

# NANOTECHNOLOGY RESEARCH GROUP

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**LAUTECH Nanotechnology Research Group**  
...Enabling Qualitative Research at the Smallest Scale



**Our Ref.:**

**Date:** October 29, 2020

**COMMUNIQUE ISSUED AT THE END OF 4<sup>TH</sup> WORKSHOP/CONFERENCE ON NANOTECHNOLOGY WITH THE THEME 'HUMAN EXISTENCE AND RESOURCE UTILIZATION: EXTENDING THE FRONTIERS THROUGH NANOTECHNOLOGY' ORGANIZED BY LAUTECH NANOTECHNOLOGY RESEARCH GROUP (NANO<sup>+</sup>) HELD ON 27-28 OCTOBER, 2020 VIA WEBINAR.**

## Preamble

LAUTECH Nanotechnology Research Group (NANO<sup>+</sup>), a multidisciplinary group of scholars at Ladoke Akintola University Technology (LAUTECH), Ogbomoso, which was formed on 4 September, 2014 to advance research in nanotechnology has organized workshops and conferences in nanotechnology in 2017, 2018 and 2019. These events attracted participants from institutions of higher learning, research institutes, agencies of government and private sectors and have been successful at bringing nanotechnology discourse to the fore among the participants and the public. Some of the papers presented at the LAUTECH NANO 2018 conference were published in the special edition (volume 23) of *Science Focus*, the flagship journal of the Faculty of Pure and Applied Sciences, LAUTECH, Ogbomoso, while forty-four articles among those presented at LAUTECH NANO 2019 were published in a Scopus-indexed platform, *IOP Conference Series: Materials Science and Engineering* (volume 805) being the first of its kind in Nigeria.

With the success of the three previously organized workshops and conferences, the group was not deterred by constraints imposed by the incidence of COVID-19 and thereby opted for the organization of her 4<sup>th</sup> workshop/conference on nanotechnology via webinar. The conference with the theme 'Human Existence and Resource Utilization: Extending the Frontiers through Nanotechnology'

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held between 27 and 28 October, 2020. The conference was attended by about two hundred participants including scholars, policy makers, and students from more than fifty institutions and government agencies across Africa, Asia and Europe. Participants joined the 2-day event from Nigeria, South Africa, Sierra Leone, India, Iran, Saudi Arabia, Malaysia, China, Sweden and the United Kingdom.

In his opening remark, the head of the research group, Prof. A. Lateef highlighted the major contributions of the group to nanotechnology research in Nigeria; publication of 1000 research articles in the last six years, organization of workshop/conference on nanotechnology since 2017, and manpower development involving students and established researchers. He reiterated the call by the group to have a centre of excellence in nanotechnology established at LAUTECH, noting that a proposal in this respect has been submitted to the University. He appreciated the group's collaborators from Nigeria, South Africa, India, Saudi Arabia and Sweden that were invited to deliver papers at the plenary of the conference.

The honorable Minister of Science and Technology, Federal republic of Nigeria was represented at the conference by Mr. Mfon E.J. Bassey, Director, Chemical Technology, Federal Ministry of Science and Technology, Abuja. The conference was declared open by the Vice-chancellor, Prof. Michael O. Ologunde, who acknowledged the contributions of LAUTECH Nanotechnology Research Group to the positive webometric ranking of the University, and increased knowledge-base in nanotechnology. He gave assurances to pursue the establishment of a centre of excellence in nanotechnology at LAUTECH, calling on TETFund and the Federal Ministry of Science and Technology to support the vision.

In his address, the Honourable Minister of Science and Technology, Dr. Ogbonnaya Onu praised the works of LAUTECH Nanotechnology Research Group in popularizing nanotechnology in the country and her resiliency at constantly breaking the frontiers in publication and organization of workshops and conferences since 2017. He pledged support of the ministry towards realization of the establishment of a centre of excellence in nanotechnology in the University. He hinted that the draft policy on nanotechnology R&D in Nigeria has been reviewed by the ministry and was awaiting final consideration and approval before the Federal Executive Council of the Federal Government of Nigeria.

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The conference witnessed the launching of the journal of the group, *Nano Plus: Science and Technology of Nanomaterials*, of which its website (<https://www.stnanojournal.org/>) was unveiled by the honourable minister of science and technology after presentation to the public by the editor-in-chief, Prof. A. Lateef. The journal, which is an open access platform, publishes research materials of various forms and conference proceedings in all areas of nanoscience and nanotechnology. It is the first specialized journal in nanotechnology in the sub-Sahara Africa that seeks to promote nanotechnology enterprise in Africa and beyond. It has broad editorial board membership from Africa, Asia and Europe at the moment.

### **Highlights of lectures by guests at the plenary**

In their separate papers presented at the plenary, Dr. Mikael Syväjärvi of University of Linköping, Sweden, and Prof. A.S. AbdulKareem of Federal University of Technology, Minna, Nigeria underscored the importance of innovation and product development in nanotechnology research. In his own presentation, Dr. Syväjärvi shared his experience of product development and innovative ideas via collaboration using the European Commission as a case study, where about 1 billion Euros have been committed to Graphene research and innovation alone with unparalleled applications in all facets of human development. He encouraged researchers to rededicate themselves to research and advised African leaders to prioritize research and development as tools for the emancipation of the continent and her people.

In his treatise, Prof. AbdulKareem presented the applications of nanotechnology to solving water quality problems, asserting that nanotechnology remains the surest way to achieving safe water for all by the mantra of SDG of UN. He showcased various research outcomes by his group at Federal University of Technology, Minna to treat different kinds of polluted water and effluents from industries. His presentation calls for prioritization of funding of nanotechnology research by Nigerian government and corporate organizations so that the country can benefit from its immense potentials; noting that the establishment of centre of excellence in nanotechnology will go a long way to enhance the contributions of Nigerian scholars in nanotechnology. He emphasized the need for scholars in nanotechnology R&D in the country to convey a stakeholders' meeting to harmonize their thoughts on nanotechnology R&D in Nigeria and present a common front in this field.

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At the workshop component of the conference, Dr. Lorika S. Beukes of the University of KwaZulu-Natal, South Africa discussed at length the different types of microscopes that are needed for nanotechnology research highlighting procedures of sample preparations, imaging techniques and interpretations of results. In his own presentation, Dr. Okunola Alabi of the Federal University of Technology, Akure, Nigeria presented a piece on different opportunities that are available for Nigerian researchers in terms of fellowships, funding and collaborations to assist postgraduate students and mid-career academia.

More than fifty papers were presented at the conference in different areas of human endeavours that included artificial intelligence in bioprocesses and innovative nanomaterials for applications in engineering, water treatment, food and agriculture, antimicrobials, biomedical and healthcare, drug formulation and delivery, computation and simulation, environmental rejuvenation, and renewable energy as well as topical reviews.

**At the end of the 2-day workshop/conference, the participants agreed that:**

1. Nanotechnology is a veritable tool that can be used to achieve the SDG's of the United Nation, and must be embraced by all.
2. It was high time that efforts by researchers in nanotechnology should embrace innovative ideas, product development and commercialization towards ensuring that the citizenry and the society benefits from their investigations.
3. The government should improve its funding of education generally and researches in particular; noting that the vision of establishing centres of excellence in nanotechnology should be vigorously pursued to enhance productivity and innovation in nanotechnology research in Nigeria.
4. Researchers in the field of nanotechnology should continue to engage in collaboration among themselves within the country and established scholars in other countries for cross-fertilization of ideas, and establishing relationship that can foster developments in the field of nanotechnology for the country.
5. Nigerian stakeholders in the field of nanotechnology should urgently convene to harmonize their thoughts on nanotechnology R&D, its challenges and prospects towards presenting a common

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front from the academia to interface with the government and the private sector in order to derive maximum benefits of nanotechnology enterprise for the good of Nigerians.

6. The workshop/conference organized by LAUTECH Nanotechnology research group was a step in the right direction at training participants and creating a platform for national discourse on nanotechnology. The workshop/conference was deemed highly impactful as it created awareness on nanotechnology research in Nigeria.

**Prof. A. Lateef**



**Head of Research Group**

**Prof. M.A. Azeez**



**Chairman, LOC, 'LAUTECH NANO 2020'**

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