

AFRICALICS

**THE AFRICAN NETWORK FOR ECONOMICS OF LEARNING, INNOVATION,
AND COMPETENCE BUILDING SYSTEMS**



5th AfricaLics PhD Academy (2017)

MEETING REPORT

**19th June, 2017 to 30th June 2017
Obafemi Awolowo University, Ile-Ife,
Nigeria.**

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Executive Summary

1. Background

The African Network for the Economics of Learning, Innovation, and Competence Building Systems (AfricaLics) held its 5th Ph.D. Academy in Ile-Ife Nigeria from 19th June – 30th June 2017. The PhD Academy occurs annually with the purpose of supporting the training of African Ph.D. students engaged in research in the field of innovation and development to develop through provision of state of the art lectures and research training workshops. It also aims to give the students exposure to policy makers and practitioners of innovation and development so as to stimulate their awareness in preparation for life after study. The first AfricaLics PhD Academy was held in Nairobi in 2012, the second PhD Academy was held in Algiers in 2013, the third PhD Academy was held in Mombasa in 2015 and the fourth PhD Academy was held in Tunisia in 2016. The 5th AfricaLics academy also consisted of an open symposium with the participation of 170 researchers, PhD students, policy makers and entrepreneurs discussing innovation and development in relation to Africa and Nigeria more specifically. This report highlights the deliberations as well as other non-academic activities that contributed to a successful training.

1.1 History

The idea of conducting PhD Academies for African students studying in the field of innovation and development was conceived at the All African seminar in Tanzania in March 2012. Further discussions between the AfricaLics Scientific Board members and the Globelics Secretariat led to a decision to take the successful format of the Globelics PhD Academies that had been running for over 10 years and adapt it for the African context. As AfricaLics network has evolved with the Secretariat strengthened, particularly in light of financial support from the Swedish International Development Agency (Sida), the AfricaLics PhD Academies have grown in size and complexity. The first AfricaLics PhD Academy that took place in Nairobi, Kenya in December 2012 consisted of 30 students and 21 instructors using the English medium. The second AfricaLics PhD Academy took place in Algiers, Algeria in October 2013 with 19 students and 11 instructors using French medium predominately with some English translation services provided and included an open symposium. Following delays due to insecurity in Kenya as well as a lack of initial applications, the third PhD Academy was postponed from 2014 to 2015. The third PhD Academy took place in Mombasa, Kenya in March 2015 and involved 28 students, 26 instructors using English medium and a public open symposium on innovation and development in Kenya with three additional external speakers two by video conference to an audience of 120 people. The fourth PhD Academy took place in Hammamet, Tunisia in March 2016 with 30 students attending. The Academy included 15 facilitators from across Africa and was held using simultaneous translation between English and French. The event also included a number of opportunities for the students to interact with policymakers and other stakeholders through panel sessions and lecture.

The fifth PhD Academy took place in Ile-Ife Nigeria in June 2017. Following an open symposium on Rethinking National Innovation System for Africa's Development with 170

people in attendance, the rest of the Academy involves 3 facilitators from outside Africa, 37 facilitators from Africa and 26 students using English medium.

The PhD Academy is only one of a number of activities undertaken by the AfricaLics Secretariat and the AfricaLics network as a whole to build research capacity in the region in the area of innovation and development studies. These are part of a larger research capacity building programme funded by Sida which includes provision of research funding support, the development of new curricula and teaching programmes in the subject area as well as networking and dissemination activities for researchers in the region through events and workshops. The main objective of AfricaLics is to promote the development of research capacity in Africa with strong links to users including policy makers and private sector through research training and research project organized support. One long-term aim is to enable Africa to become more self-reliant in studying, monitoring and evaluating its innovation activities and systems for the betterment of society. The work of AfricaLics intends to complement the research and capacity building activities of other players in innovation studies both in the academic and policy arena.

2.1 Location of the Fifth AfricaLics PhD Academy

The fifth AfricaLics PhD Academy was held at the conference hall of National Centre for Technology Management, Obafemi Awolowo University Ile-Ife. Ile-Ife is an ancient town in Osun State Nigeria. Osun State is one of the 36 states of the federation belonging to south western geopolitical zone of Nigeria. Ile-Ife is believed to be the cradle of the Yoruba race (Southwestern Nigeria), it's usually call the source and her king (The Oba) is believed to be the supreme king of all the Yoruba tribe. Ile-Ife is rich in many Yoruba cultural heritage and it has become a centre for tourist attraction both locally and internationally. The academy was hosted by African Institute for Science policy and innovation, an Institute in Obafemi Awolowo University, established in 1974, in collaboration with National Centre for Technology Management (Federal Ministry of Science and Technology) entrusted with the management of science, technology and innovation in Nigeria. Obafemi Awolowo University was among the first three public universities established in 1961/1962 After Nigeria gain her independence from British colonial rule. It was then called University of Ife. But was later named after the first premier of the defunct western region, Obafemi Awolowo due to his giant stride in educational sector. Obafemi Awolowo University is known for learning and culture, it is usually referred to as 'Africa most beautiful Campus' due to its beautiful edifices, the green and serene environment. It provides undergraduate and postgraduate programmes and courses to over 35,000 students annually. It has a teaching hospital and a centre for distance learning, established in 2002/2003.

2. Highlights of the Academy

The Fifth AfricaLics PhD Academy was held over a two-week period in June 2017 at National Centre for Technology Management in Obafemi Awolowo University Ile-Ife, Nigeria. The

programme of activities included sessions focused on innovation and development theory, research methods, policy and impact as well as project element. Students were selected through an open call for applications and review of applications by members of the AfricaLics Scientific Board and Secretariat. The event consisted of an open symposium held at the conference centre Obafemi Awolowo University Ile-Ife. This event provides opportunity for general public participation in the state of the art lectures on theories and methodology of national innovation system generally in Africa and particularly in Nigeria. The rest of the events were held at the National Centre for Technology Management Conference Hall. The highlights of these events are outlined below.

2.1 Call for Applications and Review process

A call for applications to the AfricaLics PhD Academy was advertised from late December 2016 to the closing date of 31st January 2017. The deadline was further extended to encourage a few additional applications to 14th February 2017. Fifty-four (54) applications were received and reviewed by a scientific review committee made up of members of the local organizing committee in Nigeria, the AfricaLics Secretariat and AfricaLics Scientific Board. Each extended abstract was reviewed by two members of the committee and selected based on the scores received using the following criteria: relevance in terms of topic and content as well as quality, regional distribution and gender consideration.

A total of 31 students were selected following a review of all extended abstracts received. Five (5) students out of the 31 were unable to attend, making a total of 26 students who participated at the event in Nigeria in June 2017.

The final 26 students were from 9 Countries: Bukina Faso, Cameroon, Cote D'Ivoire, Ethiopia, Kenya, India, Nigeria, and South Africa. The majority of the students were in their second and third years of PhD study at the time of the Academy.

2.2 Inaugural conference

The first day of the conference consisted of a series of Lectures on the theme: Rethinking National Innovation System, specifically focusing on key issues facing Nigeria, Africa and the research field more generally. This event provides opportunity for general public participation in the state of the art lectures on theories and methodology of national innovation system. The event recorded 170 participants across the day. The day also consisted of a series of opening speeches including welcome addresses from various members of the host organisations and representatives of AfricaLics:

1. The Vice Chancellor, Obafemi Awolowo University Ile-Ife, Prof. Eyitope Ogunbodede
2. The Director, African Institute for Science Policy and Innovation (AISPI), and Secretary General, AfricaLics Academy 2017, Prof. Timothy Oyebisi
3. The Chair, AfricaLics Scientific Board, Dr. Bitrina Diyamett

4. Dean, Faculty of Technology, Prof. Benjamin Imasogie
5. Academy Director, Prof. Mathew Olugbemiga Ilori
6. Director-General/CEO, National Centre for Technology Management (NACETEM), Prof. Okechukwu Ukwuoma

Following these opening speeches, a series of presentations were given that outlined the latest 'state of the art' lectures on the state of science, technology and innovation in Nigeria and Africa more generally, especially as follows:

I. Innovation Systems in the African Context: Role of AfricaLics Dr. Bitrina Diyamett ED-STIPRO & President – AfricaLICS

This lecture emphasized the need to embrace innovation models in African context. Basically, some of the major highlight to be considered from the lecture were that:

- The popular belief that placed African as a poor continent should be discouraged, emphasising that the major problem we have as a continent is the lack of technological capabilities to explore the mineral resources available. The lecture then provides policy options in the area of economic context of innovations.
- The lecture also raised some pertinent questions such as; how can African use global scientific community knowledge to help the small-scale firms who are having low technological capabilities? What form of innovations models, interactions and adaptations of these models can suite the Africa context?

Finally, the lecture reiterated that "Nobody will help Africa to industrialize if it is not Africa itself". The lecturer therefore implored Africans to come together as one for sustainable development that will help build enough technological and innovative capabilities to competently and sustainably satisfy their social and economic needs in an inclusive way

II. Re-thinking the National Innovation System - The role of Universities by Francis Adesina Director Linkages & Partnership Office, OAU, Ile-Ife

- This lecture stresses a major disconnect between the academia and the industry, stating that linkages and partnership is central to research as it helps the introduction of innovative initiatives that helps the industry to link with the university. The lecturer advocated that all university should have a model for linkages and partnership in order to bridge the systemic weakness that already exists.
- The lecture also stressed that government should address the issue of industries leaving their domestic territory to explore technological competencies elsewhere. The lecturer then advice that there should be policies in place to discourage it. Africa needs to start looking inward for sustainable development.

III. Industrialization and Structural Transformation in Africa Professor Banji Oyelaran-Oyeyinka Professorial Fellow, UNU-INTECH Visiting Professor, the Open University, UK

- The lecture decried the state of Nigeria policy makers on innovation. In the lecturers word *a lot of African policy makers do not understand what innovation is all about*. He said innovation grows from continuous learning, it is a dynamic process. He pointed out the there are three major phases of economic development in the African context: Agriculture – Industry – Services.
- He further stated that most African countries have jumped the Industrial phase of economic development. They went from Agriculture to being service providers without developing and investing in their industrial phase. He showed graphs of diverse African countries where Uganda and Nigeria had the highest results in service led growth.
- He said for innovation systems to work efficiently actors must collaborate. The case of leather production in Nigeria was cited as an example; Leather is being exported out from the Northern region of Nigeria, while shoemakers in the Eastern region are importing leather back into the country from China. This shows a lack of integration between suppliers and producers. Also, weak inter-sectoral linkage is practiced. In order to achieve stronger and vibrant economy, collaboration and cooperation between all the concerned parties cannot be over emphasized

IV. Integrating Science, Technology, Engineering and Mathematics in re- framing the African Development Agenda Prof. Mammo Muchie, DST/NRF Research Professor on Innovation and Development, TUT, Senior Research Associate, TMDC, Oxford University, UK, Visiting Professor & Adjunct Professor, UoG and ASTU, Ethiopia.

- The lecture beamed the light on the state of affairs in Africa countries with other global hegemony in international politics, and how Rich African history, culture and economics have been watered down by coming in contact with western economies and culture. The lecturer said though Africa have been the source of wealth to continent like Europe in terms of human and natural resources, her human and natural resources have plummeted by the same European countries, through illicit funding a situation he referred to as the betrayal of Africa. Also, He mentioned that about 16.5 trillion USD has been carted away by the European countries according to literature not to mention the pervasive brain drain. He said most of what constitutes the major source of development to Europe was developed by Africa. A good example was the binary logic by Yoruba which form the basis for the Internet today.
- That Africans should cultivate the habit of reading
- Then proposed way forward was that were that African should increase their urge for learning from the rest of the world, learn from their history and they should work together to move the continent forward

Nine (9) days were dedicated to a training programme for PhD students structured around four different sets of activities

Student papers stream	<p>Nine (9) parallel sessions / student presentation sessions were held whereby: 3/4 students present papers on an aspect of their PhD research for 20 minutes each</p> <ul style="list-style-type: none"> - Comments from 2 reviewers for 15 minutes each One being a facilitator and the other a student - Comments and questions from the floor for 10 minutes <p>Paper Review process and questions</p> <ol style="list-style-type: none"> a) Each student made his/her paper presentation b) Each paper presentation is reviewed by their peers (student) c) A facilitator who is the chief reviewer then review the paper d) The presenter jot down all comments alongside the reviewers in order to make necessary changes to the paper presented e) The floor is then open for comments and questions
Theory stream	A series of lectures introducing students to key theories and concepts from innovation studies and innovation management
Problem solving Stream	<p>This help student think more broadly and independently about their:</p> <ol style="list-style-type: none"> a) Research proposal b) Research contents c) Policy briefs and the likes <p>It get students to write with high degree of scholastic skills and novelty, harnessing collaborative effort in finding research gaps, conducting group project activities from the challenges identified in the technology hubs visited as well as in any other area or field of interest to the students</p>
Impact stream	A series of lectures on the challenges in the management of innovation and development and innovation policy. Besides, a round table discussion, two interactive sessions, two thematic seminars, a workshop and a number of tours were also held. These provide students an opportunity to interact with policy makers and innovation practitioners as well as practical visitation to innovation hubs in south western Nigeria.

2.3 Workshops

Workshop 1: A Round Table Discussion on: Innovation Systems and Africa's Sustainable Development

The aim of the round table was to highlight the potential of Science Technology and Innovation to achieve inclusive Sustainable Development Goals (SDG's). It was also said that the topic: The role of STI in meeting SDG's was being discussed at a timely and highly essential

period, considering that it is a paradigm shift for the development of all nations. He said such a topic as this should have been given priority years back. He said SDG is not just an aggregate of 17 topics that the world has ascribed to. STI propels our progress in SDG's. STI was recognized as the machine to accomplish/achieve SDG's. STI is seen as the key driver for economic growth, job creation, skills development, increased public investments, growth in industry and infrastructure. STI enables us to understand natural phenomena. It is a body of knowledge that enables us to understand why we have failed and what new directive we should embark on to attain success. To make the system work, it requires a multi-disciplinary approach, partnerships across government bodies, private sector and civic societies. There is need to identify the actors that will ensure interaction between the scholars, policy makers and the private sector.

Suggestions were made on the following to improve STI such as: the institutions that ought to effectively promote STI should be properly funded and given all the encouragement and backing needed; requisite human resources should be placed in the institutions; the incentive system should be put in place to encourage success.

It was also noted that no country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector. However, most African countries suffer from the problem of premature de-industrialization. The traditional infrastructure and industries should be done away with. Rather there should be a development of green infrastructure that promotes economically viable, social inclusive and environmentally sustainable industrialization.

The following were suggestions such as enhanced regional trade and integration in Africa, greater regional integration to support industrialization, financial and capacity development needs (Investment in education and training system), policies for inclusive development will need to be responsive to the needs of MSME's in the areas of finance and skills development, innovation is needed for green infrastructure development. With the help of new technologies in innovation, Africa can take its pride of place.

Local knowledge which is in abundance in Nigeria was brought to fore. It was recommended that the government needs to promote indigenous and tacit knowledge in small and medium scale enterprises. He gave the example of the roadside mechanic that repairs damaged imported vehicles to a state of almost brand new. However, the automobile industry in Nigeria is more interested in collaboration with already known automobile makers and manufacturers instead of harnessing our own local skills.

The round table discussion also showed that there were prospects in Africa in the area of high adaptive capacity, Africans are resilient and tolerant, rich resources, land and diversity.

- Africans have capabilities of STI, but the great challenge would be how to raise funds for researches. Grants usually come from Europe, United States of America. There should be conferences and meetings of the African stakeholders to create awareness among actors in individual countries.

- Point of convergence. Developed nations have learnt for thousands of years that no amount of money can transform any continent. It is about knowledge and learning. Learning has two aspects: education and Training.

Equip the younger ones. Access to good journals, good books by the young researchers.

Workshop 2

There was a parallel workshop session on bibliometrics, systems dynamics and Econometrics by **Dr. Manir, Momodu and Ayinde**. Students participated in the area that was most relevant to their research

2.4 Social events

Three major social events took place:

- a. A visit to Erin- Ijesa waterfalls at Erin-Jesa, Osun state Nigeria
- b. A cultural event at the Pit theatre, Dramatic Art department Obafemi Awolowo University Ile-Ife
- c. An academic dinner at Cameron hotel pool side

2.5 Media coverage:

There is coverage of events especially the open symposium by national Dailies like: Nigerian Tribune, Punch newspaper, and the nation. Also in attendance is Radio Nigeria and other independent television stations.

2.6 Outcomes Related to the Training

The Academy was well received by students and members of the local host organisations. The Academy has resulted in: - An opportunity for academic scholars and practitioners to come together and consider issues of innovation and development. The students particularly welcomed the inclusion of private sector representatives and policy makers but this also gave these 'end users' of academic research an opportunity to argue why they find academic research important for the work that they do. This was in addition to the expected academic and research capacity building outputs: - Training of PhD students in new research methods or upgrading existing skills as well as the latest state of the art within the field. - Providing students an opportunity to think about how to write policy briefs and academic research proposals – something the majority had never done before.

An opportunity to meet fellow students from across Africa and other parts of the world and develop what, we hope, will be long term ties. The students immediately started their own 'WhatsApp' group and became member of the AfricaLics Facebook page. The AfricaLics

website will host an online chat forum function to enable a wider group of PhD students to meet and share ideas. An additional outcome of this Academy has been: - Discussions between the AfricaLics Secretariat and the Tunisian Association for the Advancement of Science, Technology and Innovation with regards enhancing curricula for innovation and development in Africa

3. Funding and Budget

Breakdown of Expenditure by Host

Expenditure bore by Host (AISPI, OAU, NACETEM & AISPI Alumni)	In Cash (USD)	In Kind (USD)
Venue for Open Symposium (Conference Centre, OAU)	300 (AISPI, OAU)	
Venue for Academy dinner (Cameron Hotel Conference room)		300 (AISPI)
Venue for Academy (Seminar room + Guest Lounge)		2950 (NACETEM)
Transportation (4 vehicles – 3 buses & 1 car)		750 (NACETEM) 750 (AISPI, OAU)
Transportation (fuel)	1500 (AISPI, OAU)	
Printing of Name tags, Programs, Notepads, Pens, Posters, Banners, Advert of National Radio & Newspapers	1000 (AISPI ALUMNI)	
Social Activities - OAU cultural troop (cost of troop performance)	600 (AISPI ALUMNI)	
Social Activities - Water fall (gate fees, tour guide, dance venue & music band)	200 (AISPI ALUMNI)	
Miscellaneous (domestic and international phone calls, local running to make bookings, movement of facilitators, medicine for students, social trips for facilitators & other sacrificial giving from August)	1000 (AISPI staff)	
Souvenirs for facilitators	200 (AISPI ALUMNI)	
Allowance paid to NACETEM essential support staff (drivers, engineers, cleaners, facility managers)	200 (AISPI ALUMNI)	
Total	5000	4750
Grand Total	9750	

4. Evaluation Survey

4.1 Background

On the last day of the fourth AfricaLics PhD Academy an anonymous survey was carried out among students aimed at collecting feedback and ideas for future events.

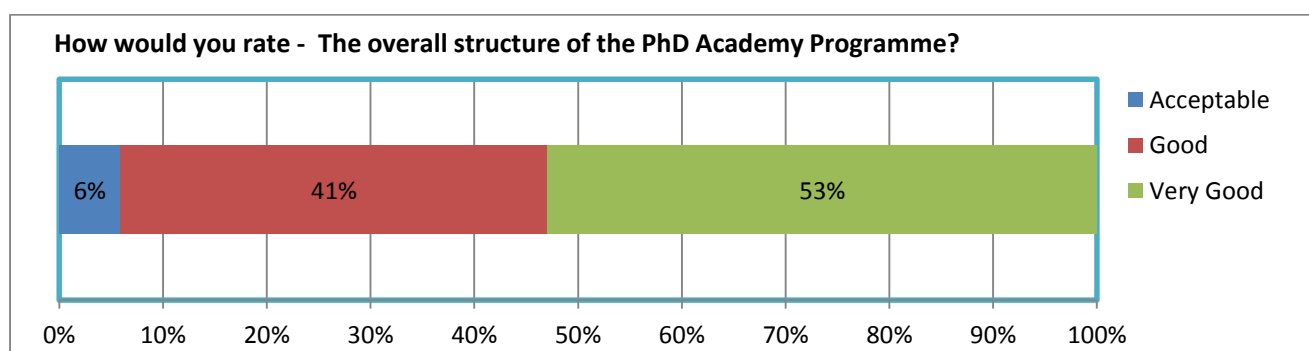
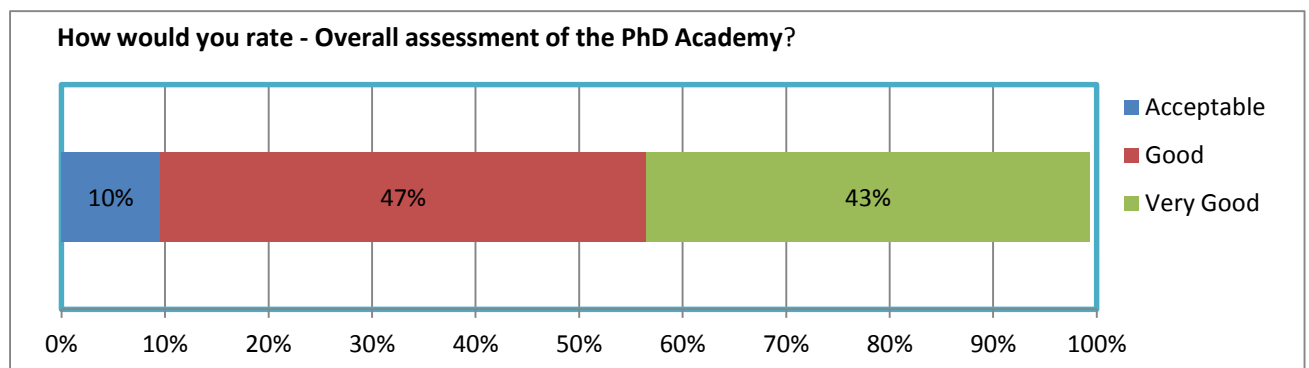
4.2 Structure of the survey

The survey was structured in three parts. The survey consisted of the following sections:

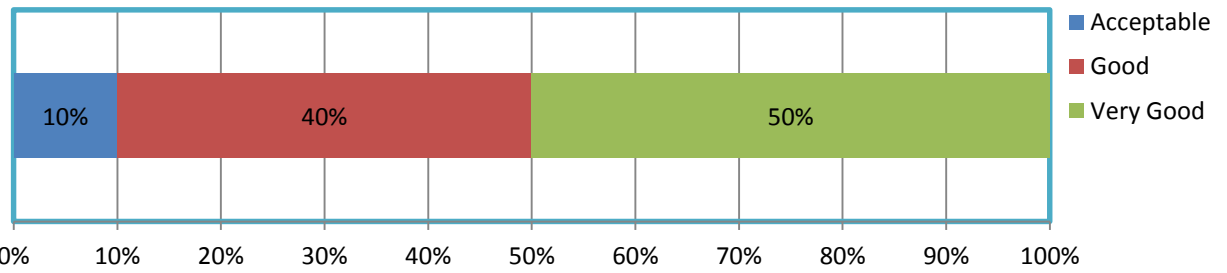
- Overall evaluation of the course and programme.
- Coverage of particular thematic and methodic aspects.
- Open comments.
- Usefulness of particular programme aspects.
- Assessment of potential change of time and attention distribution between different programme parts.
- Assessment of support related with other programme modifications.
- General individual information concerning study conditions, progress and professional aspirations.

4.3 Results of the evaluation survey

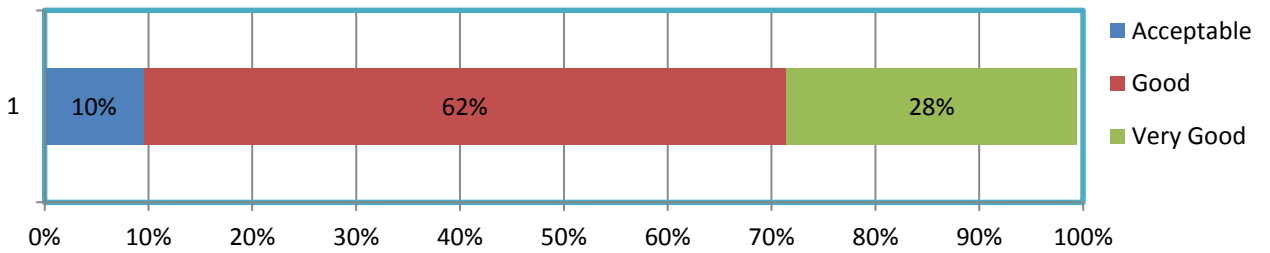
As shown in the results below, overall, participants were satisfied with the course and overall programme structure. The overall contents of the lectures received positive evaluation by the PhD students. The majority of students agreed that overall innovation theories and research methodology received enough attention.



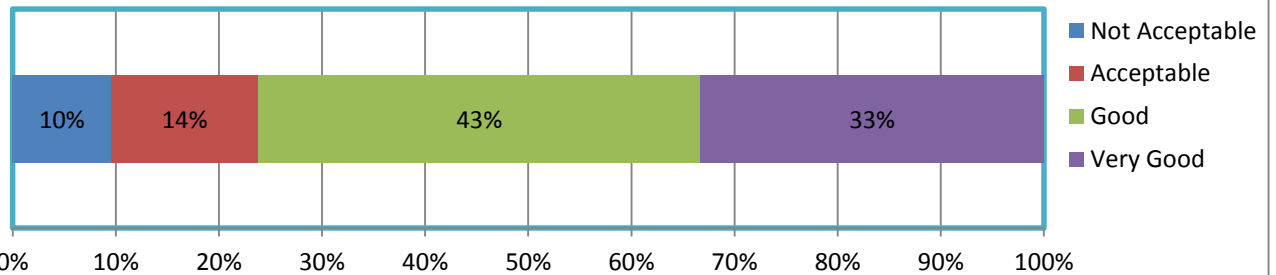
Usefulness of all or particular aspects of the PhD lectures?



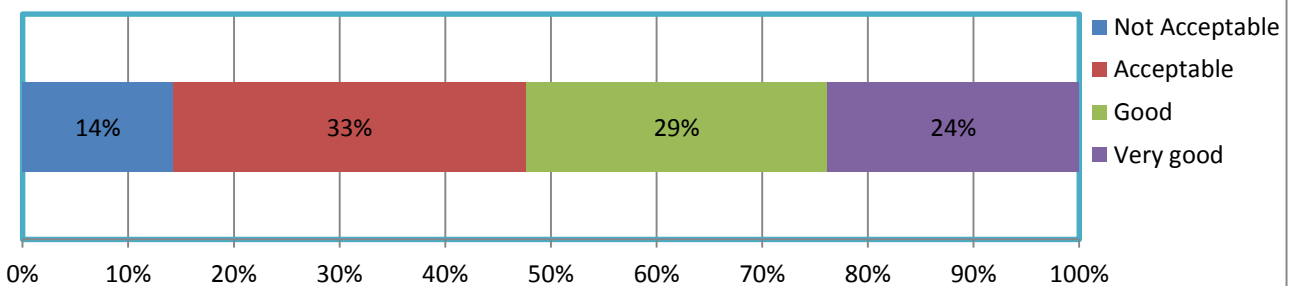
General assesment on approaches to research and partnership building of the academy?

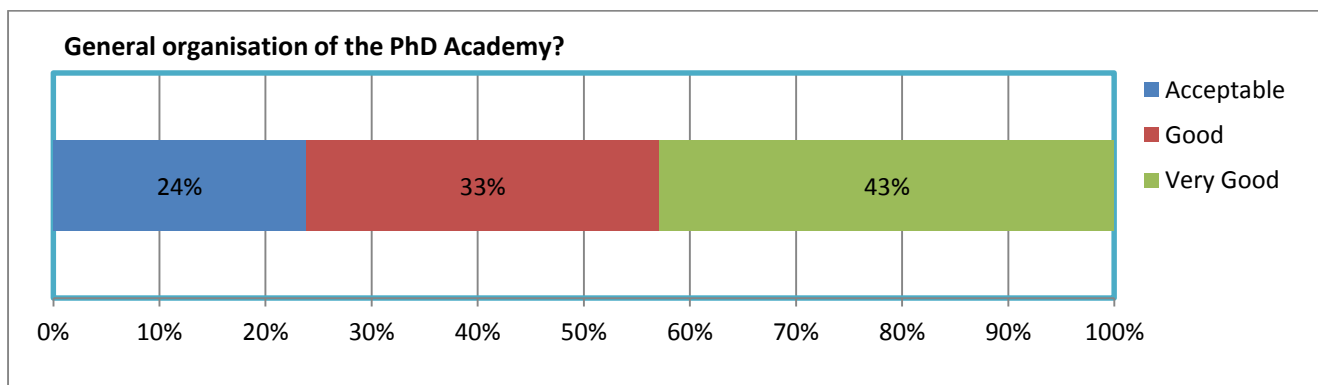
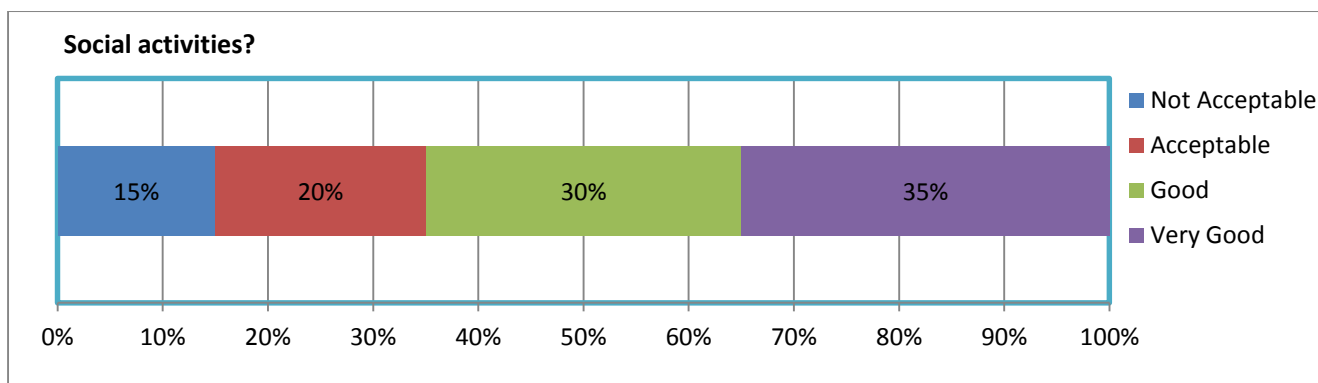


Approaches used to enhance interaction among PhD scholars?



Accommodation, food and conference facilities?





5. The Organising Team

5.1 AfricaLics Secretariat

1. Dr. Ann Kingiri - African Centre for Technology Studies (ACTS), Kenya	2. Dr. Rebecca Hanlin - African Centre for Technology Studies (ACTS), Kenya
3. Dr. Margrethe Holm Andersen - Aalborg University, Denmark	4. Mourine Cheryot - African Centre for Technology Studies (ACTS), Kenya
5. Moses Owidhi - African Centre for Technology Studies (ACTS), Kenya	

5.2 Local Organising Team

Transport/Transit/Airport Pick-up

- Dr. Abiodun Egbetokun
- Dr. Abiodun Oyebola
- Dr. Philip Ayoola
- Dr. Ibikunle Ogundari

Technical (Venue + ICT)

- Dr. Michael Awoleye
- Dr. Maruf Orewole
- Dr. Maruf Sanni

Accommodation

- Dr. Oladipupo Adejuwon
- Dr. Chinwe Onwudiegbu
- Dr. Gbojubola Binuyo

Social/Welfare

- Dr. Oluseye Jegede
- Mrs. Blessing Ajao
- Mr. Johnson Okorhi
- Mr. Joseph Akpobo

Meals

- Dr. Margaret Jegede
- Dr. Oluwatoyin Ayanlade
- Dr. Titilayo Olaposi

Logistics

- Dr. Adegbola Oluwale
- Mrs. Olufunmilola Adesola
- Dr. Caleb Adelowo
- Dr. Oluseye Jegede

Scientific Committee Members

- Prof. Banji Oyelaran-Oyeyinka
- Prof. Edward Lorenz
- Prof. Francis Ogbimi
- Prof. Joshua Akarakiri
- Prof. Jun Jin
- Prof. Keun Lee

- Prof. Mammo Muchie
- Prof. Matthew Ilori
- Prof. Okechuhwu Ukuoma
- Prof. Olusola Aderounmu
- Prof. Rasigan Maharajh
- Prof. Timothy Oyebisi
- Prof. Tukur Garba
- Prof. Willie Siyanbola
- Dr. Abiodun Egbetokun
- Dr. Abiodun Oyebola
- Dr. Anne Kingiri
- Dr. Billy Oluwale
- Dr. Bitrina Diyamett
- Dr. Boladale Adebawale
- Dr. Erika Kramer-Mbula
- Dr. George Essegbey
- Dr. Manir Kamba
- Dr. Margrethe Anderson
- Dr. Maruf Sanni
- Dr. Michael Awolaye
- Dr. Oluseye Jegede
- Dr. Opeyemi Ayinde
- Dr. Rebecca Hanlin
- Dr. Shittu Ayodele
- Dr. Titilayo Olaposi
- Dr. Wale Adejuwon

Appendix 1: 5th PhD Academy programme



Programme for AfricaLics Academy 2017

Obafemi Awolowo University, Ile-Ife, Nigeria 19th - 30th
June, 2017

Theme: Rethinking National Innovation Systems for Africa's Development

Venue: Conference Centre, Obafemi Awolowo University, Ile-Ife

Monday 19th June 2017

Open Symposium

[Any interested party can attend; a number of policy makers and STI stakeholders will be invited from Ife, Osun State and nationally]

(Moderator: Dr Oluwale)

8:00 Registration/All guests seated

9:00 Opening Ceremony

- National Anthem followed by Obafemi Awolowo University (OAU) Anthem (10 mins)
- Welcome Address by the Director, African Institute for Science Policy and Innovation (AISPI) (10 mins)
- Welcome Address by Dean, Faculty of Technology (10 mins)
- Welcome Address by Director General, National Centre for Technology Management (NACETEM) (10 mins)
- Opening Address by Director, Scientific Committee, AfricaLics Academy 2017 (15 mins)
- Opening remarks by Chair, AfricaLics Scientific Board (5 mins)
- Opening Address by Vice Chancellor, OAU (15 mins)

- 10:30 **Cultural Interlude** (OAU Dramatic Art Department)
- 10:45 Coffee Break
- (Moderator: Dr. Rebecca Hanlin)**
- 11:00 **Keynote Address by Dr. B. Diyamett, Chair, AfricaLics Board & Director of STIPRO, Tanzania**
Innovation Systems in the African Context: Role of AfricaLics
- 11:30 **Keynote Address by Prof. F. Adesina, Director, OAU Directorate of Linkages**
Innovation Systems in Africa – the Role of Universities
- 12:00 **Lunch Break**
- 13:00 **Lecture 1 by Prof. B. Oyelaran-Oyeyinka, Professional Fellow, UNU-INTECH/ Visiting Professor, Innovation and Development, The Open University, UK**
Industrialisation and Structural Transformation: Africa in Comparative Perspective
- 14:15 Deliberations
- 14:30 Coffee Break
- 14.45 **Lecture 2 by Prof. M. Muchie, DST/NRF Research Professor, Tshwane University of Technology, South Africa**
Integrating Science, Technology, Engineering and Innovation in re-framing the Africa's development Agenda
- 16:00 Deliberations
- 16.15 National Anthem/ End of Opening Ceremony

This academy has been made possible with funding from: Sida, Obafemi Awololo University, NACETEM, African Institute for Science Policy and Innovation Alumni students

Tuesday 20th June 2017 (1st day of the closed Academy meeting)

Venue for 20th – 30th June: NACETEM Seminar Room A

(Moderator for the day: Dr. Jegede)

09:00 Introduction to the Academy (**Prof. Ilori, Dr. Jegede and Dr. Hanlin**)

09:15 **Lecture 3** (Dr. Hanlin)
History of Innovation Systems: theories and practices

10:30 **Coffee Break**

11:00 **Lecture 4** (Prof. Muchie)
Innovation System: How relevant is it to Africa's Development

12:15 **Lunch Break**

14:00 **Lecture 5** (Dr. Kraemer-Mbula) STI Indicators and their Use in STI Policy: Conceptual considerations

15:15 **Students Presentations** (1 Dr. Hanlin, 2 Dr. Kraemer-Mbula)

16:45 Coffee Break

17:00 **Student Presentations** (3 Dr. Diyamett)

17:45 **End of Class**

Wednesday 21st June 2017

(Moderator for the day: Dr. Ogundari)

09:00 Lecture 6 (**Prof. Siyanbola**)
Tackling Poverty: R&D for Wealth Creation in Africa

10:15 **Coffee Break**

10:45 **Lecture 7** (Dr. Kraemer-Mbula)
STI Indicators and their use in STI Policy: Practical applications in Africa

12:00 **Lunch Break**

13:45 **Interactive session 1** (Dr. Hanlin)
Using qualitative methods to study innovation and development

15:00 **Student Presentations** (4 Dr. Kingiri; 5 Dr. Oluwale)

16:30 **Lecture 8** (Prof. Lorenz)
New metrics and methodologies in Innovation Studies

17:45 **End of Class**

Thursday 22nd June 2017

(Moderator for the day: Dr. Hanlin)

08:30 **Lecture 9 (Prof. Lorenz)**
Work Organization, Competence Building and Innovations: the Case of Micro Enterprises in Africa

09:45 **Coffee Break**

10:15 **Student Presentations** (6 Dr. Jegede, 7 Dr. Hanlin; 8 Prof. Lorenz)

12:30 **Lunch Break**

13:30 **TOUR**
Visits to Public Technology Hubs – Centre for Energy R&D, OAU & Prototype Engineering Development Institute, FMST
Refreshments to be taken along (from OAU)

18:00 **End of Class**

Friday 23rd June 2017

(Moderator for the day: Dr. Ayoola)

09:00 **Lecture 10 (Dr. Kingiri)**
Innovation for social inclusion: place of Gender

10:15 **Coffee Break**

10:45 **Lecture 11** (Prof. Akarakiri)
Energy Innovation: Past, Present and Future

12:00 **Lunch Break**

14:00 **Student Presentations** (9 Dr. Awoleye; 10 Dr. Kingiri)

15.30	Coffee Break
15.45	Special Lecture (Prof. Ukwuoma) Project Management & Competitive Advantage: implications for innovation
17:00	End of Class

Saturday 24th June 2017

(Coordinated by – The Academy Social Committee)

Cultural Weekend

08:00	Buses depart hotels
08.30	Visit to indigenous fab lab (Osogbo)
10:00	Transfer to Erin-Ijesa Waterfalls (Ilesa)
13:00	Lunch at Erin-Ijesa Waterfalls (to be taken along from OAU)
15:00	Return to Ile-Ife

Sunday 25th June 2017

Free Day (Lunch will be taken at the Hotel)

Cultural Events @ OAU Dramatic Art Department – Details to be circulated nearer the time

Monday 26th June 2017

The day is an open event. Post graduate students from universities in Ife studying aspects of STI related studies will be invited to attend.

(Moderator for training day: Dr. Awoleye)

09:00	Introduction of OAU PG Students and Academy Students
09:15	Parallel workshop sessions: (Dr. Manir & Dr. Momodu & Prof. Garba) Bibliometrics/System Dynamics/Econometrics
11:00	Coffee Break
11:30	Round Table Discussion (Dr. Kingiri & Dr. Essegbey & Dr. Shittu & Dr. Ayinde)

Innovation Systems and Africa's Sustainable Development

13:00 **Lunch Break**

14:00 **Lecture 12** (Prof. Aderounmu)
Fund raising for research

15:15 **Coffee Break**

15:45 **Thematic Seminar 1** (Dr. Essegbey)
Importance of STI in meeting the Global Climate Change Challenge

17:15 **End of class**

Tuesday 27th June 2017

(Moderator for the day: Dr. Holm Andersen)

09:00 Students Presentations (**11 - 2 Dr. Holm Anderson**)

10:30 **Coffee Break**

11:00 **Lecture 13** (Dr. Adebowale)
Technology learning: case of some selected ward-based clusters in Africa

12:15 **Lunch Break**

14:00 **Student Presentations** (13 Dr. Egbetokun; 14 Dr. Essegbey;)

14:30 **Lecture 14** (Prof. Oyebisi)
ICT Clusters and Regional Development in Africa

15:15 **Coffee Break**

15:45 **Student Presentations** (15 Dr. Olaposi; 16 Dr. Aderemi)

17:15 End of class

Wednesday 28th June 2017

(Moderator for the day: Dr. Binuyo)

09:00 Student Presentations (**17 Dr. Shittu; 18 Dr. Adejuwon**)

10:30 **Coffee Break**

11:00	Lecture 15 (Prof. Jin) The role of Local Government in Fostering Development of Emerging Industry
12:15	Lunch Break
13:15	Student Presentations (19, 20 Prof. Jin)
14:45	TOUR Visit to Incubation Centre for Grassroot Entrepreneurs
18:00	End of class

Thursday 29th June 2017

(Moderator for the day: Dr. Onwudiegwu)

09:00	Thematic Seminar 2 (Dr. Holm Andersen) " Innovation and Health "
10:15	Break
10:30	Interactive Session 2 (Dr. (Mrs) Jegede & Dr. Ayanlade) Student – Lecturer Relations: making the most of your supervisor.
11:15	Coffee Break
11:45	Lecture 16 (Prof. Jin) Innovation and Entrepreneurship based on University-Industry Collaboration
13:00	Lunch Break
14:15	Lecture 17 (Prof. Ilori) Building Technology Capabilities in the Manufacturing Sector
15.30	Coffee Break
16.00	Students Presentations (21 Dr. Sanni; 22 Dr. Orewole)
17.30	End of class

Friday 30th June 2017

(Moderator for the day: Dr. Adelowo)

08:30	Lecture 18 (Prof. Imasogie)
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Emerging Technologies and Innovations in the Materials Industry

09:45	Break
10:00	Lecture 19 (Prof. Ogbimi) Learning: The Foundation of Innovation Process
11:15	Student Presentations (23 Dr. Abereijo; 24 Dr. Oyebola; 25 Dr. Margrethe Holm Anderson)
13:30	Lunch
15:00	Coffee Break/Pictures/Closing Plenary (by Dr. Andersen & Prof Oyebisi)
18:00	Academy Dinner (Cameron Hotel Pool Side)

Rapporteurs

Mrs Blessing Ajao (Chief) & Mr. Emmanuel Apotemole & Mrs. Taiwo Olunuga

Appendix 2: List of Students Papers and Discussants

Students are requested to prepare a 20 minute PowerPoint presentation. Each student presentation will be discussed by a fellow student participant as well as one of the Academy facilitators; as detailed below. We request student discussants to prepare up to five minutes of comment and feedback on the paper(s) they have been allocated. Facilitators will be given ten minutes to comment. The remaining time will be available for general Q and A/ discussion in plenary.

NOTE: student presenters are requested to email their presentations to the academy email address in advance of the event so that they can be uploaded to the laptop being used at the venue. This will ensure efficient use of time during the Academy.

PN	Presenter	Thesis title	Student Discussant	Main Discussant
1	Boniface kouadio	Effet des investissements en tic et en capital humain sur la productivite des entreprises en Cote d'ivoire.	Adekunle	Hanlin
2	Emmanuel OGUNJEMILUA	A study of dynamic capabilities and technology upgrading in selected knowledge-based firms in southwestern Nigeria	Boniface	Mbula
3	Waliu Mulero ADEGBITE	Influence of human resource management practices on organizational innovation in selected breweries in lagos, Nigeria	Tchouto	Diyamett
4	Claude NDAKI Mboulet	Competing in High-Tech Industry: firm and industry determinants of local firm's innovation strategies in Cameroon's pharmaceutical industry	Mreji	Kingiri
5	Daniel Nigussie	Knowledge Generation and Sharing Practices in Farmers Research Group/Innovation System Approach/ to Agricultural Development: Policy Implications for Agricultural Extension Service Delivery in Ethiopia	Jesuleye	Oluwale
6	Adeola Oloyede	Analysis of social network and agroforestry technologies among small-scale farmers in Nigeria	Ajewole	Jegede
7	AJEWOLE Oluwafemi Olajide	Investigating Climate Change Innovations on Cereal Farmers Risk Behaviour in Nigeria: A Gender Approach	Oloyede	Hanlin
8	Gladys Thuita	Determinants of investment in the export processing zones in Kenya	Ouma	Lorenz
9	Matilda Ouma	Facilitating uptake of system of rice intensification practices through an innovation platform in oluch irrigation scheme, Rangwe sub county, Kenya	Thuita	Awoleye

10	Paul Adekunle	A study on technical entrepreneurial orientation and corporate entrepreneurship strategies of small and medium scale manufacturing firms in south western Nigeria	Ogunjemilua	Kingiri
11	Fikayo Abodunde	A scientometric analysis of agricultural research and its effect of agricultural policy in Nigeria.	Adesoye	Andersen
12	Morolake Adesoye	A study of Quality Management In Clustered Garri Processing Firms in South western Nigeria	Abodunde	Andersen
13	Faustine Kede Ndouna	Microeconomics Foundations of Entrepreneurial Performance in the Informal Sector: A Case Study of Cameroon	Aubin	Egbetokun
14	Pamela Adhiambo Mreji	Returnee Entrepreneurs and Firm Performance in Underdeveloped Countries: A legitimacy perspective	Mboulet	Essegbey
15	Engida Esayas Dube	Street vending, vulnerability and the right to the city: Evidence from Dire Dawa, Eastern Ethiopia	Rajesh	Olaposi
16	Bolanle Solomon	Assessment of technological innovation in the information and communications technology (ict) sector in Nigeria	Oyekunle	Aderemi
17	Merertu Wekuma	Enhancing Competitiveness of Ethiopian Textile and Apparel Industry through integrated Global Value Chain	Sobanke	Shittu
18	Sobanke Victor	A study of human capacity and innovation capability in the manufacturing firms in Nigeria	Wakuma	Adejuwon
19	Tolulope Bakare	Technological assessment of biotechnology development in Nigeria	Oladele	Jin
20	Waheed Oladele	Assessment of new product development process in the nigerian brewing industry	Bakare	Jin
21	Oluwayemisi Adebola Oyekunle	A study of innovation and development of small enterprises in the handicraft sector of Kwazulu-Natal	Solomon	Sanni
22	Seogo Aubin	Droits de propriete et production agricole au Burkina Faso	Faustine	Orewole
23	Ibiyemi Jesuleye	Assessment of the implementation of the Nigerian Space Policy	Nigussie	Abereijo
24	Rajesh Many	New Issues in India's National Innovation System in the Post Liberalization Period: A Study with Reference to ICT Diffusion in the Agriculture Sector	Dube	Oyebola
25	Latifa Tchouto	Les innovations en Afrique Subsaharienne : Déterminants et effets sur la croissance économique	ADEGBITE	Andersen
26	Traore Nohoua	Duree de transition des entreprises informelles vers le secteur formel en Cote d'ivoire		Hanlin

Appendix 3: Plenary sessions report

Tuesday 20th June 2017

The day 2 took and all the other lectures for the academy took place at the National Centre for Technology Management (NACETEM). **Dr. Rebecca Hanlin**, introduced the students to the key things the students are expected to take note of during the academy such as research methodology, theoretical models amongst others. She urged them to interact and build future research networks from the academy.

This was immediately followed by her lecture titled “history of innovation systems, theories and practices”. She introduced the students to the original concept of innovation, the different types of innovation systems, their characteristics and the types of strategies that will suite each of them. In addition, she emphasized that innovation is not necessarily only for big firms, followers can also be innovators. She said there is need to start looking at studies in the area of African systems of innovation, especially studies that are empirical in nature. She concluded that scholars should pay attention to the increasing work on African in the area of the relationship between innovation and development and innovation systems.

The second lecture was by **Prof Mammo Muchie** “Innovation systems” How relevant it is to African development. He said most of the problem we have here in African is trust capital. He noted some of the problems of African development one of which was the creation of an African National System of production and consumption. He urged scholars to start looking at carrying out research in this area.

The third presentation was from **Dr. Erika Kraemer-Mbula** on ST&I indicators and their use in STI policy. She said not until we can measure innovation then we can’t proof that it leads to a sustainable future. She introduced the students to the different types of indicator manuals that can be used to measure innovation. She said African needs to emphasize on how to measure innovation in order to appreciate what innovation is. She also said there is need for the revision of existing of STI indicators and this will be mostly driven by the society. She urged the students to address how their work can improve the formulation, implementation, monitoring and evaluation of STI indicators and policies in African. Finally, she concluded that there is a big opportunity cost in investing in innovation in African than other part of the world. There were two students’ presentations afterwards.

Thursday 21st June 2017

Prof. Edward Lorenz delivered a lecture on work Organization, Competence building and Innovation: the case of Micro Enterprises in Africa. There were three student presentations. Thereafter, there was a visit to three different technology hubs, Centre for Energy R&D, OAU & Prototype Engineering Development Institute; where the students were exposed the output of some of the researches that were conducted at these hubs.

Friday 23rd June 2017

There was a lecture on “Innovation for social inclusion: the place of gender”. This was delivered by **Dr. Ann Kingiri**. The other section was on Energy Innovation: Past, Present and Future. This was delivered by **Prof. Joshua Akarakiri**. There were 2 student presentations and a lecture delivered by **Prof. Okechuwkwu Ukwuoma** on Project Management and Competitive Advantage: implication for innovation

Saturday 24th June 2017

The day was coordinated by the social committee. The student were taken on tour to visit the indigenous fab lab at Osogbo and the Erin-Ijesha Waterfalls at Ilesa.

Sunday 25th June 2017

It was a cultural day. The students dressed in their country’s native attire as they were entertained at the university’s pit theatre by university’s cultural troop.

Monday 26th June 2017

There was a parallel workshop session on bibliometrics, systems dynamics and Econometrics by **Drs. Kamba, Momodu and Ayinde**. Students participated in the area that was most relevant to their research

The day continued with a round table on Innovation Systems and Africa’s Sustainable Development. The aim of the round table was to highlight the potential of Science Technology and Innovation to achieve inclusive SDG’s. It was also said that the topic: The role of STI in meeting SDG’s was being discussed at a timely and highly essential period, considering that it is a paradigm shift for the development of all nations. He said such a topic as this should have been given priority years back. He said SDG is not just an aggregate of 17 topics that the world has ascribed to. STI propels our progress in SDG’s. STI was recognized as the machine to accomplish/achieve SDG’s. STI is seen as the key driver for economic growth, job creation, skills development, increased public investments, growth in industry and infrastructure. STI enables us to understand natural phenomenal. It is a body of knowledge that enables us to understand why we have failed and what new directive we should embark on to attain success. To make the system work, it requires a multi-disciplinary approach, partnerships across government bodies, private sector and civic societies. There is need to identify the actors that will ensure interaction between the scholars, policy makers and the private sector.

Suggestions were made on the following to improve STI such as: the institutions that ought to effectively promote STI should be properly funded and given all the encouragement and backing needed; requisite human resources should be placed in the institutions; he incentive system should be put in place to encourage success.

It was also noted that no country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector. However, most African countries suffer from the problem of premature de-industrialization. The traditional infrastructure and industries should be done away with. Rather there should

be a development of green infrastructure that promotes economically viable, social inclusive and environmentally sustainable industrialization.

The following were suggestions such as enhanced regional trade and integration in Africa, greater regional integration to support industrialization, financial and capacity development needs (Investment in education and training system), policies for inclusive development will need to be responsive to the needs of MSME's in the areas of finance and skills development, innovation is needed for green infrastructure development. With the help of new technologies in innovation, Africa can take its pride of place.

Local knowledge which is in abundance in Nigeria was brought to fore. It was recommended that the government needs to promote indigenous and tacit knowledge in small and medium scale enterprises. He gave the example of the roadside mechanic that repairs damaged imported vehicles to a state of almost brand new. However, the automobile industry in Nigeria is more interested in collaboration with already known automobile makers and manufacturers instead of harnessing our own local skills.

The round table discussion also showed that there were prospects in Africa in the area of high adaptive capacity, Africans are resilient and tolerant, rich resources, land and diversity.

- Africans have capabilities of STI, but the great challenge would be how to raise funds for researches. Grants usually come from Europe, United States of America. There should be conferences and meetings of the African stakeholders to create awareness among actors in individual countries.
- Point of convergence. Developed nations have learnt for thousands of years that no amount of money can transform any continent. It is about knowledge and learning. Learning has two aspects: education and Training.
- Equip the younger ones. Access to good journals, good books by the young researchers.

There was a lecture on Proposal Writing Techniques by Prof. Sola Aderounmu. General Introduction to proposal writing: Basic problem, a promise to something that does not exist, risk of losing money on the part of the sponsor. Some of the things the students were exposed to were how to understand the research donors, who funds/ Support research, how to clarify the concepts and ideas, and Writing of your proposal for the benefits of experts and non-experts.

Dr. George Essegbey: Importance of STI in Meeting the Global Climate Change Challenge

He explained the importance of clean energy and mentioned Africa's Needs. Rapid development; Agriculture employs about 65% of Africa's labour force and accounts for more than one third of the continents GDP this is according to the African Union and World Bank statistics. We do need to save our Eco-system; a-forestation should be encouraged. All sub regions of the world would need to strategize towards specific actions. The strategies and efforts to execute must be fully STI driven for optimal success. The political will for the execution of projects is critical.

Question: Much emphasis was placed on Agriculture, energy and health. What sector should be given prominence? Answer: Agriculture because so much money is spent on the importation of food. Question: How can the youth be encouraged to study Agriculture? Most students no longer have interest in this field of study. Question: As it is often said that the future depends on the youth, and these youths are not interested in Agriculture, what will be the future of African Agriculture? Answer: By providing incentives and making it more lucrative. Question: What can be done to lessen/reduce the impact of climate change on African companies? Answer: Green sources of energy should be considered. Question: Batteries are majorly a challenge for solar powered energy in Africa, how is it better in developed nations? Answer: Research is still ongoing in that regard and also better energy storage systems in developed countries are a bonus. Economic analysis on solar panelled power is cheaper compared to other sources. Political will for execution is the key factor; the implementation however bothers on leadership. Question: What role is the African Union playing? Answer: In the year 1980, the African nation decided on allocating 1% expenditure on R&D. However, most countries of the world have moved from this point. South Korea spends 3% of a GDP of 3 trillion dollars on R&D.

Tuesday 27th June 2017

Prof. Willie Siyanbola: Tackling Poverty in Africa through Research and Development.

He said we need more than natural resources to develop drastically. It is important for us as Africans to move with the global trend in knowledge acquisition. He asked the question: Who is poor? You are poor if your standard of living is below the poverty line. Human Development Index is used to adjudge this. The wellbeing per capita income often measured by: Average life span, etc., education, standard of living. Good governance across board is the underlining factor to achieve SDG's. How can R&D be used to reduce poverty in Africa? Optimistic view which traces how research helps poor people through the following; When new technologies are adopted in Agriculture, chances of farmers income are increased, employment generation, abundance of food, bountiful harvest, reduced cost of food and hence providing food accessibility. Engagement in R&D brings empowerment. Global experiences have shown that the conduct of scientific R&D doesn't robotically translate into development. For R&D to be successful it has to exist in a strong NIS. Knowledge rules the world as opposed to natural resources/endowments.

Challenges to R&D in Nigeria; our mindset must change, corruption must be eradicated. Good governance must be embraced. Policy implementation is the problem Africa faces and not the formation nor enactment.

Wednesday 28th June 2017

There was a student presentation on "A study of Human Capacity and Innovation Capability in the Manufacturing Firms in Nigeria" and there were comment both from the student and the discussant. This was shortly followed by a lecture on "The role of Local Government in Fostering Development of Emerging Industry". It was delivered by **Prof. Jun Jin**. The participants were taken on tour visit to incubation centre for grassroots entrepreneurs.

Thursday 29th June 2017

Dr Margrethe Andersen lectured on “Innovation and Health. This was followed by an interactive session where students opened up on the challenges they faced with their academic supervisors and how they were constraint in terms of infrastructures that were required for research. The lecture on innovation and entrepreneurship based on university-industry collaboration was delivered by **Prof. Jun Jin**. To round up the academic session for the day. **Prof. Matthew Ilori** delivered a lecture on “Building Technology Capabilities in the Manufacturing Sector”.

Friday 30th June 2017

There were lectures on “Emerging Technologies and Innovations in the Material Industry” and “Learning: The foundation of Innovation Process” delivered by **Prof. Benjamin Imasogie** and **Prof. Francis Ogbmi** respectively. The closing lecture on ‘Technological learning: the case of some selected clusters in Africa’ was given by **Dr. Boladale Adebowale**. Students had their presentations thereafter. The day was closed with presentation of students’ certificates and gifts to the local organizing committee. There was a dinner party later in the day organized for the closure of the academy.

Report prepared by Mrs. Bessing Ajao, Mr. Emmanuel Apotemole, Dr. Oluseye Jegede and Dr. Rebecca Hanlin