UI-Research Foundation Portfolio 2014

Translating Research for Innovations, Strategies and Novel Products for Economic Development of Nigeria
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RESEARCH FOR ACADEMIC EXCELLENCE AND NATIONAL DEVELOPMENT

- Prof Isaac F. Adewole, FAS
Vice-Chancellor, University of Ibadan, Ibadan

This research portfolio/grant award ceremony by the University of Ibadan Research Foundation (UI-Research Foundation) marks an important chapter in the evolution of the University of Ibadan as a research-intensive institution. It also highlights the dedicated effort to provide support for research as a platform to realize the University's vision as "a world-class institution for academic excellence geared towards meeting societal needs".

The University of Ibadan since 1948 continues to make laudable contributions to training leaders in Nigeria and for other countries of Africa. The comprehensive level of academic and professional training the University provides remains an essential component and cornerstone for the social and economic development of the nation and the region. The University has produced over 250,000 Graduates, 5000 Ph.D. holders, over 40 Vice Chancellors, in addition to other numerous stakeholders of the National affairs. The University of Ibadan is blessed with excellent staffs that continue to maintain high level of scholarship. The staff and the research platform are valuable assets necessary to remain the premier provider of the best quality of education, research, training and services to the students and stakeholders in the region.

The University of Ibadan has created the UI-Research Foundation with an important overarching objective, which is to provide unique opportunities for the staff to participate in interdisciplinary, leading edge research funded by the University as well as international funding agencies. The expectation is that efforts of the UI-Research Foundation in meeting these objectives will enable individual staff member to be more responsive to states and national needs that could be met through the research programs, training and services. More importantly, it will enhance the ability of the University of Ibadan to continue to succeed in efforts to:

- Deliver the best education and training for students;
- Produce research data and translate research results to benefit Nigerians and
- Generate new knowledge useful for innovations and economic development of the nation.

The major initiatives of the UI-Research Foundation have been designed to be implemented in phases. The objectives of the first phase of the initiative are to:

- Organise the award and funding of Research Grants to faculty members of the University and collaborating partners from other institutions.
- Develop platforms and provide framework and resources to facilitate collaborations among faculty members in order to create interdisciplinary leading edge research and teaching partnerships at the University.
- Facilitate grant applications and partnerships for international funds by staff in order to develop and pioneer novel areas and disciplines for research at the University.
- Foster access to Training Grants for individual members of staff and faculties of the University as part of a dedicated continuing professional and career development (CPDC) scheme. Efforts will be made to identify new talents and focus on training in specialized fields with international partners.
- Establish memorandum of understanding (MoUs) with international partners to facilitate training of staff and research collaborations.
- Create a University wide forum for knowledge and information sharing and public private partnerships discussions that will lead to effective translation, innovation and application of new knowledge for education and services to students and stakeholders of the University.

The UI-Research Foundation has started to achieve these aims through collective deliberations engaged in the selection of the research projects in this portfolio. It is my hope that the collaborative studies being funded in this cycle will lead to scientific breakthroughs sorely needed for the development of our University and our Nation.
THE BOARD OF THE UNIVERSITY OF IBADAN RESEARCH FOUNDATION
CREATING NEW FIRSTS WITH RESEARCH AND ACADEMIC EXCELLENCE

- The Rt. Hon. Chevalier Uduimo J, Itsueli, KSG, OON
Chairman, Board, UIR-Foundation

The strategic positioning of the University of Ibadan to engage and facilitate “Research for National Development and Academic Excellence” represents an important landmark in the laudable achievements of the premier University in Nigeria. The University since opening its doors to students over 64 years ago has made significant contributions to development of our country.

The University of Ibadan has produced important firsts in the nation—a Nobel Laureate, Ministers, Senators, Governors, Business Moguls and Magnates, Bishops, Inspector General of Police, Military Leaders, and Many firsts in many disciplines. In addition, over 5000 PhD holders have benefited from the excellent faculty of the University. I am proud to be an alumnus of the University of Ibadan.

The vision of the University of Ibadan is to be a world class Institution for academic excellence. However the University has faced myriad challenges that have inhibited the attainment of its stated vision.

Great strides have been taken in the last few years, although the challenges are many and continue to grow. The Vice Chancellor and his team deserve to be commended for establishing the University of Ibadan Research Foundation (UI-Research Foundation) to foster research for national development and academic excellence.

Research, translation of the research results for societal needs are critical components for national development. Research is one of the mandates of the Universities. University of Ibadan has recognized this as her mandate and making efforts to strengthen the faculties and infrastructure for research. Research at the University of Ibadan is growing again but in pockets. These pockets need to be nurtured and grown. They need to be nursed. Thus can the vision be achieved.

What then, when research is grown and nurtured? We need to take the research to humanity; to benefit mankind; to make the world a better place. Our Creator, our Lord God, gave us a mandate. Multiply and dominate the world!
We should take the research to the world. “TAKE THE GOWN TO THE TOWN!”

This is where UI-Research Foundation can make a difference. We must create a Science Park to incubate the inventions, commercialise them and take them to the public.

The Vice Chancellor has provided the enabling environment for UI-Research Foundation to thrive. The Board has eminent members and alumni of the University of Ibadan. It is our responsibility to provide the direction, the guiding hands to achieve these objectives of the University. As the Chairman of the board and an alumnus of the University of Ibadan, I see UI-Research Foundation as our way, our contribution, to assist our University to live her vision.

As the Board, we must task ourselves to make University of Ibadan achieve more firsts. We must produce:

- The first Post-doctoral Research positions at the University of Ibadan within the next twelve months. Commercialise at least one research finding from this portfolio within the same twelve months.
- Create a ‘Think Tank’ to define and direct our national ethos, in that same time frame.
- We must provide our own home within the next 24 months.

Since this Board’s life, subject to a possible extension, is three years, this Board must therefore commission its own home -The University of Ibadan Research Foundation Center- when completed.

These are my initial challenges to this Board, this Foundation and the University of Ibadan. I ask your support to achieve this. We ask for your support to achieve this. So help me God. So help us God.
THE RESEARCH PORTFOLIO OF UI-RESEARCH FOUNDATION 2014

- Prof Ayoade MJ Oduola,
  Director, University of Ibadan, Research Foundation

The seven projects and research leaders receiving the grant awards from the University of Ibadan Research Foundation (UI-Research foundation) emerged from a comprehensive and rigorous selection process involving the research community, research leaders and management at the University of Ibadan. The projects focus on four (4) thematic areas - Agriculture, Energy, Health and Water Resources/Infrastructure. A Review and Selection panel assessed all proposals submitted based on technical merit, partnerships to engender interdisciplinary collaborations, the potential values of the expected results of the studies and contributions to research capacity building at the university. The financial justification of each project was assessed to emphasize value and judicious utilization of the funds.

The overall selection process that resulted in this portfolio of projects benefited significantly from the comprehensive participations of all the stakeholders at the University, including the Vice Chancellor, Principal Officers and staff in the administration, the research community, Members of the UI Review/Selection panel established by the Vice Chancellor, the Research Management Office, Office of International Program and the Postgraduate School. The Postgraduate School provided the enabling facilities for the selection process while the Institute of African Studies provided the temporary offices for the UI-Research Foundation to facilitate the activities.

The selection process for the first Collaborative Research Grants to be funded by the UI-Research Foundation was initiated with a call for proposals in the Bulletin of the University of Ibadan and further disseminated by electronic mails. Fifty two (52) proposals involving two hundred and fifty (250) research collaborating investigators from the university and other collaborating institutions were received by the end of the call in October 2013. The sixteen member review/selection panel made the selection through a two stage selection process. Three members of the panel were requested to carefully review each proposal prior to discussions by all members of the panel. The 52 proposals were carefully evaluated using criteria outlined in the call for proposals. Twelve (12) of the proposals were shortlisted for oral presentations and the final stage of the peer review system using these selection criteria:

- Relevance of the proposed project to the mission of the University of Ibadan
- Innovation to address identified challenges to national development agenda
- Partnerships to engender interdisciplinary approach to research at the University
- Scientific and technological merit of the proposed approach in the project
- Potential to contribute to scholastic standard at the University
- Participation of at least one graduate assistant with the aim of using the project as platform for building research capacity at the University
- Potential to build on the results of the project and generate additional international funding
- Feasibility to deliver on objectives within duration of funding

The Deans of Faculties; Provost, College of Medicine; Directors and Heads of Department were invited to participate at the final session of the projects. However, the scoring was limited to members of the review/selection panel who have been involved in the first round of assessment of the projects. The final selection session held at the Senate Chamber was chaired by the Deputy Vice-Chancellor (Academics) using the following scoring criteria:

1. **Smart objectives**: that can be achieved within the time frame

2. **Principal Investigator and Co-Principal Investigators**
   a. Does the expertise of the individual PI cover all the objectives?
   b. Credentials and background of the PIs. Relevance of the credentials and background of the PIs to the objectives and ability to deliver it.
c. Allocation of responsibilities to the PIs and Co-PIs
d. Signatures of the PIs and CO-PIs required on the final submission

3. Science and technological merits of the proposal
   a. Rationale and justification of the project
   b. Comprehension of the subject area with references to literature
   c. Project Design and potential to be accomplished
   d. Innovation
   e. Clear indication and translation of research and proposed utilization of the project outcome
   f. Feasibility of completing the project within funding period

4. Capacity building
   a. Clear outline of the role of postgraduate students
   b. Long term contribution to infrastructure and capacity building at the University of Ibadan
   c. Evidence of utilization of existing capacity and infrastructure within the University or partner institution(s)

5. Budget
   a. Allocation of budget for PI and Co-PIs
   b. Adequate remuneration for post graduate students
   c. Justification for additional payment to participating members who are employed staff of the University
   d. Detailed justification for each budget item

The seven projects outlined in this portfolio emerged from this selection and review framework, approval of the University Management and acceptance by the Board of the UI-research Foundation. A brief summary of each of the research projects, profile of the collaborating research leaders, the Faculties, and expected outcomes of the projects is provided in this portfolio. More details are provided on the UI-Research Foundation website at www.uirf.ui.edu.ng
The use of antibiotic growth promoters in poultry production has been banned in many parts of the world. Synthetic antibiotic growth promoters are banned because of prevalence of antibiotic-resistant bacteria in both human and animal populations which has proved to be a challenge to effective therapy when infections occur. Furthermore, the detection of antibiotic residues in poultry meat and table eggs in Nigeria has turned consumers into passive users of these antibiotics with potential risk of ineffectiveness of these antibiotics when indicated for therapy. These unpleasant side-effects of the use of antibiotics as growth promoters prompted the search and underscore a need for alternatives, preferably organic sources of growth promoters in poultry. Garlic (Allium sativum) has been shown to exhibit antimicrobial, antioxidant, and anti-hypertensive properties and could therefore serve as an alternative.

This University of Ibadan research project is designed to evaluate the potentials of garlic as a growth promoter in chickens through the assessment of production performance; markers of immune status and disease tolerance. The active components (allicin and alliin) of the different varieties of garlic available in Nigeria will be quantitatively assessed to determine the most potent variety which will be used in the preparation of garlic meal. Groups of commercial layers will be fed graded levels of garlic meal as inclusion in feed from day-old. Production parameters and markers of health status (immunity, haematology and serum biochemistry) in the layers will be evaluated. Organoleptic properties of the poultry meat will also be assessed.

Groups of commercial broilers placed on garlic inclusion (in feed) will be experimentally infected with infectious bursal diseases virus, Salmonella gallinarum and oocysts of Eimeria spp. (representing three classes of economically important poultry pathogens in Nigeria). The clinical and pathological effects of the garlic feed in the infected broilers will be assessed. Organoleptic properties of uninfected broiler meat will be assessed and compared.

A benefit-cost analysis of the inclusion of garlic meal in feed of commercial layers will be carried out to determine its profitability. Once the presumed advantages of the use of garlic as a growth promoter in chicken has been confirmed, the product will be introduced for poultry farming and promoted for commercial use.

This project is expected to:
- Provide empirical information on the potentials of garlic as a growth promoter;
- Encourage the replacement of antibiotics with garlic as an organic growth promoter with consequent reduction in production cost and availability of more wholesome meat and table eggs for human consumption,
- Ultimately reduce the occurrence of antibiotic-resistant bacteria associated with poultry and protect human health.

The garlic meal can be packaged and sold to poultry farmers as an organic growth promoter with specific recommendation about in-feed inclusion rate and expected outcome.
COLLABORATING RESEARCH LEADERS:

Dr. O.A. Abu, BSc, MSc, PhD (Animal Science)
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Dr. Olufunke O. Ezekiel, BSc, MS, Ph.D (Food Tech.)
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Dr. O.O. Esan, DVM, MSc (Avian medicine), Lecturer,
Avian Diseases Unit, Dept. of Veterinary Medicine, UI

Dr. S. O. Oyebode, DVM
Postgraduate Student & University Scholar
Avian Diseases Unit, Dept. of Veterinary Medicine,
University of Ibadan.

Dr. Olutola Oyedele, BSc, MSc (Horticulture), Ph.D
(Agricultural Extension) Assistant Director (Research) Team Leader, multidisciplinary team on capacity building, extension communication and women in horticulture. Extension Research Programme Department of Farming Systems and Extension Research National Horticultural Research Institute, Ibadan.

Mrs. Oluyemisi Adewale, BSc (Agronomy)
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Influence of garlic (Allium sativum)’s Team
Brain degeneration diseases and neurological conditions including Epilepsy, Parkinson, Alzheimer’s, Stroke related dementia and demyelinating diseases are debilitating to individuals and constitute socioeconomic stress to the families of the individuals. Incidence of these diseases has been on the increase worldwide due to ageing populations, upswing in industrialization and attendant unregulated pollution. Developed countries invest billions of dollars on research and efforts to discover new drugs and strategies to manage these disease conditions. The drug discovery and development processes require testing potential compounds in cell cultures, and animal models before human clinical trials. Unfortunately, participation of developing countries including Nigeria in the drug discovery processes is limited due to lack of expertise for brain cell culture system and lack of funding. Countries in Africa and particularly Nigeria are blessed with abundant plant biodiversity. The crude forms of the plants have shown evidence-based improvements in evaluations as herbal remedies and in animal models. The lack of viable brain cell culture system which serves as gold standard for testing potential new remedies for brain degeneration diseases limit the value of these plant products from Nigeria. The implication is that plant and chemical resources being developed in the country and particularly University of Ibadan cannot compete globally due to absence of important data from brain cell culture.

The development of Adult Neural Stem Cells from the indigenous African Giant Rat will create a national center of excellence in basic neuroscience research and studies on brain degenerating disorder at the University of Ibadan. The studies will increase collaborations and strengthen the genomic infrastructure at University of Ibadan.

**PROJECT LEADER**

Professor James Olopade
DVM, PhD, FCVS
Veterinary Anatomy and Neuroscience

**COLLABORATING RESEARCH LEADERS**

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Dr. Abosed Omonona PhD, FCVSN
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Beta thalassaemia trait, a genetic disorder of haemoglobin synthesis has recently been found to be more prevalent among Nigerians than previously estimated. Beta thalassaemia can lead to iron overload, resulting in several endocrine abnormalities. These include glucose intolerance and diabetes mellitus, hypothyroidism, hypogonadism and hypoparathyroidism. Studies indicate that iron overload in these patients is associated with the development of significant insulin resistance, compensatory hyperinsulinaemia and subsequently a decline in circulating insulin levels. These abnormalities have been reported to precede the manifestation of glucose intolerance and frank diabetes mellitus in patients with beta thalassemia. Metabolic syndrome, a cluster of metabolic abnormalities including insulin resistance central obesity, dysglycemia, atherogenic dyslipidemia, systemic hypertension, oxidative stress, proinflammatory, prothrombotic states and oxidative stress is now a major global health challenge. It is reported commonly among Nigerians and a major risk factor for type 2 diabetes mellitus (T2DM) and cardiovascular disease. Beta thalassemia trait and metabolic syndrome share the common feature of insulin resistance which is central to the pathogenesis of T2DM. Beta-thalassaemia trait and metabolic syndrome are reported to be as high as 26% and 33% respectively in the Nigerian population. Though T2DM affects 18.9% of Nigerians, MS is seen in 46% of patients with T2DM. In addition, the relative risk of developing insulin resistance and diabetes mellitus in patients with beta thalassemia trait has also been shown to be two times higher than in the general population. The cluster of similar metabolic abnormalities in these disorders may be consequences of common genetic and biochemical mechanisms. The aim of this project is to investigate the possible association of beta-thalassaemia trait with the metabolic syndrome and some endocrine dysfunctions. A total of two hundred individuals consisting of patients with type 2 diabetes mellitus, age and sex matched controls will be studied. Beta thalassaemia, metabolic syndrome, diabetes mellitus and selected biochemical parameters will be assessed in the volunteers. It is hoped that a clear understanding of the biochemical and possible interrelationship between beta-thalassaemia, metabolic syndrome and diabetes mellitus will be elucidated. This study will result in establishing unique strategy for effective management of these disease conditions by a joint diabetes and thalassaemia research group at the University of Ibadan.

**Research Leader**

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**COLLABORATING RESEARCH LEADERS**

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**Dr. Jokotade O. Adeleye,**
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**Mr. M. Ogunlakin**
Dept. of Chemical Pathology, Faculty of Basic Medical Sciences
Electricity Generation from Fast Pyrolysis of Agricultural and Municipal Solid Wastes

Principal Investigator: Prof. E.A. Aiyelari, Faculty of Agriculture and Forestry, University of Ibadan

FROM WASTE TO ENERGY

Nigeria currently generates about 4000 MW electricity for its 160 million people. The current output of 25 Watts per individual can barely support an energy saving light bulb per person. This has forced individual households, institutions and industries to adopt alternative means of generating power. Electric generators, which are expensive to maintain and produce significant carbon emissions polluting the environment is the leading alternative to obtain electrical power from the National Grid.

Large quantities of solid wastes are produced annually across the nation. that can be converted to bio-fuel useful to generate electricity for Nigerians.

These waste materials currently discarded as debris or burnt, contribute to environmental hazard and pollution. The wastes can be converted to bio-fuel by pyrolysis and can be used to generate electricity.

This University of Ibadan Research Project on generation of electricity from fast pyrolysis of agricultural and municipal solid wastes is designed to produce an inventory and categorization of agricultural and municipal solid wastes on the campus of the University of Ibadan that can be converted to bio-fuel. A database of weekly, monthly and annual wastes produced will be developed.

The quality of the agricultural and municipal solid wastes will be characterised to identify usable products for the production of bio-fuel. Bio-fuel will be extracted from selected wastes. Pilot studies on mixture rate of bio-fuel and conventional fuel will be carried out to determine the most efficient combination for generating electricity and its impact on engine performance.

A pilot model for electricity generation from agricultural and municipal solid wastes through pyrolysis will be produced for future scale up and community application.

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<th>RESEARCH LEADER</th>
<th>COLLABORATING RESEARCH LEADERS</th>
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| **Professor A. A. Aiyelari**  
Dept of Forest Resources management  
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| **Dr. Sunday Ishehunwa**  
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Research and Development of Multi-Source Renewable Energy Mix Power System

Rural communities which produce most of the agricultural needs of Nigeria seldom have electricity supply. Lack of access to the meager national electricity supply and other infrastructures limit the socio-economic development of most communities in Nigeria. More important, the full potential contributions especially of the rural communities to national economic development are rarely achieved. The chances of extending the national electric grid to all the diverse terrains in Nigeria are also dim. Alternative clean and portable energy sources could be valuable substitute useful to meet the needs of these communities and to improve their contributions to national economic development.

There are tremendous global efforts to develop alternative energy sources to fossil fuels which are exhaustible. The excessive production of carbon dioxide from fossil fuels, thought to be principally responsible for the global climate change also underscores a need for alternative sources of energy. Research in the Department of Electrical and Electronic Engineering, Faculty of Technology, University of Ibadan with funding support from the MacArthur Foundation successfully developed a hybrid solar/mini-hydro power sources combination. The research team using locally fabricated devices generated 15 kW power at the University of Ibadan Awba dam using this alternative sources.

A larger collaborating research team including the Faculties of Technology, Science and Agriculture at the University of Ibadan plans to build upon earlier success and develop a Multi-Source Renewable Energy Mix (MRM) power platform. The research team aim to widen the research scope to include wind, tidal waves and biogas/biomass using locally fabricated devices to generate and transmit electricity. The MRM will produce energy from renewable and bio-degradable materials: Solar, Micro/Mini Hydro, Biogas/Biomass and Wind/Tidal waves. The project will create a platform that is cost-effective and can be operated by with minimal training. The multi-source renewable energy mix power platform will harness energy from sun, run-off-water from dams, gas from bio-degradable and pyrolysis materials, and wind/tidal waves. The project will also establish a Green Belt Research Institute at Ajobode in the University of Ibadan.

The success (spin off) of the research would provide appropriate renewable energy sources mix to meet the energy demand of each of the diverse ecological terrain and rural communities in Nigeria. These clusters of renewable energy sources mixed should minimize excessive dependent on the national grid. Excess power generated over and above the local demand can also be deposited to the national grid. The provision of power to all ecological terrain and rural communities should encourage local economic development; improve the performance of social amenities (Hospitals, Schools and food production).

Commercialization of the MRM platform could support uninterrupted water and energy supply for irrigation, storage and processing of agricultural products and farmers’ domestic lives.

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**COLLABORATING RESEARCH LEADERS**
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University of Ibadan,

Professor Moshood N. Tijani  
Department of Geology  
University of Ibadan
Sustainable Tomato production amongst smallholder farmers in Nigeria through resistance, rapid multiplication and use of biopesticides

Nigeria ranks as the second highest producer of tomatoes in Africa. The country is 13th in the world (FAO 2011) but Nigeria is NOT on the list of official exporting countries of tomato or tomato products. Nigeria imports both fresh and processed tomatoes. A whooping N11.7 billion is spent annually to import processed tomato paste into the country. The productivity and economic value of this vegetable crop in Nigeria is hindered by an array of factors that make its cultivation difficult and cumbersome. Pests and diseases are major factors in the low tomato production especially in the southern part of the country. Storage technologies for the fruit need to be modernized to avoid post-harvest losses. Farmers usually practice rain fed agriculture and at the peak of the season there is a glut that results in very high losses.

The three year project will lead to:
- Creation of a repository of tomato germplasm.
- Development of baseline information and engagement of tomato farmers,
- Production of appropriate Biopesticide,
- Identification of tomato strains resistant to pests,
- Development GAPS strategy for the sustainable tomato production.

This University of Ibadan research studies are designed to develop tomato varieties that are resistant to pests and diseases. Good Agricultural Practices (GAPs) strategies and A University of Ibadan variety of tomato resistant to pest and adapted to sustainable cultivation system will be produced and made available for commercial interests.

RESEARCH LEADER

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Group Tomato
Pictorial Representation of Project Activities and Outputs

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Dr. Olajumoke Oke Fayinminu (Ph.D)
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Dr. Rasheed Olufemi Awodoyin (Ph.D)
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Dr. Christopher Olumuyiwa Ilori (Ph.D)
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Globally, coastal environments are under stress as a result of the combination of both natural and human-induced factors. A number of damaging consequences of climate and environment changes can be avoided, if appropriate knowledge-based choices, planning / management options are employed. Therefore, appropriate and location-specific approaches for sustainable environmental management in coastal areas is crucial.

In Nigeria, addressing impacts of human induced land-use and climate is critical for sustainable management of coastal natural resources (including water resources) and protection of coastal shores of Nigeria. Consequently, this UIR project is designed to contribute to the understanding of the vulnerability and resiliency of surface and groundwater resources, human livelihood as well as ecosystem services with respect to land-use and climate induced changes in the coastal environment of SW-Nigeria. Hydrogeological and hydrogeochemical techniques, Geographical Information Systems (GIS) and social-economic / livelihood assessments are to be employed. Furthermore, the need for proper understanding of the environmental framework for better planning and sustainable coastal land use and resources management in the face of emerging infrastructural development such as Eko Atlantic City, Olokola Free Trade zone, Dangote Refinery, among others, underlie the significance of this study.

The team of experts in environmental hydrogeology, GIS and social sciences will be working with relevant national agencies to develop and analyse up-to-date data on land-use, climate change, hydrochemical and biochemical components as well as on socio-economic livelihood activities to provide evidence of the need for pragmatic strategies and policies for managing the coastal resources of SW-Nigeria.
**Deliverables**

In terms of deliverables, this integrated and multidisciplinary research will:

1. Generate trends in climate change, possible adaptation strategies and planning initiatives to mitigate / minimize the impacts, as well as predict or model future climate and land-use scenarios for an informed decision making.

2. Production of the spatial and temporal GIS-based maps of land use changes, and vulnerability status of coastal water resources and land degradation.

3. In line with the vision 20:20:20 of National Development Plan, this study will identify and recommend land-use planning and environmental management strategies to curtail possible impacts of infrastructural and economic development projects like the on-going Eko Atlantic City and Olokola Free Trade Zone among other.

4. Finally, the study will provide the University of Ibadan with policy templates on environmental impact in relation to environmental management and human livelihood in coastal environments.

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**RESEARCH LEADER**

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The aim of UIR-Foundation is to facilitate and support high quality research by the staff, faculties and partners of the University of Ibadan that can be translated to innovations, strategies and novel products. This mission is designed to make University of Ibadan a major contributor to success of a knowledge based economy in Nigeria.

The objectives of UIR-Foundation are:
To nurture and retain high quality staff who would deliver research and services to meet socioeconomic development of Nigeria.
Maintain a vibrant and progressive platform for strengthening the research enterprise at the University of Ibadan.

The target is to sponsor translations research that will have impacts on process and outputs in Agriculture, Energy, Health and Infrastructure in Nigeria and the Africa Region.

The value of agriculture enterprise and roles of energy are undeniable prerequisite for economic development. Equally important are novel approaches and interventions in health necessary to sustain a healthy workforce and to build a strong foundation for income generation, eradication of poverty and wealth building. The target of UIR-Foundation is to contribute to University of Ibadan’s effort in maintaining highly motivated and productive research leaders who can continuously facilitate innovations for the national economy.

The vision of UIR-Foundation is to support faculty and staff of the University of Ibadan to undertake leading edge research, maintain high scholastic standard and to provide best education to leaders of tomorrow. More important we aim to groom Future leaders on Research Platforms to empower them with knowledge and expertise useful for addressing the challenges of our communities and the nation in ways never before employed.

The University of Ibadan Operational Research Platforms

The UIR-Foundation Research Platform currently focus on six strategic areas to include;

- Award of grants for interdisciplinary translations research to address challenges in Agriculture, Energy, Health and Infrastructure.
- Award of Research Career Development Grants to young talented researchers in order for them to become leaders in their fields.
- Establishment of the first formal Postdoctoral Research Fellowship Program to groom PHD holders as national and regional leaders in research and generation of innovations.
- Provision of access to international grants and partnerships that will promote participation of faculty and staff of the University in novel research that will bring relevant innovations to the economy of Nigeria.
- Creation of the University of Ibadan Research and Science Park to promote partnerships between Industry and Academia necessary to facilitate seamless transition and fast track for translating promising research results to innovation and commercialization.
- Creation of partnerships to make University of Ibadan the ‘research arm’ of state and national governments.
  - Funding for research to generate evidence for policies
  - Establish a ‘Think Tank’ to produce policy briefs
  - Organise stakeholders’ consultations and forum on relevant evidence for policies.
You can make a difference by contributing to UIR-Foundation.

Your Contributions will make a big difference the efforts of the research leaders and the University of Ibadan research foundation.

Each of our 3 year grants are awarded for 7-10 million Naira. We aim to maintain a portfolio of 10 projects each year to keep innovations coming out of the pipeline.

Our Career Development Grants will support young fellows for 3 years including international sojourns at a cost of 7.5 million Naira. Each. We want to support 10 young faculty members each year.

Postdoctoral Fellows are engines of research development and innovation. They bring young enthusiasm and new ideas. Our excellent faculty can mentor 50-75 Postdoctoral fellows each year. Funding for each postdoctoral position is xxx per annum including dedicated research activities.

A new infrastructure to study impacts of pathogens on poultry production is essential for our research on new feed supplements to avoid antibiotics. It will cost 5 million Naira to build and equip.

We need a building for the University of Ibadan Research Foundation to provide services and a "go to" place for young promising talents and researcher leaders.

The University of Ibadan started the ball rolling with 100 million Naira this year. We need partners, philanthropists, individuals, industry, Foundations, State and national Governments to make the vision a reality.

You can make a difference by contributing to UIR-Foundation. Your personal donations and facilitating contributions from your organizations can make research work for Nigeria.

Send all contributions and interest to:

Director, UIR-Foundation,
Vice-Chancellors Office,
University of Ibadan, Ibadan, Nigeria
diruirfoundation@mail.ui.edu.ng

Acknowledgment

The Board, Director and Staff of the UI-Research Foundation express sincere gratitude to the Vice Chancellor and the Administration for providing the funds (N100 million) to initiate the funding of these project portfolio by the UI-Research Foundation.

We are grateful to members of the research community of UI for their enthusiastic response to the call for proposals, the review and overall process.

We commend the dedication and commitment of the members of the review/selection panel who conscientiously assessed the proposal for making the process transparent and credible.

Our sincere appreciation is expressed to the Dean, Staff of the Postgraduate School; Director and Staff of the Institute of African Studies for providing the enabling environment and temporary offices that made it possible to implement the first phase of the UI-Research foundation activities.
# Board Members

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<th>Name</th>
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<tbody>
<tr>
<td>The Rt. Hon. Chevalier Uduimo J. Itsu Eli</td>
<td>Chairman</td>
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<tr>
<td>Sir (Dr.) Sunny Kuku OFR</td>
<td>Vice-Chairman</td>
</tr>
<tr>
<td>Professor Isaac Folorunso Adewole, FAS</td>
<td>Vice-Chancellor, University of Ibadan</td>
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<tr>
<td>Professor Ayoade M.J. Oduola</td>
<td>Director, UIR-Foundation &amp; Secretary</td>
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## Federal and State Governments

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<tr>
<td>Dr Ayo Adesina Akinwumi</td>
<td>Federal Minister of Agriculture</td>
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<tr>
<td>Professor Julius O. Okoje</td>
<td>Executive Secretary National University Commission</td>
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<tr>
<td>Honourable Lawrence Olujide</td>
<td>Commissioner for Environment, Oyo State</td>
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<td>Dr. Jide Idris</td>
<td>Commissioner for Health, Lagos State</td>
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## International Agencies & Institutions

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<tr>
<td>DR. Nteranya E. Sanginga</td>
<td>Director General, IITA</td>
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<tr>
<td>Professor Diran Makinde</td>
<td>African Union/NEPAD</td>
</tr>
<tr>
<td>Professor Uche Amazigo</td>
<td>former Director APOC</td>
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<td>Dr. Adebawale Adeyemo</td>
<td>National Institute of Health, USA</td>
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## Private Sector

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<tr>
<td>Lady Maiden Alex Ibru</td>
<td>Publisher, Guardian Newspaper, Nigeria</td>
</tr>
<tr>
<td>Dr. Yemi Ogunbiyi</td>
<td>Chairman, TANUS</td>
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<tr>
<td>Mr. Segun Aina</td>
<td>President, Nigerian Institute of Bankers</td>
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## University of Ibadan

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<tr>
<td>Mr. Olujimi Iretola Olukoya</td>
<td>Registrar</td>
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<tr>
<td>Mr. Ibrahim Olaniyi Aponmade</td>
<td>Bursar</td>
</tr>
<tr>
<td>Professor Akinboade Adesomuji</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>Professor Oladosu A. Ojengbede</td>
<td>College of Medicine</td>
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<tr>
<td>Professor Adenike Elizabeth Enike</td>
<td>Institute of Education</td>
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UNIVERSITY OF IBADAN RESEARCH FOUNDATION (UIR-Foundation) Collaborative Research Grant Awards

Purpose

The University of Ibadan Research Foundation (UIR-Foundation) is launching a Collaborative Research Initiative to strengthen the research base and enhance scholastic standards at the University of Ibadan. The objective of the initiative is to strengthen research capacity and interdisciplinary efforts of members of staff of the University through collaborations on research priorities necessary to produce solutions to development challenges of the Nigerian society. The awards are intended to facilitate contributions of the University of Ibadan to knowledge translation and applications of research results to improve social, economic development and health needs of the nation. The aim of the collaborative research initiative is to boost the University’s efforts to support high quality staff, who would deliver research results and services to meet the University’s vision: “to be a world-class institution for academic excellence geared towards meeting societal needs.”

Research Objectives and Scope

The UIR-Foundation will award 5 Collaborative Grants to members of the faculty in research areas relevant to the mission of the University of Ibadan and the National Development Agenda. The grants will be awarded to research leaders and team of collaborating investigators from different faculties at the University. The proposed projects must be innovative and interdisciplinary with clear demonstration of benefits to be derived from collaborations with appropriate co-investigators in relevant faculties of the University. Each proposal must address specific challenges relying on the four research priority areas: energy, health, agriculture and water resources & infrastructure.

Grant Review and Selection

Each proposal will be evaluated for funding by a selection panel of senior faculty members based on the following criteria:
1. Relevance of the proposed project to the mission of the University of Ibadan;
2. Innovation to address identified challenges to national development agenda;
3. Scientific and technological merit of the proposed project;
4. Potential to contribute to scholarly standard at the University;
5. Participation of at least one graduate assistant in order to build research capacity of the individual;
6. Results must be useful to generate additional international funding;
7. Feasibility to deliver on objectives within duration of funding and
8. Compliance with the university policies, particularly gender, research and intellectual property rights policies.

Principal investigators of successful applications will be invited to make oral presentations on the project to the review panel before final selection and award of the grants. The awards will be announced by the first week in November 2013.

Eligibility and Requirements for Grant Awards

The principal investigator must be a member of staff of the University of Ibadan working with co-investigators from other faculties of the University. The PI and at least 2 of the co-investigators from other faculties must hold permanent appointments at the University. Collaborations with investigators in other institutions in Nigeria as well as international collaborations are encouraged. In addition each proposed project must meet the following requirements:
- Relevance to the mission and efforts of the University of Ibadan;
- Provision of useful innovative solutions to identified national challenge(s) in development;
- Contribution to capacity building within the University;
- Enhancement of scholastic standard for the University; and
- A clear indication that the research may produce results useful to enhance successful future competition for international funding and grants.

Proposals must clearly justify how proposed approach would engender interdisciplinary participation and interfaculty collaborations. The involvement of collaborators from other faculties should demonstrate clear responsibilities and deliverables. Each proposal must provide clear indication of submission or plan to submit the same project to other national or international funding agencies or Foundations.

Award Project Period:
Funding support will be provided for duration of three years with annual renewal following satisfactory progress report. The first progress report should be submitted 6 months after release of funds to the investigators. Subsequent annual progress reports are necessary for continuing funding.

Grant Award Budget:
Grant awards will be made for a maximum of Ten Million Naira (N10, 000,000) disbursed over a period of three years. Applications for grants lower than the maximum that meet the grant criteria will also be accepted. Each project must include funding support for at least one but not more than two graduate assistants.

Application Procedure:
Each applicant must complete a collaborative research application form available on the UIR-Foundation website. Please pick the form (e-copy and hard copy) at the UIR Foundation address below. An electronic copy and 3 hard copies of the application must be submitted. Applications must include signatures of the Principal Investigator, Co-Principal Investigators and Dean of the Faculty.

Application Due Date: 25 October, 2013. Kindly note that the electronic call was forwarded to the e-mail addresses of members of staff with effect from 5 October, 2013.

Address and contact for the submission of applications:
An electronic copy and three (3) hard copies of the application must be submitted to the: University of Ibadan Research Foundation Rooms 2 & 3, (Ground Floor) Institute of African Studies University of Ibadan, Ibadan. Nigeria Email: yengozi@yahoo.com

Olujimi I. Olukoaya MNIM, FPA
Registrar