

# The Role of Education, Training and Research for Global Health Equity

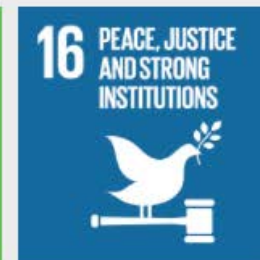
Abdallah S Daar

University of Toronto

Leopoldina, S20, March 22, 2017

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## Sustainable Development Goals





## The Future of SCIENTIFIC ADVICE TO THE UNITED NATIONS

A Summary Report to the Secretary-General  
of the United Nations from the  
**SCIENTIFIC ADVISORY BOARD**  
September 2016

## REDUCING INEQUALITIES: A global imperative

*The focus should be on inclusive approaches centered on knowledge of all types that have withstood the test of time.*

# THE DELPHI STUDY: Identifying grand challenges

**O**ne key asset of the UN Scientific Advisory Board is its ability to take a global perspective. This allowed the Board to make a fresh assessment of some of the most pressing global challenges. Eight grand challenges emerged in May 2015 from a Delphi study<sup>2</sup> initiated the year before in which the UN Secretary-General, Ban Ki-moon, invited the Board to identify “scientific concerns about the future of people and the planet.”

These issues are addressed in detail in the Delphi study on the Top Challenges for the Future of Humanity and the Planet (SAB/4/INF/7).<sup>3</sup>

Immediately clear from the list of grand challenges is that these cannot be categorized as “scientific concerns” alone, but as serious problems for the entire world community. The Board’s Delphi study could therefore help prioritize actionable ideas of use in pursuit of the SDGs, and could also stimulate long-range thinking about the

development and implementation of policies needed to respond to global challenges.

Science itself cannot be categorized as a special interest or even as a useful tool, but must be seen as integral to any serious consideration of the challenges we face, the powerful policies that will be needed to surmount them, and the development of adaptation and mitigation strategies and technologies.

## RECOMMENDATIONS

- 1.** The United Nations should seek a broader audience for the Delphi study findings through active outreach, moving them from science to policy and to society.
- 2.** To address these grand challenges the United Nations should press for greater collaboration among international science networks, including professional societies and academies, and indigenous and local knowledge holders.

## *Scientific concerns about the future and the planet*

- 1.** Improving ocean science and governance for the development of sustainable ocean knowledge-based economies
- 2.** Reversing global biodiversity loss and creating a new paradigm for the global tropics
- 3.** Developing a global strategy and response system to fight infectious diseases and antibiotic resistance
- 4.** Ensuring national public investments in basic research as a fraction of GDP (0.2-1 percent)
- 5.** Averting human disasters through prediction of extreme environmental events
- 6.** Changing the fossil fuel paradigm through development of affordable emissions free technologies
- 7.** Providing potable water for all
- 8.** Addressing the nexus of stressed planetary resources such as water, food, and energy, their unequal use, and population growth

**2** The Delphi method is used to distill knowledge and build reliable consensus among experts who may not be in the same geographical location. In this case it involved three rounds of structured, sequential questioning of the members of the UN Scientific Advisory Board, with controlled feedback.

**3** [http://en.unesco.org/un-sab/sites/un-sab/files/SAB\\_4\\_INF\\_7\\_Delphi\\_Study.pdf](http://en.unesco.org/un-sab/sites/un-sab/files/SAB_4_INF_7_Delphi_Study.pdf)

# Why the Focus on Developing Countries, especially Africa

- Large burden of both communicable and non-communicable diseases
- Health indicators need to converge with high income countries
- Large populations
- Greatest needs
- Greatest opportunities to make a difference
- HUGE POTENTIAL FOR INNOVATION
- Threats e.g. Ebola can spread to other countries

# Institutional Engagements to Foster Education, Training and Research

- **African Academy of Sciences (whole of Africa)**
  - AESA (Alliance for Accelerating Excellence in Science in Africa)
    - Grand Challenges Africa
    - DELTAS (Developing Excellence In Leadership, Training And Science Africa Initiative)

Support from Wellcome Trust, DFID (UK), Gates Foundation

# AAS: AFRICAN ACADEMY OF SCIENCES



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## AAS recognises exceptional young scientists

# AESA: ALLIANCE FOR ACCELERATING SCIENCE IN AFRICA



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Alliance for Accelerating Excellence in Science in Africa (AESA)



DELTAS Africa grantee Dixon Chibanda

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

The DELTAS Africa programme, a scheme initiated by the [Wellcome Trust](#) in partnership with AESA and other partners, supports the African-led development of world class researchers and research leaders in Africa.

[Read more about the programme.](#)

## Grand Challenges Africa

### Grand Challenges Africa

Grand Challenges Africa is a scheme aimed at inspiring innovation to address and significantly impact major health problems in Africa. The initiative, which is a partnership between the AAS-AESA and Bill and Melinda Gates Foundation will award seed and full grants based on the scope of the projects.

[Read more about the programme.](#)



CBSRI

### Good Financial Grant Practice Programme

The Good Financial Grant Practice (GFGP) is a programme under the AESA platform that will involve the development of a pan African standard.

[Read more about this programme.](#)

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)



## Evelyn Gitau

NEF Fellow



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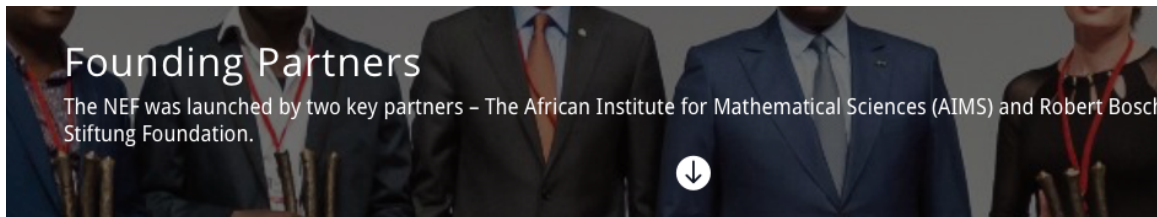


**Country:** Kenya

**Area of Research:** Cellular Immunology

**Institution:** KEMRI-Wellcome Trust Programme

Evelyn Gitau was born and raised in Dagoretti, Nairobi Kenya. She greatly attributes her career in science to the exposure she got both at primary and secondary level on the use of science to try improve the welfare of those less fortunate. She continued on this track when she joined the KEMRI-Wellcome Trust Programme as a Research Assistant in Pharmacology in 2002.



## Founding Partners

The NEF was launched by two key partners – The African Institute for Mathematical Sciences (AIMS) and Robert Bosch Stiftung Foundation.



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The Next Einstein Forum (NEF) is a platform that brings together leading thinkers in science, policy, industry and civil society in Africa to leverage science to solve global challenges. Founded in 2013, the NEF was launched by two key partners – The African Institute for Mathematical Sciences (AIMS) and Robert Bosch Stiftung.

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# Support from Robert Bosh Stiftung



# Institutional Engagements to Foster Education, Training and Research

- African Union (New Partnership for African Development (NEPAD))
  - High Level African Panel on Emerging Technologies
- Stellenbosch Institute for Advanced Study (STIAS)
  - Health in Transition Program
  - Global Mental Health
  - Developmental Origins of Health and Disease (DOHaD) (Early Childhood Development)

# Institutional Engagements to Foster Education, Training and Research

- Grand Challenges Canada
  - Saving Lives at Birth
  - Saving Brains
  - Global Mental Health
  - Stars in Global Health Programme: huge impact in Africa
- World Diabetes Foundation
  - Pregnancy and Diabetes
  - Diabetes and TB
  - Building capacity for care of diabetes in Low and Middle Income Countries

WDF 2002-2017

The World Diabetes Foundation celebrates 15 years of making





## GACD

Leading research collaborations on chronic diseases

## Collection of the world's biggest public research funding agencies.

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### History

The Global Alliance for Chronic Diseases takes its origin in the [Grand Challenges Partnership first announced in Nature in 2007](#). This partnership was inspired by a study published in Nature involving a Delphi panel recruited from fifty countries around the world. The study identified twenty Grand Challenges in chronic non-communicable diseases and highlighted a set of priorities to address the burden of cardiovascular diseases, type 2 diabetes, chronic respiratory diseases, and certain cancers. This largely preventable, yet relatively ignored and under-resourced, group of conditions cause the greatest global share of death and disability, accounting for around 60 percent of all deaths worldwide. In low- and middle-income countries, the burden is especially significant and is projected to rapidly rise.

### Timeline

Nov 2007

[Announcement of Grand Challenges Global Partnership inspired by Delphi-based CNCDS study featured in Nature \(lead author Dr Abdallah Daar\)](#)



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## THE EDCTP, A EUROPEAN-AFRICAN PARTNERSHIP ON AIDS, MALARIA AND TUBERCULOSIS

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Wednesday, 20 October, 2010

The Europe and Developing Countries Clinical Trials Partnership (EDCTP) is a unique collaboration amongst 14 European Union countries, Norway, Switzerland and 47 sub-Saharan African countries, which seeks to overcome the three main poverty-related diseases: AIDS, malaria and tuberculosis. Since its launch in 2003, it has already achieved advances in research and innovation which have benefited the people of Africa.



# Role of Education, Training and Research

- Health in Transition: demographic, epidemiological, technological
- Huge shortages of health manpower
- Very little (detailed) knowledge in context e.g. epidemiological data
- Big data will be a global resource
- Investing in a more equitable, healthier, wealthier world=more peace
- Need education, training and research to internalize and implement current knowledge