



Programme

The 13th All Africana Post-Graduate Academy (APGA)

In collaboration with Department of Industrial Engineering, Tshwane University of Technology (TUT)
and the Ethiopian Science & Academic (ESAN) are organizing

Online Training

Title: “Consilience to Unifying Knowledge with Integrated Action, Problem, Project, Work Based Research for Relevant and Effective High Quality Output”

Date : 14th June 2020
Time : 8:45 – 16:00 South Africa Standard Time (GMT+2)
Online Zoom Meeting ID : 884 041 8580
Password : 6m4kTH
Link: <https://tut.zoom.us/j/8840418580?pwd=L1B4V2ITQ1hUVIIPWDFLUVNTajhCdz09>

I: Background

This is the second on-line AGPA and we expect many of the post graduates from different disciplines will join. The Zoom meeting app that can accommodate as many as 500 participants will be utilized. All post-graduates are most welcome to join together on line to share and exchange on how to do and deliver high quality research output in scholarly journals.

The topics to focus on will include the following:

- Innovative Ways of Dealing with Research Gaps During the Transition from the Physical to the Digital world and the Current Corona Virus Time
- Framing Policy Research in Africa: Issues and Challenges for Doctoral Candidates
- Research in Mind set shifts for new digital commons
- Doing Designed ecosystem research for Sustainable and unified socioeconomic resilience
- Building synergy in research missions and narratives

II. Exploration of the Research Highway

Research is a dialogue between imagination and critical reflection for the creation and realisation of original knowledge. As Medawar, in his book on: *The Hope of Progress* (1972) put it: *All advances in scientific understanding, at every level, begin with a speculative adventure, an imaginative preconception of what might be true- a preconception which always, and necessarily, goes a little way(sometimes) a long way beyond anything which we have logical or factual authority to believe in.* It is the invention of a possible world, or of a tiny fraction of that world. The conjecture is then exposed to criticism to find out whether or not that imagined world is anything like the real one. Scientific reasoning is therefore at all levels an interaction between two episodes of thought-a dialogue between two voices, the



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one imaginative and the other critical, a dialogue, if you like, between the possible and the actual, between proposal and disposal, conjecture and criticism, between what might be true and what is in fact the case. Research is open to create new knowledge that is both expected to be known or something unexpected and unknown. The current research to create the right vaccine to deal with the corona virus might also bring many surprises with serendipity; new unexpected inventions can surprise the world.

II: Paradigm Shift from Disciplinary Silos to Consilience and the Unity of Knowledge

New knowledge and theory emerge from the integration of disciplinary fields. Different knowledge cultures are bridged and fused together when answering a research question. Two relevant examples that demonstrate how different disciplines are amalgamated in the development of new theories are Evolutionary Theory and History of the Universe. Evolutionary theory has benefited from the convergence of evidence gained from different fields. Some of the fields that support the theory of evolution is from the concordance of genetics, molecular biology, palaeontology, geology, biogeography, comparative anatomy, comparative physiology and many other disciplines and fields (Weinberg, S (1993). *Dreams of a Final Theory: The Scientist's Search for the Ultimate Laws of Nature*). Another example is the history of the universe. The evidence on how to understand and explain all dimensions of the universe rely on different fields such as astronomy, astrophysics, planetary geology and physics. These two specific examples demonstrate evidence from different fields and theories can make the quality of research output the strongest by applying different research techniques and methods. We have Mode I disciplinary enclaved silos, Mode II transdisciplinary fields that integrate different disciplines and Mode III as the hybrid synergy of knowledge from a variety of disciplines with imagination, curiosity, scepticism and wonder. There is a real need to create interdisciplinary, trans-disciplinary, multi-disciplinary, participatory, integrative and transformative new knowledge production value chain to lay the unity of knowledge consilience amongst the natural, engineering, human, economic and social sciences. The current Covid-19 health crises can create economic, social, education and environmental crises. Conversely the non-health crises can cause further more different and a variety of endemics, epidemics and pandemic viruses. Novel researches that generate the unity of knowledge is much needed to be able to address all spheres of life in health, economy, environment and normal social relations. Researchers have to become organic intellectuals open to the knowledge universe to achieve mutually beneficial win-win outcome in all the knowledge, education, social, medical, economic and environmental life of the world.

The scientific research in any field and the scientific knowledge produced should be a resource to expand understanding in all fields and not limited singularly only to disciplinary silos. How to create and keep high quality by undertaking different integrated methods of research is critical to generate new path-breaking knowledge and theory to emerge from the integrative work of the varied disciplinary fields. Research to create systematic relation amongst all things to discover original knowledge to sustain the wellbeing and welfare of humanity and nature needs action, project, problem and work-integrated research that



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includes the variety of different fields to produce inventive and innovative job creating graduates and life-long learners, researchers and knowledge creators.

Finally, let us go for a new knowledge creation culture to bridge and fuse together all fields to bring the relevant variables by applying experiments, quantitative statistics and mathematical modelling, engineering design and qualitative methods and models to find tangible, measurable and reliable concrete solutions to any research area, question and problem that all of you from South Africa and also from the rest of Africa, as the emerging scholars and hopefully also as organic intellectuals, have reason to value and choose to do.

III: Program Design

There are professors as mentors; post-docs to share the lessons from their doctoral research experience and post-graduates to present on their current work to contribute on how best high-quality creative research will be achieved in time based on the following: a) as mentors their own life-long research work can be an inspiration; b) the experience of the post-docs in completing successfully their doctorates can be useful as lessons to learn c). The post graduates will present their research and they will receive the feedback from the mentors, the post-docs and from one another. This can stimulate them to undertake their research systematically with encouragement on how well they can produce publications during their research journey in completing their PhDs.

The Programme will include:

- Lectures
- Post-Docs sharing their PhD Experience
- Post-Graduate Presentation
- Feedback from mentors, post docs and from post-grads from each other
- Open question and answer time
- Recommendations for publication in appropriate journals

8:00 – 9:00 Registration		
Programme Director: Prof. Mammo Muchie, Tshwane University of Technology		
Co-coordinator: Prof. Nnamdi I. Nwulu, University of Johannesburg		
Time	Topic	Presenter
8:45 – 9:00	Opening and Welcome	Prof. Mammo Muchie & Prof. Chris Landsberg
9:00 – 9:30	Innovative Ways of Dealing with Research Gaps During the Transition from the Physical to the Digital world in the Corona Virus Time	Prof. Mammo Muchie DSI-NRF SARChI Innovation Studies, Tshwane University of Technology
9:30 – 10:00	Framing Policy Research in Africa: Issues and Challenges for Doctoral Candidates	Prof. John Mugabe, University of Pretoria



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10:00 – 10:30	PhD by Publication: Upsides and Pitfalls	Prof. Nnamdi Nwulu Director, Center for Cyber-Physical Food, Energy & Water Systems (CCP-FEWS), University of Johannesburg
10:30 – 11:00	Evaluation of a Research Proposal for Masters and Doctoral Candidates	Prof. Kedibone Phago North West University
11:00 – 11:30	Essential Ethics Principles in Doing High Quality Research Output”	Prof. Khumbulani Mpofu Gibela Research Chair in Manufacturing and Skills Development & DSI – NRF SARCHI Chair in Future Transport Manufacturing Technologies
11:30 – 12:00	Research on Designed ecosystems for sustainable and unified socioeconomic resilience	Prof. Lisa Short Top 100 B2B Thought Leaders in the World to follow in 2020 Founder Mind Shifting & Areté Business Performance
12:00 – 12:30	Seeking Synergy in Research: Missions and Narratives	Prof. Stephen Little PhD (RCA) FeRSA FHEA, U.K
12:30 – 13:00	Rendering African Indigenous Languages Global Digital Visibility to Advance their academic and scientific status- Research and Innovation Matters Arising	Prof. Sunday Ojo (PhD Computer Science, Glasgow) Executive Director Inclusive African Indigenous Language Technology Institute
13:00 – 13:30	Creating Research Programs and Disseminating Knowledge in the African Context	Prof. Kalu Osiri, Director of International Business, University of Nebraska-Lincoln, USA
13:30-14.30	Post-Graduate Students Presentations	
	T A Mukalay K Mdlalose R K Modise C T Yonga W T Seloane A G Bibili Nzengue	Feedback from Professors, Post-Docs and from each of the doctoral students to improve the quality of their doctoral research
14:30-16:00	Post-Doctoral Researchers Presentations	
	Research on Development and Process Optimization of a Multi-Feedstock Biodiesel Plant	Dr. Ilesanmi Daniyan, Department of Industrial Engineering, Tshwane University of Technology
	Dr AI Daniyan Dr OT Adenuga Dr OM Olabanji	All the post-docs are expected to prepare power points on their PhD experience to bring lessons for PhD



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	Dr J Ogbemhe Dr R Muvunzi Dr. Ajebush Argaw Dr. Swapan Kumar Patra Dr. Kofi Quan-Baffour Dr. Yemisi Abisuga Dr. Yohannes Worku Dr. Abigail Chivandi Dr. Gino Traore	students to learn and use to improve their research
16:00-16:15	Feedback, Vote of Thanks and Closing Remarks	Prof. Mammo Muchie

NB: Staff and students from all faculties from TUT and other universities in South Africa and the rest of Africa are most welcome to join.

All presentations with power point must be sent by the 13th of June to make sure they can be presented on line on 14th June, 2020.

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