



**African Union
Kwame Nkrumah
Scientific Awards**



**Laureates for the
Continental Awards**

2015 Edition

African Union Kwame Nkrumah Scientific Awards

The African Union Commission launched on 9 September 2008, the prestigious African Union Kwame Nkrumah Scientific Awards Programme.

The objective of the programme is to give out scientific awards to top African scientists for their scientific achievements and valuable discoveries and findings. The programme is implemented at national level for young researchers, regional level for women scientists and continental level open to all scientists. The Continental level is the highest and level of the programme. Prizes are awarded to top African scientists in each of the following two sectors (a) Life and Earth Sciences; and (b) Basic Science, Technology and Innovation at the national, regional and continental levels. The African Union Kwame Nkrumah Scientific Awards Programme is implemented using a set of rules of procedure.

This is one of the holistic and deliberate measures taken by the Commission to maintain science and technology on top of Africa's development, cooperation and political agenda. The Commission calls upon Member States, Regional Economic Communities and other key stakeholders to popularize science among African citizens, empower them, celebrate their achievements and promote all efforts to transform scientific research into Africa's sustainable development.

The Commission implements the continental component of the programme and convenes a jury meeting in collaboration with the African Academy of Sciences to determine diligently two winners per year for this prestigious scientific award, comprising of a Cash Prize of USD 100,000, a Medal and a Certificate.

For the 2015 Edition, the two successful laureates are Professor Tebello Nyokong from South Africa, for the Basic Science, Technology and Innovation category, and Professor Umezuruike Linus OPARA from Nigeria receiving the award in the Life and Earth Sciences category.

This brochure gives brief biographies of these African Scientists for their scientific achievements, valuable discoveries and findings.

The Commission acknowledges the support of the European Commission, Regional Economic Commissions, The World Academy of Sciences (TWAS) and the African Academy of Sciences (AAS) in the successful implementation of the programme.

Laureate of Basic Science, Technology and Innovation Award



Prof Tebello Nyokong

Prof Tebello Nyokong holds a Department of Science and Technology/ National Research Foundation (DST/NRF) professorship in Medicinal chemistry and Nanotechnology at Rhodes University in South Africa. She is also Director of the DST/Mintek Nanotechnology

Innovation Centre (NIC)-Sensors also at Rhodes University. She joined Rhodes University in 1992 after lecturing at the University of Lesotho. She has been undertaking research on applications of dyes and nanotechnology in cancer treatment, sensing and pollution control. She has successfully supervised over 70 PhD/MSc students from all over Africa including Nigeria, Ghana, Lesotho, Swaziland, Angola, Kenya, South Africa etc. Our aim is to produce students who are ready for the challenges of the future of Africa while at the same time alleviating the problems faced by the population. She has published over 550 manuscripts (including patents, a book and book chapters). Her H index is 52 (ISI), 58 (Google Scholar).

She has received many awards (recognitions) for her research: In 2015 she was awarded a UNESCO Medal for Contribution to Development of Nanoscience and Nanotechnologies. In 2014, she was invited to be part of United Nation's Secretary General's High Level Panel (HLP) of Experts on Technology Bank and Science, Technology and Innovation supporting Mechanism dedicated to the least developed countries (LDC) and she was featured in 21 Icons (SABC-3), South Africa.

In 2013, she was awarded a medal by The World Academy of the Science (TWAS) for outstanding contributions to science and technology. The same year, she received South African Chemical Institute (SACI) Gold Medal, was awarded "A" rating and "Lifetime achievement" by the NRF.

In 2012, She was named by IT News Africa as one of the top 10 most influential women in science and technology

in Africa and was included in the National Center for Research on Human Evolution (CENIEH), located in Burgos, Spain to be one of their "12 NAMES TO CHANGE THE WORLD".

In 2011, she was recognized by Royal Society in Chemistry/Pan African Chemistry Network as a Distinguished Woman in Chemistry and awarded Distinguished Professorship by Rhodes University. In 2010, she received two honorary doctorates from Walter Sisulu University and the University of South Africa and was inducted into Lesotho Hall of fame.

In 2009, she received L'Oreal-UNESCO award for "Women in Science" as a Laureate representing Africa and the Arab States and she also received NRF President's award as Champion for the transformation in research

In 2009, a special motion was passed in the South African National Assembly acknowledging Professor Nyokong's role in the transforming of science in South Africa.

In 2004 she was bestowed with the Order of Mapungubwe: Bronze by the then State President of South Africa Mr Thabo Mbeki and was winner of SABC2/Shoprite-Checkers Woman of the year 2004 in Science and Technology.

Laureate of Life and Earth Sciences Award



**Professor Umezuruike
Linus OPARA**

Professor Opara grew up in Ngor-Okpala Local Government Area in South-Eastern Nigeria. He attended the local primary schools and Owerri Grammar School in his hometown, and gained admission into the University of Nigeria, Nsukka (UNN), where he graduated in 1987 with the degree of Bachelor of Engineering (First Class Honours) and the best graduating student in agricultural engineering.

After his national service at the National Centre for Agricultural Mechanisation, Ilorin, he returned to UNN and completed his Master of Engineering (cum laude) in a record period of one year, and proceeded immediately to Massey University in New Zealand where he completed his PhD in agricultural engineering in 1993 through the merit award of a competitive scholarship by the New Zealand University Grants Committee. In 2012, he completed the course on innovation for economic development at the Kennedy School of Government at Harvard University.

After a brief stint as a postharvest research engineer at Lincoln Technologies in New Zealand, he returned to Massey University in 1995 to take up an academic position as lecturer and researcher in postharvest engineering. He quickly rose to the rank of Senior Lecturer and was appointed to the positions of Programme Director of Engineering Technology and Research Group Leader on Bioproducts Quality. In 2002, he joined Sultan Qaboos University in the Sultanate of Oman as Associate Professor of Agricultural Engineering and Director of the Agricultural Experiment Station (AES), and was later appointed the Assistant Dean for Postgraduate Studies & Research and a member of the University Academic Council. As Director of the AES, he quickly restructured the organisation, leading it into a prominent national centre for research and extension services, from livestock to crop production, mechanization services, and postharvest management.

Prof. Opara's interest in making scientific research and innovation work for agribusiness and guide policy has taken him to countries in various parts of Africa, the South Pacific, Asia, Europe and Middle East. In 1999-2000, he was a Visiting Expert in Postharvest Management at the Food and Agricul-

ture Organization (FAO) of the UN in Rome, and served in Iraq as an agricultural mechanisation specialist under the UN Oil-for-Food Programme. The high international demand for his technical expertise led him to East Timor in 2009, where he was part of an FAO team of experts that developed a medium-term agricultural development plan for the new nation. With the support of many development agencies, he has implemented in-country postharvest training programmes in Mali, Tanzania, Nigeria, Oman, China, Cambodia, the Kingdom of Tonga, to name a few. He serves on the advisory board of many international organisations such as Kaziranga University, India, the Horticulture Innovation Lab of the Feed the Future Programme, USA and The Post Harvest Project, USA.

Prof. Opara joined Stellenbosch University in 2009 as a Research Professor and DST-NRF South African Research Chair in Postharvest Technology. During this short period, he has developed a new state-of-the-art postharvest research laboratory that is highly sought after in South Africa, Africa and globally. In addition to the numerous students he has graduated at universities in New Zealand and Oman, during the past 5 years at Stellenbosch University he has successfully graduated 2 postdoctoral fellows, 5 PhD and 15 MSc from 10 African countries, from South Africa to Ethiopia and Nigeria, and is currently supervising 2 postdoctoral fellows, 15 PhD and 7 MSc students from 9 African countries.

A recent independent study on the socio-economic impact of one of Prof. Opara's research programmes focusing on the improvement of postharvest technology of pomegranate fruit in South Africa estimated "R65 million of direct and indirect benefits to the economy, with a further R90 million estimated until 2018". Pomegranate is an emerging fruit sector in South Africa that is comprised mainly of small to medium size farms, which was in infancy when Prof. Opara returned to Africa 7 years ago. Current evidence in the Web of Knowledge database on peer-reviewed scientific publications shows that Prof. Opara (and indeed Stellenbosch University, South Africa and Africa) is now the top leading global researcher on postharvest technology of pomegranates, ahead of researchers in major and long-time producing countries like India, China, USA, Turkey, Iran and Israel.

Prof. Opara is the founding editor-in-chief of the International Journal of Postharvest Technology, serves on the editorial board of international scientific journals, and has published over 200 articles in peer-reviewed journals, book chapters, industry journals and conference proceedings, with over 110 articles in Science Citation Index (SCI) journals. He has made over 150 oral presentations at international conferences, and is highly sought after globally as keynote

speaker, invited lecturer and panellist on topical issues ranging from research and innovation to capacity building, agricultural transformation in Africa, food security, and the role of science and technology in economic development. He is a member of Academy of Science of South Africa, a Chartered Engineer and Certified Food Scientist. He is a member of numerous professional scientific bodies including Life Membership of American Society for Agricultural & Biological Engineers, Asian Association for Agricultural Engineering and Indian Society of Agricultural Engineers.

Prof. Opara's massive contributions to agricultural and life sciences research in Africa and globally have been recognised locally and internationally. His numerous meritorious include the prestigious MEZIE Owerri Award in Nigeria for academic excellence (1987); the inaugural Dean's Prize for services to the faculty of agricultural and horticultural sciences at Massey University (1993); Outstanding Researcher Award of Sultan Qaboos University (2006), the university's highest accolade for research excellence; the Presidential Citation of the International Commission of Agricultural and Biosystems Engineering (CIGR) for services to Agricultural Engineering in Africa (2011); the CIGR Merit Award (2013); and was bestowed with the rare position of Honorary Vice President of the CIGR (2013). Recently, he was awarded Honorary Membership of Golden Key International Honour Society for his exceptional academic excellence and leadership, and holds visiting professorship positions at universities in China and Nigeria. Prof. Opara was among the first select full professors honoured in 2014 by Stellenbosch University with promotion to the rank of Distinguished Professor. He is also a recipient of the 2014 IMPRESSA Award (Impact Research and Science in Africa) by the Regional Universities' Forum for Capacity Building in Agriculture in Africa (RUFORUM) as an outstanding university scientist who has made significant contribution in the field of agricultural research and science for development in Africa, including human and institutional development.

Professor Opara's Pan African philosophy and multi-disciplinary approach to high-impact scientific research and capacity building has demonstrated that Africa can lead in science for economic development and continental integration. He believes that this successful model can be easily replicated and out-scaled across the Continent and indeed globally. Through the outstanding impact has had made in utilising world-class scientific research to build human capacity in many African countries, Prof. Opara has sowed, fertilised and irrigated the seeds of the next generation of African network of life science specialists to lead and sustain the transformation of agriculture in the Africa We All Want.



**DEPARTMENT OF HUMAN RESOURCES,
SCIENCE AND TECHNOLOGY
AFRICAN UNION COMMISSION**

P. O. Box: 3243, Addis Ababa, Ethiopia
Tel: +251 11 551 7700/5526373
Fax: +251 11 551 7844

scientific-awards@africa-union.org
www.au.int