



Whydah



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WHY WHYDAH?

Whydah (also spelled Whidah, or Wydah), is any of several African weaver of birds the genus *Vidua*, the male of which grows long, drooping, predominantly black tail feathers during the breeding season. It is also called widow bird. They belong to two subfamilies, *Viduinæ* and *Ploceinae*, of the family *Ploceidae* (order *Passeriformes*). The name is associated with Whydah (Ouidah), a town in Benin where the birds are common. They are very active birds and difficult to breed in captivity because of their brood nature.

The Academy has chosen Whydah as the name of our newsletter to symbolize our work and dedication to scientific excellence in Africa. All African Scientists should serve the continent and excel in so doing in total freedom with innovation

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AAS/TWAS-ROSSA holds Workshop on Cell Biology and Regenerative Medicine



A section of the participants to the cell biology and regenerative medicine workshop

An idea conceived on the sidelines of the 12th General Conference and 23rd General Meeting of TWAS in Tianjin, China in September 2012, has just come into reality! A group of scientists from Africa, India, Brazil and China held a meeting during the 23rd TWAS meeting in Tianjin and proposed an initiative that would enhance the capacity of young African scientists in the areas of cell therapy and regenerative medicine so as to build capacity in this field. These ideas are based on the conviction that Cell biology / regenerative medicine will play a big role in the future to improve health in areas like skin

cover for burns, muscle and bone loss, corneal regeneration, haemoglobinopathies, spinal cord injuries, myocardial regeneration, etc. It was also noted that the applications may extend to animal health and perhaps even to agriculture. Following subsequent discussions after Tianjin, the African Academy of Sciences (AAS) was requested to spearhead this initiative.

AAS, between 11th and 13th November 2013, organised a workshop on Capacity Building in Cell Biology / Regenerative Medicine, at Nairobi, Kenya. The objective of the workshop was to link young African Scientists to experts in cell biology/regenerative medicine from India, Brazil and China for Capacity Building in Cell Biology and Regenerative Medicine. The workshop provided a unique opportunity for early career African Scientists/researchers in the field of biological and medical sciences who are already involved in or seriously interested in Cell biology and regenerative medicine to interact with world class experts from China, Brazil and India. It is expected that this group of young African health professionals identified at the workshop will form a core group that would implement, under the auspices of AAS/TWAS-ROSSA, the recommendations of the workshop. AAS will promote interest in this field and has already planned further activities which will include a second workshop as well as short-term research visits of young scientists to India, China and Brazil for mentorship.

Participants at the workshop have agreed to share information on the potential of cell therapy /regenerative medicine to address global health concerns in general and those that are specifically relevant to Africa; to create a mentoring forum to link young African scientists with senior scientists from Brazil, China and India; to provide hands-on or demonstrations on the basic techniques of stem cell science and technology; and to share information on the status of cell therapy/regenerative medicine in Africa.

CONTINUE ON PAGE 3

EDITORIAL

The Constitutive Act, establishing the African Union, recognizes the need to advance the development of Africa by promoting research in all fields, and in science and technology in particular. This great recognition for science and technology in Africa's development cannot be over-emphasised.

In January 2007, the AU Heads of State and Government "declared 2007 as the launching year for building constituencies and champions for science, technology and innovation in Africa". The African Union Commission has been urging African countries to popularize science among African citizens, empower African scientists, celebrate their achievements and promote all efforts to transform scientific research into sustainable development. This is an effort to holistically and deliberately maintain science and technology on top of Africa's development, cooperation and political agenda.

It is interesting to note that the African Union Commission launched on 9 September 2008, the prestigious African Union Scientific Award Programme to give out scientific awards to top African scientists for their scientific achievements, 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. In July 2010, the African Union Heads of State and Government took a decision to rename this Programme as "African Union Kwame Nkrumah Scientific Awards".

What I find interesting is that the launching of such an important programme is on record to have been made possible with the support of Africa's Development Partners, particularly the European Commission. In effect, the continent realizes the importance of science, technology and innovation for sustainable development. But we are not putting our money where our interest lies.

The great Pan-Africanist and First President of the Republic of Ghana, Dr. Kwame Nkrumah, a firm believer in African liberation and unity after whom this prestigious award is named, was a man who pursued a revolutionary pan-African policy, with a strong vision extending beyond national boundaries, for the creation of a new Africa, "a federal union of African states", to take charge of its own destiny. The memory of Dr Nkrumah can best be served if the continent renews its mind and aggressively pursue a radical investment into science, technology and innovation. If the "dream and determination" of Dr. Kwame Nkrumah inspires Africa in all facets of development, then the inspiration must be seen in our countries' commitment to investing in science, technology and innovation.

Africa has an opportunity to constantly honour the memory of Kwame Nkrumah with what we do in Science, Technology and Innovation. I use this opportunity call on all African countries to honour the decision to devote at least 1% of GDP to science, technology and innovation

MESSAGE FROM THE EXECUTIVE DIRECTOR



We are coming close to the end of the year. It has been a very productive year. We received many nominations for AAS Fellowship in March this year, and for the first time, we are able to report that all the review was done by the various committees, then all Fellows voted and, finally, approval by the Governing Council. All these steps were accomplished within the year to allow us announce the final results last month. So, first I wish to thank all those who helped us in submitting the reviews under tight deadline conditions. Equally, I wish to congratulate all the new fellows (Page 6) – Welcome to AAS Fellowship.

The new AAS constitution differs from the previous one in the special focus it gives to young people. We are happy to witness and report on many activities of AAS that now embraces the future work-force of Africa. The most recent one is the Cell-Biology/Regenerative Workshop that was concluded last month which led to the formation of African Scientists Stem Cell Research Group. We welcome these developments and will continue to foster the development of mentoring activities of young African health professionals by leading experts from Africa, India, China and Brazil. We hope that others will join us as well. In this regard we applaud the extended cooperation and collaboration with sister academies of India (INSA), China (CAS) and Brazil (BAS).

Our relations with the African Union Commission are developing well. This follows from the AMCOST decision (Nov 2012) advising the AUC to work closely with AAS. Accordingly our two organizations are collaborating and working together on several fronts. For example, AAS is represented at Council level at the Pan-African University and also in the new initiative of the AUC, namely, the African Research and Innovation Council (ARIC). As a pan-African Academy, it is only appropriate that AAS adds values to AUC operations and thereby contribute to enhancing the credibility and legitimacy of AUC.

I also wish to mention the excellent relations and collaboration with the International Foundation for Science (IFS). We have begun a one year project aimed at developing an enabling scientific equipment policy for Africa. The inception workshop held, also last month, went very well with participants coming from the three countries (Kenya, Ethiopia and Ghana). We hope to continue with in country consultations in each country culminating with a policy focused workshop in April. We hope that what we pilot in the three countries will lead to the development of guidelines/best practices that may be tabled at a future AMCOST meeting through the facilitation of the African Union Commission.

Finally, it is important for our Fellows to note that the General Assembly meeting will take place in mid-2014, and there will be elections. According to the new constitution, our executive officers can only serve for a maximum of two terms. This means that nine of the 13 officers will not stand for re-election. It is in recognition of this that the Governing Council established a nominating Committee consisting of Prof. A. S. Obada (Egypt), P. Babalola (Nigeria), G N'Guerekata (CAR), K. Mshigeni (Tanzania) and Prof. P. Gerdes (Mozambique, Chair). Prof. Gerdes will chair this committee, which is expected to identify three contenders for each position at least two months before the GA 2014. I hope this information will get the attention of Fellows who want to seize the coming elections as an excellent opportunity to serve our Academy.

Let me close by wishing all our readers, partners, patrons, and particularly all FELLOWS of AAS a happy holiday season and many happy returns for the new year.

DID YOU KNOW?

Noncommunicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally slow progression.

Noncommunicable diseases (NCDs) kill more than 36 million people each year.

Nearly 80% of NCD deaths - 29 million - occur in low- and middle-income countries.

More than nine million of all deaths attributed to NCDs occur before the age of 60; 90% of these "premature" deaths occurred in low- and middle-income countries.

Cardiovascular diseases account for most NCD deaths, or 17.3 million people annually, followed by cancers (7.6 million), respiratory diseases (4.2 million), and diabetes (1.3 million).

Cardiovascular diseases, cancers, respiratory diseases, and diabetes account for around 80% of all NCD deaths.

Noncommunicable diseases (NCDs), are the leading causes of death in all regions except Africa, but current projections indicate that by 2020 the largest increases in NCD deaths will occur in Africa.

In African nations, deaths from NCDs are projected to exceed the combined deaths of communicable and nutritional diseases and maternal and perinatal deaths as the most common causes of death by 2030.

NCDs are often associated with older age groups, but evidence shows that more than 9 million of all deaths attributed to noncommunicable diseases (NCDs) occur before the age of 60

Tobacco accounts for almost 6 million deaths every year (including over 600 000 deaths from exposure to second-hand smoke), and is projected to increase to 8 million by 2030.

Approximately 1.7 million deaths are attributable to low fruit and vegetable consumption.

Half of the 2.3 million annual deaths from harmful drinking are from NCDs.

In terms of attributable deaths, the leading NCD risk factor globally is elevated blood pressure (to which 16.5% of global deaths are attributed), followed by tobacco use (9%), raised blood glucose (6%), physical inactivity (6%) and overweight and obesity (5%).

Source: WHO, 2013. Noncommunicable diseases Fact sheet. Updated March 2013.

<http://www.who.int/mediacentre/factsheets/fs355/en>

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The workshop, attended by 48 participants including 20 young scientists from nine African countries, comprised a series of lectures and a session dedicated to practical demonstrations by key resource persons. The workshop Local Organising Committee (LOC) comprised 4 scientists, 3 of whom were also young scientists.

Participants at the workshop resolved that the current dialogue should continue. The local institutions, resource persons and young scientists are committed to moving forward with this area of research and AAS/TWAS-ROSSA would support these activities.

At the end of the workshop, the young scientists established the Network of African Scientists Stem Cell Research Group (ASSCREG). The steering committee of the network comprises 4 members from Nigeria, Zimbabwe, Kenya and Tanzania. They submitted a resolution to the AAS signed by 20 members including 2 LOC members. Among the resolutions made by the young scientists were;

1. That a mentor/mentee relationship among young scientists and senior colleagues from Africa, Brazil, China, Canada and India starts immediately;
2. That networking and communication among the young scientists should commence immediately through internet media. A Google group and facebook page was created for ease of information dissemination;
3. That the young scientists begin to develop concept notes or study protocol in any of the areas of stem cell applications for possible considerations for funding; and
4. That AAS facilitates the Institutional support and backing on behalf of each young scientist via formal letter of recognition to the head of Institutions and National Academy in the various countries of participants.

This successful workshop was convened by AAS/TWAS-ROSSA in collaboration with the National Commission for Science and Technology (NACOSTI) of Kenya; KAVI-Institute of Clinical Research, University of Nairobi (KAVI-ICR, UoN); Kenya Medical Research Institute (KEMRI); Institute of Primate Research (IPR); Aga Khan University Hospital (AKU); Indian National Science Academy (INSA); Brazilian Academy of Sciences and Chinese Academy of Sciences (CAS).

2013 TWAS Regional Prize on Public Understanding and Popularization of Science in Sub-Saharan Africa



Prof. Anusuya Chinsamy-Turan receives her certificate during the AAS/TWAS-ROSSA Workshop on Cell Biology and Regenerative Medicine

Prof. Anusuya Chinsamy-Turan, an internationally renowned palaeobiologist, is winner of the 2013 TWAS Regional Prize on Public Understanding and Popularization of Science in Sub-Saharan Africa. She is Head of the Department of Biological Sciences at the University of Cape Town. Prof. Chinsamy-turan has utilized her expertise in the wider field of palaeontology, and her personal experiences as a woman scientist to communicate science in South Africa and the region in general. She is a global expert on the microscopic structure of the bones of extinct and extant vertebrates.

Prof. Chinsamy-Turan is always aware of conveying accurate scientific information without "dumbing" down the scientific facts. This ethos is reflected in all the science communication work that she does. She has actively promoted science by engaging with the general public through talks, TV and radio presentations, interactive displays, numerous articles for popular science magazines, and popular-level books. In 2008 she published the first children's book that focused exclusively on African dinosaurs, entitled "Famous Dinosaurs of Africa" (Struik). This book has already been used to develop educational materials e.g. article in "You" magazine about dinosaurs, a puppet show on dinosaurs, and it formed the basis of a feature article in National Geographic Kids Magazine (November 2008 issue).

IN PICTURES



Banner of AAS-IFS-MacArthur Foundation workshop on "Developing an enabling scientific equipment policy in Africa"



Participants at the AAS-IFS-MacArthur Foundation workshop on "Developing an enabling scientific equipment policy in Africa". Participants were from Ethiopia, Ghana and Kenya



Participants at the AAS-IFS-MacArthur Foundation workshop on "Developing an enabling scientific equipment policy in Africa" during a session



Dr Nighisty Ghezai of IFS speaks at the workshop



Some science equipment by the School Equipment Production Unit (SEPU), Kenya

AFRICAN UNION COMMISSION ENDORSES A SEARCH FOR SCIENTIFIC EQUIPMENT POLICY FOR AFRICA

The African Union Commission has added its voice to the need for a Scientific Equipment policy for the continent. The AUC made this endorsement at an inception workshop for a project titled "Developing an Enabling Scientific Equipment Policy for Africa". This project is a collaboration between the International Foundation for Science (IFS) and the African Academy of Science (AAS) and funded by the MacArthur Foundation.

According to Mr Hambani Masheleni, Senior Policy Officer of the Human Resources, Science and Technology (HRST) Department African Union Commission (AUC), if the project on "Developing an Enabling Scientific Equipment Policy for Africa" is faithfully pursued to its last objective, then splendid prospects lie before the continent. There will be complete transformation of science and technology landscape in Africa, as it will enhance access and improve passage of equipment to scientists. This will not only boost science on the continent, but will lay a solid foundation to accelerate Africa's transition to an innovation-led and Knowledge-based Economy. He said the project beginning with Ethiopia, Ghana and Kenya as pilot countries, has the potential of becoming a nucleus for mobilising a continent-wide policy and programmes to support the uptake of science and technology. "It is a critical and important project for building Africa's capacity to conduct scientific investigation and spur Research and Development (R&D). He noted that the objectives of the project to review the effectiveness of science equipment policies, map the national and regional research and policy landscape and to understand how science equipment policy changes might be accomplished are in line with vision of the African Union.

The AUC through its Pan-African University Project and the AU Science, Technology and Innovation Strategy for Africa 2024 places science, technology and innovation at the epicenter of Africa's social and economic development. AU Science, Technology and Innovation Strategy for Africa 2024 was developed after the review of the Africa's Science and Technology Consolidated Plan of Action. This strategy was done during an important period when the African Union is simultaneously developing its overall long-term Agenda 2063. This strategy, therefore, is the first of the ten-year incremental phasing strategies to respond to the demand for science, technology and innovation on the continent. It focuses on key impact sectors namely:

- Eradication of hunger and achieving food and nutrition security
- Prevention and Control of diseases and ensuring Africans' welfare
- Promotion of the develop of physical and digital communication infrastructures
- Protection of our Space
- Living together- building the community
- Creation of wealth

The Pan-African University initiative, one of the key flagship programmes of the African Union, has its objectives to create from existing African institutions of higher education, five regional thematic hubs of excellence across the geopolitical zones of Africa. The Pan-African University is poised to address human resources development needs and promote conduct of scientific research in basic sciences, technology and innovation, life and earth sciences, water, energy and climate change, space sciences and humanities, social sciences and good governance. The availability of an enabling scientific equipment policy for the continent will greatly enhance the realization of the objectives of the Pan-African University.

The Scientific Equipment Policy project is well-aligned with Africa's science and technology high-level goals and it directly responds to the 2024 strategy and the Pan African University initiative. Most of the key statistics and indices of development show that many African countries are experiencing unprecedented economic growth rates and this is creating a strong demand for national, regional and continental institutions to invest more and more in science, technology and innovation particularly in research. A good scientific equipment policy will among other things expand science in Africa through removing various barriers including in the procurement, installation and the development of scientific equipment and promote access to scientific equipment by scientists.

The AUC believes that it can play a significant role to expand the project to benefit the majority of African scientific institutions and spur science and technology development on the continent.

OWSD holds conference on climate change



The Organization of Women in Science for the Developing World (OWSD), an independent, non-governmental, nonprofit body based at the headquarters of the Third World Academy of Sciences (TWAS) in Trieste, held its 2nd Africa Regional Conference at the University of Energy and Natural Resources (UENR), from October 15

- 18, 2013 in Sunyani, Ghana. The conference was under the theme, "Climate Change and its Impact on Africa: the Role of Science and Engineering for Combat. The conference also featured a unique day-long program for Senior High School students from ten schools in Ghana, held at the University of Energy and Natural Resources (UENR) premises on Wednesday, October 16, 2013. The students received both mentorship and an opportunity to practice their public speaking skills.

The key findings, observations and recommendations on climate change as it relates to the aforementioned themes of the conference are summarized below:

Findings and Observations

- Climate change has both direct and indirect effects on health, including thermal stress leading to cardiovascular and respiratory morbidity, an increased burden of malaria and decreased access to healthcare facilities due to damaged infrastructure, and malnutrition, which can cause an increase in infectious disease spread.
- Food availability, stability, quality and access in Africa are extremely sensitive to climate change. This is because food production is largely through rain-fed agriculture.
- Heavy dependence on fossil fuels has long been recognized as a major contributor to greenhouse gas emissions and climate change patterns across the world. Africa's situation is further complicated by a relatively high reliance on forest resources for charcoal and firewood production, which further contribute to climate change.
- Extreme weather conditions caused by climate change, such as floods and droughts, threaten Africa's progress towards achievement of the MDGs in wastewater management, food security, health delivery and water supply.
- The impact of climate change in Africa is undeniably gendered. When extreme weather patterns lead to floods and persistent droughts, women usually bear the greatest burden as they struggle to secure food and/or water, often not just for themselves, but for their entire families. This may worsen poverty and lead to climate-related migration, putting women at even greater risk for violence and disease.
- The quest to address the impact of climate change, promote effective waste-reduction, and shrink our carbon footprints, requires involvement from and cooperation among individuals, educators, communities, private companies and governments. Researchers are central to this process because they can provide a reliable evidence-base to facilitate an informed policy making process.
- Climate patterns play a fundamental role in shaping natural ecosystems, which invariably influence human economies and cultures.

- There are millions across Africa without access to safe drinking water and sanitation. Climate change has led to the emergence of new diarrheal agents, extreme heat rises and pollution of natural water resources, worsening the water crisis.

- Technological devices with mobile alert systems are indispensable for enhancing disaster preparedness.

- Climate change has the potential to threaten peace and security in some sub-regions in Africa. Cooperation among African governments in the fight against climate change is thus imperative.

Recommendations

In view of the afore-mentioned observations and findings, OWSD Africa recommends that:

1. specific, investigative and innovative research be conducted to produce practical strategies for climate change mitigation and adaptation in Africa, such as drip irrigation to improve the vulnerable rain-fed agricultural system;
2. Climate change be recognized as a significant public health threat in Africa, one that must be on the continent's public health agenda, along with tropical, infectious and noncommunicable diseases;
3. Members of Parliament be paired with Fellows of Academic, Research, or Scientific bodies like OWSD to promote collaboration and facilitate dialogue to harness policy-science synergy;
4. Female scientists be encouraged to pursue technology-oriented study and research, since there are few female scientists in this area as observed in the papers presented;
5. Women be empowered and included in the policy making process, in view of the gendered dimension of vulnerability to climate change;
6. Climate change research and public education efforts be doubled, drawing upon relevant information and local examples to heighten awareness of the need for climate change mitigation and adaptation;
7. There must be a dedicated effort on the part of developed countries to reduce greenhouse gas emissions, and that they contribute to research funding to develop Africa's capacity for climate change adaptation;
8. Educational curricula, from primary school through tertiary, include intentional training on climate change adaptation and mitigation;
9. Policies be reformulated and new ones created to effectively promote climate change mitigation and adaptation governance;
10. The agricultural sector encourage crop substitution, the use of environmentally safe biofungicides, capacity building for crop and livestock farmers, rural agricultural credit schemes, land management practices that protect soil carbon, as well as investment in sustainable agricultural and food system; and
11. Governments must promote research on renewable and clean energy development - including converting wood residue to energy and harnessing solar, hydro, biogas and wind energy - to successfully mitigate the energy impact of climate change in Africa

NEW FELLOWS OF AAS FOR 2013

Below are the newly elected Fellows of the African Academy of Sciences for the year 2013

CONGRATULATIONS!



Name: EJETA, Gebisa
Country: Ethiopia/USA
Gender: Male
Date of Birth: 1 June 1950
Field: Agricultural sciences; Plant Breeding & Genetics



Name: OBI U. Timothy
Country: Nigeria
Gender: Male
Date of Birth: 9 April 1946
Field: Medicine; Veterinary, Epidemiology



Name: KELEMU Segenet
Country: Ethiopia
Gender: Female
Date of Birth: 20 May 1957
Field: Agricultural Sciences; Plant pathology



Name: TOTEU, Felix
Country: Cameroon
Gender: Male
Date of Birth: 1 January 1954
Field: Geological and earth sciences; Precambrian geology



Name: MAKAWITI, W Dominic
Country: Kenya
Gender: Male
DoB: 4 August 1955
Field: Biochemistry and Biophysics



Name: NEUENSCHWANDER, Peter
Country: Benin, Switzerland
Gender: Male
DoB: 11 October 1943
Field: Agricultural Sciences; Entomology, Biological Control



Name: ABDULRAZAK, Shaukat
Country: Kenya
Gender: Male
Date of Birth: 13 July 1964
Field: Agricultural Sciences; Animal Nutrition



Name: AMBALI Aggrey
Country: Malawi
Gender: Male
DoB: 16 April 1964
Field: Agricultural Sciences; Population genetics



Name: MWAMILA, Burton M.
Country: Tanzania
Gender: Male
DoB: 12 Nov 1949
Field: Engineering Sciences and Technology; Structural Safety and Integrity of Constructions, Innovation Systems and Clusters



Name: SANNNI Ambaliou
Country: Benin
Gender: Male
DoB: 25 September 1951
Field: Biochemistry and Biophysics; Biochemistry and Molecular Biology



Name: AWUAH T. Richard
Country: Ghana
Gender: Male
DoB: 5 November 1951
Field: Agricultural Sciences; plant pathology



Name: BRINGMANN, G
Country: Germany
Gender: Male
DoB: 26 August 1951
Field: Chemical Sciences; Natural Products Chemistry



Name: STEYN Pieter S.
Country: South Africa
Gender: Male
DoB: 5 January 1940
Field: Chemical Sciences; Chemistry and biosynthesis of biologically active natural products



Name: MOPHOU, Gisèle L. A.
Country: Cameroon
Gender: Female
DoB: 2 April 1966
Field: Mathematical sciences; Evolution equations, fractional differential equations



Name: OKEKE Francisca N
Country: Nigeria
Gender: Female
DoB: 14 October 1956
Field: Geological and earth sciences; Geophysics



Name: DAGNE Ermias
Country: Ethiopia
Gender: Male
Date of Birth: 8 June 1944
Field: Chemical Sciences; Phytochemistry



Name: NYASSE B
Country: Cameroon
Gender: Male
Field: Chemical sciences; Medicinal and Natural Products Chemistry



Name: TORTO Nelson
Country: Botswana
Gender: Male
DoB: 1 October 1965
Field: Chemical Sciences; Nanotechnology



Name: MERZOUK, Hafida
Country: Algeria
Gender: Female
Date of Birth: 1962 July 22
Field: Biological sciences;



Name: TCHUENTE, Maurice
Country: Cameroon
Gender: Male
Date of Birth: 23 December 1951
Field: Mathematics



Name: TORTO Baldwyn
Country: Ghana
Gender: Male
DoB: 17 August 1955
Field: Chemical Sciences; Chemical Ecology



Name: RASOANAIVO, P
Country: Madagascar
Gender: Male
DoB: 13 August 1946
Field: Chemical sciences; ethnobotany-based drug discovery



Name: MUTABINGWA, K. T
Country: Tanzania
Gender: Male
DoB: 26 March 1951
Field: Medical Sciences; Communicable diseases and Malaria in pregnancy



Name: BOUHAOUALA-ZAHAR, Balkiss
Country: Tunisia
Gender: Female
DoB: 10 September 1962
Field: Engineering sciences and technology; Biological sciences and Biotechnology



Name: MGAYA, D. Yunus
Country: Tanzania
Gender: Male
Date of Birth: 27 July 1957
Field: Biological Sciences; Fisheries, Aquaculture and Marine Ecology



Name: JEGEDE, O
Country: Nigeria
Gender: Male
DoB: 2 March 1952
Field: Science Education, Open and Distance Education



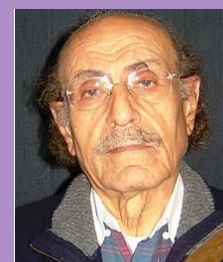
Name: URAMA C. Kevin
Country: Nigeria
Gender: Male
DoB: 21 August 1969
Field: Social Sciences; Agricultural, Resource and Environmental Economics



Name: SAMATAR, Abdi
Country: Somalia/USA
Gender: Male
DoB: 25 October 1954
Field: Social Sciences; Geography; Economic and Development geography



Name: ABOUTAJDINE Driss
Country: Morocco
Gender: Male
DoB: 30 December 1953
Field: Engineering sciences and technology; Signal and Image processing



Name: TALAAT, Hassan M
Country: Egypt
Gender: Male
Date of Birth: 25 June 1939
Field: Physics and astronomy; Laser spectroscopy, plasmonics



Name: MUGABE, O. John
Country: Kenya
Gender: Male
DoB: 5 March 1967
Field: Social Sciences



Name: MUCHIE, Mammo
Country: Ethiopia
Gender: Male
DoB: 14 June 1950
Field: Social Sciences; Industrial Economics



Name: van Wyk, Ben Erik
Country: South Africa
Gender: Male
DoB: 27 December 1956
Field: Biological Sciences; Botany;

Congratulations !



**The African
 Academy of Sciences**

Driving Scientific and Technological innovation in Africa

Science and Technology: key for Africa's Socio-economic advancement: Winners of 2013 Kwame Nkrumah Award ceremony announced



As part of the year-long celebration of the commemoration of the OAU/AU 50th year anniversary, the African Union Commission (AUC), through its Department of Human Resources, Science and Technology, (HRST) opened the Science, Technology and Innovation (STI) week. It also witnessed the three winners of Kwame Nkrumah Scientific Regional Award, today 08 December 2013, at the AU headquarters in Addis Ababa, Ethiopia.

During the opening ceremony H.E Demitu Hambisa, Minister of Science and Technology, Federal Democratic Republic of Ethiopia, considered Science and Technology as the most effective means to enhance growth and socioeconomic development of nations. "Technological development has a profound and long-term impact on income distribution, economic growth, employment, trade, environment and industrial structure", she added.

"The AU's approach to the post 2015 development agenda and the forthcoming Agenda 2063 highlight the promotion of STI as a key driver of change and recognizes that "Africa's sustained growth, competitiveness and economic transformation will require investments in new technologies and innovations." At the same time, the AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024) places science, technology and innovation at the centre of Africa's social and economic development", said Ambassador Gary Quince, Head of Delegation of the European Union to the African Union. Officially opening the STI week, H.E Mr. Erastus Mwencha, Deputy Chairperson of the African Union Commission, stressed the need for strategic coordination, knowledge sharing and commitment in advancing science and technology for the overall socio-economic development of the continent.

The Director of Human Resources, Science and Technology, at the AUC, Dr. Abdul-Hakim Rajab Elwaer argues that science, technology and innovation has to occupy a pivotal and central position in Africa's social and economic development dynamics. "We have a strong conviction that science, technology and innovation is a tool for economic growth, wealth creation, food security, as well as political stability", he added.

Following the end of the opening session, the STI week, under the theme Science and Technology's contributions towards AU Agenda 2063, announced the three winners of Kwame Nkrumah Scientific Regional Awards:

Professor Isabelle Adolé GLITHO-AKUESON - currently Professor of animal Biology, specialty in Entomology, Director of the Laboratory of Entomology and Dean of the Faculty of Science at the University of Lomé (Togo). She is holder of the UNESCO Chair "Women, Science and Sustainable Water Management in West Africa", President of the Regional Experts Commission of West Africa AUF Office (BAO/AUF), President of the association "Togolese Women for Science & Technology Advancement", and Board Member of Research Management and Applications n° 2 IRD (CGRA2/IRD).

Dr. Yvonne Bonzi-Coulibaly - the first professor in Chemistry at Ouagadougou University. She taught chemistry at Chemistry Institute of Ouagadougou University from 1987-1988), and at the Science Faculty and Pharmacy department of Abidjan University from 1989-1992. Her areas of expertise are in Organic Chemistry, Mass Spectrometry and Pollution.

Dr. Quarraisha Abdool Karim - Professor Abdool Karim is an Honorary Professor in Public Health at the Nelson R Mandela School of Medicine at University of KwaZulu-Natal, Associate Professor of Epidemiology at Columbia University in New York and Associate Scientific Director of CAPRISA – Centre for the AIDS Programme of Research in South Africa. Her research has changed the face of HIV prevention by providing the first effective technology, tenofovir gel, that women can use and control in order to protect themselves from acquiring HIV.

The African Union (AU) Kwame Nkrumah Scientific Awards program is one of the several bold steps taken by the AU Commission to boost and popularise Science and Technology in Africa through empowering African scientists, celebrating their achievements and promoting all efforts to transform scientific research into economic growth.

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AAS and SRMGI Launch New African Solar Geoengineering Research Governance Report

The African Academy of Sciences (AAS) and Solar Radiation Management Governance Initiative (SRMGI) has released the first major report on African engagement on the controversial topic of solar geoengineering (also known as solar radiation management or SRM). It is a Consolidated Report of Three Workshops in Senegal, South Africa, and Ethiopia on "Governance of Research on Solar Geoengineering: African Perspectives". Download a copy at <http://aasciences.org/attachments/article/239/Governance-of-SRM-%20African-Perspectives.pdf>

WHALE DEATHS AND OIL EXPLORATION IN GHANA

Previously, seeing a dead whale washed ashore occurred about once in every five years, according to residents along Ghana's Western coast. But between 2007 and 2010, eleven (11) whales were reported to have died and washed ashore. Recently, four whales were washed ashore in 7 days. The surge in whale death coincides with commencement of oil and gas exploration. Although Ghana government agencies responsible for curtailing this ongoing disaster claim there are no empirical basis to establish a link between the death of the whales and oil production, there is a plethora of evidence that suggests so and which needs critical investigation.

Around the world, energy companies are exploring for oil and gas using seismic airguns in sensitive, wildlife filled waters. The issue about seismic air guns in oil exploration is that the sound waves which extend for hundreds of miles bounce off the ocean floor and indicate likely areas for oil. It is the most severe acoustic insult to the marine environment short of naval warfare. This sonic barrage can interfere with a whale's ability to feed, breed, navigate, communicate and avoid predators — in short, to survive. If a whale goes deaf, it can't survive. And repeated blasts (100,000 times stronger than a jet engine) can impair hearing easily. The blasts can drive whales to abandon their habitats, go silent and cease foraging over vast areas. It can cause permanent hearing loss, injury and death for whales.

According to the Natural Resources Defense Council (NRDC), there is no question that sonar injures and kill whales. Evidence of the danger caused by these systems surfaced dramatically in 2000, when whales of four different species stranded themselves on beaches in the Bahamas. Although the Navy initially denied responsibility, the US government's investigation established that mid-frequency sonar caused the stranding. After the incident, the area's population of whales nearly disappeared, leading researchers to conclude that they either abandoned their habitat or died at sea. Similar cases have occurred in the Canary Islands, Greece, Madeira, the U.S. Virgin Islands, Hawaii and other sites around the globe.

So with the current oil exploration going on along the coasts of Ghana, it seems we have clearly made our choice. We cannot hide behind the curtain of ignorance and claim we know not the cause of the death of the whales.

The way forward

The 1982 United Nations convention of the law of the sea (UNCLOS) established a globally recognized regime dealing with all matters relating to the use of the oceans and seas and their resources. The UNCLOS assigns the fundamental obligation and responsibility for protecting and preserving the marine environment to States, and requires them to adopt and enforce national laws and international standards to prevent, reduce and control ocean pollution from any source. The UNCLOS defines Pollution to include harmful energy, and thus encompasses noise pollution within its mandates. In November 2004, the IUCN-World Conservation Union adopted a comprehensive resolution calling for action by states to reduce the impacts of ocean noise on marine life. The 2004 Resolution recognizes undersea noise as a form of pollution; calls on states to avoid the use of intense noise sources in the habitat of vulnerable species or where marine mammals and endangered species may be concentrated; and urges states to work through the UNCLOS to develop mechanisms for the control of this emergent problem.

The Environmental Impact Assessment of Ghana's Jubilee Oil Field predicted minor residual impacts on marine mammals and proposed some measures to counter the effect. The situation at hand far exceeds the predictions of the impact assessment and it obvious that the mitigation measures proposed by the impact assessment can no longer be relied upon. There is therefore the urgent need for stakeholders to go back to the drawing board to formulate better guidelines. It will not be helpful for the Environmental Protection Agency (EPA) of Ghana to continue to deny that ocean noise presents no significant threat to marine mammals and other marine species.

The Fisheries Commission of Ghana, Environmental Protection Agency and other regulatory agencies should examine closely the impact of ocean noise on marine environment in the light of oil exploration in Ghana's waters to establish objectively the relation between the oil exploration and the surge in whale deaths in Ghanaian water. This is a sine qua non to any attempt of mitigation.

The oil and gas industry has to take responsibility for the harm being caused to the environment. It is a fact that some of these environmental issues are inevitable but the industry has to do its best to manage and bring down these disasters to a minimum. These companies must invest into research on how their activities can be efficiently carried out with minimal negative effect on the environments within which they operate.

Experts have proposed three main methods to mitigate the potential impacts on marine mammals during seismic surveys:

1. Implementation of operational procedures (e.g., 'soft start'—where sound levels are gradually increased over time);
2. Detection of animals close to airguns and implementation of real-time mitigation measures (e.g., shut-down),
3. Time/area planning of surveys to avoid marine mammals. Detection of animals via real-time monitoring which is not a mitigation measure per se, but an essential component of marine mammal mitigation during seismic surveys (Weir and Dolman 2007). Brazil is a typical example among many regions where seismic survey closed seasons is clearly defined and implemented. Prohibited areas exist for breeding (July–November) and nesting areas for marine turtles (October–February). Some areas are permanently closed due to their highly sensitive nature.

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2. Streever, Bill. 2007. Green Seduction: Money, Business, and the Environment. Jackson, Mississippi: University of Mississippi Press, 210pp.
3. Weir, C.R. and Dolman, S. J. 2007. Comparative Review of the Regional Marine Mammal Mitigation Guidelines Implemented during Industrial Seismic Surveys, and Guidance towards a Worldwide Standard. Journal of International Wildlife Law and Policy 10: 1–27.

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OPPORTUNITIES

"PhosAgro/UNESCO/IUPAC Partnership in Green Chemistry for Life"

This "Partnership in Green Chemistry for Life" is a five-year project designed to harness talents of young scientists to advance green chemistry and the use of its fruits. It focuses on awarding grants (up to US\$30,000/grant) to young scientists for research projects in green chemistry that may be completed in one year. Applicants may not be older than 35 and need to have a PhD or equivalent in chemistry or an interdisciplinary allied area. There will be one call for applications in each of the five years of the Project, and the deadline for the first call for applications is 28 February 2014. Full information on the grants and guidelines on how to apply may be downloaded from UNESCO's web site from the following url address: <http://www.unesco.org/new/en/natural-sciences/science-technology/basicsciences/chemistry/green-chemistry-for-life/>

Africa Biosciences Challenge Fund 2014 Research Fellowships

The Africa Biosciences Challenge Fund (ABCF), managed by the BecA-ILRI Hub, provides fellowships to scientists and graduate students from African national agricultural research organisations and universities to undertake biosciences research-for-development projects at the BecA-ILRI Hub. The purpose of the ABCF fellowship program is to develop capacity for agricultural biosciences research in Africa, to support research projects that ultimately contribute towards increasing food and nutritional security or food safety in Africa, and to facilitate access to the BecA-ILRI Hub by African researchers. Projects must be in the areas of food and nutritional security or food safety in Africa. Scientists and graduate students conducting research in the following areas are particularly encouraged to apply. Closing date for applications is February 28th 2014. CLICK HERE TO APPLY ONLINE: <https://beca.fluidreview.com>

International Climate Protection Fellowships

This is a fellowship for young climate experts from transition and developing countries interested in conducting a project in Germany. The fellowship allows future leaders to spend a year in Germany working on a research-related project of their own choice in the field of climate protection. Fellows are free to choose their own hosts. Submit an application if you come from a non-European transition or developing country and are involved with issues relating to the scientific, engineering, legal, economic or social aspects of climate change. Up to 20 fellowships will be granted, funded under the Federal Environment Ministry's International Climate Initiative. The closing date for applications is 15 March 2014. The fellowship will commence on 1 March 2015. For detailed information please visit: www.humboldt-foundation.de/ICF



LETTERS TO THE EDITOR

Dear Editor,

Permit me to make a submission on two articles "CLIMATE CHANGE, GM CROPS AND FOOD SECURITY" and "SOLAR FUTURE, COAL PAST" which were published in the September issue of WHYDAH Newsletter.

My Submission is that Genetically Modified (GM) Crops are not good for human consumption. These crops cause cancer and I want African Farmers to distance themselves from these crops. We should go back to irrigation because our lands are fertile unlike the Americans. We can adapt to any Climatic change for instance if there is drought then we can build boreholes and supply the farm with irrigated water.

Then, my feedback on the use of solar panel in our homes, offices and farms is a welcomed one because the Europeans make use of winds why can't Africans make use of sun to generate energy. I believe all farmers; industrialists and home owners should take full advantages of solar energy and reap the fruit that comes from it.

From Lawrence Okwuonye (Msc Wageningen Netherlands; Email lawomego@yahoo.com)

Dear Editor,

I am writing to express my gratitude for having had the opportunity to read the first issue of WHYDAH 2013. It was a pleasure for me. Accept my comments: agriculture is of extreme importance in Africa because most of the populations live in rural areas and depend on it. So infrastructure and agronomic engineering are of priority consideration. I would also appreciate effort of the editors for including these areas in the next publications.

Secondly, significant proportion of Africans speak Portuguese or French. Although considering that English is an international language, it would fine if WHYDAH is also translated in Portuguese or French so that the Francophone and Lusophone would also benefit from and share information and activities carried out by WHYDAH and AAS.

From Dr Tomás Adriano Siteo, Instituto de Investigação Agrária de Moçambique – IIAM, Centro de Estudos Socioeconômicos, Maputo, Moçambique; Email: sitoetoms@yahoo.com

NEWS

eBook editions of AMUCHMA publications for free

eBook versions of the following four books published originally by the African Mathematical Union Commission on the History of Mathematics in Africa (AMUCHMA) are now available and can be downloaded for free from the Lulu website:

- Gerdes, Paulus & Djebbar, Ahmed (2011), "History of Mathematics in Africa: AMUCHMA 25 Years", 2 volumes (Volume 1: 1986-1999; Volume 2: 2000-2011), 924 pp. (Forewords: Saliou Touré, President, African Mathematical Union; Craig Fraser & Elena Ausejo, Chair & Secretary, International Commission for the History of Mathematics; Eberhard Knobloch, President, International Academy for the History of Science; Afterwords: Aderemi Kuku, Honorary President, African Mathematical Union; Jean-Pierre Ezin, Commissioner for Human Resources, Sciences and Technology of the African Union)
- Gerdes, Paulus & Djebbar, Ahmed (2007), "Mathematics in African History and Cultures. An annotated Bibliography", 430 pp. (Foreword: Jan Persens, President of the African Mathematical Union) (Special Mention, Conover-Porter Award, African Studies Association USA)
- Gerdes, Paulus (2007), "African Doctorates in Mathematics: A Catalogue", 383 pp. (Foreword: Mohamed Hassan, President of the African Academy of Sciences)

If you would like to order copies of the printed version of the books for your personal, institutional, or university library. The printed version may be ordered on the Lulu website:

Distribution: <http://www.lulu.com/spotlight/pgerdes>;
<http://stores.lulu.com/pgerdes>; www.lulu.com

AfDB Chair named 2013 African of the Year



African Development Bank Group President Donald Kaberuka (<http://www.afdb.org>) has been named 2013 African of the Year in recognition of his role in spearheading the Africa50 Fund to mobilize the financing of infrastructure projects on the continent. The \$50,000 award was announced Thursday 7 November 2013 in Addis Ababa. "This award is for his bringing to fruition the idea of domestically financed development," Salim

Ahmed Salim, Tanzania's erstwhile foreign minister and former Secretary-General of the Organization of African Unity (current African Union), said at the forum. The Africa50 Fund seeks to leverage infrastructure financing for transformational development projects from African central bank reserves, pension and sovereign wealth funds; the African diaspora; and high net worth individuals on the continent. The Fund was endorsed in May 2013 by African Finance Ministers during the Bank's Annual Meetings in Marrakech, where Kaberuka underscored the critical role of infrastructure in Africa's development. "The one thing which can really slow down the recent performance in its tracks is infrastructure," he said. "No country in the world has been able to maintain 7% GDP growth and above (sustainably) unless the infrastructure bottleneck is overcome." Source: APO (African Press Organization) on behalf of the African Development Bank (AfDB).

How Africa's natural resources can drive industrial revolution

In a splendid article co-authored by Tony Elumelu, and Carlos Lopes, light is shed on the important role that the abundant natural resources of Africa can help drive an industrial revolution on the continent. In the article, it is stated that "while not all African countries are commodity rich, the continent has 12% of the world's oil reserves, 40% of its gold, and 80% to 90% of its chromium and platinum. Africa is also home to 60% of the world's underutilized arable land and has vast timber resources. The authors argue further that the idea that these abundant natural resources can be the driver for an industrial revolution across the continent is growing. They referred to the latest edition of the Economic Report on Africa (ERA 2013) which sets out how the continent's future will be determined by how policies that promote commodity-based industrialization are designed and implemented. It is the belief of the authors that such a transformation is both imperative and possible. But it requires courage, vision and a new mindset from the continent's business and political leaders to overcome the challenges which continue to hold back the building of a successful and dynamic industrial base in Africa.

Tony Elumelu is an entrepreneur, a philanthropist, and the chairman of Heirs Holdings Limited, a pan-African investment company committed to driving economic prosperity and social wealth in Africa. Carlos Lopes is the Executive Secretary of the United Nations Economic Commission for Africa (UNECA).

Source: CNN - <http://edition.cnn.com/2013/11/20/opinion/africas-natural-resources-industrial-revolution/>

TWAS Regional Young Scientist Prize for 2013 selected by TWAS-ROSSA

Prof. Alvaro M. Viljoen has won the 2013 TWAS-ROSSA Young Scientists Prize in Basic Sciences. His research interest and passion is the phytochemistry, biological activity and quality control of medicinal and aromatic plants.



Prof. Alvaro M. Viljoen winner of the 2013 TWAS-ROSSA Young Scientists Prize in Basic Sciences

He has authored / co-authored 159 peer-reviewed papers mostly on the phytochemical exploration, biological activity and quality control of indigenous medicinal and aromatic plants. He has been recognised as TUT's senior researcher of the year in 2006, 2007, 2008, 2009, 2010 and 2011 and has published more than 100 papers during his time at TUT. During 2013 he was awarded the South African Association of Botanists silver medal award which acknowledges significant contributions to the advancement of botany in South Africa. In July 2013 he was awarded the prestigious Tier 1 NRF/DST Chair in Phytomedicine.

He is currently National Research Chair (NRF/DST) in Phytomedicine, Department of Pharmaceutical Sciences, Tshwane University of Technology, Pretoria.

AAS Mourns Nelson Rolihlahla Mandela



Nelson Rolihlahla Mandela, Pan African hero, Former South African President and Nobel Laureate is no more.

The President, Governing Council, Fellows and the entire AAS family expresses their grief on the passing of this illustrious son of Africa, a father of the continent, a Pan African icon, Nobel Peace Laureate, and a great human being, President Nelson Rolihlahla Mandela.

Nelson Mandela is indeed a symbol of the spirit of Pan Africanism and solidarity in the struggles of humanity against apartheid, oppression and colonialism and for self-determination, peace and reconciliation. He is a symbol of reconciliation and love for fellow humans.

As the academy remembers the life of this great man, we are humbled by the legacy of MADIBA. Mandela's message to the world was universal and also Africa-specific. He spoke of hope. He showed the world the meaning of hope. And hope is what Africa needs. That hope never dies for those who strive and persist in all good things. That hope Mandela spoke of is what spurred others on to give their best; what made people not give up; united races; bridged cultures and transcended generations; and healed the deepest divides. The great legacy that Nelson Mandela is leaving behind will not die. He lit an eternal flame in Africa. This flame will continue to burn brightly and the African Academy of Sciences will fan this flame whenever and wherever we find ourselves.

The African Academy of Sciences believes in a UNTITLED AFRICA; ONE AFRICA. We will continue to believe in AFRICA and work for the sustainable development of Africa. Our greatest tribute will be our sustained and relentless effort for Africa's development.

Mandela has fought a good fight, and bowed out with great reverence. His passing on is a great loss to his family, to our continent and indeed to humanity itself.

At this sad time of sorrow, our hearts and thoughts are with his widow, Graça Machel, his ex-wife Winnie Madikizela-Mandela, his children, grand and great-grandchildren and the people of South Africa and Africa. Tata Madiba Mandela will forever be missed.

The African Academy of Sciences rededicates itself to continue to honour the legacy of Nelson Mandela by continuing our efforts at leading Africa to sustainable development through Science Technology and Innovation



Change of name of *WHYDAH* Newsletter



The Governing Council of the African Academy of Sciences at its 28 Meeting held at the AAS Secretariat in Nairobi, Kenya, approved the change of name of the AAS Newsletter from WHYDAH to "SCIENCE – POLICY – AFRICA". The proposed name is to reflect the content and message that the newsletter carries. The newsletter which has for over two decades been an "Information and Policy Magazine of the African Academy of Sciences" will have this name change reflecting the mission of the newsletter.

From 2014, the name "Whydah" on the masthead will be replaced with the new name, "SCIENCE – POLICY – AFRICA". The AAS logo on the masthead will remain. The Bird on the cover page will also be maintained. Readers are invited to continue to submit their contributions to the editor at aas@aasciences.org or b.gyampoh@aasciences.org