Science*Policy*Africa

Newsletter of The African Academy of Sciences

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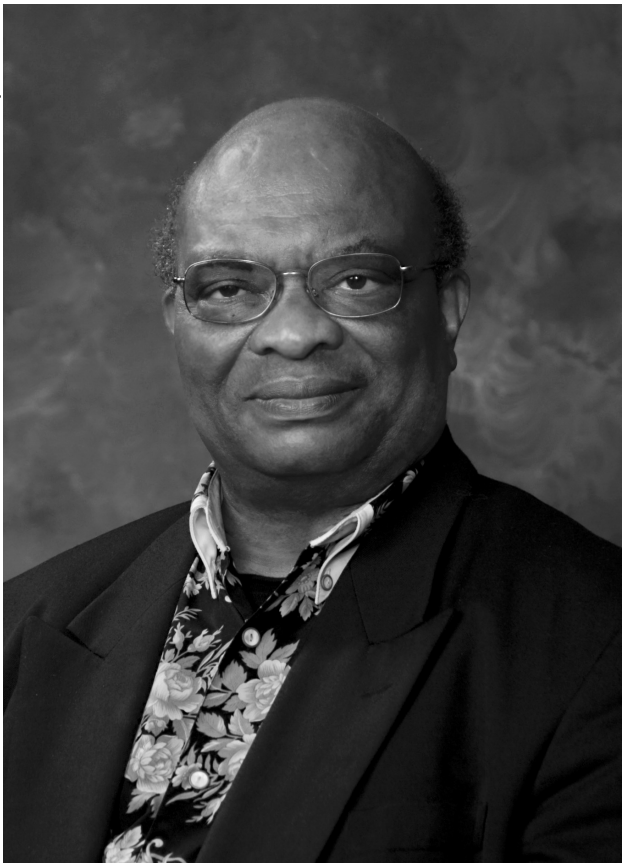
"Science * Policy * Africa" Is a quarterly newsletter of the African Academy of Sciences. The Newsletter carries information on science and policy issues on the African continent and beyond. It seeks to deepen the science-policy discourse in Africa. The Newsletter also provides information on activities of the AAS to the global science and policy community. Views and opinions expressed in this newsletter are those of the authors and do not necessarily reflect the official policy or position of the African Academy of Sciences. ***"Science * Policy * Africa"*** *is produced with support from The World Academy of Sciences (TWAS)*

MESSAGE FROM THE PRESIDENT



Prof Aderemi Kuku, AAS President

First of all, I like to wish you all a happy new year. Hope you fully enjoyed the festive period and that the year 2015 has been off to a great start. In the last three AAS Newsletters I have endeavoured to report some of the activities of our Governing Council (GC) aimed at fulfilling our mandate. For example, 1)continuing of our capacity building and nurturing of scientific talents in various areas of Science, Technology and Innovation (ST&I) research needed for sustainable development of our continent; 2) appraising AAS strategic plans in terms of what has been achieved and the way forward; 3) activation of sub-regional activities and kick-starting the AAS Affiliate membership programme; 4)strengthening existing partnerships and generating new ones; 5) increasing the visibility of the AAS and popularizing Science all over the continent through our creation of four AAS commissions; 6) intensification of fund raising to improve the financial health of our academy; and 7) broadening AAS Fellowship base.

In the direction of capacity building and nurturing of new scientific talents, there have already been two successful CIRCLE (Climate Impact Research Capacity and Leadership Enhancement) events this year—Inaugural Institutional Representatives CIRCLE Champions Workshop, February 2-4 2015, and the CIRCLE Visiting Fellows Workshop, February 5-7 2015. Work on the AAS-NEPAD AESA (Alliance for Excellence in Science in Africa) platform continues to make progress. The recent AAS GC meeting of February 9-10 approved the Charter for AESA. Dr. Thomas Kariuki, the Treasurer of AAS and a member of the AAS Management Committee (MC) and GC has recently been appointed Director of AESA. I am also delighted that the AU has put its stamp on the progress made on AESA by requesting the AAS and NPCA (NEPAD Planning and Co-ordinating Agency) to establish and operationalize the AESA as a platform that will at first stimulate breakthroughs in health research expanding later into such research areas as food and nutrition, energy and environment.

In the direction of increasing AAS visibility all over the continent, I am happy that the first AAS Pan-African Science Olympiad is scheduled to take place August 23-29, 2015, in Abuja, Nigeria. Letters have been written to various African countries inviting them to participate in this programme. More information on this event is available at the AAS website. The other AAS Commissions are in the process of planning concrete activities for 2015. In the Vol 18, No 3. of this newsletter, I mentioned that the AAS GC approved the involvement of AAS (when invited) in sub-regional activities organized by AAS Fellows as a way of further enhancing AAS visibility all over the continent. One such activity is the "4th International Conference on Mathematics and Information Science (ICMIS 2015) organized by Professor Abdel-Aty Vice-President for Northern Africa Feb 5-7 at Zaweil City, Egypt where I represented AAS as well as gave an invited plenary Mathematics lecture.

The AAS GC has approved the next AAS General Assembly (GA) meeting scheduled to take place in Kasane, Botswana, during the week of June 20, 2016. I seize this opportunity to thank Professor Nelson Torto , the CEO of Botswana Institute for Technology and Innovation , for spearheading the hosting of the GA in Botswana. It is anticipated that events during the GA will include, among others, the inauguration of Botswana Academy of Sciences.

The AAS GC decided, at its meeting of February 9-10 to institute the payment of annual dues and membership fees by AAS Fellows with effect from 2015 and members of GC have already shown good examples by paying their own membership fees and annual dues at the meeting. I seize this opportunity to appeal to all Fellows of AAS to follow the good example of GC members by paying their dues once they are called upon to do so.

It is my great pleasure to now congratulate the two AAS Fellows who were awarded the Kwame Nkrumah Continental Prize on January 31, 2015, namely Professor Salim Abdool-Karim of South Africa for his award for Life and Earth Sciences and Professor Timolean Crepin Kofane of Cameroon for Basic Sciences, Technology and Innovation. I am also delighted to congratulate Professor Abdel-shafy Fahmy Obada, former AAS Vice-President for Northern Africa, and President of the Egyptian Mathematical society for the award of Egypt State medal for his innovative contributions to quantum optics. Finally, I heartily congratulate the AAS Fellow, Professor Ben-Eric Van Wyk for his award of the gold medal by SAAB (South African Association of Botanists) for his contributions to the knowledge of medicinal, poisonous and useful plants.

From the ED's Desk

Prof Berhanu Abegaz, Executive Director

The 24th Summit of African Heads of States has endorsed the joint initiative taken by the NEPAD Planning and Coordinating Agency (NPCA) and AAS to establish and operationalize AESA (Alliance for Accelerating Excellence in Science in Africa). We are excited to begin the year with this recognition of our joint efforts by the African Union (AU) summit. We enthusiastically welcome the partnership of NEPAD, as well as the three funding partners, namely, the Bill and Melinda Gates Foundation (BMGF), the Wellcome Trust and the UK Department for International Development (DFID).

The AESA committee set up by the AAS Governing Council (made of Dr Tom Kariuki, Prof Kevin Marsh and myself) has been working very closely with Prof Aggrey Ambali of NEPAD in establishing this platform. The Governing Council also approved the foundation document of AESA during its 31st meeting held at AAS during 9-10 February, 2015. We have also undertaken a vigorous recruitment exercise to get the staff that will be necessary to have a fully operational core unit of AESA set up within the AAS Secretariat as soon as possible. Accordingly, a Director for the unit and AAS is finalizing the appointment of a Chief Operations Officer, Program Manager, Communications manager, Monitoring and Evaluation, Grant Officer, Grant Accountant and Program Assistant. In all, eight new staff will be in place by April 2015.

We are excited to begin the year with this recognition of our joint efforts by the AU summit. We enthusiastically welcome the partnership of NEPAD, as well as the three funding partners, namely, the Bill and Melinda Gates Foundation (BMGF), the Wellcome Trust and the UK Department for International Development (DFID).

I also want to extend a warm welcome to the New AAS Fellows for 2014, 24 of them. It is exciting to have two of the youngest Fellows of the Academy, Fayçal Djeffal from Algeria and Abdisalan Mohamed Noor from Kenya. I want to thank the various Membership Advisory Committees (MACs) for doing an excellent job in the recruitment of new Fellows and look forward to working with them in getting more Fellows during 2015. Major effort should be made to expand the AAS Fellowship particularly from the non-, and under-represented countries. I also want to use this opportunity to congratulate AAS Fellows who have become winners of major prizes and awards. The two highest awards of the African Union Continental Awards for outstanding scientists were won by two AAS Fellows, namely, Professor Salim Abdool-Karim from South Africa, and Professor Timoleon Kofane from Cameroon. Abdool-Karim won the prize in Life and Earth Sciences, while Kofane got the prize for Basic Sciences, Technology and Innovation. Many other fellows also won other prizes which are reported in this and the preceding issue of "Science*Policy*Africa". Hearty congratulations to all of them.

I am also pleased to see that this issue of "Science*Policy*Africa" reports on the successful launching Conference of the Climate Impact Research Capacity and Leadership Enhancement (CIRCLE) program. In early February, AAS hosted the inaugural meetings of the CIRCLE programme which brought ca 60 institutional leaders from home and host institutions participating in the programme. I also welcome the participation of Elsevier in this conference which provided opportunities to the CIRCLE visiting Fellows extremely useful information about publishing research results.

Let me close by extending an invitation to each AAS Fellow to increase their engagement and participation in activities of the Academy. Please make use of this AAS policy and information magazine, as the forum for exchange of information, opinion and also for the dissemination of your scientific work in a language that is suitable for our general readership. Let me also thank Dr. Gyampoh for his commitment and dedication to make the newsletter appear so regularly.

Have a great year.

AFRICA UNION SUMMIT REQUESTS AAS AND NPCA TO ESTABLISH AND OPERATIONALIZE AESA

The African Union, at the Twenty-Fourth Ordinary Session, 30 - 31 January 2015, Addis Ababa, ETHIOPIA, requested the African Academy of Sciences (AAS) and the NEPAD Planning and Coordinating Agency (NPCA) to establish and operationalize the Alliance for Accelerating Excellence in Science in Africa (AESA) as a platform to stimulate breakthrough innovations in health to improve the livelihoods of marginalized and stigmatized communities.

This request was contained in the **"DECISION ON THE REPORT OF HEADS OF STATE AND GOVERNMENT ORIENTATION COMMITTEE (HSGOC) ON NEPAD"**. The NPCA was commended for programmatic efforts to increase technical support for health research as means of addressing the continent's health challenges and help in translating the political commitments made by African Leaders into transformative approaches for effective healthcare delivery, as part of efforts to implement the Science, Technology and Innovation Strategy for Africa (STISA), 2014-2024.

The Alliance for Accelerating Excellence in Science in Africa (AESA) aims to foster the long-term sustainable development of Science excellence, global health research leadership, and innovation in Africa. AESA is established as a partnership between the African Academy of Sciences (AAS) the NEPAD Planning and Coordinating Agency and international funders of health research and development.

AESA will initially focus on health research, expanding to other scientific research areas such as food and nutrition, energy, and environment. This pan-African platform offers an opportunity for the long-term development of research leadership, scientific excellence and innovation that impacts on global health and development. It will capitalise on African government's increasing commitments to science and technology as has been highlighted in the Declaration of African Head of States (2007), the Algeirs Declaration (2008), the Bamako Call for Action (2008) and in the African Union (AU)'s Science, Technology and Innovation Strategy for Africa (STISA 2024).

AESA will identify challenges that hinder rapid scientific advancement in Africa, run open calls for proposals with transparent review processes, actively manage grants and evaluate and measure the impact of such investments. Recognizing that more than 60% of the continent's population is young, the platform will develop programs such as early and mid-career fellowships that will inspire young people and engage them to contribute intellectually and practically to critical areas of science technology and innovation for Africa's development. Further, AESA will leverage funding from African sources and also from a broad range of funders from within and outside Africa so as to secure long-term sustainability. It is envisaged that such a platform, which would be Africa-led, Africa-centered and Africa-specific in its agenda for strategic research and development, will forge strong alliances globally with organizations that have similarly aligned objectives and interests. AESA will play a key role in building a world class scientific and programmatic unit that will also serve as a think-tank in setting priorities and aligning them with funders and governments. Although initially the platform will be an implementing body, its development over time as a think tank is important. The vision is that the platform will evolve beyond just being an implementing partner to become a strategic thought partner, setting and aligning a programmatic agenda.

AESA and its funding partners will be guided by three key areas of focus:

1. **People:** support bright African scientists with the best ideas through competitive grant award mechanisms in key priority areas of research, and within the R&D pipeline, support career paths from early, mid and eventual senior research leadership roles. Through this platform and the various programs implemented will attract and encourage the best minds in Africa to work in global public health.
2. **Environments:** Building scientific capacity and excellence will foster the right environments to attract and retain excellent people.
3. **Resources:** support the mobilization of sufficient resources from multiple sources that will sustain adequate funding of STI programs in Africa in order to realise positive impacts in global health and development.

2015 Olusegun Obasanjo Prize for Scientific Discovery and/or Technological Innovation

The African Academy of Sciences is pleased to announce opening of the call for nominations for the 2015 Olusegun Obasanjo Prize for Scientific Discovery and/or Technological Innovation.

AAS invites nominations from *AAS Fellows, Members of National Academies, Research Councils and Universities* as well as *self nomination* from interested individuals from Africa. The selection of women scientists is encouraged.

Click **HERE** to download a copy of the nomination form.

Completed **Nomination Form** should be sent to prizes@aasciences.org **by 30th April 2015.**

The Olusegun Obasanjo Prize for Scientific Discovery and/or Technological Innovation is intended to reward and honor African Scientists who have made outstanding contributions in the scientific discovery or technological innovation.

The prize has been named in honor of His Excellency Chief Olusegun Obasanjo, Former President of the Federal Republic of Nigeria, in recognition of his exemplary statesmanship and leadership at national, regional and International levels and the positive role he has played in nurturing the spirit of scientific discovery and technological innovation in Africa.

The prize is awarded every two years to individual scientists or a group of scientists that the Prize Selection Committee deems to have made outstanding scientific discovery or technological innovation that generate social and economic benefits of the development of the continent. The first two awards were made in 2011 and 2013.

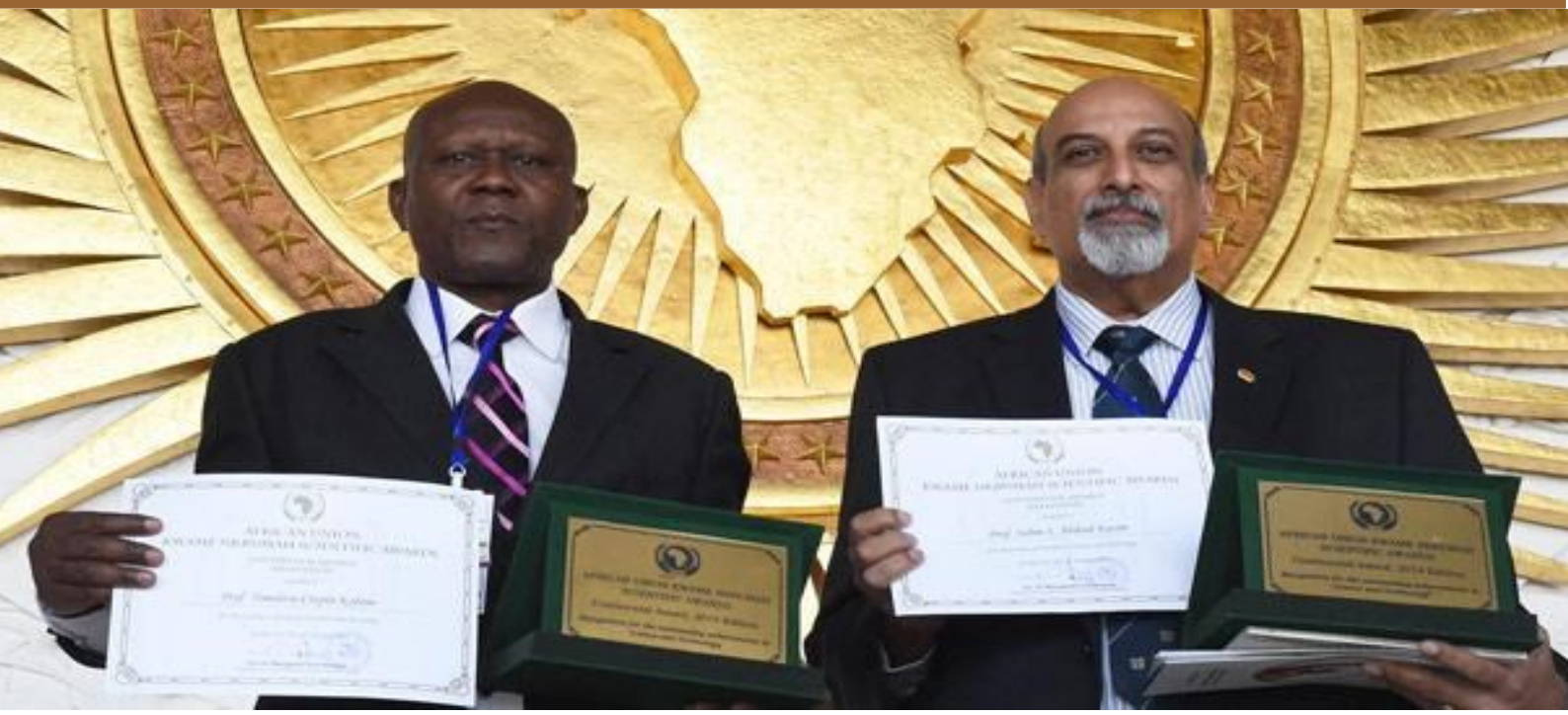
10th General Assembly of the African Academy of Sciences

The next General Assembly of the African Academy of Sciences will take place in the week of 20 June 2016 in Kasane, Botswana.

The General Assembly (GA) is the highest decision making organ of the Academy, serving two critical purposes. First, it is at this assembly that members of the GC and other officers of the Academy are elected. Second, the meeting provides a forum for deliberations on issues of interest to the Academy.

The last GA was held in April 2014 in Brazzaville, Congo.

Two AAS Fellows Awarded the African Union Kwame Nkrumah Continental Scientific Awards 2014 Edition



Winners of the Kwame Nkrumah Scientific Awards 2014 Edition: (left) Professor Timoleon Crepin Kofane of Cameroon, winner of Basic Sciences, Technology and Innovation; (right) Professor Salim Abdool Karim. Photo: Siyasanga Mbambani/DoC.

ON 31st January 2015, the African Union Commission presented The Kwame Nkrumah Continental Scientific Awards 2014 in recognition of nationals of the African Union (AU) Member States who have made remarkable achievements in science and technology, in a bid to strengthen the use and development of science and technology in Africa. The award ceremony took place during the 24th Session of the African Union (AU) Assembly of Heads of States and Governments, at the AU headquarters, Addis Ababa, Ethiopia. The award was presented on behalf of the Assembly by H.E Robert Mugabe, the President of Republic of Zimbabwe and the Chairperson of the African Union.

The 2014 Africa Union Kwame Nkrumah Scientific awards went to two fellows of the African Academy of Sciences. Prof Kofané Timoléon Crépin from Cameroon, received the Basic Sciences, Technology and Innovation Award while Prof Salim S Abdool-Karim from South Africa was the recipient of Life and Earth Sciences Award.

H.E Dr Nkosazana Dlamini Zuma, Chairperson of the African Union Commission, in her remarks said that the Act establishing the Union recognizes the need to embark on an ambitious strategic science and technology development programme, aimed at contributing to socio-economic development of the continent. She recalled that the Assembly adopted Africa's Ten-year Strategy on Science, Technology and Innovation (STISA-2024), that will contribute to achievements of Agenda 2063. She further reiterated the urgent need for Member States to implement the Assembly decision of 2006 to allocate 1% of GDP to scientific research.

H.E Dr Nkosazana Dlamini Zuma added that the Commission has full confidence that the awardees and indeed African scientists, realize the great responsibility and trust bestowed upon them to ensure that science, technology and innovation drive socio-economic development and improvement of the lives of African citizens through tackling issues of poverty, employment, increasing population, health risks, food insecurity, depleted natural resources, water, energy, environment and climate change among others.

Speaking on behalf of the awardees, Prof. Salim S Abdool-Karim expressed optimism that African scientists will make good progress towards a healthier and better Africa in the next decade, particularly in finding solutions to the biggest problems on our continent.

The increasing recognition that Fellows of the African Academy of Sciences are receiving is very gratifying. The African Academy of Sciences believes in recognizing the outstanding work being done by African scientists both in Africa and globally and bringing these excellent minds together to help drive scientific and technological development on the continent.

The African Academy of Sciences is proud of Prof Timoleon Crepin Kofane and Prof Salim Abdool-Karim for this important achievement and wishes them more successes in the coming years.

Congratulations.

Prof Ben-Erik van Wyk awarded prestigious SAAB Gold Medal

On 14 January 2015, the South African Association of Botanists (SAAB) awarded the prestigious SAAB Gold Medal to Professor Ben-Erik van Wyk, a fellow of the African Academy of Sciences and Research Professor in the Faculty of Science at the University of Johannesburg.

Professor Ben-Erik van Wyk

The Gold Medal is the highest honour made by the SAAB and is awarded only to exceptional candidates on the basis of outstanding research and significant contributions to Botany. The medal has now been awarded for the 13th time in 47 years.

Prof Van Wyk's most important academic contributions are in plant classification (taxonomy and chemosystematics). More visible and more frequently cited contributions are international books and review papers on medicinal, poisonous and useful plants. The research focus is currently on ethnobotany (especially Cape Herbal Medicine) and indigenous plant use.

Previous awards to Prof Van Wyk include the 2009 Havenga Prize for Biology from the South African Academy of Science and Arts, the UJ Vice-Chancellor's Award for Research Excellence in 2009 and the UJ Faculty of Science Award for Top Researcher of the Year (2009, 2011 and 2014). Prof Van Wyk was elected as a Fellow of the African Academy of Sciences in 2013. In the same year, he was awarded the DTI/NRF (SARChI) National Research Chair in Indigenous Plant Use.

Publications of Prof Van Wyk include more than 300 research papers in ISI-accredited scientific journals and 19 books, including some international scientific bestsellers. Postgraduate supervision resulted in 20 MSc (14 cum laude) and 14 PhD students (ten of them received prestigious medals and awards, and six are now professors). As chairman of the Indigenous Plant Use Forum (since 1996), the Aloe Council of South Africa (since 2006), the Presidential Task Team on African Traditional Medicine (2006-2008) and several other committees, he has also contributed to the commercialization of indigenous plants and to the development of policy and capacity.

The South African Association of Botanists (SAAB) grew out of the South African Association for the Advancement of Science (S2A3) and was officially inaugurated as an independent organization in 1968 with the expressed purpose of providing professional botanists a forum to share their work and to promote botany as a science in South Africa. It's sister organisation, the Botanical Society of South Africa, is older, and focuses on popularising botany amongst amateurs as well as contributing to botanical activities in many diverse ways. The Association awards three Medals for Botany and one Certificate of Merit. The premier award is the Gold Medal and is given on the grounds of outstanding botanical research and contributions to the advancement of botany in the country.

Prof Abdel-Shafy Fahmy Obada awarded Egypt state medal

Prof Obada receives a handshake from the Egyptian president Abdel-Fatah El-Sise during award of the State Medal

Prof. Abdel-Shafy Fahmy Obada, immediate-past Vice President of African Academy of Science for Northern Africa has been awarded the state medal of Science and Arts of the first order from the Egyptian president, H.E. Abdel-Fatah El-Sise.

Prof. Obada is currently President of the Egyptian Mathematical Society, Editor-in-Chief for the Journal of the Egyptian Mathematical Society, Professor at the Department of Mathematics, Faculty of Science, Al-Azhar University. Prof. Abdel-Shafy F. Obada, received D. Sc. and Ph. D. from Manchester University, 1994 and 1967.

He is well known for his innovative contributions to quantum optics and became known primarily for introducing some new quantum states and some new quantum models. He is especially well known for profound contributions to different fields of quantum optics and quantum information, highly non-classical light, practical information security, and implementations of quantum information tasks. His current research interests include quantum resources, optical and atomic implementations of quantum information tasks and generations of new quantum states .

Membership of Scientific Societies include: Fellow of the Institute of Physics (London), Associate of International Center for Theoretical Physics (ICTP) Trieste, Italy, and Member of the Mathematical and Physical Society of Egypt. He is the Chairman of Egyptian Mathematical Society, member of American Mathematical Society, Egyptian Academy of Sciences, and African Academy of Sciences. He has been awarded several prizes, such as, State prize for scientific publications and citation 2008, State Prize for Scientific Innovation 2004, State Recognition Prize in Basic Sciences for 2005. He has published over 200 papers in international refereed journals, some books and book chapters.

"Low Temperature Processes" - Muhamadou B. Diop

A new book authored by Prof Muhamadou B. Diop, Director, Earth Institute of the University of Cheikh Anta Diop de Dakar, Senegal, introduces a promising technology of producing bricks in a way that minimizes carbon emission and particulate matter into the atmosphere. ***"Low Temperature Processes"*** elaborately discusses materials science principles behind the geo-polymerization processes.

The manufacturing of bricks is an energy-intensive industry that contributes significantly to carbon dioxide emissions. Emissions from brick manufacturing facilities include particulate matter (MP), PM less than or equal to 10 µm in aerodynamic diameter (PM-10), PM less than or equal to 2.5 µm in aerodynamic diameter (PM-2.5), sulfur dioxide (SO_2), sulfur trioxide (SO_3), nitrogen oxide (NOx), carbone monoxide (CO), carbone dioxide (CO_2), metals, total organic compounds (TOC), including methane, ethane, volatile organic compounds (VOC), and some hazardous air pollutants (HAC), hydrochloric acid (HCl) and fluoride compounds. More than 50 chemical pollutants are generated by the process.

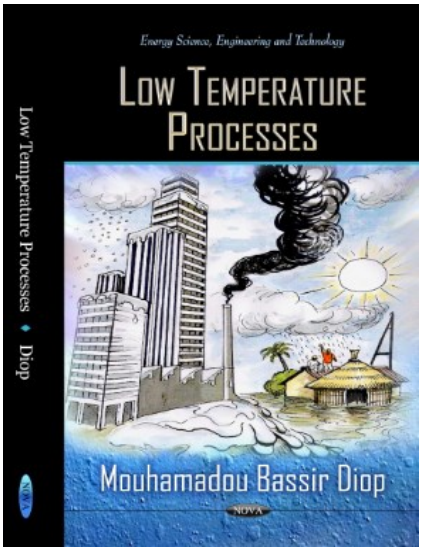
In 2002, over eight billion bricks were sold in the United States. Typically, bricks are made by firing clay to approximately 2,000°F. Considering the fact that the manufacturing of one brick consumes around 2 Mega Joules/kg brick, the total energy used in USA can be estimated at sixteen billion Mega Joules/kg brick. The heating process changes the molecular structure of the clay in such a way that it is vitrified. Vitrification is not a necessary method to develop a brick process.

So the purpose of the book is to show the interest of new approaches to making cement that reduce energy by working at low temperature (< 100 °C) and then eliminate pollutions. Such ideas may seem "revolutionary" but they appear to be realistic because nature makes rocks at nearly ambient temperature. Since geological processes can take millions of years, we have to use our intelligence and ingenuity to make things happen at human scale: a few weeks, days, or hours. Our recent work at MRI Penn State University proves beyond doubt that it's possible. The interest of this approach is that it can be accomplished on a small or industrial scale as needed, on one hand, and use starting materials that can consist of natural materials as well as industrial or mining by product materials, one the other hand. This enables to solve environmental problems. Last, the process does not cause pollution.

The purpose of this book is not to solve all the problems but to push all the researchers into building materials, to develop and share new ideas, to think in a different way. If researchers come to believe that it is possible to use low temperature processes to fabricate green material, the aim of this book will be attained an half of the way accomplished. I am convinced that it is the way that leads to sustainable development.

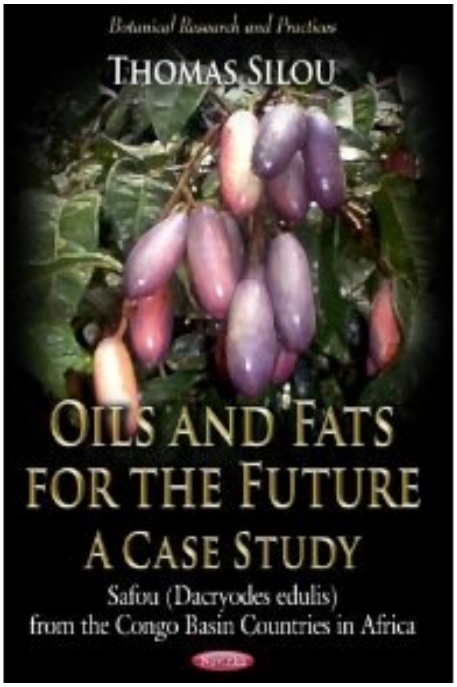
A copy of the book can be purchased at: https://www.novapublishers.com/catalog/product_info.php?products_id=28299

Or by bank transfer to: JPMorgan Chase Bank, 39 Vanderbilt Parkway Commack NY11725
Account # 197063567465 Routing # 021000021 Swift code : CHASUS33



Prof. Diop is the 2008 ISESCO International Sciences Prize Winner in Geology

Oils and Fats for the Future: A Case Study Safou (Dacryodes Edulis) from the Congo Basin Countries in Africa - Thomas Silou



In the last ten years the production and consumption of safou, the fruit of Dacryodes edulis (Burseracées) have seen a remarkable growth in central Africa.

In 1980 a network was set up dedicated essentially to the commercial development of the safou, called the African Safou Network (ASANET). Its commercialisation has spread beyond national boundaries, and has become international throughout the sub-region. All this activity has allowed significant advances in physical, chemical and biological knowledge concerning this plant and its fruit.

The first chapter of the book focuses on Socio-economic importance of the safou fruit tree in rural and urban settings in Congo-Brazzaville: Rural lands of Boko (Pool) and City of Brazzaville. Chapter 2: Safou, a raw material for oil production: Harvesting, characterisation and biodiversity. Chapter 3 looks at Characterisation of Safou pulp oil: Extraction, assay and analysis whilst chapter 4 is on Safou pulp edible oil: Technology and applications, assessment of the technological potential of safou pulp oil. The last chapter, Chapter 5 is on Volatile components of safou tree leaves

Silou Thomas is a Professor in Chemistry, Biochemistry, Food Engineering, (CAMES) at the Universities of Brazzaville, Franceville, Kinshasa. He has also held many governmental positions in Congo where he has contributed immensely to the development of Science, Technology and Innovation. In 2002, he was the deputy in charge of Higher Education and Scientific Research, Ministry of Higher Education and Scientific Research.

Prof Thomas Silou

AAS FELLOWSHIP

The African Academy of Sciences in its 2013 - 2018 Strategic Plan, the academy aims to expand its membership to over 600 by 2018. It is the aim of the academy to achieve Africa-wide representation or membership by the year 2018. In increasing the absolute numbers of AAS fellows, the academy is paying particular attention to gender balance, having Fellows from under-represented countries and disciplines. Accordingly, AAS is paying attention to some countries that do not have any national recognized as a fellow of the African Academy of Sciences. These countries include, The Gambia, Cape Verde, Zambia, Angola, Namibia, Niger, Libya. In addition, the Academy is targeting to increase the number of Fellows from about 11 countries where just one to three scientists have been appointed to the Academy.

The academy also acknowledges some scientifically advanced countries of Africa, for instance, South Africa, Algeria, Tunisia, Morocco, Tanzania and Ethiopia where AAS has a rather small number of fellows from. The Academy hopes to at least quadruple the number of fellows from such countries. AAS will also aim to increase the number of fellows in under-represented disciplines.

In 2014, the Academy received 40 nominations for AAS Fellowship. After a rigorous review process, twenty–four (24) were successful and elected into the African Academy of Sciences as Fellows.

The nominations for 2015 AAS Fellowship is currently open till 31 March 2015. AAS Fellows are encouraged to take interest and nominate accomplished and deserving scientists for review and election as AAS fellows. More information on how to be a fellow of AAS is available at: http://aasciences.org/index.php/about-us/become-a-fellow

AAS Fellows elected in 2014

Bakibinga, D.

Field: Policy Sciences

Country: Uganda

Bukusi, E.

Field: Biosciences

Country: Kenya

Cherry, M.

Field: Biosciences

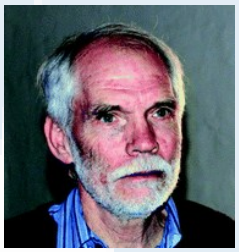
Country: South Africa

Cloette, E.

Field: Biosciences

Country: South Africa

Coville, N.



Field: Chemical Sciences

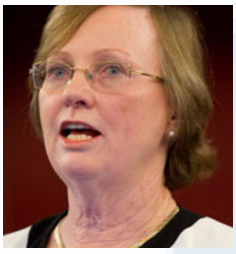
Country: South Africa

Dakora, F.

Field: Agriculture

Country: Ghana

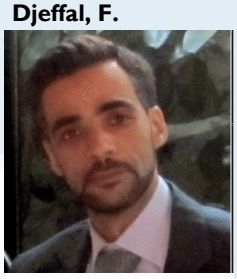
Diab, R.



Field: Geological Sciences

Country: South Africa

Djeffal, F.



Field: Engineering

Country: Tunisia

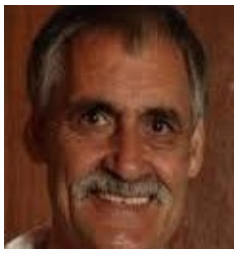
Fahal, A.

Field: Medical Sciences

Country: Sudan

AAS FELLOWSHIP

Gelderblom, W.



Field: Biosciences

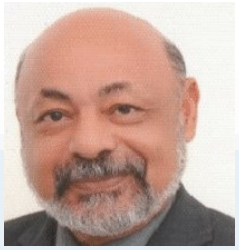
Country: South Africa

Geyer, H.

Field: Physical Sciences

Country: South Africa

Khalid, S.



Field: Chemical Sciences

Country: Sudan

Lall, S.

Field: Biosciences

Country: South Africa

Lategan, B.

Field: Social Sciences

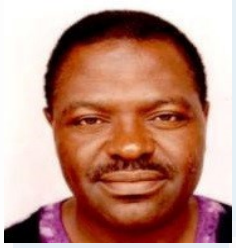
Country: South Africa

Messaoudi, S.

Field: Mathematics

Country: Algeria

Nyamnjoh, F.



Field: Social Sciences

Country: Cameroun

Nadifi, S

Field: Medical Sciences

Country: Morrocco

Noor A.

Field: Medical Sciences

Country: Kenya

Sang, R.

Field: Biosciences

Country: Kenya

Stevens, G.

Field: Geological Sciences

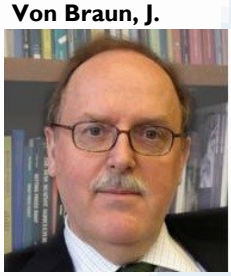
Country: South Africa

Van Der Walt, A.

Field: Policy Sciences

Country: South Africa

Von Braun, J.



Field: Agriculture

Country: Germany

Viljoen, A.

Field: Agriculture

Country: South Africa

Zobaa, A.

Field: Engineering

Country: Egypt

Understanding the fundamentals of science of climate change in Africa.

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Introduction

The reason for the change in climate of the earth, till date, is not yet entirely understood. It is an established fact that no single theory has succeeded in accounting for the climate changes, both in the past and present. Earth is a dynamic structure, not a static one as such, we need to study the following; its atmosphere, which is part of the Sun-Earth system that is considered as a region of transformation of energy fluxes of terrestrial origin.

The interrelationships among climatic elements are so complex that change in one could lead to alteration of many others. Climate change is altering the weather and climate globally which affects human life, and anything that disturbs our lives on earth must worry us. It is obvious that how earth's magnetic field will couple with the sun's magnetic field determines how the solar activity will affect the earth's atmosphere.
When the earth, surroundings and earth related phenomena are well understood, then, invariably it leads to advancement of technology which results in development of a Nation. Consequently, society will be balanced and hence; economic, social and political position is assured.

We live in an earth systems science, this science contributes to our emerging view of earth as a complete entity- an interacting set of physical, chemical and biological systems that produce the processes and conditions of the whole earth (Robert, 2002).

Climate Change

It has been speculated that climate change will have more severe impact on Africa regions than other regions of the world. Scientific information is required in other to give solutions to effects of climate change on Africa. Such information will go a long way, if it is based on scientific research. The question is; has African succeeded in achieving this? NO!

Despite the Africa's low level of contribution to the cause of climate change, we still suffer more from the effects of climate change than other western countries (AMASA 8, 2012). WHY? Africans are still not very conversant with the root cause of climate change, because we lack the basic scientific research information.

Causes and science of climate change

Ahren (2003) suggested strongly that through plate tectonics the earth's surface has under gone extensive modifications-which involve the slow shifting of the continents and ocean floors. It helps to explain past climate; it is a big challenge to scientists to open up research in this active area to prove or disprove this fact.

Again, climate change was found to be associated with variations in the earth's orbit; explained by Milankovitch theory. Scientists should study this theory that combine to produce variations in solar radiation received at the earth's surface in relation to climate change.

Aerosols from both human activities and natural sources have effect on climate change. Scientists should research on all types of aerosols and their respective effects at various layers of atmosphere in connection to climate change.

It is crucial for scientists to investigate solar activity and climate change; this should be given adequate scientific attention. This is because sun's magnetic field changes with sunspot activity, hence, ozone variation depends on sunspot cycle. The cause of increase in earth's temperature should be fully investigated.
Role of scientists in Africa

Most important; African scientists should address the root cause of climate change by designing suitable climate models that fits into local/regional areas in Africa. They should strive to store/keep records of extensive and accumulated data, locally and regionally.

Scientists in their quest to seek for the cause for climate change, Danish (2009) has challenged the notion that human emissions are solely responsible for global warming, as he suggests that the earth's climate has been significantly affected by the planet's magnetic field. They found strong correlation between the strength of the earth's magnetic field and amount of precipitation in the tropics.

In other studies, results from Demark; support the controversial theory published Svensmark who claimed that climate was highly influenced by galactic cosmic rays (GCR) particles penetrating the earth's atmosphere. Svensmark (1998) theory involved a link between the earth's magnetic field and climate, since that field helps to regulate the number of GCR particles that reach the earth's atmosphere. Geomagnetic-climate connection is still a puzzle and requires serious research. Scientists still need to determine if CO_2 or effect of geomagnetic field plays more important role.
Again, part of scientific finding include; volcanic eruption; this releases volcanic ash and gases into the atmosphere that alters atmospheric chemistry and climate.

Conclusion

African scientists should focus their research on the science of climate change in Africa for thorough understanding of the root cause.

Recommendations

It is necessary to unfold imaginations, intensive efforts in our research of science of climate change.

We need to assert authority and self-reliance in carrying out our research activities in climate change.

All stakeholders should motivate researchers in this active area of research. Researchers must show determination, perseverance and patience among others.
Collaborative research involving interdisciplinary research and team work as regards science of climate change should be encouraged.

Capacity building should be encouraged.

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The Author

Prof Francisca Nneka Okeke is Laureate of prestigious L'Oreal-UNESCO Award for women in Science for physical Sciences, 2013. She is a strong advocate in Science development. She was the first female Dean, Faculty of physical Sciences, University of Nigeria, Nsukka (UNN) 2008-2010; first female Head of Department of Physics and Astronomy, 2003-2006, UNN; first female Professor in the Faculty of Science and Engineering of the UNN and the first female Professor in Physics in the Eastern part of Nigeria. A fellow of AAS.

African engagement with solar geoengineering

Andy Parker and Asfawossen Asrat Kassaye

Introduction

As concern deepens about the possible scale and nature of the threats from global warming, so does interest in understanding the potential of geoengineering – deliberate intervention in the climate system. In February the US National Academy of Sciences became the latest eminent institution to publish a report on the topic, and a European-wide initiative is expected to publish its report in the next few months. Their conclusions on the basic characteristics and uncertainties of solar geoengineering should provide much food for thought for those interested in climate science and politics in Africa.

Solar geoengineering, also known as solar radiation management (SRM) or albedo modification, is a proposed set of technologies for reducing the risks of some aspects of climate change that is currently being explored at the conceptual level. It is only in the very early stages of research but, quite rightly, is already emerging as a controversial environmental issue.

SRM would seek to reduce the impacts of global warming by reflecting a small percentage of inbound sunlight back into space and thus cooling the planet. The two leading techniques being researched are stratospheric aerosol injection and marine cloud brightening. The former would involve spraying microscopic reflective particles – aerosols – into the upper atmosphere. The latter would work by spraying seawater into naturally-occurring marine stratus clouds, making them whiter and brighter.

The climate challenge

To properly understand why some people are calling for small-scale research into SRM, it is necessary to understand some uncontroversial but unpalatable facts about climate change.

Due to the CO_2 that has already accumulated in the atmosphere as a result of human activities, the Earth is committed to many decades of warming. That is the case even if CO_2 emissions could be cut to zero, globally, immediately. On top of that there will be the additional impacts from all future emissions, since it doesn't look like global emissions will be reduced to zero any time soon, if the recent climate negotiations are any indication. In fact CO_2 emissions are still increasing roughly in line with the IPCC RCP8.5 scenario. This scenario projects warming of 4-6°C by end of the 21st century, way beyond the internationally agreed threshold of 2°C, beyond which the adverse impacts of climate change are likely to be severe.

It's still uncertain what the total warming likely to be caused by greenhouse gases emissions by humans will be several centuries from now, let alone the environmental and social effects. It's therefore clear that humanity needs to make deep cuts to emissions without delay. But the IPCC projections show that we must also work out how we might deal with the risks from the warming we are still likely to see over coming decades and possibly centuries. That is why many scientists have, with some regret, decided that it is necessary to start to understand the implications of SRM.

SRM

Scientists have begun trying to understand both the negative and positive impacts likely to accompany deployment of SRM strategies. It is important to determine if the positive benefits would justify considering such technologies to reduce the adverse impacts of climate change, until such time as emissions have been reduced sufficiently.

The recent United States National Academies of Science report reinforced the conclusions of previous reports on the topic, including those of the UK Royal Society and the UN Convention on Biological Diversity.

If it were to be proven effective and the side effects manageable, a big if, SRM would be the only known method for stopping the rise in global temperatures in the short term (years to decades). Research to date – based on computer modelling – has indicated that SRM deployment could be used to reduce global temperature and possibly some (but not all) of the key physical impacts of global warming (such as increased severity of droughts and floods, glacial melt, and sea-level rise).

However, these results represent very preliminary findings, and computer models are only basic representations of highly complex natural systems, and often use unrealistic deployment scenarios. Therefore there are still huge uncertainties about how SRM would work in practice, and what its side effects might be (such as its implications for the tropical precipitation distribution or ozone depletion).

In addition, the physical effects of geoengineering are only half the story. It is also very unclear what the social, ethical and political implications might be. There are many questions over how such a powerful, complex and controversial technology might interface with our imperfect and messy international political system:

- Even if SRM were perfected to the point where it had negligible unwanted side effects (an unrealistic thought experiment), how could we get agreement between, say, tropical Africa and temperate Europe, over where to set the planet's thermostat?
- Will the possibility of SRM distract publics and policymakers from crucial emissions cuts? Or is a clearer understanding of the impacts of SRM going to convince people that there are no viable alternatives to dramatic emissions reductions?
- Is it possible to ensure that those most impacted by environmental change (whether due to global warming or geoengineering) get a say in whether, how, and when SRM research is conducted, or if the technology is ever deployed?
- Should developed countries be asked to finance SRM research if the knowledge gained could theoretically reduce the risks of the warming that they are largely responsible for? Or will SRM research be used by powerful governments as a way of wriggling out of cutting their carbon emissions?
- Does humanity have the right to intervene with natural systems in a deliberate large-scale way as would be implied by SRM deployment? Or are we already doing a form of geoengineering – albeit inadvertently – through the large-scale emissions of greenhouse gases, land-use changes, and chemical release to the environment?

There are no right answers to these questions. This is one of the reasons that it is so important to have widespread and inclusive dialogue about how to govern research that would allow us to better understand the impacts of greenhouse gas emissions and the implications of geoengineering techniques.

SRM and Africa

Discussing SRM techniques and potential research to understand them is highly relevant to addressing developing country concerns about climate change impacts. The people and ecosystems of Africa are on the front lines of experiencing climate change, meaning they could stand to gain a lot from SRM if it can be shown to be safe and effective at reducing some of the risks from global warming. On the other hand developing countries would probably also be likely to be most susceptible to the environmental changes caused by SRM if it had serious adverse side effects.

The foundation for African engagement was laid down by the African Academy of Sciences (AAS) in partnership with the SRM Governance Initiative (SRMGI) through a series of workshops in Senegal, South Africa and Ethiopia on SRM research and governance issues. The workshops focused on initiating a conversation about SRM with African stakeholders (scientists, journalists, civil society representatives, lawyers and politicians). They sought opinions and ideas on how research on SRM might be governed if it is deemed to be a good idea, and solicited ideas on how African stakeholders could engage on SRM research governance in a sustained manner. Their findings were published in a report in 2013.

The workshops saw wide agreement amongst participants that African engagement in research and governance on SRM research will be crucial. Many participants also called for greater awareness among African researchers and stakeholders, through outreach and communications programmes, and further workshops. Ideas for further engagement were then pursued with developing country participants in subsequent geoengineering summer schools held in Harvard University in August 2013, and the University of Heidelberg in July 2014, as well as a workshop held at University of California, Berkeley in July 2014 within the larger framework of the Environmental Leadership Program.

Participants of the workshops and summer schools recommended the institutionalisation of African engagement. To this end, a Pan-African Working Group on SRM research and governance issues was launched by Dr. Asfawossen Asrat Kassaye in a meeting at the 25th Colloquium of African Geology, held in Tanzania on 14 August 2014.

With an entirely African membership, composed of climate and environmental researchers, members of the Young Earth Scientists (YES) network and a representative of the African Academy of Sciences, this working group intends to network among interested African stakeholders and serve as a focal point for African discussions on SRM research and governance. It aims to expand the conversation among stakeholders by conducting more workshops, identifying research agendas on SRM pertinent to the needs and concerns of Africa, and facilitating co-operation between African and the international research community. Ultimately, the group envisages creating an African centre of research on SRM governance under the auspices of an African university in collaboration with the African Academy of Sciences. The Working Group has started building its membership base and has begun to coordinate the efforts and initiatives of various climate researchers in Africa.

The success of the Pan-African Working Group will depend on input and participation from a wide range of interested stakeholders. If you would like more information, or to find out how you might be able to take part, please contact Dr Asfawossen Asrat Kassaye (asfawossen.asrat@aau.edu.et). For more information about the SRM Governance Initiative please contact Andy Parker (andrew.parker@iass-potsdam.de).

Andy Parker is a research fellow at the Institute for Advanced Sustainability Studies in Potsdam, Germany. He has worked on climate change, energy and solar geoengineering for over ten years, including at the Royal Society, the Harvard Kennedy School, and as lead coordinator for the SRM Governance Initiative. He was a member of the UN Convention on Biological Diversity's expert working group on geoengineering.

Asfawossen Asrat Kassaye is an Associate Professor of Geochemistry and Petrology at the School of Earth Sciences of Addis Ababa University, Ethiopia. His research focuses on reconstructing the Quaternary climate variability and environment of Ethiopia using various geochemical proxies on speleothem, lake sediment and other geological archives. He has been involved in the SRMGI workshops in Africa and subsequent summer schools, and has been leading the efforts to establish the Pan-African Working Group on SRM research and governance issues.

4th International Conference on Mathematics and Information Science (ICMIS 2015)

Prof. Mahmoud Abdel-Aty, the vice president of African Academy of Science for North Africa, has organized and Chair the 4th International Conference on Mathematics & Information Science (ICMIS 2015) which has been conducted in Zewail City of Science and Technology, 5-7 Feb. 2015. It w as feature advances in Mathematical Science, Business, Information Systems Engineering and Technology presented by international researchers.

The conference is a part of a series of conferences dedicated to bringing top scientists and technologists to Egypt thereby helping to raise Egyptian science and technology to the highest international standard, raise awareness of governments and industry in Egypt to the importance and excitement of new research and development in technologies, and engender collaborations and research exchanges. ■

Participants at the 4th International Conference on Mathematics and Information Science (ICMIS 2015)

GAAS elects new President and Council

Fellows of the Ghana Academy of Arts and Sciences (GAAS) has elected Prof. Akilagpa Sawyerr, Former Vice Chancellor of the University of Ghana as its President of for a two-year period running from January 2015 to December 2016. Prof Sawyerr replaces Prof. Francis K.A. Allotey, a founding fellow of the African Academy of Sciences and immediate past AAS Vice President for West Africa, whose 4-year tenure of office ended in December 2014.

Prof. F. K. A. Allotey, Immediate Past President of GAAS (left) Hands over to Prof. Akilagpa Sawyer, new president of GAAS (right). Looking on are Prof. Emerita Elizabeth Ar-

Prof. Akilagpa Sawyerr, until his election, was the Vice President (Arts Section) of the GAAS. He is a Professor of Law and holds a Degree of Doctor of the Science of Jurisprudence (JSD), University of California, Berkeley. He is a former Secretary-General of the Association of African Universities and Member of the Governing Board, Commonwealth of Learning. Prof. Akilagpa Sawyerr is also a Former Vice Chancellor of the University of Ghana.

Other members of the New GAAS Council are Prof. Aba Bentil Andam, Vice President (Sciences); Emerita Prof. Elizabeth Ardayfio-Schandorf, Vice President (Arts); Prof. Ben K. Ahunu, Honorary Secretary; Prof. Joseph Roland Atsu Ayee, Member; Prof. Jacob Songsore, Member; Prof. Albert Kodjo Fiadjoe, Member; Prof. Agyeman Badu Akosa, Member; Prof. Edward S. Ayensu, Member; Prof. Victor P. Y. Gadzekpo, Member; and Prof. Francis K. A. Allotey, Immediate Past President. ■

Improve on Future Products of IPCC

Achim Steiner

Under-Secretary-General of the United Nations UNEP Executive Director, Achim Steiner, has called on the Intergovernmental Panel On Climate Change (IPCC) to make improvements on future products of the IPCC. He made this call in a speech delivered at the Opening of the 41st Session of the Intergovernmental Panel On Climate Change.

According to the UNEP Executive Director and Under-Secretary-General of the United Nations, it will be desirable to improve the ability and flexibility of the IPCC with regards to providing timely response to emerging topics or new concerns of governments, policymakers, international organizations, and needs of international processes on climate change. Achim Steiner believes this could be in the form of developing more regular reports with shorter timelines (possibly 2 years) on emerging issues or thematic issues that are relevant to decision making on climate change mitigation and adaptation. He added that such reports with shorter timelines could then serve as input to the comprehensive 5-7 years assessment reports.

Achim Steiner also encouraged the IPCC to consider options for improving the user-friendliness of its products for diverse audiences: businesses, civil society, media, local and traditional communities as well as students.

The IPCC was also advised to consider current technological advancements and use to make its products more accessible and appealing to diverse audience.

Finally, given the interlinkages between climate change and other environmental and socio-economic issues including food security, human health, air quality, water quality and availability, as well as disasters and conflicts, just to mention a few, I will like to suggest that the IPCC ensures decisions on its future work takes into consideration how the IPCC can contribute to the implementation and achievement of the post-2015 development agenda and the Sustainable Development Goals. ■

Inaugural CIRCLE workshops held at AAS secretariat

The African Academy of Sciences, secretariat in Nairobi, Kenya, hosted two back-to-back inaugural events of the Climate Impact Research Capacity and Leadership Enhancement (CIRCLE) programme. These inaugural events of the CIRCLE programme were the Institutional Champions Workshop which took place from 2 - 4 February 2015, followed by the CIRCLE Visiting Fellows (CVFs) workshop from 5 - 7 February 2015.

Group picture of Institutional Representatives at the Inaugural CIRCLE Champions workshop, 2 - 4 February, 2015, Nairobi,

These two programmes happening all happening in the first week of February had an added significance of closely interacting and observing the key players [(i) the Home and Host Institutions and (ii) the early career researchers who have been awarded CIRCLE Visiting Fellowships] of the two components of the CIRCLE programme; (i) the Institutional Strengthening Programme, and (ii) the Fellowship Programme.

The Institutional Strengthening Programme (ISP) and the Fellowship component of CIRCLE are so designed to be implemented simultaneously to ensure that the early career researchers who benefit from the one year funding to undertake a climate impact research in another institution outside their home institutions would return to their home institutions to meet suitable conditions for career development and applying what they have learnt whilst away. This way, developing individual researcher skills and capabilities, and also investing in their home institutions would further ensure that the gains made through investing in individuals were sustained and devolved locally. The Institutional Strengthening Programme (ISP) will address training provision for early career researchers and support for building mentoring capacity within the institution.

Developing individual researcher skills and capabilities, and also investing in their home institutions would further ensure that the gains made through investing in individuals were sustained and devolved locally.

The two workshops held in Nairobi also brought together the CIRCLE programme implementation team made up of staff from the African Academy of Sciences and the Association of Commonwealth Universities. The team had been working virtually and the full complement of the team met for the first time in Nairobi.

Also present at the two workshops was Vitae who are leading the implementation of the Institutional Strengthening Programme (ISP). Vitae is an international programme led and managed by CRAC, a not-for-profit registered UK charity dedicated to active career learning and development. Vitae has great expertise at enhancing the skills and career impact of researchers locally, within a global context. Vitae in the CIRCLE programme will help with analysis of existing institutional frameworks to support early career researchers and how these might be developed to better meet their needs.

A key component of the CIRCLE programme that was presented to the CIRCLE Visiting Fellows (CVFs) and Institutional Champions was the Quality Assurance Programme (QAP), a component of the CIRCLE programme. The Quality Assurance Programme is being handled by a consortium led by Natural Resources Institute, University of Greenwich (Departments of Livelihoods & Institutions, and of Agriculture, Health and Environment), The London School of Hygiene and Tropical Medicine (Department of Social and Environmental Health Research) and University College London (Departments of Geography, and of Science, Technology, Engineering and Public Policy). This team will provide each CVF with a specialist advisor who will work with the CVF, the supervisor at the host institution and the mentor at the home institution on the CVF's research. Prof Morton of NRI was present to the present the QAP and its work to the CVFs.

The two back-to-back workshops were very successful. The various presentations and training provided by AAS, ACU, Vitae, Elsevier, University of Nairobi went a long way to put the participants in good condition for the successful implementation of CIRCLE. Feedback from both the Circle Visiting Fellows and senior representatives indicated enthusiasm for engaging fully in the CIRCLE programme.

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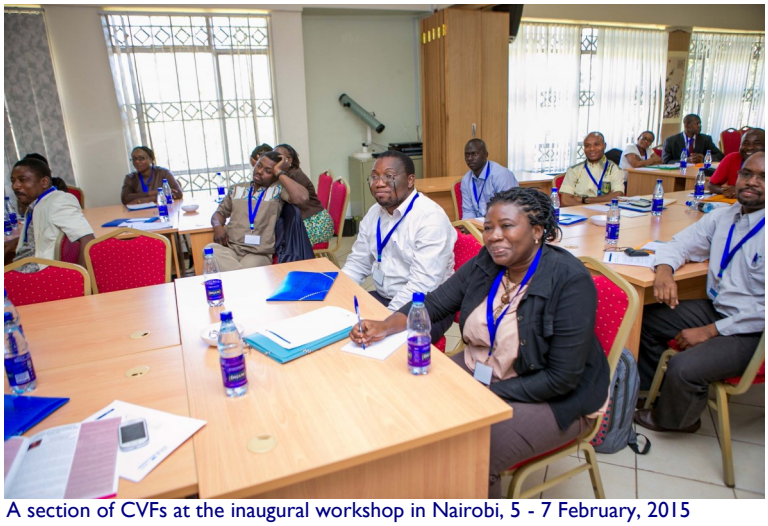
First cohort of CIRCLE Visiting Fellows (CVFs) in a group picture at the African Academy of Sciences

Inaugural CIRCLE workshops held at AAS secretariat



A section of CVFs at the inaugural workshop in Nairobi, 5 - 7 February, 2015

Continued from Page 13

Participants from both workshops noted the value in engaging and networking with other fellows and representatives as an important element of the event. When asked about their personal aspirations for the fellowship, responses from CVFs largely reflected the aims of the programme:

i. To build research skills and capacity, both general research, publishing and proposal writing skills
ii. To become more established in their field and to build their own and their institution's research profile
iii. To increase their and their institution's networks in their field, with other CVFs, within their institutions, nationally and internationally; with the purpose of collaboration, diversifying their research and potentially working in multi/trans-disciplinary teams
iv. To publish in high impact peer-reviewed journals
v. To present and disseminate their research
vi. To improve their mentoring and teaching skills so that they can pass on their knowledge to their students effectively
vii. To have an impact with their research for policy but also from their research for the population their research affects.

The outcomes identified by the senior representatives from host and home institutions largely corresponded with those of the CVFs. They hoped that the CIRCLE programme would give the CVFs the skills and competencies for them to become leaders and to drive change in the field of climate science within their institution and for them to build their writing skills to increase their publications in high quality journals. They also reflected on the opportunities for their institution through, participating in the programme:

i. To develop institutional capacity in the field of climate change / multi-disciplinary research
ii. To improve Early Career Research (ECR) support within their institution and to share their experience of providing support (particularly more established host institutions)
iii. To build their profile in the field of climate change research and to take advantage of potential networks and collaborations
iv. To increase support for climate change research within the institution, with suggestions of regular workshops/symposia on climate change topics and for creation of centres of excellence within the institutions

The energy and enthusiasm generated through bringing together the groups of representatives and CVFs for the inaugural event signals a positive start to the first cohort of CIRCLE visiting fellows. We hope that, through their participation in the CIRCLE programme, the fellows will continue to develop their professional skills and their profile in the field of climate change; that the institutions will embrace the opportunity to strengthen their own as well as their fellow's research development strategies and systems; and that all involved will build on the fruitful relationships set in motion during the launch event.

The next event of CIRCLE will be a training of trainers workshop under the Institutional Strengthening component of the programme to be organised in May 2015.

■

CVFs participate in a group at the inaugural workshop, 5 - 7 February 2015

Olga Laiza Kupika is a CVF from Chinhoyi Univ of Tech, Zimbabwe, and undertaking her fellowship at the University of South Africa

Olawale Emmanuel Olayide is a CVF from Univ of Ibadan, Nigeria and undertaking his fellowship at the KNUST, Ghana

Kidist Abera Antene is a CVF from Ethiopian Institute for Agric Research and undertaking her fellowship at the Univ of Cape Town, South Africa

Hatim Elamin is a CVF from University of Kordofan, Sudan and undertaking his fellowship at the Makerere University, Uganda

CALL FOR APPLICATIONS

Proposal Development Workshop for Early to Mid-Career African Scientists

Addis Ababa, Ethiopia, July 13-16, 2015

Introduction

The Alliance for Accelerating Excellence in Science in Africa (AESA) is a joint initiative of the African Academy of Sciences and the New Partnership for Africa's Development (NEPAD). This initiative is also established in partnership with three major funders, namely, the Bill and Melinda Gates Foundation (BMGF), the Wellcome trust t and the UK Department for International Development (DFID). AESA is a funding, strategy and think tank platform that will support research in Africa. The initial focus of the platform is in health sciences, although with time, other areas of priority concern, such as Food and Nutrition, Agriculture, Energy, etc. will be addressed. This project is funded by the Bill & Melinda Gates Foundation Grand Challenges team. Grand Challenges is a family of grant programs fostering innovation to solve key global health and development problems for those most in need. Grand Challenges partners, Bill & Melinda Gates Foundation, Grand Challenges Canada, USAID's Grand Challenges for Development, Grand Challenges Brazil, and Grand Challenges India are all guided by the following set of principles:

Strategic and well-articulated grand challenges serve both to focus research efforts and to capture the imagination and engage the world's best researchers.

- Projects are selected based on public, transparent calls for proposals seeking the best ideas.
- Funders, investigators, and other stakeholders actively collaborate to accelerate progress and integrate advances to ensure these advances serve those most in need.
- Projects are selected not only for scientific excellence, but also for their likelihood to achieve the desired impact, and they are milestone driven and actively managed to that end
- Projects and investigators make global access commitments to ensure the fruits of their research are available to those most in need.

To date the Grand Challenges partners have collectively made over 1600 grants in 80 countries. The Gates Foundation is interested in continuing to increase the quality of good applications that comes into it's Grand Challenges pipeline of ideas.

To this end, the AAS is planning to organize two proposal development workshop in 2015, the first of these workshops will be held in Addis Ababa, Ethiopia, from 13-16, 2015, in collaboration with the Ethiopian Academy of Sciences (EAS).

Background and Rationale

One notable limitation to research output in Africa is the low quality of proposals submitted by early and mid-career scientists from African research centers and universities. Few of these end up attracting funding with a success rate of less than 20%. The majority get dismissed, not because they are lacking in scientific relevance but because they fail to meet required standards set by the granting organizations in terms of rationale, approach, resources requested, or they simply fail to convince the reviewers. Thus the major aim of these workshops are to impart knowledge on key principles of writing grant winning proposals and thereby improve the quality of proposals.

Specifically, participants will also be inducted on the principles, requirements and formats of various applications, including Grand Challenges applications. Additional communication skill training will be given with the goal of equipping applicants with compelling story telling skills. Trainers and facilitators chosen from among AAS and EAS Fellows, BMGF staff and other experts will serve as resource persons for these workshops. The workshop intends to attract and encourage the best minds in Africa who are working in areas of public health and development. It is hoped workshops and other measures will make substantial contributions to improve the quality of applications coming from African institutions.

Objectives and expected outcomes

The workshops aim to:

- Train a new cadre of African Scientists on proposal development techniques and prepare them to respond to any competitive Request for Proposals globally
- Boost capacity of African scientists in competing for research grants
- Raise research quality and output in Africa

Methodology and Target Group

Participants to the workshop will be selected from across the continent based on qualifications, experience, research interests and support from home institution. Scientists who are newly qualified as PhDs, are working as post-doctoral scientists, or are in mid-career (less than 5 years since PhD qualification) are particularly encouraged to apply The scope of the workshops will focus on compelling story telling; walking through the grant making process; tips and tricks from mentors; grant management and project implementation. This will be delivered over three days in the form of plenary, interactive and parallel breakout sessions.

Applications:

Applications are invited from interested scientists who may benefit from participation in this workshop. A copy of the Application form can be downloaded at: http://aasciences.org/index.php/news-a-events/419-proposal-development-workshop-for-early-to-mid-career-african-scientists

Send completed Application Forms to: workshop@aasciences.org

Deadline for Application is 20 April 2015 at 5pm East Africa time

This is a collaboration between The AAS, BMGF and EAS

OPPORTUNITIES

Search for Executive Director

The European & Developing Countries Clinical Trials Partnership (EDCTP) is a non-profit organisation dedicated to advancing clinical research on poverty-related diseases in Sub-Saharan Africa, notably HIV/AIDS, tuberculosis, and malaria. The organisation is funded by a 10-year-grant from the European Union, by the individual member countries of the EDCTP Association, and by other partners. EDCTP recently launched its second programme (EDCTP2) after the re-commitment of the EU and the expansion of its membership base to include 13 African countries. For more information, see www.edctp.org.

Reporting to the Board and the General Assembly, the Executive Director is responsible for the overall management of the EDCTP2 programme and for the leadership of its administrative organisation, the Secretariat, which is officed in The Hague, Netherlands, and in Cape Town, South Africa. Building strong and effective partnerships with public- and private-sector stakeholders including the European Commission, foundations, and drug companies, the ED will encourage greater involvement of the participating states in funding activities within the scope of EDCTP2.

Specific qualifications for the Executive Director include an MD or PhD; knowledge of clinical trials; professional experience in developing countries (preferably in sub-Saharan Africa); excellent skills in communications, public relations, and relationship management along with a strong sense of diplomacy; the ability to navigate complex organisational structures; and unimpeachable personal and professional integrity.

Excellent spoken and written English is required; facility in French and knowledge of Portuguese or other European language will be an advantage. The Executive Director serves a renewable five-year term.

EDCTP's General Assembly intends to interview selected candidates in The Hague in June. Please contact EDCTP's search consultant for additional information or to apply: Craig Smith, PhD, Opus Partners (craig.smith@opuspartners.net). Female candidates are strongly encouraged to apply.

Expressions of interest and formal applications are due 31 March 2015

TWAS-DFG Cooperation Visit

The TWAS-DFG Cooperation Visits Programme provides postdoctoral researchers who have obtained their PhD not earlier than 2010 and are from sub-Saharan Africa, including South Africa, with the opportunity to make a 'Cooperation Visit' to an institute in Germany. Such visits will have a duration of no more than three months and must be undertaken within 12 months of the award. More information as well as the relevant application form can be found here: http://twas.org/opportunity/twas-dfg-cooperation-visits-programme. **The deadline for submission is 31 March 2015**

Stem Cell Investigator Awards

The New York Stem Cell Foundation (NYSCF) is soliciting applications from early career investigators for Innovator awards to be used for exploring the basic biology and translational potential of stem cells. The goal of this initiative is to foster bold and innovative scientists with the potential to transform the field of stem cell research, and advance understanding and use of stem cells in the development of treatments for human disease. In addition to providing funding, NYSCF partners with investigators to advance and translate their research. For more information on eligibility and how to apply, visit http://nyscf.org/grants/stem-cell-investigator-awards

Applications are due on **Wednesday, March 18, 2015 at 5:00pm Eastern.**

XIV World Forestry Congress

The XIV World Forestry Congress will take place from 7-11 September 2015 in Durban, South Africa. It will be a key occasion for the world's foresters and forest supporters to gather, to share their expertise and experience, and to project a new vision for the future of forests and forestry. We'd like you to help define that vision.

Abstracts are being invited on the central theme of the Congress, "Forests and People: Investing in a Sustainable Future", and on relevant topics that also align with any of the six Congress sub-themes:

- Forests for socio-economic development and food security
- Building resilience with forests
- Integrating forests and other land uses
- Encouraging product innovation and sustainable trade
- Monitoring forests for better decision-making
- Improving governance by building capacity

Visit http://www.fao.org/forestry/wfc/87445/en/ for further information

WFC2015
XIV World Forestry Congress

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