

# FACT SHEET

# HEALTH



Project Commencement: 2019

# AFRICA

Higher Education Centres of Execellence for Development Impact (ACE Impact)

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# African Center of Excellence for Genomics of Infectious Diseases (ACEGID)

#### University and Host Country: Redeemer's University, Nigeria

Centre's Website: www.acegid.org

**Centre Leader:** Prof. Christian Happi

**Deputy Centre Leader:** Dr. Onikepe Folarin

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Primary Thematic Disciplines of the Centre:Health: Genomics of Diseases

Recent advances in genomic technologies for studying humans and microbes have the potential to transform the clinical care, understanding of infectious diseases, improve disease surveillance, and prevent outbreaks. In order to truly participate in this genomic revolution, African researchers must be equipped with knowledge of cutting - edge genomics tools, and multidisciplinary approaches to carry out fully independent and high impact research.

The African Center of Excellence for Genomics of Infectious Diseases (ACEGID) at Redeemer's University in partnership with academic, clinical, and research institutions in Nigeria, Sierra-Leone and Senegal was established in 2014 in order to bridge this gap across the region. The partners in these three countries have a long-term track record of successful research, training, and capacity building in collaboration with each other and with US partners at Harvard University, the Broad Institute, Tulane University and the University of Cambridge.

The efforts of ACEGID researchers have already demonstrated the positive impact of high-quality translational genomics- based research in Africa, with the development of new tools and countermeasures for wide ranging public health challenges, including Ebola virus disease, Lassa fever virus and Monkeypox virus outbreaks in West Africa between 2014 and 2018 and now the SARS-CoV-2 virus testing and genome sequencing. By continuing building capacity for state-of-the-art genome sequencing and field-deployable genetic tools for microbial infections in Africa, we can support clinical care of the most devastating diseases and enable a surveillance network for some of the world's greatest global health threats.

ACEGID has not only brought academic and research success for African science but is contributing in fundamental ways to regional health and economic development.

#### KEY OBJECTIVES AND EXPECTED RESULTS

ACEGID has as a mandate to:

- Develop African research capacity in genomics by building a critical mass of well-trained scientists;
- Empower African researchers to optimally utilize genomics knowledge and tools towards control and elimination of infectious diseases;
- Create and establish genomics curricula to support and promote cutting-edge genomics-based research for health advancement;
- Create a vibrant academic and research environment that is free of outside influences, and that transcends national boundaries and ensures the conduct of relevant, responsive, ethical and high quality translational genomics-based research on health in Africa;
- 5. Engage communities in prevention efforts, public health sponsored activities, and education.

#### **KEY CAPACITIES**

- State-of-the-art Genome Center with human capacity
- Leading edge molecular biology and genomic sequencing platforms
- Biosafety Level 3 laboratory
- A well-established network of clinical testing and molecular laboratories across West Africa
- State-of-the-art Bioinformatics and Immunogenomics laboratories

#### **MAJOR ACCOMPLISHMENTS TO DATE**

Testing and Sequencing of SARS-CoV-2 virus genomes obtained from patients in Nigeria

- Established a robust 6 weeks genomics capacity building program at both foundation and advanced levels for African Scientists
- Used microbial metagenomics for early detection and facilitate successful containment of a new Yellow fever outbreak in Nigeria in 2018 (Ajogbasile et al 2020)
- Development of Rapid diagnostic test kit for Ebola virus disease and Lassa fever virus
- Facilitated quick testing and genome sequencing of Ebola Virus in Nigeria. This contributed to successful containment of the disease in Nigeria (Folarin et al 2016)
- Establishment of Masters and doctoral curriculum in Molecular Biology and Genomics with International accreditation by AQAS, Germany.

#### **REGIONAL PARTNERS**

- 1. Universite Cheick Anta Diop/Hopital Le Dantec, Dakar Senegal
- 2. University of Sierra Leone/Kenema Government Hospital, Sierra Leone
- Nigeria Center for Disease control (NCDC)/ Irrua Specialist Teaching Hospital, Edo State, Nigeria.

#### **INTERNATIONAL PARTNERS**

- 1. Harvard University, USA
- 2. Tulane University, USA
- 3. Broad Institute of Harvard and MIT, USA
- 4. University of Cambridge, UK
- 5. US Department of Defense

#### PRIMARY RESEARCH FACULTY MEMBERS

- Prof. Peter Okokhere okokherep@gmail.com Clinical Sciences
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Africa Centre of Excellence for Neglected Tropical Diseases and Forensic Biotechnology (ACENTDFB)

**University and Host Country:** Ahmadu Bello University, Zaria, Nigeria

Centre's Website: acentdfb.abu.edu.ng

**Centre Director:** Prof Yakubu K.E. IBRAHIM

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#### Primary Thematic Disciplines of the Centre:

- Molecular epidemiology and drug management of Neglected Tropical Diseases-thematic neglected diseases areas in include Lymphatic Filariasis, Trypanosomiasis, Rabies, Onchocerciasis, Schistosomiaisis, and Dengue fever
- Biotechnology application in forensic issues such as paternity dispute, crime detection

ACENTDFB was established in Nigeria in 2015 with an initial grant of \$4m which was increased to \$4.7m following mid-term assessment. Its main mandate is building capacity and resolving problems associated with neglected tropical diseases (NTDS). Its proposal for the ACE Impact was successful and is being granted a sum of \$5m the next five years (2020 - 2024).

ACENTDFB runs MSc and PhD Biotechnology programmes in thematic areas of neglected tropical diseases and a Postgraduate Diploma (PGD) in Forensic Biotechnology. MSc Biomedical Forensics is scheduled to commence next academic session. ACENTDFB also conducts short term capacity trainings within Nigeria and the West African region.

ACENTDFB draws its academic faculty (comprising 15 Professors, 3 Readers, 4 Senior Lecturers and 4 Lecturers) from six units/departments of the University, The Centre's activities is coordinated and management by a well structured committee system, headed by the Centre Leader, supported by the Deputy Centre Leader, four Principal Investigators, CBRT Director and Head of Biochemistry.

Other staff members are the Finance and procurement, ICT, Monitoring and Evaluation Officers, Safeguard, and Administration officers. In addition to Postgraduate and Teaching Coordinators. The Centre also has two advisory and supervising bodies, International Scientific Advisory and the Sectoral Advisory Board.

#### KEY OBJECTIVES AND EXPECTED RESULTS

- Molecular epidemiological mapping of
   NTDs in the West African Region
- Provision of skilled human resources for the diagnosis, management and prevention of neglected tropical diseases
- Development and production of vaccines and drugs for prevention and treatment of neglected tropical diseases
- Training of manpower in the general area of molecular biotechnology techniques and forensic science for solving related problems.
- Establishment of facility and channel for security agencies and the society in resolving security, legal, paternity and other related issues

#### **KEY CAPACITIES**

- A teaching and training Lab with capacity for max 20 participants at a time
- 2. Two Analytical /diagnostic Labs (One which houses a Luminex Multplex Analyzer, ELISA plate Reader, a Biochemical Analyzer, among others, and the other, a dedicated Covid-19 Sample Testing Lab)
- A Postgraduate Research Lab with different types of PCR machines including a RT-qPCR, a BS (Bio safety) Class 2 Cabinet with other Laminar flow Cabinets, Gel documentation Systems,
- 4. Experimental Animal House for laboratory animals, small and large ruminants, with incinerator and dedicated generator
- 5. A team of researchers comprising 10 Professors, 5 senior lecturers, and Lab Manager

#### MAJOR ACCOMPLISHMENTS TO DATE

- 1. Equipping of Labs with state of the art research and teaching facilities
- 2. National and international accreditation of the postgraduate programmes (MSc. and PhD) of the Centre
- Successful graduation of MSc and PhD students including regional students and publication of research findings in high impact journals
- 4. Establishment of Nigerian Government accredited Covid-19 Sample Testing Lab in the Country in response to the Covid-19 pandemic
- 5. Provision of International Student Hostel and establishment of Experimental Animal Research house

#### **REGIONAL AND GLOBAL PARTNERS**

- 1. Institute for Biomolecular Interactions, University of Bremen, Germany
- 2. Institute for Tropical Medicine (NEKKEN), Nagasaki University, Japan
- 3. J-WEL Lab, Massachusetts Institute of Technology, Cambridge, Boston, USA
- 4. BvGH (Bio Venture for Global Health, Seattle, USA
- 5. University of Ngaundere, Cameroon
- Kumasi centre for Collaborative Research, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
- 7. CIRDES, Bobo Dioulasso, Burkan Faso
- 8. Inqaba Biotec, West Africa

#### PRIMARY RESEARCH FACULTY MEMBERS

- Prof. Yakubu KE Ibrahim Centre Leader ykeibrahim@gmail.com Antimicrobial Resistance, Drug Development
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- 12. Dr Salihu Aliyu M & E Officer salihu.aliyu@gmail.com Environmental and process biochemis





### Centre of Excellence in Reproductive Health Innovation (CERHI)

University and Host Country: University of Benin, Edo State Nigeria

Centre's Website: www.cerhiuniben.edu.ng / www.cerhi.uniben.edu

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**Centre Deputy Director:** Professor Florence Adeyemo

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Program Manager: Professor Florence Adeyemo

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Primary Thematic Disciplines of the Centre:

Reproductive Health

The Center of Excellence in Reproductive Health Innovation (CERHI) is a World Bank supported project at the University of Benin aimed at building capacity within the West African region for implementing strategic policies and programs in reproductive health.

One of CERHI's specific objectives is to train Masters and PhD students in the fields of public health, reproductive health, nursing and health economics, with the major outcome to ensure that graduates are industry-ready to address the reproductive health challenges in the region.

#### KEY OBJECTIVES AND EXPECTED RESULTS

- Training of students and technical experts/ policymakers through short courses on relevant fertility, maternal mortality, HIV/ AIDS and reproductive health policy topics in the region.
- ii. Masters in reproductive health, public health, health economics and nursing
- iii. Ph.Ds. in reproductive health, public health, health economics and nursing
- iv. Regional laboratory capacity to support HIV/AIDS and other reproductive health related problems

#### **KEY CAPACITIES**

CERHI has an ultramodern Secretariat with the following facilities:

- Lecture theatres
- Tele conferencing hall
- Laboratory for high grade research
- Reproductive health library
- E-library facilities with EBSCO host journals, Science direct, E-journals, E-books and Journals
- Free WI-FI
  - Uninterrupted power supply (150KVA Generator)
    - 32 Sitter Coaster Bus
    - International Students' hostel
    - A 4 Star Guest House

#### MAJOR ACCOMPLISHMENTS TO DATE

- The construction of the secretariat building at the University of Benin campus with fully equipped lecture halls and seminar rooms, library with 20,000 books and various e-learning materials (Ebscohost, Hinari, Science Direct, Springer, Willey, etc.), with a standby generator and internet hub providing 24-hours electricity and internet services;
- ii. CERHI provided personnel and Polymerase Chain Reaction (PCR) machine to the University of Benin Teaching Hospital (UBTH) for COVID-19 testing
- iii. National and International accreditation of all CERHI programs by the National Universities Commission (NUC), the Agency for Public Health Education Accreditation (APHEA) in Belgium and HCERES in France
- iv. Grant received from the Global Affairs, Canada through Imano Portal Ltd as part of the Africa Textbook Partnership project
- v. Instrumental Access Grant received from Seeding Labs in Boston, USA to provide laboratory equipment worth 150,000 US Dollars
- vi. Intervention research to address the reproductive health of IDP in rural Nigeria

#### PRIMARY REGIONAL AND GLOBAL PARTNERS

- 1. University of Ghana, Legon, Ghana
- 2. University of Malawi
- 3. University of Entrepreneurship, Cotonou, Republic of Benin
- 4. University of Niger, Niger Republic
- 5. Harvard School of Public Health, Boston, USA
- 6. Queen's University, Belfast, Ireland
- 7. University of Alabama at Birmingham, USA
- 8. University of Louisville, USA

#### PRIMARY RESEARCH FACULTY MEMBERS

- Professor Alphonsus Isara mansaray2001@yahoo.com Occupational and environmental epidemiology
- 2. Dr. James Osaikhuwuonmwan drjamesosai@gmail.com Fertility and Endocrinology
- Dr. Kenneth Toby Maduako tobymaduako@gmail.com Fertility and maternal and child health
- Prof. Michael Aziken michael.aziken@uniben.edu Fertility and Endoscopy
- Dr. Vincent Adam vincent.adam@uniben.edu Reproductive and family health

- 6. Dr. Kehinde Osazee kehindeosazee@gmail.com Fertility and Endocrinology
- Prof. (Mrs.) A. O. Aisien aisienao@yahoo.com Infertility, family planning and contraception
- 8. Prof. Mrs. Nkoli Aniekwu Nkolian@uniben.edu Reproductive Health Law
- 9. Prof. Mrs. Kokunre Eghafuna kokie@uniben.edu Gender and Social standards
- Dr. Lorretta Ntoimo ntoimo.lorretta@gmail.com Health Data Analysis and statistics





African Centre of Excellence for Mother and Child Health (CEA-SAMEF)

University and Host Country: Université Cheikh Anta Diop de Dakar (UCAD) - Senegal

Centre's Website: www.ceasamef.sn

**Centre Director:** Professor Ousmane Ndiaye

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#### Primary Thematic Disciplines of the Centre:

• The disciplines of interest to the centre are Maternal and Child Health, Nutrition and Public Health (Mother and Child).

The strategic orientations of the centre is to ensure quality training of students and health workers in maternal, neonatal and child health including nutrition in order to contribute to the reduction of maternal mortality in the African region.

It works to strengthen African resources and pool them in order to optimize the implementation of strategies in the areas of training, research, prevention and care. With regard to research, the aim is to promote operational research that contributes to decisionmaking for our decision-makers.

Finally, it aims at having a strong impact on the quality of training at the level of the whole Cheikh Anta Diop University of Dakar as a model of Excellence.

#### KEY OBJECTIVES AND EXPECTED RESULTS

- To increase the attractiveness of the University of Dakar by setting up quality training courses accredited at national and international level;
- To ensure research of internationally recognized quality through the publication of accepted results in indexed, high-impact international journals;
- Generate additional resources to allow its autonomy beyond the project;
- To obtain a very strong integration of students after their training.

#### **KEY CAPACITIES**

- An anatomical model simulation laboratory
- Sufficient internship sites (6 level 3 hospital facilities and 2 health centres)
- Specific E-learning platform for CEA-SAMEF training courses
- Availability of Microsoft Team and Zoom for virtual meetings
- Physical and digital library

#### MAJOR ACCOMPLISHMENTS TO DATE

- Accreditation of 11 programs in ACE 1
- Income generation with UNICEF in Guinea Bissau and PATH (3-year research project in progress) / International income;
- Reception of the simulation laboratory ;
- Recruitment of PhD students
- Completion of the student booklet and sexual harassment policies



# PIMARY DEGLARAD GLOBAL PARTNERS

- 1. University of Florence in Italy (Erasmus plus programme with Pediatrics)
- 2. Centre Hospitalier Universitaire Vaudois de Lausanne in Switzerland
- 3. UNICEF in Guinea Bissau (training of health workers); temporarily interrupted by COVID-19
- 4. International NGO PATH; ongoing research project
- 5. SANOFI Pharmaceutical Laboratories
- 6. NESTLE Laboratories
- 7. University of Conakry
- 8. University of Niamey

#### PRIMARY RESEARCH FACULTY MEMBERS

- 1. Professor Alassane Diouf dioufalassane@ymial.com Gynecology and Obstetrics
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- 7. Professor Boubacar Camara boubacar.camara@ucad.edu.sn Pediatrician
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- 9. Professor Papa Moctar Faye fayemakhou@hotmail.com Pediatrician
- 10. Professor Adama Faye Adamafaye94@gmail.com Public Health



African Centre of Excellence for Training, Research and Expertise in Medicinal Sciences (CEA-CFOREM)

University and Host Country: Université Joseph KI-ZERBO - Burkina Faso

Centre's Website: https://www.cforem-univ-ouaga.org/

**Centre Leader:** Prof. Rasmané SEMDE

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**Deputy Centre Leader:** Dr. Moussa OUEDRAOGO

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#### Primary Thematic Disciplines of the Centre:

- Improving Pharmaceutical Management and Practice in Hospitals ;
- Research and development of herbal medicines ;
- Development of innovative pharmaceutical forms (amorphisation, nano-medicines) of active ingredients of subregional interest (e.g. antimalarial drugs).

CEA-CFOREM has been selected in the framework of the call for applications for African Centres of Excellence for Impact projects launched by the World Bank in 2018.

The Centre is at the interface of the training (UFR / Health Sciences (UFR/SDS)) and research (Doctoral School Sciences and Health (ED2S)) institutions of the Joseph KI-ZERBO University. Its aim is to contribute to the improvement of the access of the populations of the West African sub-region to quality medicines through the training of human resources and scientific research in the fields of medicine sciences. A pool of Burkinabe, sub-regional and international trainers leads various high-level training programmes.

Depending on the course of study, these programmes lead to a Certificate, a Master's Degree in Health and Medicinal Sciences or a University Doctorate (PhD), depending on the course of study. Several national and sub-regional students (Benin, Côte d'Ivoire, Mali, Niger, Togo, ...) are already involved in these programmes. To strengthen its performance and attractiveness, CEA-FOREM is implementing a gender-sensitive scholarship policy, a programme to support sectoral partnerships and a development plan for its technical platform for training and research.

#### **KEY OBJECTIVES AND EXPECTED RESULTS**

The general objectives are :

- To provide Burkina Faso and other countries of the West African sub-region with a critical mass of high-level human resources, qualified and competent in the various fields of medicinal sciences, and meeting the needs of public and private sector partners;
- To improve the capacity and quality of academic research in drug sciences in West Africa.

 To improve the quality and performance of local production of medicines and pharmaceutical raw materials through the provision of quality expertise and services.

#### **EXPECTED RESULTS**

- Training opportunities in drug science in the subregion are being strengthened;
- An attractive study and living environment for students and learners at the centre is available;
- An appropriate framework for pharmaceutical education and research is put in place;
- Good results in pharmaceutical research and development of regional interest are produced in the framework of the theses and PhDs of the Centre's students;
- The results of scientific research are promoted through publications, patents and university spinoffs;
- High-level pharmaceutical expertise is provided to national and sub-regional sector partners.

#### **KEY CAPABILITIES**

- Training opportunities in drug science in the subregion are being strengthened;
- An attractive study and living environment for students and learners at the centre is available;
- An appropriate framework for pharmaceutical education and research is put in place;
- Good results in pharmaceutical research and development of regional interest are produced in the framework of the theses and PhDs of the Centre's students;
- The results of scientific research are promoted through publications, patents and university spinoffs;
- High-level pharmaceutical expertise is provided to national and sub-regional sector partners.

#### MAIN ACHIEVEMENTS TO DATE

- Elaboration of preparatory documents for the 2019-2024 project;
- Adoption of the decree for the creation of the Master's degree in health and medicine sciences by the Ministry of Higher Education;
- 3. Recruitment and training of Master, PhD and certificate students;
- 4. Student internships with sector and scientific partners;
- 5. Participation of the project team in congresses and trainings.

#### MAIN REGIONAL AND GLOBAL PARTNERS

- Prof. Rokia SANOGO
   Directorate of Traditional Medicine
   National Institute of Public Health Research
   Mali
- 2. Prof. Serge Antoine Guillaume AMARI Pharmaceutical Law and Ethics UFR Pharmaceutical and Biological Sciences Félix Houphouët - Boigny University Republic of Côte d'Ivoire

#### 3. Prof. Mamadou FALL

Laboratory of Toxicology and Hydrology Faculty of Medicine, Pharmacy and Odontology Cheikh Anta DIOP University of Dakar, Senegal

#### 4. Prof. Fernand GBAGUIDI

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#### 6. Prof. Karim AMIGHI

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#### 7. Prof. Brigitte EVRARD

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8. Dr. Audrey TOURETTE Faculty of Pharmacy Université Paul Sabatier 3, France



#### PRIMARY RESEARCH FACULTY MEMBERS

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- Jean SAKANDE University Joseph KI-ZERBO, Burkina Faso jsakande@gmail.com Biochemistry - Quality Assurance

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#### 9. Charles Bavouma SOMBIE

Université Joseph KI-ZERBO, Burkina Faso charlsombie@yahoo.fr Biopharmacy, Pharmaceutical Technology

- 10. Dr. Abdoul Karim SAKIRA University Joseph KI-ZERBO, Burkina Faso karim\_sakira@yahoo.fr Pharmaceutical Analysis
- Daniel DORI Joseph KI-ZERBO University, Burkina Faso doridaniel@ymail.com Public Health - Pharmaceutical Management





African Centre of Excellence in Biotechnological Innovations for the Elimination of Vectorborne Diseases (ACE/ITECH-MTV)

University and Host Country: Université Nazi BONI - Burkina Faso

**Centre's Website:** http://cea-itech.u-naziboni.bf/cea/

**Centre Leader:** Prof. Abdoulaye DIABATE

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#### Primary Thematic Disciplines of the Centre:

- Medical and Veterinary Entomology
- Ecosystems Health Societies
- Molecular Biology & Genetic Engineering
- Biosecurity Biosafety Quality Management

The thematic area of ECA/ITECH-MTV is health, specifically on issues related to biotechnology and other control tools that contribute to the elimination of vector-borne diseases, including malaria.

A total of 7 main research themes are addressed, namely

- Theme 1 Genetic approaches to vector control;
- Theme 2 Insecticide resistance, resistance management;
- Theme 3 Ecology and Reproductive Behaviour;
- Theme 4 Host-pathogen interactions and strategies to block transmission;
- Theme 5 Social Sciences in Health and MTV;
- Theme 6 Neglected Tropical Diseases (NTDs);
- Theme 7 Biosafety, Regulation of Modified Genetic Organisms, and Quality Assurance,

CEA/ITECH-MTV works in close collaboration with Health Sciences Research Institute (IRSS) and in partnership with a pool of more than seventeen (17) leading technical institutions (with associate members), each in its field at the national, regional and international level to achieve training and research objectives.

#### KEY OBJECTIVES AND EXPECTED RESULTS

The CEA/ITECH-MTV aims to train a critical mass of specialists in disease vectors through a high quality diploma course supported by a high-performance research programme:

- provide a large pool of human capital (100 Masters, 50 PhDs and hundreds of short courses) through high quality training thanks to access to a research and teaching platform of international standard;
- valorise the results of research and teaching by absorbing graduates into the reception structures concerned by the technology, the scientific publication of results, the implementation of the recommendations

of the research results in the service of the sectoral ministries concerned and their branches such as the national programme for the fight against malaria, the direction of the disease;

 encourage the creation of enterprises by learners through the real involvement of the national agency for the valorisation of research and innovation results (ANVAR) and the chamber of commerce and industry representing the business world in the formatting of curricula, the monitoring of results and the setting up of special startup funds for innovative ideas.

#### **KEY CAPABILITIES**

- Containment level 2 or ACL2 insectarium for breeding genetically modified mosquitoes;
- Biological testing laboratory whose work is undergoing WHO accreditation;
- Microbiology, parasitology, entomology, biology and virology, molecular biology laboratories
- Fully equipped P3 laboratory;
- Insectarium of Bobo-Dioulasso Coping with Trypanosomiasis and Tsetse fly eradication campaigns (IBD-CETT) or (e.g. PATTEC).

#### MAIN ACHIEVEMENTS TO DATE

- Refurbishment of the premises for the establishment of the CEA/ITECH-MTV headquarters;
- Short training course "TRAINING IN VECTOR BIONOMICS AND INNOVATIVE VECTOR CONTROL STRATEGIES FOR MALARIA ELIMINATION" from 19-30 August 2019;
- Recruitment of two cohorts of Masters and PhD students on behalf of CEA;
- Creation of a new specialty called "PhD in Biosafety - Biosecurity - Quality Management".

#### **PRIMARY RESEARCH FACULTY MEMBERS**

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- 2. Prof. Roch K. DABIRE dabireroch@gmail.com Medical Entomology
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6. Prof. Jacques SIMPORE jacques.simpore@yahoo.fr Molecular genetics

cal Innovations fo

- 7. Prof. Austin BURT a.burt@imperial.ac.uk Genetic Engineering
- 8. Prof. Frédéric TRIPET f.tripet@keele.ac.uk Vector Ecology
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- Prof. Steven SINKINS steven.sinkins@glasgow.ac.uk Microbiology of endosymbionts

African Center of Excellence for the Prevention and Control of Communicable Diseases (CEA-PCMT)

University and Host Country: Gamal Abdel Nasser University of Conakry - Guinea

Centre's Website: www.cea-pcmt.org

**Centre Leader:** Prof. Alexandre DELAMOU

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Deputy Center Leader: Dr. Mariame Sadjo DIALLO

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#### Primary Thematic Disciplines of the Centre:

- Master training in Public Health and Microbiology
- PhD training in public health
- Short-term training
- Communicable disease research



The African Center of Excellence for the Prevention and Control of Communicable Diseases (CEA-PCMT) of the Faculty of Health Sciences and Techniques (FSTS) of the Gamal Abdel Nasser University of Conakry (UGANC) was created in 2019 as part of the Impact of African Centers of Excellence (ACE) project funded by the World Bank.

CEA-PCMT aims to sustainably improve the prevention and control of communicable diseases in sub-Saharan Africa. Its objective is to establish at UGANC a regional program of excellence in training and research on communicable diseases.

To achieve excellence in training, CEA-PCMT will offer short courses, masters and doctoral programs geared towards innovation and involving public and private development actors at national, regional and international levels. The attractive and innovative training program envisaged will include:

#### Short Courses:

- University degree in community health (as part of the family medicine diploma)
- University degree in global health and emerging diseases (in collaboration with the Center for Training and Research in Infectiology (CERFIG) and the University of Toulouse, France)
- University degree in quality assurance (in collaboration with the Ministry of Health and the University of Heidelberg, Germany)
- Online university degree in primary health care (in collaboration with the CNFRSR of Maferinyah and the Institute of Tropical Medicine in Antwerp, Belgium)
- Online university degree in research methodology (in collaboration with the CNFRSR of Maferinyah and the Institute of Tropical Medicine in Antwerp, Belgium)

#### Master programs

- Master in Public Health (with three specialties)
- Epidemiology and Bio statistics
- Disease Control
- Community Health

#### Master in Microbiology – Immunology

#### Doctoral program (PhD)

Doctor of Philosophy (PhD) in Public Health

To achieve excellence in research, CEA-PCMT aims to conduct applied research in partnership with collaborating national and international institutions in order to position itself as a regional reference center in the prevention and control of communicable diseases in Africa from West. The research program will be carried out in three main areas:

- 1. Implementation science research
- 2. Communicable disease surveillance
- Monitoring of antimicrobial resistance to drugs and products used in the fight against communicable diseases.

#### KEY OBJECTIVES AND EXPECTED RESULTS

#### The General Objective is:

Meet the demand of the labor market in terms of development of international skills and the need for knowledge in the following areas:

- Strengthen the centre's capacity to deliver regional excellence training (masters, doctorate) in co-construction with the actors involved (public, private development), responding to the challenges indicated above;
- To conduct applied applied research of excellence, in partnership with the national and international institutions involved in the ACE in order to position the center as a regional reference in the prevention and control of communicable diseases in West Africa;

• Build lasting partnerships with potential users of the centre's products, training and research institutions at national, regional and international levels. This strategy aims to improve the quality of teaching and research through technology transfer, mobilization of funding, innovation and sustainability of excellence at the level of the proposed Center.

#### Specifically:

- Strengthen the centre's capacity to deliver regional excellence training (masters, doctorate) in co-construction with the actors involved (public, private development), responding to the challenges identified;
- To conduct applied applied research of excellence, in partnership with the national and international institutions involved in the CEA in order to position the center as a regional reference in the prevention and control of communicable diseases in West Africa;
- Build lasting partnerships with potential users of the centre's products, training and research institutions at national, regional and international levels.

#### THE EXPECTED RESULTS ARE

- 1. The Masters training offer in Public Health is improved;
- 2. PhD training in public health is available
- 3. An attractive study and living environment for students and learners at the center is available;
- 4. An appropriate framework for training and research on communicable diseases is established;
- Good research results of regional interest are produced within the framework of the dissertations of Master and PhD students;

- 6. The results of scientific research are valued through publications, congresses, scientific days and international conferences;
- 7. High-level expertise on communicable diseases is provided to national and sub-regional sector partners.

#### **KEY CAPABILITIES**

A master class room with a capacity of 30 places to renovate

#### MAIN ACHIEVEMENTS TO DATE

- Preparation of project preparation documents for 2019 2024;
- 2. Finalization of the institutional preparation of the center

#### MAIN REGIONAL AND GLOBAL PARTNERS

- 1. **Prof. Paul MILLIGAN,** London School of Hygiene and Tropical Medicine
- 2. Prof. Éric Delaporte, University of Montpellier
- 3. François COUTURIER, Faculty of Medicine and Health Sciences, University of Sherbrooke
- Prof. Jean Louis Ndiaye, University of Thiès, Senegal
- Prof. Seni Kouanda, Research Institute in Health Sciences & African Institute of Public Health, Ouagadougou, Burkina Faso
- 6. Gordon A. Awandare, University of Ghana, Legon
- 7. Prof. Wim Van Damme, Institute of Tropical Medicine in Antwerp
- Prof. Seydou Doumbia, University of Sciences, Techniques and Technologies of Bamako (USTTB), Mali

#### PRIMARY RESEARCH FACULTY MEMBERS

- Dr. Abdoulaye SOW drsowab@gmail.com Université Gamal Abdel Nasser de Conakry Public Health, Mental Health
- Dr. Alpha Kabinet KEITA alpha-kabinet.keita@ird.fr Université Gamal Abdel Nasser de Conakry Microbiology
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- Prof. Mohamed Sahar TRAORE sahartra1900@gmail.com Université Gamal Abdel Nasser de Conakry Pharmacognosy
- 7. Prof. Mamadou Saliou SOW smsaliou@gmail.com Université Gamal Abdel Nasser de Conakry Infectious Diseases
- 8. Prof. Abdoulaye TOURE

ouedraogosalfo35@yahoo.fr Université Gamal Abdel Nasser de Conakry **Public Health, Epidemiology** 

- 9. Dr. Sidikiba SIDIBE layesidikiba@gmail.com Université Gamal Abdel Nasser de Conakry Public Health and Epidemiology
- 10. Dr Abdoul Habib BEAVOGUI

bea@maferinya.org National Center for Training and Research in Rural Health of Maferinyah Parasitology





Africa Centre of Excellence in Public Health and Toxicological Research (ACE-PUTOR)

#### University and Host Country: University of Port Harcourt

Centre's Website: www.aceputoruniport.edu.ng

**Centre Director:** Daprim Ogaji

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E-mail Address: daprim.ogaji@uniport.edu.ng

#### Primary Thematic Disciplines of the Centre:

Public Health, Environmental Toxicology, Nutritional Biochemistry/Toxicology, Midwifery and Child Health Nursing

Environmental degradation, especially of the swamps, rivers and creeks from oil spills, pipeline vandalisation and illegal refining activities are the major fall outs of the oil and gas activities in the Niger Delta region.

This affects the health and livelihood of the people who depend on the ecosystem services for survival, leading to increased poverty and hunger. The problem is compounded by the paucity of highly skilled and motivated health professionals who are equipped with current knowledge, skills and competencies required for conducting cutting-edge research in public health and toxicology that would help mitigate the public health issues arising from oil and gas exploration in the region.

ACE-PUTOR was established to address the dearth of requisite knowledge infrastructure to address the public health and toxicological challenges arising from environmental pollution. This will achieved through formation of broad-based partnership with relevant institutions/sectors, conduct of applied research, and the development of curricula for new training programmes leading to certificates, diplomas, masters and PhDs in environmental health, environmental toxicology, nutritional biochemistry/toxicology, and midwifery/child health nursing.

Highly motivated national and regional students would be attracted and trained in a world-class teaching and learning environment.

#### **KEY CAPACITIES**

- 8 offices for staff, a Board Room and student workstations
- Three large classrooms
- University Central instrument laboratory of the University
- University Language laboratory
- University Central library

#### **KEY OBJECTIVES AND EXPECTED RESULTS**

The objectives and expected outputs of the project over a period of 5 years include

- To develop curricula for at least 3 new PhD programmes in public health and toxicology
- To develop curricula for at least 4 new master's programmes in public health and toxicology
- To train at least 42 PhD students in public health and toxicology
- To train at least 72 MSc students in public health and toxicology
- To train at least 150 participants in short courses in public health and toxicology
- To achieve national accreditation for at least 4 academic programmes
- To achieved GAP/Self-assessment for 3 training programmes
- To achieved international accreditation for 3 training programmes
- To produce at least 40 publications in indexed journals in public health and toxicology
- To complete new training structure (including lecture halls, offices, laboratories, library)
- To attract at least \$1,000,000 additional funding from private and other sources

#### MAJOR ACCOMPLISHMENTS TO DATE

- Set up required structures for effective function and requirements for DLI
- Developed and commenced training for 6 new PhD Programmes and 4 new MSc Programmes using modern pedagogue
- Concluded first year of academic training in all new postgraduate progammes
- Established partnerships with 8 local, regional, and international organisations
- Official launch of the Centre in May 2019



#### PRIMARY REGIONAL AND GLOBAL PARTNERS

- 1. Ensign College of Public Health, Accra
- 2. University of Sierra Leone
- 3. African Centre of Excellence in Public Health and Herbal Medicine (ACEPHEM), University of Malawi
- 4. University of South Australia School of Nursing and Midwifery

#### PRIMARY RESEARCH FACULTY MEMBERS

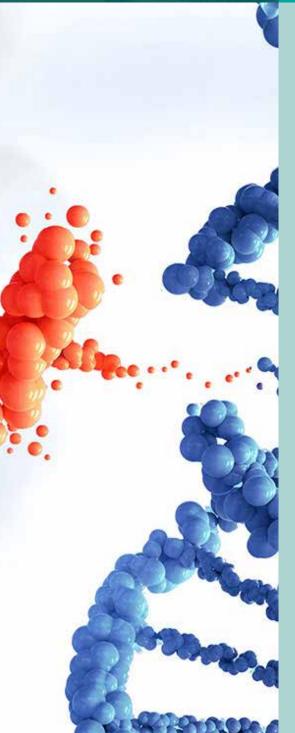
- Prof. Onyewuchi Akaranta onyewuch.akaranta@uniport.edu.ng Toxicology
- 2. Prof. Eugene Onyeike eugene.onyeike@uniport.edu.ng Nutritional Biochemistry/Toxicology
- 3. Prof. Best Ordinioha best.ordinioha@uniport.edu.ng Environmental Health
- 4. Prof. Charles Tobin-West Charles.tobin-west@uniport.edu.ng Environmental Epidemiology
- 5. Dr. K. Patrick-Iwuanyanwu kc.patrick-iwuanyanwu@aceputoruniport.edu.ng Nutritional Biochemistry/Toxicology

- Dr. Anthonet Ezejiofor anthonet.ezejiofor@uniport.edu Toxicology
- 7. Dr. Catherine Ikewuchi catherine.ikewuchi@uniport.edu.ng Nutritional Biochemistry/Toxicology
- 8. Dr. Francis Anacletus francisanacletus@gmail.com Nutritional Biochemistry/Toxicology
- Dr. Oluseye Babatunde
   Ob.babatunde@uniport.edu.ng
   Epidemiology

#### 10. Dr. Faith Diorgu

Faith.diorgu@uniport.edu.ng Midwifery/Child Health Nursing





# Africa Center of Excellence for Population Health and Policy (ACEPHAP)

University and Host Country: Bayero University Kano (BUK), Nigeria

Centre's Website: www.acephap.buk.edu.ng

**Centre Director:** Prof Hadiza Galadanci

E-mail Address: hgaladanci@yahoo.com

#### Primary Thematic Disciplines of the Centre:

- Population Health
- Global Health
- Maternal and Child Health
- Nutrition
- Mental Health
- Infectious Diseases

The Africa Center of Excellence for Population Health and Policy (ACEPHAP), is a World Bank supported Center, which aims to strengthen inter-disciplinary approaches and promote population health outcomes through training and research for evidenceinformed policy development in West and Central Africa.

This approach utilizes non-traditional partnership among different sectors of the community, public health, industry, academia, health care and local government entities to achieve positive health outcomes through policy development and implementation. The Center shall adopt a strategy of translating research outputs to policy. This will be through recommendations to policy makers for implementation purposes as a process of promoting or 'Turning Research into Practice (TRIP)' for evidence-proven interventions. While there are several population health challenges in West and Central Africa, ACEPHAP shall address health concerns of Sustainable Development Goals 3 (SDGs 3): maternal health, child health, and infectious diseases (malaria, TB and HIV) with particular emphasis on increasing human resources for health and Turning Research into Practice (TRIP)' for evidence-proven interventions

#### **KEY OBJECTIVES AND EXPECTED RESULTS**

- To train postgraduate students to acquire knowledge, skills and competence towards achieving health-related SDGs
- To strengthen capacity and capability of translating research findings to policy and practice
- To promote and enable gender parity and participation in population health research and policy
- To increase the nursing human resources for health in West and Central Africa

#### **KEY CAPACITIES**

- Dedicated Center Building with Conference Hall facilities
- Biotechnology laboratory/ Tissue typing laboratory
- Community outreach site(rural)
- Grant management Office

#### MAJOR ACCOMPLISHMENTS TO DATE

- Admission of 14 Regional students
- Completion of implementation plan
- Getting grant of \$626,000 from BMGF as part of the EMOTIVE trial in collaboration with WHO and Birmingham University UK
- Getting grant as part of the WANIDA consortium (ACE Partners)





#### PRIMARY REGIONAL AND GLOBAL PARTNERS

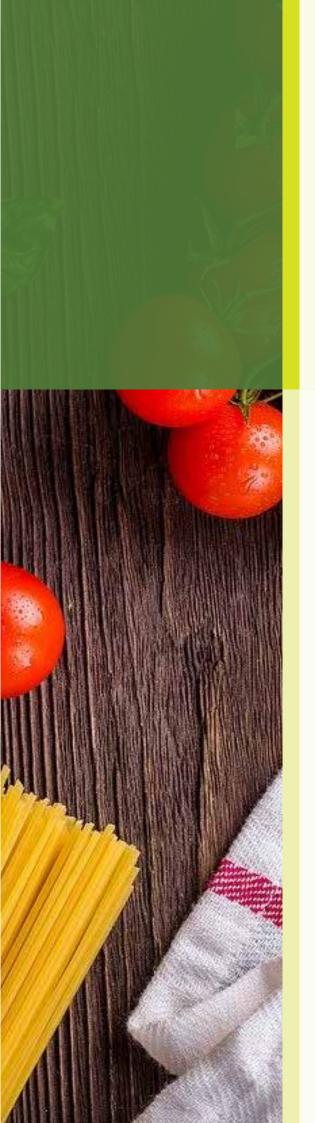
#### Federation of African Nutrition Societies

- 1. Universite Dan Dicko Dankoulodo Niger
- 2. University of Shefield, UK
- 3. Tanta University Cairo
- 4. Institution: Vanderbilt University/ Vanderbilt Institute of Global Health, USA
- 5. Chattam House, UK

#### PRIMARY RESEARCH FACULTY MEMBERS

- Prof Habib Galadanci
   Abdulrazaq\_habib@yahoo.co.uk
   Infectious Diseases/Tropical Medicine
- 2. Dr Fatima Hassan Hanga fhassanhanga@gmail.com Child Health/ Paediatric Infectious Disease
- Prof Zubairu Iliyasu ziliyasu@yahoo.com Public Health
- Dr Baba Maiyaki Musa Babamaiyaki2000@yahoo.co.uk Pulmonology/Infectious Diseases

- 5. Prof Baba Isa universalisah@gmail.com
- Dr. Taiwo Amole Tayade10@yahoo.com
   Public Health/Epidemiology
- Dr Saisu Maiwada Smabubakar.bch@buk.edu.ng Biochemistry/ Nutrition
- Mansurat Abdulaze ez Mabdulazeez131@gmail.com Molecular Science



# Africa Centre of Excellence For Mycotxin and Food Safety (ACEMFS)

**University and Host Country:** Federal University of Technology, Minna, Nigeria

Centre's Website: acemfs.futminna.edu.ng

**Centre Leader:** Prof. Hussaini Anthony Makun

E-mail Address: acemfs@futminna.edu.ng hussaini.makun@futminna.edu.ng

#### Primary Thematic Disciplines of the Centre:

- Food Safety
- Toxicology
- Molecular Biology and Bioinformatics

The Africa Centre of Excellence for Mycotoxin and Food Safety (ACEMFS) came into existence in 2019 through Arica Centre of Excellence Award co-sponsored by AAU/ World bank/AFD (supported by NUC) with a grant of Six Million Dollars.

Its main focus is to produce skilled man power with quality education and training in the use of modern functional equipment and innovative research for assessing impacts of food borne pathogens and toxic chemical residues on the health and economy of West and Central Africa Sub-region and consequently set appropriate national and regional standards for effective prevention and control of food poison that can guide policy formulation across the African region.

ACEMFS runs postgraduate studies (M.Tech and PhD) in three (3) thematic areas: Food Safety; Toxicology; and Molecular Biology and Bioinformatics. They are designed as full time programmes for the purpose of encouraging cross-border collaboration to provide relevant human and material resources for the effective training of highlevel independent minded, self-reliant and competent researchers that are capable of providing critical skills in effective food system.

ACEMFS' aim will be accomplished together with 46 academic and sectoral partners, an International Scientific Advisory Board (ISAB), and the Sectoral Advisory Board (SAB).

#### **KEY OBJECTIVES AND EXPECTED RESULTS**

#### Objectives:

- Provide high quality postgraduate education (MSc and PhD) and professional training in Food Safety, Toxicology and Molecular Biology and Bioinformatics.
- 2. Conduct cutting-edge and innovative researches towards developing intervention strategies and products against contamination and adverse

health impacts of food borne pathogens, mycotoxins, heavy metals, veterinary drug and pesticides residues, Hydrocyanic acids and polychlorinated biphenyls in foods and feeds.

 To form an innovative entrepreneurship ecosystem with industries and stakeholders in the regional food production sector towards producing safer foods for sustainable public health, food security and economic prosperity

#### Outcomes:

- At least 150 postgraduates (100 MSc and 50 PhD) in the three thematic areas.
- 2. Well trained food safety officers (50 midterm professional careers).
- Well trained 500 farmers and food vendors on food safety challenges and mitigation strategies
- 4. About 200 publications in Q1 journals
- 5. Six patents for agricultural productivity and entrepreneurship for revenue generation
  - a. Food contaminants early warning systems
  - b. Fit-for-purpose good agricultural and food processing codes of practice
  - c. Drought, pest and mycotoxin resistant cultivars
  - d. Phytofungicides
  - e. Bio-control methods for eliminating mycotoxin producing fungi at the farm,
  - f. Nanobased mycotoxin feed binder and detoxifiers,
  - g. Mycotoxin portable detection systems
- Effective national and regional food control systems which will ensure safer food and consequently sustainable public health, food security and economic prosperity in Africa.

#### **KEY CAPACITIES**

- Medical Imaging and Bioinformatics Laboratory: PC NMR/FFFC NMR, relaxometer Smartracer, and Videoconferencing System with 30 Bioanalyser System and Bioinformatics Software.
- Nanotechnology Laboratory: Malven Zetasizer Nanos, Raman Spectrometer, BET Surface Area and Porosity Analyser, Carbon Vapour Deposition Equipment, Ultrasonic Shaker.
- Drug and Vaccine Laboratory: Fluorescence microscope, Automated DNA sequence machine, and Scanning Double beam UV/visible spectrophotometer.
- Three teaching rooms with capacity for maximum of 40 participants at a time.
- A well-furnished accommodation for more than 50 post graduate students.

#### MAJOR ACCOMPLISHMENTS TO DATE

- Inauguration of the Centre and first meeting of the International Scientific Advisory Board of the Centre at FUT Minna.
- Appointment of Sectoral Advisory Board consisting of ten (10) agencies and industries both local and international.
- Presentation on ACEMFS at the World Mycotoxin Forum at Belfast, Northern Island, and at the Flemish Trade Mission to Nigeria.
- Admission of postgraduate students (Masters and PhDs) of each; Food Safety, Toxicology, and Molecular Biology and Bioinformatics into the Centre.
- Co-Partner with WACCI to win West African Network of Infectious Diseases (WANIDA) against COVID-19 grant/centre from Agence Française de Développement
- Contract research on national mycotoxin survey from the Federal Ministry of Agriculture and Rural Development of Nigeria

#### PRIMARY REGIONAL AND GLOBAL PARTNERS

- 1. University of Kinshasa, Democratic Republic of Congo (DRC)
- 2. University of Johannesburg, South Africa
- 3. National Research Center, Cairo, Egypt
- 4. Anand Agricultural University, India
- 5. Florida Agricultural and Mechanical University, United States of America
- 6. Ghent University, Belgium and MYTOX SOUTH (including sixteen African Universities)
- 7. World Food Preservation Center, United States of America
- 8. BIOMIN Holding GmbH, Austria

#### PRIMARY RESEARCH FACULTY MEMBERS

- Professor Hussaini Anthony Hussaini.makun@futminna.edu.ng Makun (Centre Leader) Biochemistry with specialization in food safety and mycotoxicology
- Dr. (Mrs.) Hadiza Lami Muhammad Hadiza.lami@futminna.edu.ng Deputy Centre Leader, and Research Theme Leader, Mycotoxin Biochemistry with specialization in heavy metals in foods, and food toxicology

#### 3. Professor Emmanuel Ogbadoyi

eogbadoyi@futminna.edu.ng Research Co-rodinator Biochemistry with specialization in Drug Discovery

#### Professor Abdulkareem Ambali Saka Kaska2003@futminna.edu.ng Sectoral/Industrial Liason Officer Chemical Engineering with specialization in Nanotechnology

#### Professor Chiemela Enyinnaya Chinma chima.chiemela@futminna.edu.ng Academic Co-ordinator Food Science and Technology

#### 6. Professor Israel Olayemi

Israel.olayemi@futminna.edu.ng Zoology with specialization in Medical Entomology  Dr. (Mrs) Oluwatosin Kudirat Shittu toscueyusuf@futminna.edu.ng HOD Biochemistry, and Research Theme Leader, Molecular Biology and Bioinformatics Biochemistry with specialization in molecular biology and bioinformatics

#### 8. Dr. John Adama

adama\_live@yahoo.com Research Theme Leader, Veterinary Drug Residue Veterinary Medicine with specialization in animal parasitology and milk microbiology

#### 9. Dr. Alexander Ikechukwu Ajai

Ajai.ike@futminna.edu.ng Research Theme Leader, Heavy Metal and Pesticide Residue Analytical Chemistry with specialization in heavy metals and pesticides residues

#### 10. Dr. (Mrs.) Mercy Temitope Bankole

Bankole.temitope@futminna.edu.ng Monitoring and Evaluation Officer, and Research Theme Leader, Nanotechnology) Chemistry with specialization in analytical chemistry and nanotechnology

#### 11. Dr. David Jeremiah Bala

bala.jeremiah@futminna.edu.ng Microbiology with specialization in Environmental Technology

#### 12. Dr. Daudu Oladipupo A . Y.

Daudu.yusuf@futminna.edu.ng Botany with specialization in Plant breeding and Genetics

