) 3. Member, UTAG, Audit Committee
7	Mr. Reginald Djimatey	2019/2020	1. Member, University Council 2. President, UTAG Chairman, Greena FM Management 4. Member, Academic Board
8	Mr. Daniel Berko	2019 – 2020	1. Departmental Rep, Academic Board Meeting 2. Member, Board of School of Management Sciences and Law 3. Member, UTAG Committee on Projects 4. Head, Dept. of Entrepreneurship and Business Sciences

			5. Member, Committee for the Award of Retiring Senior Member; Professor Nunoo and Mr. I. K Abebrese
9	Miss. Genevieve Gyasi	2018 – 2020 2019 – 2020 2020	1. Executive member, the UTAG Ladies Association 2. Don Bosco Vocational School – Training on Business Start-up and Entrepreneurship (Free) 3. International service with the United Nations office -Young UN Morocco and Ethiopia Rep United Nations Economic Commission for Africa Morocco-Secretary to the African Union Youth Dialogue

Future Plans of the School

- The School is coordinating the efforts of its Departments to introduce new programmes. First, the Department of Entrepreneurship and Business Sciences has submitted proposals to the School of Graduate Studies for further processing to enable it mount MBA, MPhil, and PhD programmes in Entrepreneurship and other programmes management studies. Second, with the approval from NCTE, a BSc. Economics programme will be mounted in the 2020/21 academic year in the same Department. Efforts are being intensified at NCTE for clearance to introduce a BSc in Resources Accounting programme at the Department. Third, a new Centre for Entrepreneurship Development and Innovation has been proposed for consideration by Management and is expected to come into existence soon.

- The Department of Languages and General Studies is actively engaging authorities on its BA Professional French programme. It is also consolidating its Proficiency in French Language Examinations to broaden their appeal to Ghanaians and West Africans.

DEPARTMENT OF LANGUAGES AND GENERAL STUDIES

The Department is a service department and is responsible for university-wide courses such as Academic Writing and Communication Skills, Critical Thinking, French and African Studies. The Department is in the process of establishing a degree programme in French to offer an opportunity to applicants who want to acquire specialized proficiency in French. This is aimed to take advantage of the expertise of lecturers of French in the Department for the benefit of students who wish to pursue a degree programme in French.

New Programme

The Department has filed the necessary documentation with the NCTE for administrative approval for the BA Professional French programme. The programme's uniqueness lies in the options available to students, namely, French for Specific Purposes, Media, Diplomacy and Translation.

Future Plans

The Department has signed an MOU with the CCI Paris de ile -de -France for UENR to be an accredited centre for Professional French Certification programmes with the Chambers of Commence in France. UENR will, therefore, assume responsibility for the promotion of the course, preparation of students and all other prospective candidates in the West Africa region.

Academic Programmes

Undergraduate programmes/courses of the Department are:

a. General courses in Ghanaian and African Studies; Academic Writing and Communication Skills; Analytical Reading and Critical Thinking; Science Technology and Society and French for General Communication
b. BA Professional French

Research Collaborations/International Collaborations & Partnership

1. The Department has been granted accreditation by the Canadian Embassy to organize TEF (Test d'evaluation du francaise) or French Proficiency Test for individuals seeking settlement or job opportunities in Canada. The other part is TEFAQ (Test d'evaluation du francaise adapte pour le Quebec) for those looking for opportunities in Quebec.

2. The Ministry of Education of France and Alliance Francaise: The University organizes the DELF (Diplome d'Etude en Langue Francaise (Diploma in Frnch Language Studies) and DALF (Diplome approfodi de la langue fracaise (Advance Diploma in French Language Studies) Examinations for individuals who want to study in France and for those interested in improving their proficiency.

3. Eneem University & UENR Exchange Programme: The Department facilitates the exchange programme between Eneem University in France and UENR to enable one student from the Mechanical Engineering Department to go on a one-year exchange programme every year.

Workshops/Conferences/Public Lectures

DR MAGDALENE MENSAH

Poverty and Immigration: The Study of le Mandat de Sembene Ousmane (Presenter) Colloque international 'Discours et représentations de l'Altérité dans le monde contemporain', Bouake, Cote d'Ivoire, 7 – 9 March, 2019.

DR AMOS APRAKU

'Climate change governance, sustainable development and social justice in the Eastern Cape, South Africa'**.** (Presenter) 26th Annual Congress of the South African Sociological Association, UNISA, Pretoria, South Africa; 15-17 July 2019

MR. JUSTIN ODURO ADINKRA

'Poverty and Immigration: The Study of le Mandat de Sembene Ousmane'. (Presenter) Colloque International Discour et Representation de L'alterite Dans le Monde Contemporain. Universite De Bouake, Cote D'ivoire7th – 9th March, 2019

MR. JOHNSON BAAH

'Iconicity in serial verb construction: analysing Akan serial verbs'. (Presenter)
'Assessment of Engineering students' attitudes towards the study of communication skills'. (Presenter)
'Meaning of Bono Verb'. (Presenter)
LAAG Conference, Tarkwa, 31 July to 2nd August, 201**9**

MR. MOHAMMED ISSAKA

'Ideational Grammatical Metaphor as a Cohesive Device in the SONA'. (Presenter), WAACLALS 2019 Takoradi, 20-22 March 2019

MS. ALBERTA DANSOAH NYARKO ANSAH

'Assessing the progression of oral presentation skills of undergraduate students: appropriate content and context language use'. (Presenter) The 12th Linguistics Association of Ghana Annual Conference, LAG 2019, University of Mines and Technology, Tarkwa. 31st July – 2nd August, 2019

MS. CECILIA AGYEIWAA

'Assessment of Engineering students' attitudes towards the study of communication skills'. (Presenter)

'Iconicity in serial verb construction: analyzing Akan serial verbs (Presenter)
'A sociolinguistic study of formality applied in postgraduate dissertation acknowledgements'. (Presenter), LAG 2019 Conference, Tarkwa, 31 July – 2 Aug 2019

Publications

MR. TAHIRU DJATO

Djato, T. (2020): *L'image de l' Afrique et des Antilles Dans L'Oeuvre D'Aime Césaire* » in *ReSciLaC, Revue Pluridisciplinaire*, juin 2020, No 11, ISSN: 1840-8001, pp.373-381. Université d'Abomey-Calavi, Bénin: LASODYLA-REYO

Djato, T. (2020): *Quand Les Ecrivains Engagés Tournent Vers La Diplomatie: Le Cas D'oyono, Cesaire et De Senghor,.* » in *ReSciLaC, Revue Pluridisciplinaire*, juin 2020, No 11, ISSN: 1840-8001, pp.332-331. Université d'Abomey-Calavi, Bénin: LASODYLA-REYO

MR. COSMAS RAI AMENORVI

Amenorvi, C. R., & Grumah, G. Y. (2020). Money talks: a multimodal ethnographic study of Ghana's currency. *Inkanyiso*, *12*(1), 72-85.

Amenorvi, C. R., & Grumah, G. Y. (2020). Gender and Sexuality Linguistic Taboos: A Case of Mɔ and Nnyabi in Ewe and Mampulli. *Hybrid Journal of Literary and Cultural Studies*, *2*(3), 6-26.

MS. GERTRUDE Y, GRUMAH

Amenorvi, C. R., & **Grumah, G. Y.** (2020). Money talks: a multimodal ethnographic study of Ghana's currency. *Inkanyiso*, *12*(1), 72-85.

Amenorvi, C. R., & **Grumah, G. Y.** (2020). Gender and Sexuality Linguistic Taboos: A Case of Mɔ and Nnyabi in Ewe and Mampulli. *Hybrid Journal of Literary and Cultural Studies*, *2*(3), 6-26.

MR. JUSTIN ADINKRA ODURO

Adinkra, J. K. O. & Appiah, F. D. (2020): « Analyse diachronique et synchronique des noms des partis politiques ghanéens de la quatrième république » in *SociD, Sociolinguistique & Didactique,* janvier 2020, No 5, ISSN : 1840-7994, pp. 44-48. Université d'Abomey-Calavi, Bénin : LASODYLA-REYO.

Adinkra, J. K. O. (2020): « The Society and the Literary Universe of Sony Labou Tansi: A Study of *Life and a Half* » in *ReSciLaC, Revue Pluridisciplinaire*, juin 2020, No 11, ISSN: 1840-8001, pp.244-252. Université d'Abomey-Calavi, Bénin: LASODYLA-REYO.

MR. KWASI SARFO

Sarfo, K. (2020). Land Tenure Practices in Atebubu, Ghana. *Journal of African Studies and Ethnographic Research*, 2 (2), 7-16. Retrieved from https://royalliteglobal.com/african-studies/article/view/314

MR. DOUGLAS F. APPIAH

Appiah, F. D. & Adinkra, J. K. O. (2020). Analyse diachronique et synchronique des noms des partis politiques ghanéens de la quatrième république. In *SociD, Sociolinguistique & Didactique,* janvier 2020, No 5, ISSN : 1840-7994, pp. 44-48. Université d'Abomey-Calavi, Bénin : LASODYLA-REYO.

Appiah, F.D. (2020). Infériorité ou supériorité de la femme dans le système matriarcal akan : Une investigation à travers les proverbes akan. In *ReSciLaC, Revue Pluridisciplinaire*, juin 2020, No 11, ISSN : 1840-8001, pp.244-252. Université d'Abomey-Calavi, Bénin : LASODYLA-REYO.

MS. CHARITY ODUMALE

Danquah, A. J., Ahiajor, R. K., Appiah M., Roberts, O. C. and Pappinnen, A. (2019). Assessing small farmers understanding of modern agronomic practices in Ghana. Journal of experimental effects of modern genomic practices. *Journal of Experimental Agriculture International,* 29(6): ISSN :2457, 059.

Future Plans of the School

- The School is coordinating the efforts of its Departments to introduce new programmes. First, the Department of Entrepreneurship and Business Sciences has submitted proposals to the School of Graduate School for further processing to enable it mount MBA, MPHIL, and PhD programmes in Entrepreneurship, and other management studies. Second, with the approval from NCTE, a BSc. Economics programme will be mounted in the 2020/21 academic year at the same Department. Efforts are being intensified at NCTE for clearance to introduce a BSc in Resources Accounting programme at the Department. Third, a new Centre for Entrepreneurship Development and Innovation has been proposed for consideration by Management and is expected to come into existence soon.
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Challenges

The primary concern is the lack of appropriate office space for lecturers and related staff. The limited supply of personal desktop computers and printers, and other office equipment, as well as unstable internet connectivity also hinder the eff

REGIONAL CENTRE FOR ENERGY AND ENVIRONMENTAL SUSTAINABILITY

1. GRANTS AND AWARDS/DONATIONS

6. **Market Entry into Renewable Energy (RE) and Energy Efficiency (EE) for the Productive Sector**

This is a fourteen partnership between The Energy Service Centre of the Association of Ghana Industries (AGI-ESC) and RCEES-UENR to provide training to commercial and industrial electricity consumers and service providers in renewable energy (RE) and energy efficiency (EE) under the auspices of the GIZ Market Entry into Renewable Energy (RE) and Energy Efficiency (EE) for the Productive Sector in the Ghana project.

7. **Gendered Design in STEAM (GDS) in Lower and Middle-income Countries (LMIC)**

Sub-award from Carleton University, Canada on Gendered Design in STEAM (GDS) in Lower and Middle-income Countries (LMIC). The overall objective of the GDS program is to build the capacities of women LMICs for research, design and dissemination of gendered innovations in Science, Technology, Engineering, the Arts and Mathematics (STEAM). RCEES work package under the programme is to develop an energy access strategy for disadvantaged communities in Ghana from September 1, 2020 to April 30, 2022. The project has since offered two scholarships; one to a PhD student and another to an MSc Student.

8. **Hosting of Sustainable Energy Service Centres (SESCs)**

RCEES in consortium with Sunyani Technical University, Kumasi Technical University and the Energy Foundation has been selected to host one of three Sustainable Energy Service Centres (SECS) in Ghana

which are being established by the Millennium Development Authority (MiDA) under the Millennium Challenge Compact (MCC). The SECS are to providing tertiary education services including training and certification of energy auditors and sustainable energy (SE) services for promoting the SE market under the Energy Efficiency and Demand Side Management (EEDSM) component of the Compact program. RCEES is the leader of this consortium.

9. Toyota Hilux Pick-up Vehicle from the Ministry of Energy.
RCEES has received a donation of a Toyota Hilus Pick-up from the Ministry of Energy to be used for the Center's activities.

2. CONFERENCES, WORKSHOPS SEMINARS & VISITS

7. IRENA Conference – The centre participated in the International Renewable Energy conference in Abu Dhabi, UAE. The tenth session of the Assembly brought together Heads of State and Government, Ministers, member delegations as well as heads of international and regional organizations, public and private entities and civil society representatives to contribute to the energy transformation dialogue.

8. In May and June 2019, a member of the Centre benefited from a seminar organized by the Biogas Institute of the Ministry of Agriculture on Biogas Promotion and Management for Developing Countries.
9. Seminars – the centre has organized several research seminars for faculty and students including:

    - Seminar presented by Dr. Niebert Blair from the University of Canterbury, New Zealand on Sustainable Energy for Traditional Economies, the CARES design process.

- Seminar on Transition Energy by Dr. Susan Krumdieck, Department of Mechanical Engineering, University of Canterbury, New Zealand.
- Seminar on Risks Analysis and Management about Environment-to-Energy by Prof Kondo H. Adjallah

3. FUTURE PLANS OF THE CENTRE

12. Establish of a modern infrastructure for teaching and research with 4 fully furnished laboratories for
    - **Renewable Energy**
    - **Power Systems**
    - **Resource Recovery and**
    - **Environmental Recovery**
13. Start of a postgraduate programme in Renewable Energy Technologies.
14. Set up a research support endowment fund to support research activities of the centre.
15. Position the centre and the university to recruit students from across the African Continent.
16. Attain Internationally recognized accreditation for our postgraduate programs
17. Lead the innovation, promotion and entrepreneurship of inventions, developments and other related research activities.

4. CHALLENGES

1. Attracting additional funding to aid the activities of the centre.
2. Not enough staff to handle the activities at the centre.