



**The African  
Academy of Sciences**

*Driving Scientific and Technological  
Development in Africa*



# Annual Report 2016

Shifting the Centre of Gravity  
for African Science to Africa





# **AAS Annual Report 2016**

Shifting the Centre of Gravity  
for African Science to Africa

AAS Annual Report 2016

The African Academy of Sciences (AAS)

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*Fellows snapshot*

- |                             |                   |                  |               |
|-----------------------------|-------------------|------------------|---------------|
| 1. Algeria                  | 11. Cote d'Ivoire | 22. Mali         | 33. Sudan     |
| 2. Angola                   | 12. DRC           | 23. Mauritania   | 34. Swaziland |
| 3. Benin                    | 13. Egypt         | 24. Mauritius    | 35. Tanzania  |
| 4. Botswana                 | 14. Eritrea       | 25. Morocco      | 36. Togo      |
| 5. Burundi                  | 15. Ethiopia      | 26. Mozambique   | 37. Tunisia   |
| 6. Burkina Faso             | 16. Gambia        | 27. Nigeria      | 38. Uganda    |
| 7. Cameroon                 | 17. Ghana         | 28. Rwanda       | 39. Zimbabwe  |
| 8. Central African Republic | 18. Kenya         | 29. Senegal      | 40. Zambia    |
| 9. Chad                     | 19. Lesotho       | 30. Sierra Leone |               |
| 10. Congo                   | 20. Madagascar    | 31. Somalia      |               |
|                             | 21. Malawi        | 32. South Africa |               |

## About the AAS

The AAS is a pan African organisation headquartered in Nairobi, Kenya, which aims to drive sustainable development in Africa through science, technology and innovation. Its mandate is to pursue excellence by recognising scholars and achievers; provide advisory and think tank functions for shaping the continent's strategies and policies; and implement key science, technology and innovation programmes that impact on developmental challenges. The AAS joined with the New Partnership for Africa's Development Planning and Coordinating Agency (NEPAD Agency)– to create the Alliance for Accelerating Excellence in Science in Africa (AESA) to set the agenda to serve these goals.

The AAS recognises excellence through the election of AAS Fellows and Affiliates. These are distinguished researchers who represent the most talented and promising men and women in and from the continent, from 47 countries across the globe. Fellows may live in or outside the continent and are elected by AAS Fellows based on achievements that include their publication record, innovations, leadership roles and contribution to policy. The Affiliates are young professionals with the promise to become world class research leaders.

The first cohort of Affiliates, announced in 2016, comprises 15 young scientists from Benin, Cameroon, Ghana, Kenya, Nigeria, Tanzania, South Africa and Zimbabwe.

Moreover, the AAS awards the Obasanjo Prize for Scientific Discovery and Technological Innovation every two years to an outstanding scientist who contributes to the development of the continent every two years.



*Initiative to Develop African Research Leaders (IDeAL) Fellows. IDeAL is one of the 11 DELTAS Africa programmes*

## Fellows, Women Fellows, Affiliates at a Glance



364<sup>Fellows</sup>



47<sup>countries  
represented</sup>



44<sup>Female  
Fellows</sup>



37<sup>Affiliates</sup>



4<sup>Winners of the Obasanjo  
Science Prize since 2011</sup>

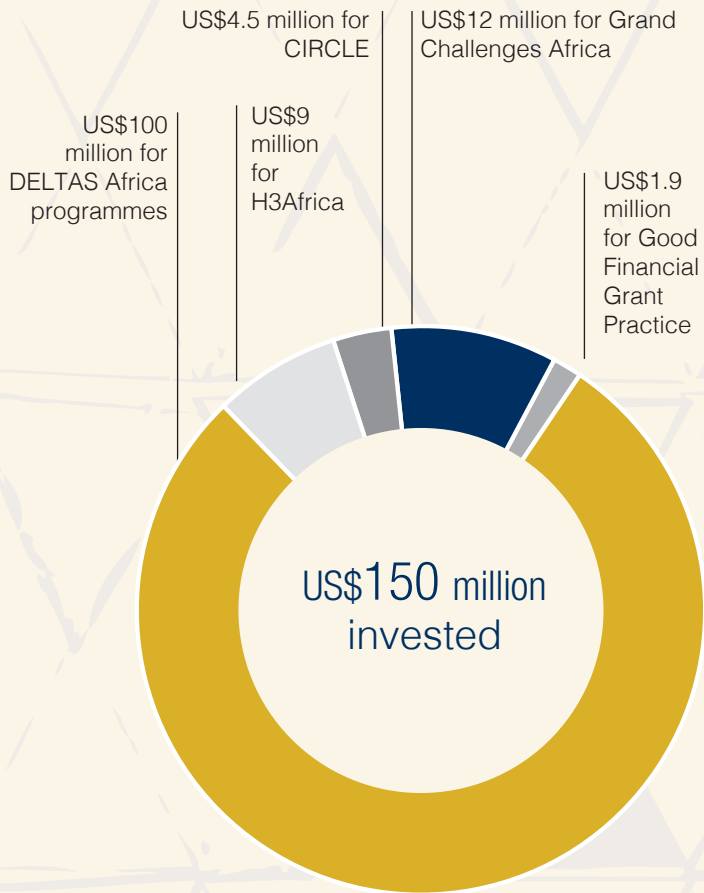
The Fellows form a community of scientists, which is poised to engage with governments and policy makers to enable wise investment in the future of the Continent. The Academy, through its think tank functions, encompasses policy and advocacy, to identify, articulate, and evaluate timely science, technology and innovation (STI) policy issues to create a policymaking framework. This initiative also provides a robust forum for the exchange of ideas and information among key stakeholders in order to guide and inform initiatives to positively impact STI investment throughout Africa.

AESA, the programmatic arm of the Academy, provides the funding and agenda setting to support the best minds in Africa. It cultivates productive research hubs across the continent, implementing initiatives that produce robust and relevant data, and innovations that have the potential to impact health and development on the continent and globally.



## Total Programme Investment

US\$150 million invested


















## Governance

The AAS is governed by:

- A General Assembly that consists of AAS Fellows which meets regularly to review the activities of the Governing Council and approves the Academy's programmes.
- A Governing Council, that consists of 15 officers elected by the General Assembly which meets twice a year to create and review the Academy's programmes.
- A Management Committee that consists of the President, the Secretary General, the Treasurer and the Executive Director.
- The Secretariat based in Nairobi, under the leadership of the Executive Director.

### AAS Governing Council (GC) members

No	Name	Position in the GC	Nationality
1	Aderemi Kuku	President	
2	Georges-Ivo Ekosse	Secretary General	
3	Dominic Makiwiti	Acting Treasurer	
4	Mahmoud Abdel-Aty	V/ President, N. Africa	
5	Burton L. M. Mwamila	V/ President, E. Africa	
6	Vincent P. K. Titanji	V/ President, C. Africa	
7	Robert T. Guiguemdé	V/ President, W. Africa	
8	Quarraisha Abdool Karim	V/President, S. Africa	

No	Name	Position in the GC	Nationality
9	Ameenah Gurib-Fakim	Reg/Rep, E. Africa	
10	Richard T. Awuah	Reg/Rep, W. Africa	
11	Chaibi Thameur	Reg/Rep, N. Africa	
12	Boitumelo V. Kgarebe	Reg/Rep, S. Africa	
13	Silou Thomas	Reg/Rep Central Africa	
14	Ahmadou L. Ndiaye	Immediate Past President	
15	Berhanu M. Abegaz	Executive Director (ex-officio member)	

## Message from the President

### Professor Aderemi Oluyomi Kuku AAS President



The African Academy of Sciences witnessed spectacular growth and achievements in 2016. First, let me congratulate AAS Fellow and Senior Adviser Professor Kevin Marsh for winning the AI-Summit prize worth one million US dollars.

We are grateful to Prof Marsh for donating the prize money to support research excellence in Africa, with \$400,000 being allocated to the AAS and the remaining \$600,000 to the African Oxford Initiative to support partnerships and collaborations among African institutions and researchers. On behalf of the AAS and the African scientific community, I would like to thank Prof Marsh for this very kind gesture.

The Alliance for Excellence in Science in Africa (AESAs) and its associated programmes—

Developing Excellence in Leadership Training and Science (DELTA) Africa, Grand Challenges Africa (GC Africa), the Climate Impact Research Capacity and Leadership Enhancement and the Good Financial Grant Practice made progress. DELTA Africa awarded four additional grants worth £21 million pounds to researchers in Ivory Coast, Kenya, Senegal and Uganda in 2016. In the same year, the Wellcome Trust handed over the management of the DELTA Africa and the Human, Heredity and Health in Africa (H3Africa) to AESA.

In addition to the UK's Department for International Development, the Wellcome Trust and the Bill & Melinda Gates Foundation, the AAS has built new strategic partners as follows:

- Institut Pasteur, which committed to fund up to 20 projects through the Grand Challenges Africa Innovation grants.
- Planet Earth Institute, which created a new programme for African students in water, energy, agro business and basic sciences research.
- The South African Medical Research Council, which committed US\$750,000 to fund GC Africa Innovation seed grants from South Africa.

- The Royal Society for Tropical medicine and Hygiene, which collaborated with the Academy to organise a joint scientific meeting on epidemiological transition.
- The World Bank Water Global Practice, which is seeking a partnership with the AAS to bridge the gap between research and development policy and practice.

CIRCLE organised four workshops including one for the 34 who completed their CIRCLE Visiting Fellowships in 2015; an induction workshop for cohort 2; a proposal writing workshop for potential female applicants and a CIRCLE Champions meeting in December--the third since the inception of CIRCLE.

In June 2016, there was an AAS General Assembly in Kasane, Botswana, which was declared open by His Excellency Lt. General Stretse Khama Ian Khama, the President of Botswana, who was also inducted as a Honorary Fellow of AAS. The GA featured seven high profile scientific and panel discussions. The Olusegun Obasanjo prize for Scientific Discovery and Technological Innovation was awarded. The GA also witnessed the induction of new Fellows and Affiliates and finally, there were AAS Governing Council (GC) and General Assembly (GA) meetings.

From 28 February to 2 March, the InterAcademy Panel gathered about 70 science academies in Hermanus, South Africa, where it also held its General Assembly to elect new members of the IAP Executive Committee. I am happy that the

AAS was elected as a member of the IAP Executive Committee for 2016-2018.

The dormant ten-year-old AAS-KAST (Korean Academy of Science and Technology) was revived in 2014. The bilateral symposia constitute an important part of the MoU and each academy contributes five speakers. The first bilateral symposium took place in Nairobi in 2015 and the second one took place in Seoul, South Korea, in April 2016 where the AAS was represented by its Fellows.

There was a three week AAS activity “ AAS/AMU (African Mathematical Union) symposium on current Research Trends in the Mathematical Sciences and Applications together with a pre-symposium School” on 3-20 May. The communique developed during the symposium was published in the December issue of the Science\*Policy\*Africa newsletter.

The GFGP conducted four workshops in 2016 with grant recipients and funders in Kenya , Senegal, Europe and the USA to define what should be included in the GFGP standard based on the good practices they have developed within their organisations over decades of working with an array of international funders and recipients.

The AAS and the NEPAD Agency are conducting a study on the role of science, technology and innovation in implementing the African Union’s Agenda 2030 and the Sustainable Development Goals. The study aims to shape policy documents and briefs that will assist countries, regional economic communities and the AU to use the STISA—Science Technology and Innovation Strategy for Africa (STISA 2020) to achieve Agenda 2063 goals.

**Message from the Executive Director**  
**Berhanu Abegaz, AAS Executive Director**



**Empowering Women Scientists**

This will be my last message as the Executive Director of the African Academy of Sciences. I am reaching the end of six years (two terms of 3 years each) of service to this noble Academy. I have, therefore, taken time to reflect on some of the positives of the journey and raise a key issue that requires the urgent attention of all AAS fellows. AAS had glorious early years in the late eighties and nineties, but it had slowly become dormant and lethargic in the closing years of the first decade of

this century; that is how I found it when I arrived. It was Mohamed Hassan, former President of AAS who wrote to me in mid-2010 while I was Professor of Chemistry in the University of Botswana and personally asked me if I would consider working for AAS. I responded in the affirmative and assumed duty on 3 March 2011.

I am deeply honoured for the opportunity given to me to serve this august Academy and to contribute to the phenomenal growth that it has achieved during the last six years and I must hasten to express my appreciation for the extraordinary team at the AAS Secretariat and some members of the AAS Governing Council who have been of immense support to me with their advice and encouragement. AAS has gained huge political recognition. It is no longer an observer, but a strategic partner of the AU for Vision 2063 and an implementing partner of AU Strategy - STISA 2024.

The AAS-AU relations have blossomed to include jury selection and adjudication over the AU awards, review of AU research grants to African scientists and the AU summit of 2015 endorsing the establishment of AESA (see below) and other partnerships. In 2014, AAS and

NEPAD Agency created the Alliance for Accelerating Excellence in Science in Africa (AESA), with the support of three global partners, Wellcome Trust, the Bill & Melinda Gates Foundation and the UK Department for International Development (DFID). This agenda-setting and funding platform for Africa has gone through a “set-up” phase and is now consolidating and stabilising. AESA’s current portfolio of programmes (DELTAS, GC Africa, H3A, CIRCLE, GFGP) have achieved collective investments of over \$150M over the period of a few years and are making an impact in supporting science in Africa. Internally, significant investments have been made to recruit a competent team to support programmes and operations (today there are more than 10 PhD level scientists and senior advisors working at the Secretariat).

World-class grants management systems, policies and financial systems have been put in place. Besides the competent staff and systems, we have introduced financial governance measures such as regular internal and external audits, which have helped us gain the confidence of our African and global partners. The AAS membership of Fellows has grown from 183 (2011-2012) to the present ca 364 in 2016 with the number of women Fellows now at nearly 44 from a mere 3 in 2011. We launched the Olusegun Obasanjo Prize

and have successfully awarded the third prize in 2016. It was my personal pleasure to welcome the Former President Olusegun Obasanjo himself, who came to preside on the occasion of the award of the maiden prize.

The AESA launch of 10 September 2015 was presided by HE Ameenah Gurib-Fakim, the State President of the Republic of Mauritius, an AAS Fellow and a highly accomplished scientist in her own right. We have launched the AAS Affiliates programme with the review of the second group of nominations now complete. The Affiliates Programme got a boost with the donation of \$400,000 to set up a fund to help the professional development of early career scholars. I salute AAS Fellow and Senior Advisor Kevin Marsh for this extraordinary generous support. We were also able to organise two General Assembly meetings, one in Congo and the most recent one in Botswana. I am grateful for the generosity offered by the host countries, particularly the recent host institution, the Botswana Institute for Technology Research and Innovation (BITRI), whose CEO is AAS Fellow Nelson Torto. We set out ambitious goals in our Strategic Plan 2013-2018. In some cases, we have surpassed the set targets, yet we are just beyond the mid-term of the period. But we need to work a lot harder

to achieve the others. AAS strength is its Fellows. We need to be fully Pan-African, yet we have Fellows from only 40 of the 54 countries.

AAS needs to work across Africa's historical, colonial, linguistic and geographic divides. We need to see better integration across the continent so as to never have to refer to the "sub-Saharan" grouping, which, in my opinion does not make sense at all. I want to express my appreciation to many regular Fellows of AAS (not elected to leadership positions) for their generous commitment to help the Secretariat when we called on them. They have contributed hugely as reviewers, MAC chairpersons and committee members. But their numbers are small. My plea to the other Fellows is, "please devote as little as a few hours a year to get involved with the Academy's activities and programmes". I want to conclude by raising a key issue that arises from the leadership ambiguities within the AAS constitution.

This needs to be addressed urgently to further enhance the governance and management of AAS. This was brought to the attention at the General Assembly in June 2016. Addressing this governance deficiency will make the Academy stronger to drive its agenda for science development in Africa. Revision of constitutions are not routine exercises, and hence I am encouraging all Fellows to use this opportunity to weed out all the weaknesses of the constitution. The African Academy of Sciences, with the high quality and exceptional knowledge that resides in its fellows, should be a model for many institutions in Africa on how to organise themselves to achieve high standards of excellence.



## Key Highlights from 2016

The AAS experienced robust growth in 2016, including:

### Empowering Women Scientists

#### **CIRCLE Fellows Advancement of Women**

The Climate Impacts Research Capacity and Leadership Enhancement (CIRCLE) programme held its first Female Applicants Workshop in February, contributing to the realisation of 50:50 gender parity in the recruitment of its Fellows.

### Investing in Health Research

#### **Expansion of DELTAS Africa**

The Developing Excellence in Leadership, Training and Science (DELTAS Africa) programme provided four additional grants, totalling £21 million to researchers in Ivory Coast, Kenya, Senegal and Uganda, bringing the number of DELTAS Africa-funded programmes since 2015 to 11. The inaugural annual meeting for DELTAS Africa grantees in July drew 120 participants.

### AESA Management of H3 Africa

#### **AESA Management of DELTAS Africa and H3Africa**

The Wellcome Trust announced the handover of the management of the DELTAS Africa and the Human Hereditary and Health in Africa (H3Africa) to AESA. AESA now manages these key programmes directly in partnership with grantees, to return decision making for African science, technology and innovation to Africa.

### Academies as the Voice of Science

#### **10<sup>th</sup> General Assembly**

In June, the AAS held its 10th General Assembly in Kasane, Botswana, drawing 120 participants from across the Continent. The assembly featured the induction of the President of Botswana, His Excellency Lt General Dr Ian Khama, as an Honorary Fellow, recognising his commitment to and leadership in developing science in Africa. The GA also featured distinguished lectures in memory of esteemed late Fellows Ali Mazrui, a political scientist, and Paulus Gerdes, a mathematician. Prof Philippe Rasoanaivo received the

**Frontier  
Medicine**

2015 Olusegun Obasanjo Prize for Scientific Discovery and Technological Innovation. The GA also announced its first cohort of Affiliates, promising early career scientists.

**Stem Cell Science Workshop**

The Academy, along with the Stellenbosch Institute for Advanced Study (STIAS), held the third in a series of workshops on Stem Cell Sciences and Applications in South Africa. 30 senior and early career scientists from South Africa, Kenya, Nigeria, Sudan, Tunisia, Zimbabwe, Cameroon, Ghana, Brazil and India attended the workshop.

**Collaboration**

**Royal Society Joint Scientific Meeting**

The African Academy of Sciences and the Royal Society of Tropical Medicine and Hygiene held a joint scientific meeting focused on epidemiological transition in Nairobi, featuring keynote presentations from research leaders across Africa.

**New  
Technologies**

**Genes and Malaria**

The AAS, together with and the Foundation for the (U.S.) National Institutes of Health (FNIH) convened a roundtable discussion on the potential of gene technology for malaria control. The event brought together scientists from across Africa with expertise in infectious diseases, entomology and public health.

**Emerging  
Knowledge**

**Precision Medicine in Public Health in Africa**

The Bill & Melinda Gates Foundation (BMGF) and AESA held a roundtable in Ethiopia on Precision Medicine in Public Health in Africa, bringing together researchers from across the continent to explore how precision medicine can help alleviate the double burden of infectious and non-communicable diseases.

**Inspiring  
Innovation**

**Grand Challenges Africa Launch**

The AAS hosted 400 of Africa's most promising innovators for the Grand Challenges Africa Community Meeting, which also launched GC Africa. Grand Challenges Africa, in partnership with the Bill & Melinda Gates Foundation, provides US\$ 7 million in innovation grants over five years to fund innovative research for accelerating scientific breakthroughs to improve Africa's health and developmental outcomes. The first call for the GC Africa Grants focused on maternal health and science communication and advocacy.

**Philanthropy**

**AAS Fellow Kevin Marsh provides Gift to Early Career Researchers**

Globally renowned Kenya-based scientist and AAS Fellow, Prof Kevin Marsh, donated US\$400,000 from his AI-Sumait Prize to the AAS to establish a fund to help the professional development of early career scholars.

**Strengthening  
Grant  
Management  
Capacities in  
Africa**

**Good Financial Grant Practice**

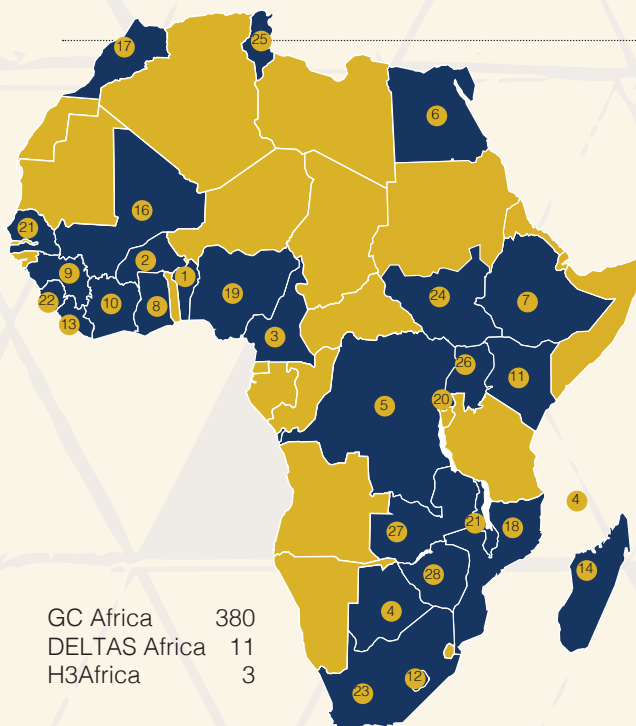
To date, the AAS has raised US\$1.9 million for the development of an innovative pan African standard for Good Financial Grant Practice (GFGP) in research, academic and not for profit institutions.

## Implementing Programmes: AESA

The AAS and the NEPAD Agency, with the support of international partners, created AESA to address Africa's health and developmental challenges by promoting the development of Africa's research leadership, scientific excellence and innovation, shifting the centre of gravity of African science to Africa. Among its accomplishments in 2016 are:

### Business Plan Development

AESA developed a business plan to provide a robust framework to build African science, technology and innovation. The plan has set an ambitious target of quadrupling the initial investment of \$65 million by its current partners—the



- |                 |                  |
|-----------------|------------------|
| 1. Benin        | 15. Malawi       |
| 2. Burkina Faso | 16. Mali         |
| 3. Cameroon     | 17. Morocco      |
| 4. Comoros      | 18. Mozambique   |
| 5. DRC          | 19. Nigeria      |
| 6. Egypt        | 20. Rwanda       |
| 7. Ethiopia     | 21. Senegal      |
| 8. Ghana        | 22. Sierra Leone |
| 9. Guinea       | 23. South Africa |
| 10. Ivory Coast | 24. South Sudan  |
| 11. Kenya       | 25. Tunisia      |
| 12. Lesotho     | 26. Uganda       |
| 13. Liberia     | 27. Zambia       |
| 14. Madagascar  | 28. Zimbabwe     |

GC Africa	380
DELTAS Africa	11
H3Africa	3

*A snapshot of the distribution of AESA supported programmes*

Wellcome Trust, the Bill & Melinda Gates Foundation and the UK Department for International Development (DFID) — to a total of \$241 million in the six years ending 2021. This goal recognises that Africa requires significant and sustained investment to improve and grow its scientific infrastructure. The plan will provide the foundation to respond to emerging needs, by building vibrant research environments, promoting the creation of an innovation culture, bridging gaps in the research landscape and supporting researchers to develop their careers.

### **DELTA Africa and H3Africa Handover**

Through 2015 and 2016, the AAS built its technical, economic, policy and human infrastructure to create sound management of its programmes. This enabled AAS' funding partners to transfer full responsibility for two of its key programmes —DELTA Africa and H3Africa— to AESA, shifting the centre of gravity of African science to Africa. AESA is currently managing £60m for DELTA Africa, and the Wellcome Trust has made an additional £9m grant to AESA to run a second phase of H3Africa in partnership with the US' National Institutes of Health in 2017.



*Participants at the Stem Cell Science and Applications Workshop visiting the International Centre for Genetic Engineering and Biotechnology (ICGEB) located at the University of Cape Town. The workshop was organised as a partnership between the AAS and STIAS.*

## Building Partnerships

AESA has been a vehicle for creating partnerships that will ensure the AAS achieve its goal of driving scientific and technological development in Africa. In addition to existing funding partners—DFID, Wellcome and the Bill & Melinda Gates Foundation— in 2016 the AAS built new strategic partnerships with:

- The Planet Earth Institute (PEI) to create a new PhD grant programme for African students in water, energy, agro-business and basic sciences research. This new partnership, which will also include private sector partners, will further the expansion of the Grand Challenges programme to Mauritius.
- France's Institut Pasteur committed up to 20 seed projects (up to \$2 million) through the Grand Challenges Africa Innovation Grants. IP and GC Africa also jointly held a Grant Writing Bootcamp for Francophone researchers in Senegal in October.
- The Academy has developed a partnership with the South Africa Medical Research Council, which committed US\$750,000 to fund successful GC Africa Innovation Seed Grants from South Africa.

## New Partners

- Institut Pasteur
- Foundation of National Institutes of Health
- The Council for the Lindau Nobel Laureate Meetings and The Foundation for the Lindau Nobel Laureate Meetings
- Planet Earth Institute
- Royal Society of Tropical Medicine and Hygiene
- Stellenbosch Institute for Advanced Study
- South African Medical Research Council
- Africa Oxford Initiative

- With the Stellenbosch Institute for Advanced Study (STIAS), the AAS organised a workshop on Stem Cell Sciences and Application (see page 31).
- The Academy partnered with the University of Basel and the Swiss Tropical and Public Health Institute to provide visiting fellowships to advanced PhD students and postdoctoral researchers working in global and environmental health and nanosciences.
- The AAS organised, with the Foundation for the U.S. National Institutes of Health, a Gene Drive Roundtable, and, with the Royal Society of Tropical Medicine and Hygiene, a joint scientific meeting on Epidemiological Transition (see page 32).
- A partnership with the World Bank Water Global Practice was created to bridge the gap between research and development policy and practice.
- The AAS and USAID have agreed to share intellectual property between the GFGP Programme and USAID's new web based pre-award assessment system.

### **Independent Strategic and Scientific Advisory Board**

The Independent Strategic and Scientific Advisory Board provides guidance on scientific direction, strategy, operations and mission. The nine-member ISSAB Board was constituted in 2015 and is chaired by eminent scientist Abdallah Daar, Professor of Clinical Public Health at the University of Toronto in Canada who is also an AAS Fellow..

The ISSAB had two meetings in 2016, establishing milestones for the efficient execution of AESA's business plan, especially in the areas of partnerships and communication.

## AESA Programmes

AESA works to fulfil its mission through its programmes as follows:

### CIRCLE

The Climate Impacts Research Capacity and Leadership Enhancement (CIRCLE) programme, a partnership between the AAS and the UK-based Association of Commonwealth Universities, offers 100 fellowships to 40 post-masters and 60 postdoctoral researchers. Fellows spend one-year at guest institutions to study the impact of climate change on the Continent. The UK Department for International Development has provided £4.85 million, funding 100 of the Fellowships in 2016. Its activities in 2016 covered:

- A DFID review of how CIRCLE was implemented in 2015, which found the programme to have successfully fulfilled its mandate.
- The first cohort of 34 Circle Visiting Fellows (CVFs) successfully completed their fellowships in December 2015 and a second cohort of 29 CVFs began in January 2016. The institutional building component of the programme continues to build momentum, working with 29 institutions in

Africa. The CIRCLE programme is also getting wider international coverage as an innovative programme for building the capacity of Africa researchers.

- Four workshops organised in 2016, covering:
  1. A post-fellowship workshop that took place in February for the 34 who completed their cohort 1 CIRCLE Visiting Fellowships in 2015. The CIRCLE Visiting Fellows (CVFs) reflected on how the fellowship has helped their career development and mapped how to contribute to their institutions and create partnerships with their peers across the continent that will result in collaborative projects.
  2. An induction workshop for cohort 2 that also took place in February to introduce the CVFs to the programme and outline expectations and provide them with tools and resources to ensure a successful fellowship. Day 1 of the cohort 2 meeting overlapped



with that of cohort 1, providing a platform for the latter to share their experiences and for both cohorts to discuss how to promote research uptake.

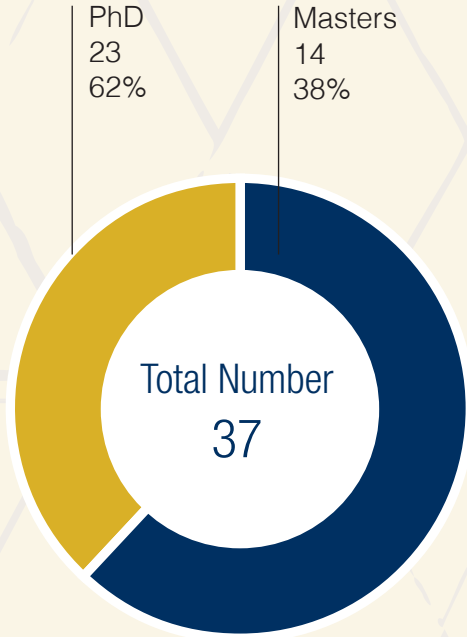
3. A proposal writing workshop for potential female applicants also took place in February and drew 42 participants from 23 institutions including three female staff members from AAS to help improve their proposals and their proposal writing skills.
4. The CIRCLE Champions Meeting in December, which was the third since CIRCLE began in 2014. It was attended by 49 participants from 31 institutions who discussed their institutions' plans for the Institutional Strengthening Programme (ISP), which focuses on enhancing professional and career development opportunities for researchers by strengthening the capacity of institutions

involved in the programme to provide support for early career researchers. The first two days of the programme were facilitated by Vitae and focused on activities under the ISP. The third day of the workshop focused on strengthening approaches to climate change research and was facilitated by Prof John Morton from NRI. The sessions focused on new insights and experiences, incentives and disincentives, constraints and moving forward to strengthen institutional approaches and processes.

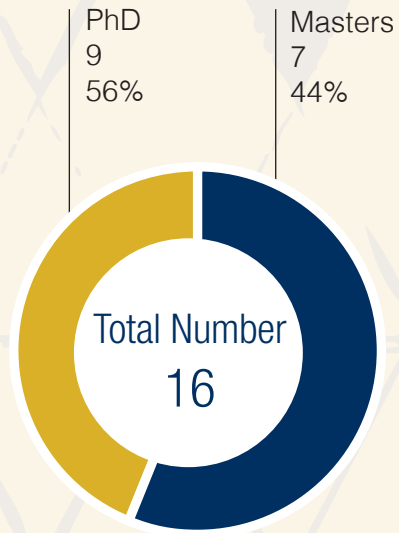
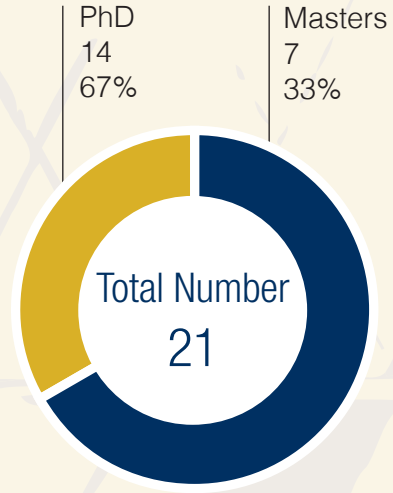
- 37 Early career African researchers were competitively selected and offered fellowships for the cohort 3 of CVFs to start their research from January to December 2017.

### CIRCLE Fellows

#### Cohort 3 Qualification Breakdown



#### Gender and Qualification Breakdown



**Home Institutions**

Institution	Number of CVFs
1 Chinhoyi University of Technology, Zimbabwe	2
2 Ebonyi State University, Nigeria	1
3 Ethiopian Institute of Agricultural Research, Ethiopia	1
3 Federal University of Agriculture, Abeokuta, Nigeria	2
4 Hawassa University, Ethiopia	1
5 International Livestock Research Institute, Kenya	1
6 Kenyatta University, Kenya	2
7 Kwame Nkrumah University of Science and Technology, Ghana	3
8 Ladoko Akintola University of Technology, Nigeria	2
9 Makerere University, Uganda	1
10 Mekelle University, Ethiopia	2
11 Michael Okpara University of Agriculture Umudike, Nigeria	2
12 Muhimbili University of Health and Allied Sciences, Tanzania	2
13 Obafemi Awolowo University, Nigeria	1
14 Science and Technology Policy Research Institute, Ghana	1
15 University for Development Studies, Ghana	1
16 University of Dar es Salaam, Tanzania	2
17 University of Fort Hare, South Africa	3
18 University of Ibadan, Nigeria	3
19 University of Kordofan, Sudan	1
20 University of Port Harcourt, Nigeria	1
21 Wollo University, Ethiopia	2
<b>TOTAL</b>	<b>37</b>

## Host Institutions

### Home Institutions

Institution	Number of CVFs to host
1 Addis Ababa University, Ethiopia	1
2 Chinhoyi University of Technology, Zimbabwe	1
3 Kenyatta University, Kenya	1
3 Kwame Nkrumah University of Science and Technology, Ghana	3
4 Makerere University, Uganda	3
5 OSSREA / Moi University, Kenya	2
6 Muhimbili University of Health and Allied Sciences, Tanzania	2
7 Obafemi Awolowo University, Nigeria	2
8 University of South Africa	2
9 University for Development Studies, Ghana	2
10 University of Dar es Salaam, Tanzania	3
11 University of Fort Hare, South Africa	2
12 University of Ibadan, Nigeria	4
13 University of Cape Town, South Africa	2
14 University of Nairobi, Kenya	3
15 University of Ghana, Ghana	4
TOTAL	37

## Achievements from CIRCLE Visiting Fellows

**94** Conferences and seminars attended (27/29 CVFs)

**47** Presented CIRCLE research at conferences (21/29)

**55** Training/workshops: Number of training events and courses attended by 22 out of 29 cohort 2 CVFs

## Publications

	<b>Cohort 2</b>
Articles submitted to peer reviewed journals	63 by 17 CVFs
Articles accepted by peer reviewed journals	40 by 14 CVFs
Articles submitted to peer reviewed journals based on CIRCLE research	16 by 11 CVFs
Articles accepted by peer reviewed journals based on CIRCLE research	2 by 2 CVFs

## Research Uptake

The CIRCLE programme provides a research uptake fund for Fellows. In 2016, 9 cohort 2 Fellows successfully applied for the research uptake fund out of 14. Others intend to apply for the next round of funding that opens in February/March 2017.



*CIRCLE workshop at the African Academy of Sciences in Nairobi.*

### **Developing Excellence in Leadership, Training and Science (DELTAS Africa)**

DELTAS Africa is supporting the development of world class researchers and research leaders in Africa over five years (2015 to 2020).

### **Handover of DELTAS Africa to AESA by Wellcome Trust**

The programme was co-developed by AESA and the Wellcome Trust and its management subsequently transferred it wholly to AESA as a demonstration of confidence in AESA to initiate, implement, manage and lead a cutting-edge, globally-competitive grants management

programme on the continent (see earlier section on AESA).

Four new DELTAS Africa research teams held their inception meeting in Nairobi, attended by five participants from each research team —African Science Partnership for Intervention Research Excellence (Afrique One-ASPIRE) in Ivory Coast; Consortium for Advanced Research Training in Africa+ (CARTA+); Malaria Research Capacity Development in West and Central Africa (MARCAD) in Senegal and Training Health Researchers into Vocational Excellence in East Africa (THRiVE-2) in Uganda. The meeting focused on strengthening research capacity, and sharing their research objectives with each other to explore opportunities for collaboration.



*Bassirou Bonfoh,  
Afrique One-ASPIRE*



*Nelson Sewankambo,  
THRiVE-2*



*Oumar Gaye, MARCAD*



*Alex Ezeh, CARTA+*



*DELTA Africa programme directors Dixon Chibanda of the African Mental Health Initiative in Zimbabwe; Nelson Sewankambo of THRiVe-2 in Uganda; Thumbi Ndung'u of SANTHE and Oumar Gaye of MARCAD in Senegal at the first DELTA Africa Annual Meeting in Nairobi, Kenya*

### **First Annual DELTA Africa Meeting**

The first annual DELTA Africa grantees meeting that brought together all eleven DELTA programmes was held in conjunction with the initiation of new grantees. Over 100 researchers were in attendance. Of note was the participation of the CEO of the India Alliance, Shahid Jameel and over 10 India Alliance Fellows, reinforcing the collaboration between the

organisations. The meeting contributed to building links among the eleven programmes and externally.

Also in conjunction with the Nairobi meetings was the joint AAS-RSTMH Scientific Conference, enabling DELTA Africa researchers to participate.

### **DELTA Africa Consortia Annual Meetings**

Local DELTA Africa consortia held meetings in Eldoret and Nairobi, Kenya and Kampala, Uganda.

- The Sub-Saharan African Network for TB/HIV Research Excellence (SANTHE) Consortium Annual Meeting in Nairobi, Kenya.
- Afrique One-ASPIRE Consortium Meeting in Kampala, Uganda.
- CARTA + Consortium Meeting at Moi University at Eldoret, Kenya.
- The Initiative to Develop African Research Leaders (IDeAL), one of the seven programmes announced in 2015, hosted an Open Day in Nairobi to raise awareness and encourage school leavers and undergraduate students to pursue careers in science.



*Participants at the Afrique One-ASPIRE consortium meeting*





*Participants at the SANTHE annual meeting in Nairobi, Kenya*

### **DELTA Africa Site Visits**

Site visits were made by DELTA Africa managers to:

- IDeAL at KEMRI-WTRP in Kilifi County, Kenya.
- CARTA+ at the African Health Population Research Center (APHRC) in Nairobi, Kenya.
- Thrive-2 at Makerere University in Kampala, Uganda.
- Makerere University and UVRI (MUII-plus), Uganda Virus Research Centre in Entebbe, Uganda.
- SANTHE, at the Africa Health Research Institute at the University of Kwa-Zulu Natal in Durban, South Africa
- Sub-Saharan African Consortium for Advanced Biostatistical Training, at the University of the Witwatersrand in Johannesburg, South Africa.

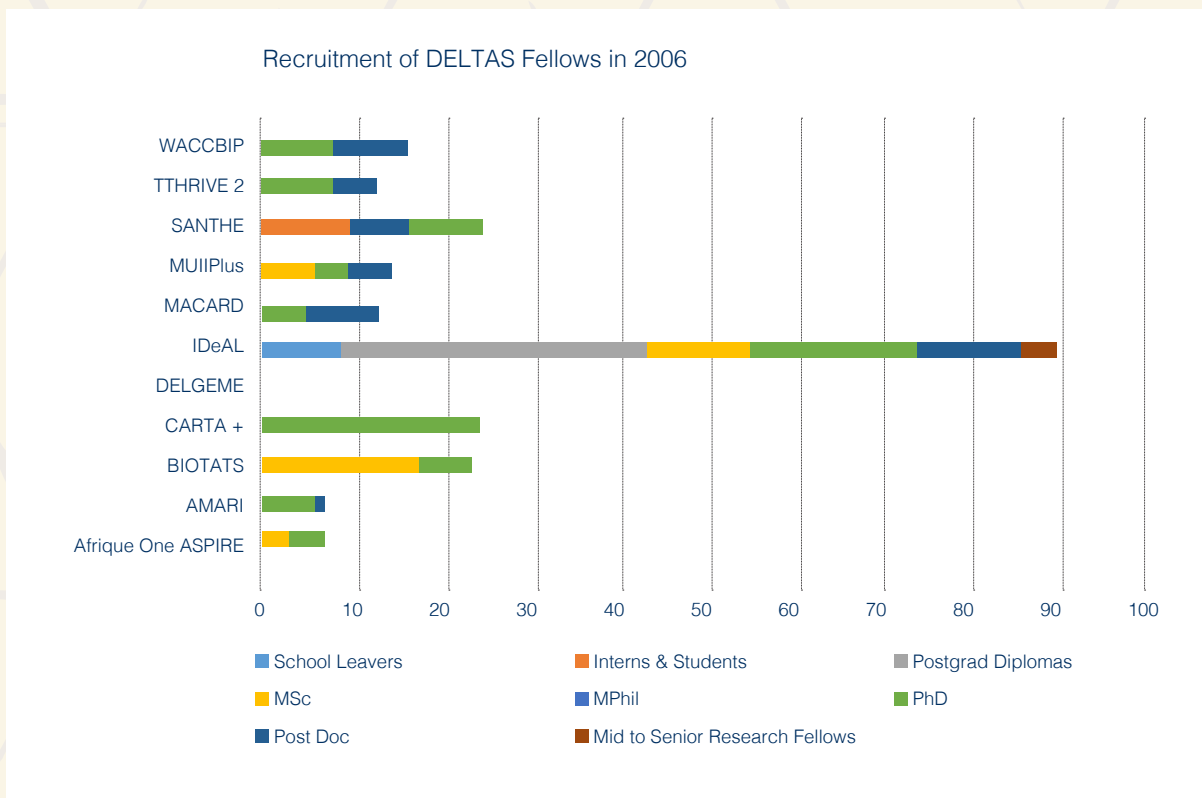
These visits reinforced expectations and good practices, strengthened relationships and identified challenges.

### DELTA Africa Fellows Recruitment Drive

Ten of the 11 DELTA Africa programmes completed recruitment targets for various categories of DELTA Africa Fellows (See graph below). A total of 237 fellows were recruited in 2016 across 10 of the 11 DELTA Africa programmes, from school leavers to interns through to masters, PhD, post docs and mid-senior level research fellows.

### DELTA Africa Monitoring and Evaluation Plans

All 11 DELTA Africa programmes submitted Monitoring and Evaluation plans, consistent with the DELTA M&E framework.



### **Grand Challenges Africa (GC Africa)**

Addressing its mandate to inspire Africa-led innovation in pursuit of the continent's developmental and health challenges through Sustainable Development Goals, GC Africa implemented activities to serve key objectives:

### **Objective 1: Consolidate and Enhance the Gains Made Through Grand Challenges Support to African Scientists Over the Last Decade**

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#### **Grand Challenges Community Meeting (24-26 February 2016)**

The GC Africa Community Meeting brought together grantees from across Africa funded by the Bill & Melinda Gates



*Kenyan ICT Minister Joe Mucheru (center) with AESA Director Tom Kariuki (right) at the GC Africa Meeting*

Foundation, Grand Challenges Canada (GCC) and the US Agency for International Development (USAID). Over 400 participants, including Kenya's Minister for ICT Joe Mucheru, attended.

### **GC Africa Mentorship Initiative**

The GC Africa mentorship initiative provides innovators the necessary skills to effectively mentor students and early career researchers.

### **Creation of the GCA-Innovation Network (GCA-iN)**

The GC Africa network of all African Grand Challenge Grantees (current and future), funders, governments, venture capitalists, and innovation incubator experts was created to establish, utilise and sustain an innovation ecosystem that enhances the development of technologies, products and processes that benefit society.

### **Objective 2: Undertake Outreach and Awareness Campaigns to Extend the Reach of the Grand Challenges Funding Model in Africa**

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GC Africa organised three events in 2016 to raise awareness and ensure the initiative successfully impacts innovators:

### **Proposal Development Workshops**

In 2016, the GC Africa team organised workshops to help African researchers to improve their proposal writing skills:

- The Bootcamp workshop for African innovators, which was a three-day event held in Nairobi in collaboration with the Ifakara Health Institute to coach early-career African innovators and scientists to develop successful grant proposals. Twenty-five innovators were selected from 40 applicants previously funded by the Bill & Melinda Gates Foundation (BMGF) or Grand Challenges Canada (GCC). Skills coached included proposal writing and verbal “elevator pitches”. Facilitators from Ifakara, AAS, Grand Challenges Canada, the Bill & Melinda Gates Foundation and Institut Pasteur helped participants refine their proposals.
- The Francophone grant writing workshop held in partnership with Institut Pasteur in Dakar, the Institut Pasteur and the International Network of Pasteur Institutes in Dakar, Senegal. Fifteen participants were selected from 11 Francophone countries to increase the competitiveness of grant proposals from Francophone researchers and to stimulate collaboration among the participants at the three -day workshop.



*AESA Director Tom Kariuki in a panel discussion at the Grand Challenges Annual Meeting in London*

### **Grand Challenges Annual Meeting**

At the Grand Challenges meeting, AESA co-hosted “Building a Strong Research Ecosystem for Sustainable Development”, in London, with the Bill & Melinda Gates

Foundation, Wellcome Trust and DFID. It drew over 100 participants, mostly African researchers funded by Grand Challenges and DELTAS Africa. Topics covered included:

- Strengthening the community of African researchers and institutions; building and enabling innovation ecosystems in Africa.
- Developing a shared understanding of skills required to deliver transformative breakthroughs in research that translate into real-world applications.
- Bridging gaps among scientists, their communities and policymakers to ensure public and political support for research.
- Nurturing linkages between African R&D and global Grand Challenges communities.

### **Objective 3 Continuously Refine the GC Africa Scientific Agenda and Undertake Public and Policy Engagement for Stakeholders Buy-in**

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#### **Survey on Health Priorities**

Three hundred researchers responded to a survey to identify key challenge areas for Africa. The outcome informed the scope of the 1<sup>st</sup> GC Africa call launched in November 2016.

### **Objective 4 Implement a Sustainable and Long-term Funding Strategy for Innovative Research Ideas that can Deliver Local and Global Impact**

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#### **Launch of GC Africa Innovation Grants**

GC Africa innovation seed grants will enable researchers to provide new solutions to advance maternal neonatal and child health (MNCH) in Africa. It will also support advocacy and communication to motivate citizens of Africa and African governments to support investments in scientific research development and innovation.

#### **Funding**

#### **Over \$8 Million Invested in Innovation**

The Bill & Melinda Gates Foundation awarded AESA a grant worth \$7 million to support seed and transition innovation grants over the next 5 years. In addition, Institut Pasteur committed to support up to 20 grantees from the Institut Pasteur Network if selected. SAMRC have also committed Rand 10,000,000 to support grantees from South Africa selected in response to the call made in November of 2016 (see partnerships).

### **Good Financial Grant Practice (GFGP)**

Established to strengthen Africa's research and development infrastructure by developing an innovative standard for the best practices in the management of funds awarded to grantees, the GFGP implemented a number of activities to achieve this goal in 2016:

#### **Fundraising for Phase Two**

The GFGP is fundraising for US\$1.5 million for the second phase of the programme, which includes the development of a web based assessment system to support local NGOs, research institutions and academic centres to evaluate their grant management capacity and resilience. The funding will also be for organising workshops with fund recipients to refine the assessment system and standard, and to establish a small secretariat of about three people at the AAS who will manage the GFGP system when it goes live in early 2018.

In 2016, the GFGP successfully raised half of the required funding —US\$710,000— from the UK's Medical Research Council (MRC) and the European & Developing Countries Clinical Trials Partnership. The funding is in addition to US\$1.1 million awarded by the Wellcome Trust and the MRC for the first phase of the programme.

#### *Funding raised*

<b>2016</b>	<b>\$710,000</b>
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<b>Total</b>	<b>\$1.9 million</b>
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### **Stakeholder Engagement**

The GFGP conducted four workshops in 2016 with grant recipients and funders, in Kenya, Senegal, Europe and the USA to define what should be included in the GFGP standard based on the good practice they have developed within their organisations over decades of working with a range of international funders and recipients, respectively. The workshops gathered over 100 participants altogether.

### **Development of the Assessment Tool and the Technical Draft**

The AAS engaged a technical author for the first technical draft of the standard, which will be submitted to the African Organisation for Standardisation (ARSO). This process will be managed by the British Standards Institute to ensure it is compliant to the relevant International Organization for Standardization (ISO) guidelines. The GFGP Technical Working Committee of funders and fund recipients was also created in 2016 to review, comment and build consensus on the draft of the GFGP standard.



*Mauritian President H.E Ameenah Gurib-Fakim (centre) was part of a panel at the H3Africa Ethics Consultation Meeting in October, 2016*

### **Human Hereditary and Health in Africa (H3Africa)**

The H3Africa initiative, which was created as a partnership between the Wellcome Trust and the US National Institutes of Health is a major genomic research programme. Along with taking over the managing of the Wellcome Trust component of the programme, AESA attended the third H3Africa Ethics

Consultation Meeting in Mauritius, which drew over 40 participants from the ministries of health, national ethics committees, institutional ethics committees, research institutes and academics from various African countries, the National Institutes of Health and the Wellcome Trust.



## The AAS Think Tank

Guided by three strategic priorities, namely **evidence generation; advocacy and thought leadership** and **knowledge management and capacity building**, ongoing think tanks activities that began in 2016 are:

- Together with the NEPAD Agency, the AAS is conducting a study on the role of science, technology and innovation in implementing Agenda 2063, a 50-year plan from the African Union, and the Sustainable Development Goals. The study will shape policy documents and briefs that will assist countries, regional economic communities and the AU to use the Science, Technology and Innovation Strategy for Africa (STISA 2024) to achieve the Agenda 2063 goals.  
  
The STI study is informed by the results of a survey conducted during 2016.
- The AAS, the NEPAD Agency and other partners are developing an African Health Research and Innovation Strategy to be incorporated into the AU's Africa Health Research Strategy. AESA's involvement in the development of the strategy includes:
  - o In 2015, the NEPAD Agency developed a roadmap for the strategy which saw the creation of a technical working group that includes AESA.
  - o The creation and convening of an 11-member Health and Wellbeing Committee, composed of scientists who have made significant contributions in the area of health and have distinguished themselves as world-class scientists in their respective areas of specialisation to discuss priorities for the AHRIS. The priorities helped to shape a concept paper developed by the AAS and the NEPAD Agency and submitted for review and approval to the Specialised Technical Committee of African Ministers of Education, Science and Technology.
  - o Reviewing of a draft of the AHRIS developed by a consultant at a meeting of the technical working committee held on 11-16 September 2016 in Accra, Ghana. The draft is currently being revised based on the recommendations of the committee.

- The AAS is reviewing the think tank activities that it has carried out since its inception in 1985, which will be compiled into a report detailing gaps that may need to be addressed and guiding the AAS' future strategic focus.
- The AAS is conducting a partnership audit to explore organisations and think tanks it can collaborate with to identify and address critical gaps in science, technology and innovation on the continent.
- The AAS carried out a survey to assess challenges and opportunities of STI on the continent, which is being compiled into a report to be availed in 2017.
- The AAS has developed a paper on the role of genetically modified organisms to be published in 2017 and to define the AAS' position on the subject.
- The AAS was selected chair of the Science, Technology, Engineering and Mathematics (STEM) Cluster at the AU meeting on the Continental Education Strategy for Africa (CESA) held in October. The AAS will report to the AU on the progress of CESA, which seeks to develop an implementation strategy for strengthening the teaching and learning of STEM across all levels of education in Africa.

## Fellows and Affiliates

### Activities of the Governing Council

The Governing Council met in Kasane, Botswana, ahead of the 10<sup>th</sup> General Assembly where it:

- Recommended a mid-term review of the current Strategic Plan of the AAS (2013-2018) to evaluate its implementation and map future priorities for the Academy.
- The AAS President Aderemi Kuku signed the Lindau MOU that will allow the AAS to recommend young scholars to attend the Lindau Meetings where Nobel Laureates convene to meet the next generation of scientists comprising undergraduates, PhD students and postdoctoral researchers from across the globe. The first AAS group of early career scientists will participate in the 2017 chemistry and economics meetings.
- Adopted the 2015 audited accounts.
- Recommended for the Executive Director to continue discussions with other partners on the creation of a pan African open access journal.

### Leadership Changes

The GC appointed Dominic Makawiti, a professor of biochemistry at the University of Nairobi and a distinguished scientist with an illustrious career in research, leadership and management, to serve as the Acting Treasurer of the Academy.

A process to find a replacement for Berhanu Abegaz, who is retiring as Executive Director in 2017, began in December. Abegaz took over the reigns in 2011 turning around the fortunes of the AAS to a financially sound and growing entity that has multiplied its staff and income. His replacement will be announced in 2017.



*Professor Dominic Makawiti*

### 10<sup>th</sup> General Assembly

The 10<sup>th</sup> General Assembly was themed *Academies as the voice of science* with discussions focused on bridging the gap between academies and policymakers to ensure the former effectively contributes to shaping policy and attracted 120 participants, most of whom were Fellows and Affiliates of the Academy. The GA was held in Kasane at the

invitation of the government of Botswana to coincide with the country's 50-year anniversary and the inauguration of the Botswana Academy of Arts and Sciences. The programme included:

- Two panel discussions, which focused on how the AAS and national academies can contribute their expertise in shaping how science can



AAS President Aderemi Kuku presents an honorary fellowship certificate to His Excellency Lieutenant General Dr Ian Khama, President of Botswana.

be harnessed to achieve Sustainable Development Goals, and promoting intra-Africa collaboration to ensure that researchers pull together resources to solve common challenges facing their countries.

- Memorial lectures honouring two of the departed Africa's eminent sons and AAS Fellows, Ali Mazrui and Paulus Gerdes, who contributed greatly to the development of the fields of political and mathematical sciences, respectively.
- Scientific lectures from Fellows on nanotechnology, indigenous knowledge, genomic medicine and Africa's rich flora.
- Opening of the assembly by His Excellency President of Botswana Lieutenant General Ian Khama who opened the event and reaffirmed his commitment to the growth of science.

- The induction of the 2014 and 2015 Fellows who were present at the meeting. Those who did not attend the event received their certificates by post.

### **Business Meeting**

The General Assembly concluded with a Business Meeting, which discussed the challenges and the achievements of the Academy. The AAS Executive Director Berhanu Abegaz, AAS President Aderemi Kuku and Secretary General Georges-Ivo Ekose detailed the financial status and the progress of the Academy in their reports and presentations, respectively.

### **Obasanjo Prize for Scientific Discovery and Technological Innovation**

Philippe Rasoanaivo, a professor and phytochemist from Madagascar, received his medal and prize money at the General Assembly for using traditional medicine

to improve efficacy of existing drugs for brain disorders and also treating sexual dysfunction among men. He gave a lecture of his research in treating sexual dysfunction. Rasoanaivo, who was also an AAS Fellow, sadly died a month later.



*The late Philippe Rasoanaivo (left) receiving his certificate for the Obasanjo prize from AAS President Aderemi Kuku (right)*

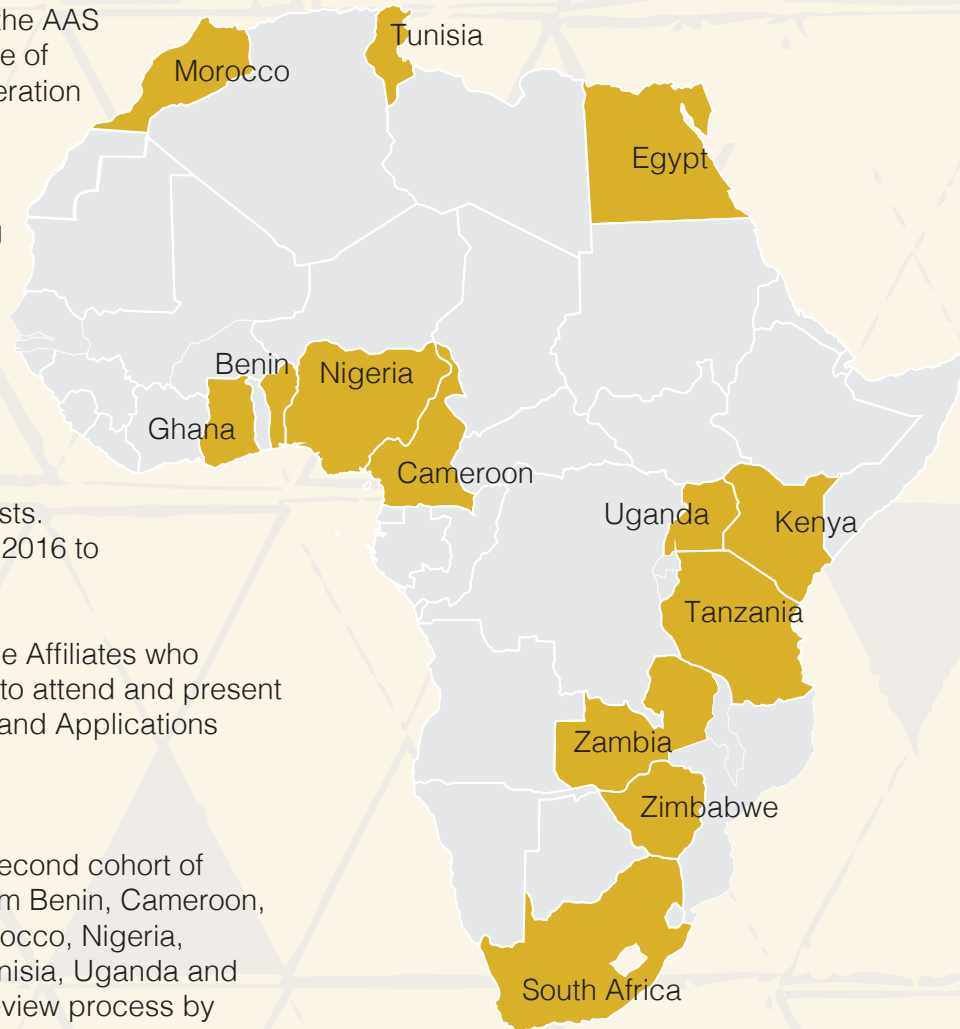
### Affiliates

In its 2013-2018 strategy, the AAS emphasises the importance of investing in the future generation of scientists. As such, the Academy announced and handed certificates to its first cohort of 15 promising early career scientists from Benin, Cameroon, Ghana, Kenya, Nigeria, Tanzania, South Africa and Zimbabwe and drawn from fields that include biosciences, geology and health scientists. They will be Affiliates from 2016 to 2020.

The AAS invited three of the Affiliates who specialise in biochemistry to attend and present at the Stem Cell Sciences and Applications workshop in South Africa.

### New Affiliates

The AAS also selected a second cohort of Affiliates for 2017-2021 from Benin, Cameroon, Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa, Tanzania, Tunisia, Uganda and Zambia, after a rigorous review process by eminent senior scientists who are AAS Fellows in the respective Academy's regional offices. They work in fields that include engineering, biosciences and health research.



*Snapshot of Affiliates*

The 2016 list of Affiliates is below

	<b>Nominee</b>	<b>Institution</b>	<b>Gender</b>	<b>Nationality</b>	<b>Field</b>
<b>Central Africa</b>					
1	Dr Moses Samje	University of Bamenda	M	Cameroon	Medical and health sciences
2	Jerome Fru Cho	University of Buea	M	Cameroon	Biosciences
<b>Eastern Africa</b>					
1	Moureen Kemei	Intel Corporation	F	Kenya	Engineering technology and applied sciences
2	Dr Thumbi Mwangi	Kenya Medical Research Institute (KEMRI)	M	Kenya	Medical and health sciences
3	Harriet Mpairwe	MRC/UVRI Uganda Research Unit on AIDS	F	Uganda	Medical and health sciences
4	Dr. Damaris Matoke	icipi - International Centre of Insect Physiology and Ecology	F	Kenya	Biosciences
5	Dr Sameer Hameer	The Nelson Mandela African Institute of Science and Technology	M	Tanzania	Engineering technology and applied sciences



	<b>Nominee</b>	<b>Institution</b>	<b>Gender</b>	<b>Nationality</b>	<b>Field</b>
6	Athanasia O Matemu	The Nelson Mandela African Institute of Science and Technology	F	Tanzania	Agricultural and nutritional sciences
<b>Northern Africa</b>					
1	Mohamed H. Alkordi	Zewail City of Science and Technology	M	Egypt	Chemical sciences
2	Nakkach Mohamed	Université de Tunis El Manar	M	Tunisia	Physical sciences
3	Abdelhaleem Mohamed Ahmed Abdelaty	Al-Azhar University	M	Egypt	Physical sciences
4	Zarrouk-Aloui Zohra	Institut Pasteur de Tunis	F	Tunisia	Biosciences
5	Lahcen El Youssefi	Moulay Ismail University	M	Morocco	Agricultural and nutritional sciences
<b>Southern Africa</b>					
1	Melissa Kapulu	KEMRI-Wellcome Trust	F	Zambia	Medical and health sciences
2	Dr Andrew C. Eloka-Eboka	University of KwaZulu-Natal	M	Nigeria	Engineering technology and applied sciences

	<b>Nominee</b>	<b>Institution</b>	<b>Gender</b>	<b>Nationality</b>	<b>Field</b>
3	Nomakholwa Stokwe	Stellenbosch University	F	South Africa	Agricultural and nutritional sciences
4	Wesley Doorsamy	University of Johannesburg	M	South Africa	Engineering technology and applied sciences
<b>Western Africa</b>					
1	Cyril Ehi-Eromosele	Covenant University	M	Nigeria	Chemical sciences
2	Padonou Elie Antoine	University of Agriculture of Kétou, Benin	M	Benin	Agricultural and nutritional sciences
3	Olayinka Ayotunde Oridupa	University of Ibadan, Ibadan	F	Nigeria	Medical and health sciences
4	Adande Belarmain FANDOHAN	University of Abomey-Calavi, Benin	M	Benin	Biosciences
5	Dr. Kingsley Badu	Kwame Nkrumah University of Science and Technology, Ghana	M	Ghana	Biosciences

### **Fellows and Affiliates Achievements**

AAS Fellows and Affiliates are eminent scientists who continue to gain recognition globally. Some of the achievements are listed below:

- Prof Kevin Marsh, AAS Senior Advisor, was the inaugural winner of the prestigious US\$1 million Al Sumait Prize for his efforts to control and eradicate malaria, which impacts the health of hundreds of millions of African children.
- AAS Fellow Calestous Juma is the 2017 recipient of the Breakthrough Paradigm Award, given in recognition of individuals who are providing leadership to ensure the world's inhabitants live on an ecologically vibrant planet with a secure and prosperous future. Juma, a Professor of the Practice of International Development at the Harvard Kennedy School and Director of the Science, Technology, and Globalization Project at the Belfer Center for Science and International Affairs, received the award in recognition of his scholarship and thought leadership in biotechnology and innovation.
- AAS Affiliate Marian Nkansah is the inaugural winner of the Fayzah M. Al-Kharafi Prize of The World Academy of Sciences (TWAS), which recognises exceptional women scientists from scientifically and technologically lagging countries.  
  
Nkansah won this award in recognition of her research on the health risks associated with human exposure to hazardous heavy metals in routine activities of daily life.
- Mahouton Norbert Hounkonnou, AAS Fellow and professor of mathematics and physics at the University of Abomey-Calavi in the Republic of Benin is the recipient of the 2016 C.N.R. Rao Prize for scientific research, given in recognition of the outstanding level of his research in mathematics and his sustained commitment to mathematics education.

### **New Fellows Elected**

The AAS also elected 33 new Fellows as listed below:



**John Akintayo Adedoyin**  
Botswana  
Physical sciences



**Olukayode Oladipo Amund**  
Nigeria  
Biosciences



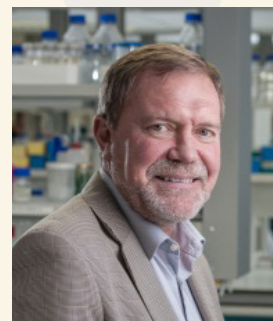
**Jacek Banasiak**  
Poland  
Mathematical sciences



**Nigel Charles Bennett**  
South Africa  
Agricultural and nutritional  
sciences



**Tumani Prince Corrah**  
The Gambia  
Medical and health  
sciences



**Donald Arthur Cowan**  
New Zealand  
Chemical sciences



**Abdoulaye Djimde**  
Mali  
Medical and health  
sciences



**Ogobara Doumbo**  
Mali  
Medical and health  
sciences



**Tito Horácio Fernandes**  
Mozambique  
Agricultural and nutritional  
sciences



**Nils Stefan Hansson Bill**  
Sweden  
Chemical sciences



**Hilary Inyang**  
Nigeria  
Engineering, technology  
and applied sciences



**Mbaya J. Kankwenda**  
Democratic Republic of  
the Congo  
Policy sciences



**Rose Leke**  
Cameroon  
Medical and health  
sciences



**David Uzochukwu Mba**  
Nigeria  
Engineering, technology  
and applied sciences



**Fon Wilfred Mbacham**  
Cameroon  
Biosciences



**Desta Mebratu**  
Ethiopia  
Geological, environmental,  
earth and space sciences



**Koleka P. Mlisana**  
South Africa  
Medial and health  
sciences



**Kanigula Mubagwa**  
Democratic Republic of  
the Congo  
Biosciences



**Thumbi Ndung'u**  
Kenya  
Medical and health  
sciences



**Ghirmai Negash**  
Eritrea  
Cultural sciences,  
humanities and social  
sciences



**Solomon Nwaka**  
Nigeria  
Medical and health  
sciences



**Philip Nyeko**  
Uganda  
Agricultural and nutritional  
sciences



**Daniel Ochieng Olago**  
Kenya  
Geological, environmental,  
earth and space sciences



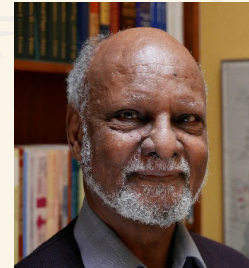
**Faith Hope Among'in  
Osier**  
Kenya  
Medical and health  
sciences



**Mohamed Iqbal Parker**  
South Africa  
Biosciences



**Eunice N. Sahle**  
South Africa  
Cultural sciences,  
humanities and social  
sciences



**Bereket Habte Selassie**  
Eritrea  
Cultural sciences,  
humanities and social  
sciences



**Winston Oluwale Soboyejo**  
Nigeria  
Engineering, technology  
and applied sciences



**Eliane Ubalijoro**  
Rwanda  
Policy sciences



**Brenda Diana Wingfield**  
Zambia  
Biosciences





**Michael John Wingfield**  
South Africa  
Agricultural and nutritional  
sciences



**Abiy Yenesew**  
Ethiopia  
Chemical sciences



**Alimuddin Zumla**  
United Kingdom  
Medical and health  
sciences

## Operations and Finance

### Building a Strong Staff

The AAS added six new staff members and four interns to support ICT, finance, policy and advocacy and its new programme, H3Africa in 2016, to bring its total to 33. The AAS held a one-and-a-half-day team building workshop in Naivasha which produced a declaration detailing organisational values and proposed a new vision and mission, which will be presented to the AAS' governing bodies for consideration once finalised. In 2016, the AAS also reviewed several positions to be aligned with the market pay scales.

### Policies

The following policies were developed, reviewed and approved during the Governing Council meeting held in Kasane, Botswana:

- 1) 26 Grant policies
- 2) Risk Management Policy
- 3) ICT policy
- 4) Travel Policy
- 5) Business Continuity Plan

Policies approved by the Senior Management Team and awaiting the GC approval

- 1) Revised Finance Policy
- 2) Procurement Policy

### Grants Management and Financial Management Systems

The new financial management system became live in 2016 to help in procurement, travel approvals and payments to grant recipients.

The AAS Ishango Online System continues to successfully support the receipt and review of applications for its various programmes, including in 2016 the GC Africa Bootcamp, the Stem Cell Sciences and Applications workshop, Fellows and Affiliates and the GC Africa Grants.

### IT System

The AAS upgraded its IT system to support the new finance, grants management, and web-based application systems, and to ensure its systems are resilient and have disaster recovery capabilities that promote business continuity. The upgrades comprised of the creation of a Local Area Network (LAN), installation of the servers, and mapping of all AAS computers to the server for common control of all equipment,

and security and back up management. The AAS constructed a server room and procured a robust firewall as well as a server based Antivirus protection to secure its ICT environment. The Academy procured video conferencing equipment, which has been useful in ensuring speedy and reliable online meetings with stakeholders across the globe. The AAS also developed an intranet to enhance the efficient use of use of Microsoft Office 365 tools.

### **Risk Assessment**

KPMG together with the AAS senior management and programme managers conducted a comprehensive risk analysis exercise, which yielded a risk analysis and live risk register to help the AAS assess and manage its risks so it maintains good governance and its programmes continue to perform well.

### **Audit and Risk Committee**

The Audit and Risk Committee (ARC) is a seven-member committee comprising independent non-executive members, the AAS Treasurer and Executive Director, which reviews the Academy's financial accounts.

The ARC was created to assist the GC in fulfilling its corporate governance and oversight responsibilities in relation to the risk management and internal control systems, accounting policies and practices, internal and external audit functions and financial reporting

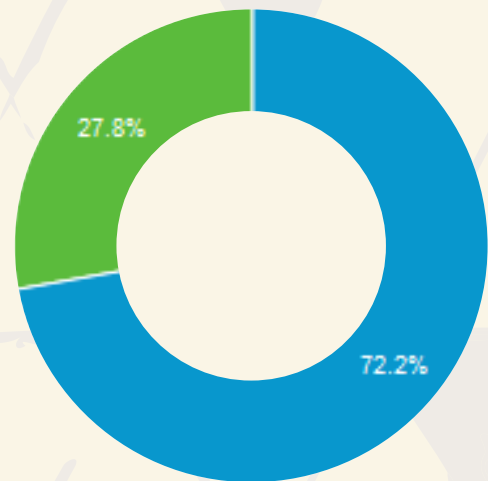
In 2016 the ARC held 3 meetings where the audited reports for 2015, the operational and programme risk registers, the Endowment Fund investment portfolio, the AAS constitution and 2017 budget were reviewed. The 2015 audited report and the budget were approved to be presented to the Governing Council.

## Communication

The AAS communication activities in 2016 were geared to raising its profile, that of its grantees and science in Africa and extending its audience globally. The activities covered:

- The launch of a microsite for AESA available at [www.aesa.ac.ke](http://www.aesa.ac.ke), which profiles the platform and its programmes. The AESA site was unveiled in October.
  - Sharing daily updates on twitter and using shared hashtags for its key events, including the GC Africa Community Meeting, the General Assembly, the DELTAS Africa annual meeting, the GC Africa Grants and the CIRCLE Champions workshops. A multimedia component has also been introduced on its social media platform to engage users and highlight impact of science and the AAS' programmes.
  - A weekly online newsletter sharing news from the AAS and funding opportunities from the Academy and its partners.
- Four media scholarships offered to journalists from South Africa, Nigeria and Uganda to attend the GC Africa Community Meeting. Four journalists from Kenya and South Africa were invited to judge the pitching your innovation session as part of efforts to build relationships with the media and to provide coverage for the event. The AAS sees the media as an important partner and continues to engage with pan African and global media, leading to the continued coverage of the Academy's work.

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**BREAKING NEWS**

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## SDGs: African govts must prioritise investments in research

ON MARCH 8, 2016 1:58 AM / IN HEALTH / COMMENTS

The 2016 Grand Challenges Africa meeting, flagship of the Alliance for Accelerating Excellence in Science in Africa (AESA) held in [Nairobi, Kenya](#) was a unique one. It featured 300 young promising innovators in Africa and renowned innovators and [guest speakers](#). It also featured 475 participants from 43 countries. The meeting was to guide the scientific research and innovation agenda for reaching the 2030 Sustainable Development Goals, SDGs.

One of the speakers was an Active scientist with the Africa Academy of Sciences and Programme Manager, Grand Challenges Africa, Evelyn Gitau. Driven by an uncommon belief in research and innovations, she is convinced that if Africa is self sustained in the area of research and development as well as pump enough funding in scalable innovations the continent will attain the Sustainable Development Goals, SDGs, by 2030.

Some of the media coverage from 2016

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You are here: Home » News » Africa » Twenty-nine early career scientists awarded CIRCLE Visiting Fellowships

## Twenty-nine early career scientists awarded CIRCLE Visiting Fellowships

February 5, 2016 in Africa, News

Twenty-nine early career scientists from 24 African universities and research institutions have been awarded Visiting Fellowships under the Climate Impact Research Capacity and Enhancement (CIRCLE) programme being implemented by the African Academy of Sciences (AAS).

AFRICAN NEWS, EHEALTH NEWS, SOUTH AFRICA

POSTED ON NOVEMBER 23, 2016 BY SIKHUMBUZO HELASANGANE

## \$7m Grant to Boost Africa's Breakthrough Health Solutions

SHARE THE ARTICLE SHARE ON FACEBOOK

The AESA in partnership with the Bill & Melinda Gates Foundation has launched the Grand Challenges Africa programme.

**Grand Challenges Africa Innovation Seed Grants**  
Request for proposals

Opening Date: 17 November 2016  
Closing Date: 17 February 2017

Visit [www.aesa.ac.za](http://www.aesa.ac.za) for more details

The Alliance for Accelerating Excellence in Science in Africa (AESA), an initiative of the African Academy of Sciences and the New Partnership for African Development (NEPAD), in partnership with the Bill & Melinda Gates Foundation has launched the Grand Challenges Africa programme.

Through the programme, the partners will provide a \$7 million grant focussed on fostering innovation and accelerating scientific breakthroughs that will improve Africa's key health and developmental outcomes.

The Grand Challenges Africa Innovation Grants will run for the next five years and will solicit ideas that can be developed into ground-breaking research and innovations. This will be achieved by providing up to \$100,000 in Grand Challenges Africa Innovation Seed Grants for two years to each of the up to 40 projects that will be funded over the five years the scheme will run.

"Solutions for Africa's challenges do exist within the continent. As an African grant-making body, we are laser-focused on tapping the best minds on the continent to develop innovative local solutions to our health and development challenges," said Director at AESA, Dr Tom Karuku.

## SCIENTIST DONATES PRIZE MONEY TO ADVANCE RESEARCH IN AFRICA

A KENYAN-BASED scientist has donated nearly Sh102.2million (US\$1 million) to support African research initiatives directed at developing and promoting scientific excellence.

Kevin Marsh, an Oxford Professor of Tropical Medicine, donated the prize money from the Al-Sumait award due to his achievements to control and eradicate malaria for nearly three decades, mostly at Kemri-Wellcome Trust Centre in Kilifi, Kenya.

The Al-Sumait honours people or institutions with remarkable achievements in economic and social, human resources and infrastructural development in Africa.

About Sh40.9million has already been transferred to the Africa Academy of Sciences (AAS) to set up a fund to help in the professional development of early career scholars.

AAS Executive Director Prof Berhanu Abegaz said: "We congratulate Prof Marsh for his prize, and we are also pleased to receive his pioneering contribution to support early career scholars in their effort towards professional excellence and leadership"

Prof Abegaz said he hoped that Marsh's generous gesture will inspire other philanthropists to contribute to science in Africa.

The one million USD annual prize is awarded to individuals or institutions in [Food, security, health and education](#).

Prof Marsh was awarded by the Kuwait Foundation for Advancement of Sciences last month by His Highness Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah, the Emir of the State of Kuwait.



*Keneth Ndua, Kenyan social entrepreneur and winner of the Pitching Your Innovation session*

### **Pitching Your Innovation**

A *Pitching Your Innovation* session was organised for the GC Africa Community Meeting to provide a platform for scientists to build partnerships with journalists and to train scientists to deal with and pitch their stories to the media. Four journalists were invited to judge the session, held at the GC Africa Community Meeting in February. Four out of 20 innovators who applied to

take part in the session were selected to present their innovations with Keneth Ndua, a Kenyan social entrepreneur winning for his simple language, anecdotes and humour, demonstrating impact of his innovation and bringing the product for judges to see. He pitched a stove that purifies water.

## Science\*Policy\*Africa

The SPA is the AAS's flagship newsletter, which it uses to share its work and developments in African science. It continued to produce the newsletter with four issues published quarterly in 2016.



## Other key events

### Workshop on Stem Cell Science and Applications



*Venant Tchokonte-Nana from Stellenbosch University speaking at the Stem Cell Sciences and Application workshop*

The African Academy of Sciences and the Stellenbosch Institute for Advanced Study (STIAS) held the third in a series of workshops on Stem Cell Sciences and Applications in South Africa. Thirty senior and young scientists from South Africa, Kenya, Nigeria, Sudan, Tunisia, Zimbabwe, Cameroon, Ghana, Brazil and India, attended the workshop, which recognised

the importance of the field in Africa, challenges that scientists face and mapped some suggestions to grow the field on the continent.

The workshop was the third workshop held under the AAS Cell Biology and Regenerative Medicine Programme (CB/RM) now renamed Stem Cell Sciences and Application, which aims to build capacity among young African scientists in the areas of stem cell science through training provided by various experts from India, Brazil and South Africa. The other two workshops were the Sensitisation Workshop on Capacity Building in Cell Biology / Regenerative Medicine held in November 2013 in Nairobi, Kenya, and the Training and Mentoring African Scientists in Stem Cell and Regenerative Medicine Research held in August 2014. The AAS and STIAS held the workshop to assess the progress of collaborations established so far from on-going CB/RM activities, highlight new training and research opportunities, provide a platform for networking, share the challenges they face and suggest ways of moving the programme forward.



## Precision Medicine in Public Health in Africa Roundtable



*Participants at the Precision in Public Health in Africa roundtable*

A roundtable in Ethiopia on Precision Medicine in Public Health in Africa that brought together African researchers from across the continent to explore how precision medicine can help alleviate the double burden of infectious and non-communicable diseases. A report from the meeting is available on the AESA microsite.

## AAS/RSTMH Joint Scientific Meeting



*A poster session at the joint scientific meeting*

A joint scientific meeting on the theme 'epidemiological transition' in Nairobi, Kenya, between the AAS and the RSTMH featuring keynote presentations from research leaders across Africa in a wide range of topics across different disciplines. The event was held after the DELTAS Africa annual meeting to provide grantees with an opportunity to network with researchers from the UK and Africa. It also represented the first time that the RSTMH had held a meeting outside of the UK.

### **Gene Drive Roundtable**



*Participants at the Gene Drive roundtable*

The AAS and FNIH convened a roundtable discussion on the potential of gene drive technology for malaria control. The roundtable brought together scientists from across Africa with expertise in infectious diseases, entomology and public health.

### **AAS/AMU Symposium on Current Research Trends in Mathematical Sciences**

The International Symposium and Pre-Symposium on current research trends in mathematical sciences and applications organised by the AAS and the African mathematical Union (AMU) were hosted by ECOWAS and NMC-UNESCO Chair on Mathematics in Abuja in May.

### **IFS Collaborative Research Meeting**

The AAS hosted the International Foundation for Science Collaborative Research Conference at its headquarters in Nairobi in February where it participated to further its interest in promoting excellence in science on the African continent and improving intra-African collaboration.

### **International Networking Opportunities for African Young Scientists: A Case Study of the Lindau Nobel Laureate Meetings**

Together with the Academy of Science of South Africa (ASSAf), the AAS organised a session at the Science Forum South Africa 2016 to highlight the impact of programmes promoting the professional development of young scientists and to suggest ways in which they can be supported to enhance their contribution to the science, technology and innovation. The meeting used the Lindau Nobel Laureate Meetings as a case study.

## Looking Forward

Activities lined up for 2017 are intended to ensure the AAS raises the profile of science, encourages governments to invest in the sector and continue leadership development for African researchers. These include but are not limited to:

### **Postdoctoral Fellowships**

Through AESA, the AAS will launch the Post-Doctoral Fellowship Programme in 2017 to build a critical mass of African research leaders who are well equipped to independently lead scientific research programmes, including the capacity to engage successfully with funders, governments, policymakers, communities and other stakeholders, and to serve as mentors and supervisors for the next generation of researchers in Africa.

### **Coalition for Research and Innovation (CARI)**

AESA is participating in CARI, an alliance of African science leaders, international funders and the private sector who have joined forces to catalyse investment in research and innovation. CARI aims to transform the leadership, governance and funding of African research, so that the leaders of African nations take ownership and set research agendas, and African researchers work equitably with global partners.

## Financial Accounts

The African Academy of Sciences Annual Report and Financial Statements  
For the year ended 31 December 2016

### STATEMENT OF INCOME AND EXPENDITURE (UNAUDITED)

	Notes	2016 USD	2015 USD
Grant income	2	17,959,040	1,908,482
Other operating income	3	455,634	373,780
Programme expenses		-13,755,660	-
Administrative expenses		(3,896,491)	(2,517,509)
<b>Surplus/(deficit) for the year</b>		<u>762,523</u>	<u>(235,247)</u>

The African Academy of Sciences Annual Report and Financial Statements  
For the year ended 31 December 2016

**STATEMENT OF FINANCIAL POSITION (UNAUDITED)**

**As at 31 December**

	Notes	2016 USD	2015 USD
<b>FUND BALANCES</b>			
Unrestricted funds		(182,348)	(497,749)
Endowment fund		5,166,238	4,715,800
Revaluation reserve	4	2,189,903	2,193,219
		<u>7,173,793</u>	<u>6,411,270</u>
<b>REPRESENTED BY</b>			
<b>Non-current assets</b>			
Intangible assets	5	122,785	121,463
Property and equipment	6	2,759,546	2,725,270
		<u>2,882,331</u>	<u>2,846,733</u>
<b>Current assets</b>			
Receivables	7	13,436	148,786
Cash and cash equivalents	8	7,196,285	6,655,875
		<u>7,209,721</u>	<u>6,804,661</u>
<b>Current liabilities</b>			
Payables	9	101,590	22,014
Deferred income	10	2,816,669	3,218,110
		<u>2,918,259</u>	<u>3,240,124</u>
<b>Net current assets</b>		<u>4,291,462</u>	<u>3,564,537</u>
		<u>7,173,793</u>	<u>6,411,270</u>

## Notes

1. At the time of publication of the AAS Annual report, the Audited financial reports had not been approved by the GC.
2. The financial reports prepared on a cash basis with accruals made at year end for provisions relating to the year yet to be paid out.
3. Year 2016 financials were prepared from a Dollar Accounting base
4. Note the deferred income amounts balances to be incurred in year 2017
5. The year 2016 had a 900% increase in grant income due to increased funding by the AESA platform which started operations 2015.





**The African  
Academy of Sciences**

*Driving Scientific and Technological  
Development in Africa*



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