

GOODWILL



Prof. S.S. Taiwo

Provost, College of Health Sciences, LAUTECH, Osogbo

Nanotechnology and its application in different fields, including the medical field, continues to evolve and making tremendous impact across every discipline of human endeavor. The maiden edition of the Nanotechnology workshop organized in 2017 by the LAUTECH Nanotechnology Research Group (*NANO*⁺) led by the versatile Prof. A. Lateef was a huge success. I believe this year's conference themed “**Nanotechnology for sustainable development: prospects for Africa**” will address how nanotechnology can be deployed to cause sustainable growth in critical sectors of our nation in particular and Africa in general. It will also be interesting to know where and how nanotechnology will fit into any of the 17 Sustainable Development Goals (SDGs) of the United Nations General Assembly. I wish the *NANO*⁺ a very successful workshop/conference.

MESSAGES



Prof. L.A. Sunmonu

Dean, Postgraduate School, LAUTECH, Ogbomoso

A year ago, we had the maiden edition of this workshop on nanotechnology organized by the Nanotechnology Research Group (*NANO*⁺) of Ladoke Akintola University of Technology, Ogbomoso, Nigeria. I am delighted to join the organizers, our distinguished guests and all participants for this 2nd edition of the conference. In 2017, the theme of this conference was “**Nanotechnology: key to sustainable development and national integration**”. The outstanding outcome of that conference was published in national and international journals.

This year, the conference is deliberating on another interesting theme, **Nanotechnology for sustainable development: prospects for Africa**. Unfortunately, our continent is battling with poverty and underdevelopment. Science and technology holds the key to our development as a nation and as a continent which makes this conference timely and important. The field of Nanotechnology is an exciting new discipline that is applicable in all areas of science and technology and if well annexed can spark new industrial revolution and development in various application areas. The possibilities of nanotechnology seem endless in the areas of nanoelectronics and computer technology, environment and energy and in health care and medicine to mention a few. The postgraduate school of Ladoke Akintola University of Technology, will be very happy to partner with *NANO*⁺ in their future conference. We welcome all participants and wish you a wonderful and exciting time.

Thank you.



Prof. O.A. Ajao

Dean, Faculty of Agricultural Sciences, LAUTECH, Ogbomoso

On behalf of the Faculty of Agricultural Sciences, LAUTECH, Ogbomoso, I say congratulations to the LAUTECH Nanotechnology Research Group (*NANO*⁺) for the milestone attained in the fields of nanoscience and nanotechnology in Nigeria. What a remarkable achievements! I am sure there must have been many times when you wanted to give up, or when spending your time doing other things may have seemed more attractive than organizing this conference despite our peculiar situations. But your commitment, hard work, resilience and diligence remain a challenge to the rest of LAUTECH academic community. I am pretty sure as a trailblazer, we will be hearing more about your exploits in the research world.

As an agriculturist, I'm aware of the cosmopolitan applications of nanomaterials, which do not exclude agriculture. Such applications that can revolutionize agriculture include enhancement of absorption of nutrients by plants through slow release fertilizers, functional feeds, improved vigour of plants, breaking of dormancy, detection and control of diseases of plants and animals, control of pests, tolerance to environmental stress, improved water quality, boosting of production of phytochemicals, precision farming, post-harvest preservation, toxin-binding and degradation amongst others. It is certain that Nigeria can tap from the knowledge of

nanotechnology for these applications to improve agricultural practices and productivity in the country, with overall benefits of ensuring food security, provision of employment and improved GDP from the agriculture sector. I hereby enjoin my colleagues in various disciplines of agriculture to explore the vast opportunities that are available in nanoscience and nanotechnology to render quality services in the field of agriculture. We must not be excluded from the revolution and possibilities of agricultural nanotechnologies!

I admonish *NANO*⁺ to keep up the good work, as I look forward to the 3rd edition of LAUTECH NANO conference.

Congratulations!



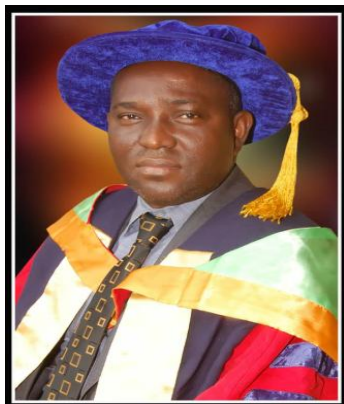
Prof. P.B. Olaitan

Dean, Faculty of Clinical Sciences, LAUTECH, Ogbomoso

I want to congratulate Prof. A. Lateef and indeed Nanotechnology Research Group (*NANO*⁺), the organizers of the Nanotechnology conference for this year. No doubt our University has a lot to gain from such a potentially impacting field like nanotechnology. I look forward to collaboration with our faculty on this new technology towards delivering effective medical research and clinical care. One application of nanotechnology in medicine currently being developed involves employing nanoparticles to deliver drugs, heat, light or other substances to specific types of cells (such as cancer cells).

Particles are engineered so that they are attracted to diseased cells, which allow direct treatment of those cells. This technique reduces damage to healthy cells in the body and allows for earlier detection of disease. This will become very useful in the management of cancer patient. Researchers are also developing nanoparticles that can be taken orally and pass through the lining of the intestines into the bloodstream. This should allow drugs that must now be delivered with a shot to be taken in pill form. These and many more are the promising areas that nanotechnology can be useful to us in clinical medicine. I therefore wish you a very successful deliberation and believe that we would continue to forge ahead towards improving our world with the assistance of nanotechnology.

Congratulations.



Prof. O.A. Olowe

Dean, Faculty of Basic Medical Sciences, LAUTECH, Ogbomoso

The Faculty of Basic Medical Sciences, LAUTECH, Ogbomoso felicitates with the Nanotechnology Research Group (*NANO*⁺) of our great institution on the organization of conference on nanotechnology tagged 'LAUTECH NANO 2018'. Nanotechnology is an emerging branch of science for designing tools and devices of size 1-100 nm, with unique functions at the cellular, atomic and molecular levels. The concept of using nanotechnology in medical research and clinical practice which is known as nanomedicine is of prime relevance to various disciplines in our faculty. These applications include development of biological devices, disease diagnosis and bioimaging, nanoelectronic biosensors, prosthetic biomaterials, drug development, release and delivery, molecular nanotechnology, nanopharmaceuticals amongst others. Studies on potential toxicities of nanomaterials are also areas of importance worthy of investigations using a range of biomedical tools.

Therefore, as a Faculty, we appreciate the good work of science you are doing across various Departments and Faculties to bring science to us and the entire world at large, which can form the basis of collaboration with researchers in different specialties under the Faculty of Basic Medical Sciences. We are particularly delighted at the readiness of this group to disseminate information on nanotechnology in this country through workshops and conferences. As the maiden edition of the group's workshop on nanotechnology held in 2017 was successful, I have no doubt that LAUTECH NANO 2018 would be equally impactful.

Congratulations.



Prof. J.O. Adewoye

Dean, Faculty of Management Sciences, LAUTECH, Ogbomoso

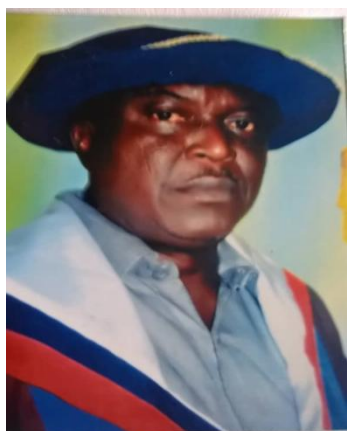
A courtesy call of the Nanotechnology Research Group (*NANO*⁺) to the Faculty of Management Sciences has opened up a new vista of research interest and abiding potentials for collaborative research work especially in the area of interdisciplinary and

multidisciplinary approaches. The visit no doubt has spurred interests for nanotechnology and several areas of disciplines in the faculty. If the whole idea of nanotechnology centres on manipulation, synthesis and reduction of nanomaterials to the smallest size, then research outcomes need to interface with resource, resource utilization alternatives, and optimization and ultimately within the socio-economic context of Man and Environment.

On the basis of the above, I have good assurances of the great potentials of nanotechnology, especially at shaping the future of the global economic growth and development, afraid though, it is bound to widening the gap of the trade dichotomy of the North and South and further expanding the frontiers of knowledge among knowledge-based industrialized countries on one part, and at receiving end are slow-paced researches endeavours of the third world economies. Along this line of reasoning, the nanotechnology research efforts could not have come up at a better time than now.

I therefore congratulate this group of brilliant researchers, Ladoke Akintola University of Technology and entire University Community for keeping the flag flying despite challenging work environment occasioned by general lack of funding in the hands of Nigeria's political leaders who have refused to see future from now.

Congratulations.



Prof. A.M.O. Atolagbe

Dean, Faculty of Environmental Sciences, LAUTECH, Ogbomoso

LAUTECH NANO 2018: A GREAT LOOK-OUT

On behalf of the Faculty of Environmental Sciences, LAUTECH, Ogbomoso, I felicitate with our colleagues, members of the Nanotechnology Research Group (*NANO*⁺), on the occasion of organization of the 2nd workshop/conference on the emerging multidisciplinary subject of nanotechnology. We are particularly delighted about the progress that *NANO*⁺ has made since its formation about four years ago. The success of the maiden workshop held on 21-24 August, 2017 is a ray of hope of good things that can come out from the

University. So, it is pleasing that the group has further expanded the scope of its activities by organizing a conference at this critical phase in life of the University and the country in general.

The emerging discipline of nanotechnology seeks to utilize materials at nanoscale level (10^{-9} m) for the delivery of goods and services that can improve the quality of life on earth. The technology has wide-ranging applications that can impact on the built environment and Fine Arts; the cardinal focus of Faculty of Environmental Sciences. Nanomaterials such as graphene with uncommon lightness and strength has applications in construction industry and illumination, while silver nanoparticles can greatly improve the properties and qualities of paints, textiles, furniture, and protect art works, steel and concrete from microbial attack or biodeterioration. Functional materials in the form of porous filters for purification of water can be produced from clay using silver nanoparticles, while radiation-shielding textiles can also be produced with the aid of zinc nanoparticles. I'm aware that a good number of nanomaterials can be deployed for the treatment of wastes and pollution control. Similarly, novel composite materials of different functionalities can be produced using nanotechnology with improved strength, energy utilization and performance. The application is limitless. Within this premise, nanotechnology is most valuable to arts and the built environment, and we look forward to collaboration that would integrate research activities of our faculties in this technology for the benefit of mankind. All these efforts would be geared towards sustainable development as aptly captured in the theme of the conference, '**Nanotechnology for sustainable development: prospects for Africa**'.

Once again, I congratulate the *NANO*⁺ and indeed the University on the occasion of this conference, while wishing all the participants fruitful deliberations.