



AIMS

African Institute for
Mathematical Sciences
NEXT EINSTEIN INITIATIVE

The AIMS Knowledge Ecosystem & The Gender Summit

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June 19, 2018

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EVP, The African Institute for Mathematical Sciences

The Challenge: Mathematical & Scientific skills are the backbone of modern societies

- Africa missed the first 3 technological revolutions
- Less than 25% of African students go into STEM fields at tertiary level
- No African government spends more than 1% of GDP on research and development
- Africa produces less than 1% of global research output

African governments are obliged to outsource STEM related services to expatriates

The Opportunity: Africa's untapped talent

By 2050
40% of youth
will be African.



11 million

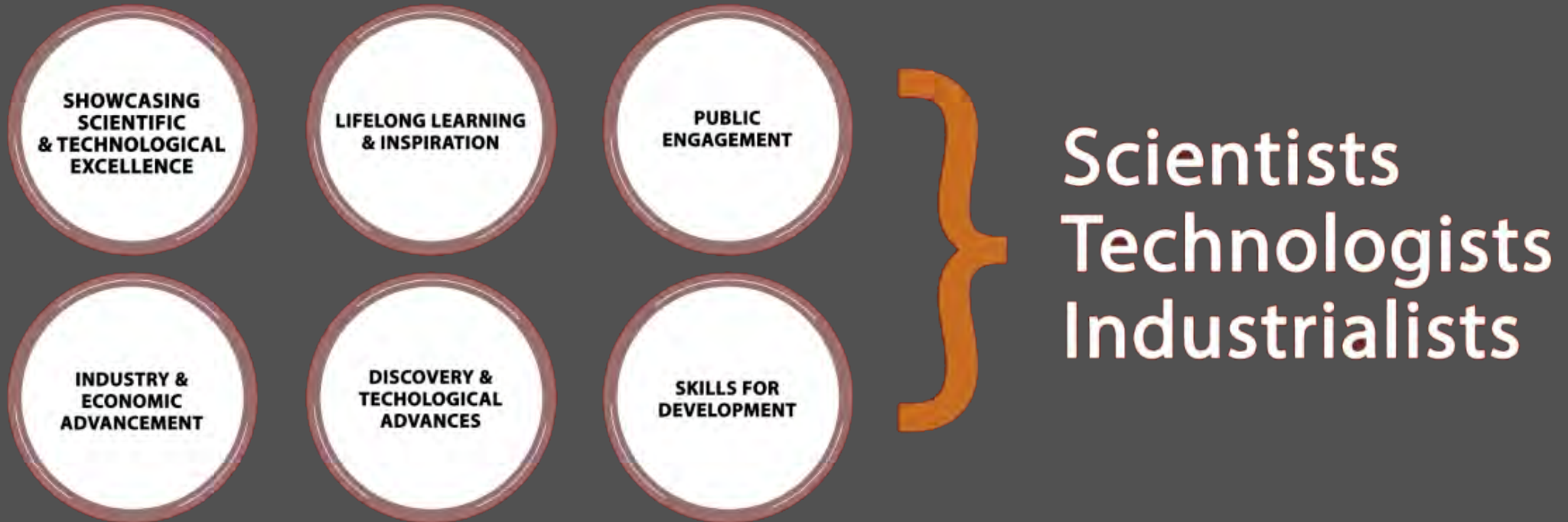


Results: To Date

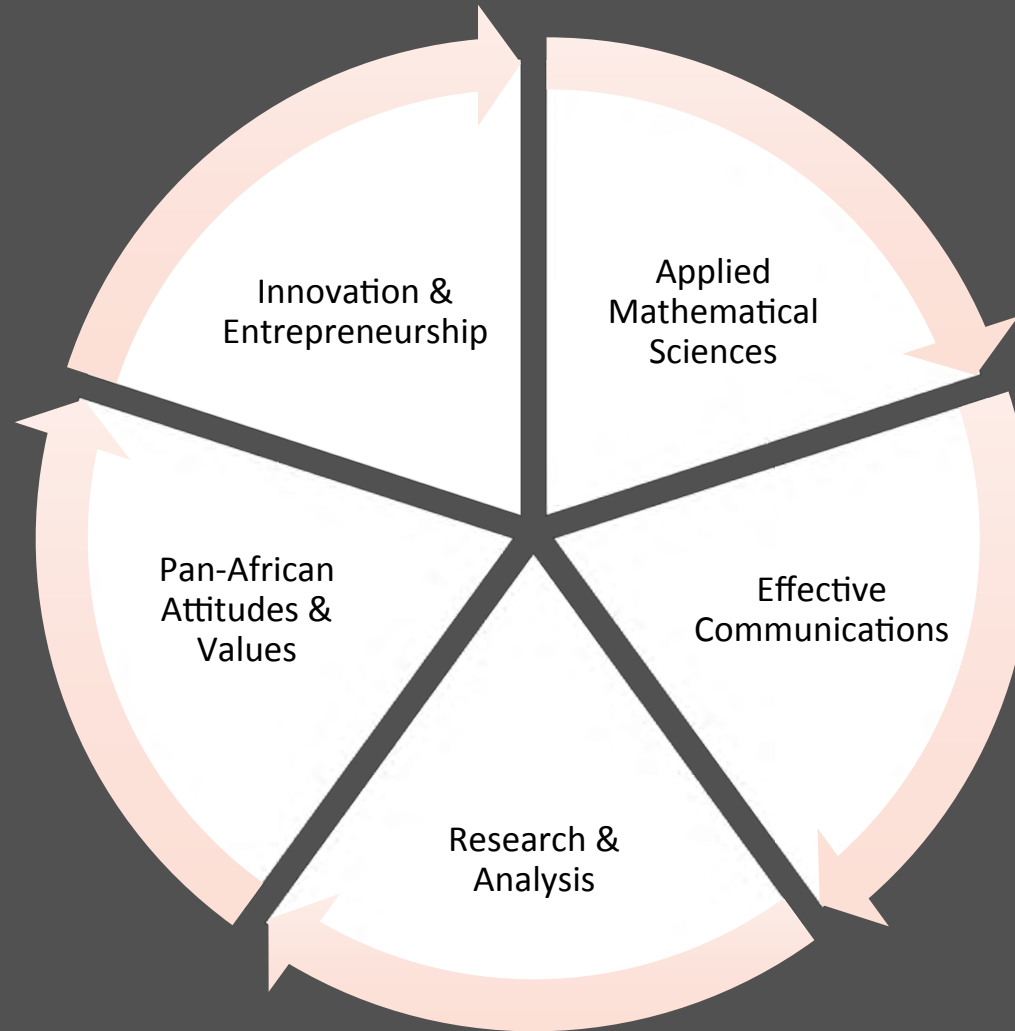
- 1500 Graduates from 42 countries of which 31% are women
- 6 Centres across Africa – South Africa, Cameroon, Tanzania, Senegal, Ghana, Rwanda



The Solution: AIMS Knowledge Ecosystem



1. AIMS Graduates: develop skills in



A PROSPEROUS AFRICA BASED ON INCLUSIVE GROWTH AND SUSTAINABLE DEVELOPMENT



Eradication of
poverty for
all Africans



Well
educated
citizens



Skills underpinned by
science, technology and
innovation

*But education has to have practical
applications in the real world*



Agriculture



Infrastructure



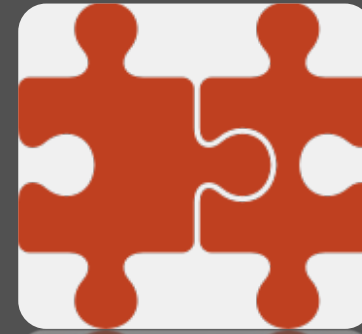
Climate change



2. AIMS Research Centres / Chairs



- Facilitating curiosity-driven and applied research at AIMS Research Centers in various scientific and technical disciplines



- Providing research chairs to Africa's top scientists to conduct groundbreaking research with global impact on the African continent
- 6 Chairs currently at AIMS, 5 new chairs coming

AIMS Research Chairs



3. AIMS Industry Initiative

Fostering skills development for public and private sector



Connecting graduates to industry by providing career tools and valuable experience through AIMS Industry Initiative and an Integrated Masters Program.



Providing valuable technical talent to a network of partners in key industries including finance, health, energy, agriculture and ICT.

4. Teacher Training (The pipeline)

Inspiring lifelong learning to tackle real world problems

AIMS-Schools Enrichment Centre (AIMS-SEC)- SOUTH AFRICA

- Teacher professional development program, in partnership with the SA government for teachers in rural and township communities
- More than 1500 teachers have completed the 3-month Mathematical Thinking course
- Over 200 teachers, subject advisers and field trainers graduated from the 2-year Advanced Certificate in Education (ACE)



Awarded UNESCO-Hamdan Bin Rashid Al-Maktoum Prize for Outstanding Practice and Performance in Enhancing the Effectiveness



5. Quantum Leap Africa

Pursuing breakthrough advances at the frontiers of data science and quantum technology, preparing Africa for the next industrial revolution

Rwanda



1. Intelligent Cities and Communities



2. Smart Systems and Design



3. Quantum Technologies

6. Next Einstein Forum

Showcasing Africa's emerging scientific talent, engaging the public and impacting decision-making in government and industry.



NEF Institution



NEF Science and
Technology Institute



Regular roundtables
Scientists-Policymakers-
Private Sector



NEF Fellows Program



NEF Ambassadors
Program



Benchmarking Studies
and Reports



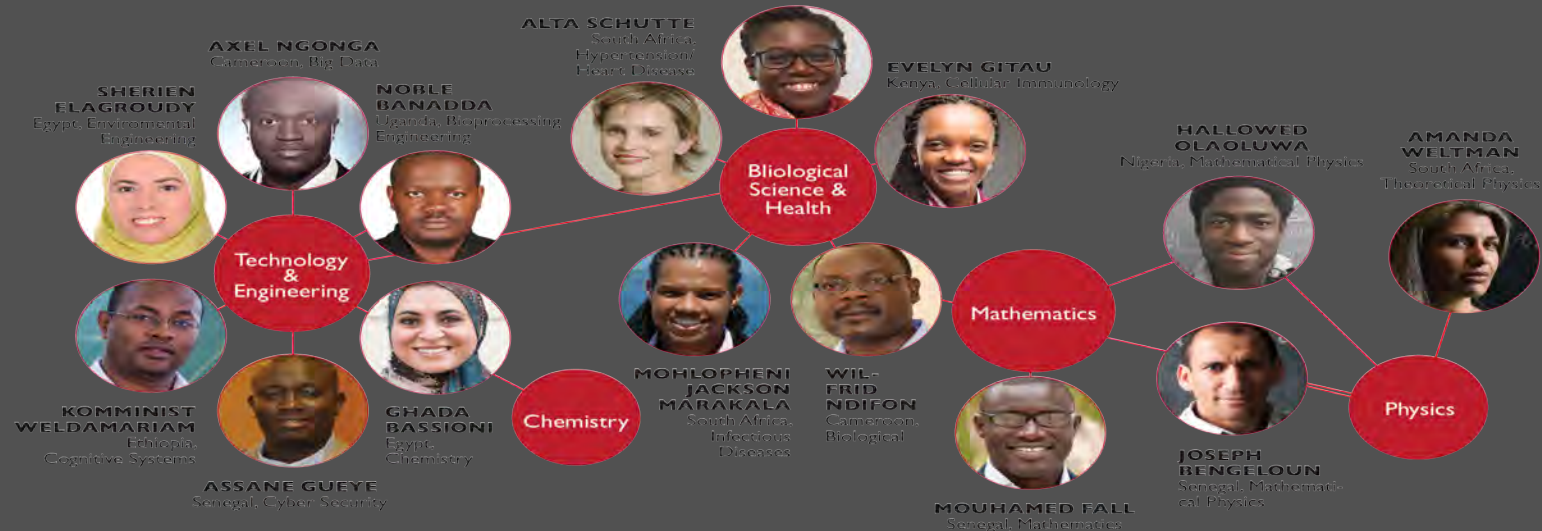
Working with AIMS WIS
on Women in STEM
Program

THE NEF COMMUNITY-OF-SCIENTISTS

Precision Health

Robotics

Energy & Green Growth



Agriculture

FinTech

Cyber Security

7. Gender in STEM

Global Context

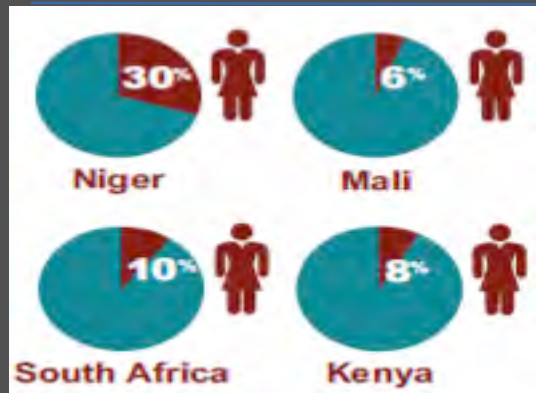


Only 30% of the world's researchers are women

Causes of gender gap in STEM

- Stereotypes
- Self-Limiting beliefs
- Work-Life Balance
- Gender Biases
- Lack of role models

African Context



WHAT ARE WE DOING AT AIMS TO CONTRIBUTE TO UNLEASHING THE POTENTIAL OF WOMEN THROUGH STEM EDUCATION



Promoting gender equality and inclusion in STEM & promoting science as a driver for gender equality

Building a pan-African Evidence base

Promoting best practices & recommendations

Scaling up what works

AIMS Approach to reduce the Gender Gap in STEM

AIMS actively encourages women to apply to its programs and AIMS classes have consistently attained a proportion of around one-third women, far higher than typical postgraduate programs in the mathematical sciences.

Empower Women & Increase Female Participation

- ✓ Gender Responsive Pedagogy in Teacher Training
- ✓ Outreach to engage young women and girls in STEM
- ✓ Mentoring clubs for girls in Math
- ✓ AIMSWIS Initiative
- ✓ Gender Summit Africa



Engage Men & Challenge Stereotypes

- ✓ Organizational Efforts to Raise Awareness
- ✓ AIMS living & learning model cultivates GE
- ✓ Research that impacts Women

How AIMS is Engaging Men on GE



Raising Awareness



Learning & Living



Research that
Impact Women



Engaging Young Male Graduates to Gender
Equality in Science & Society



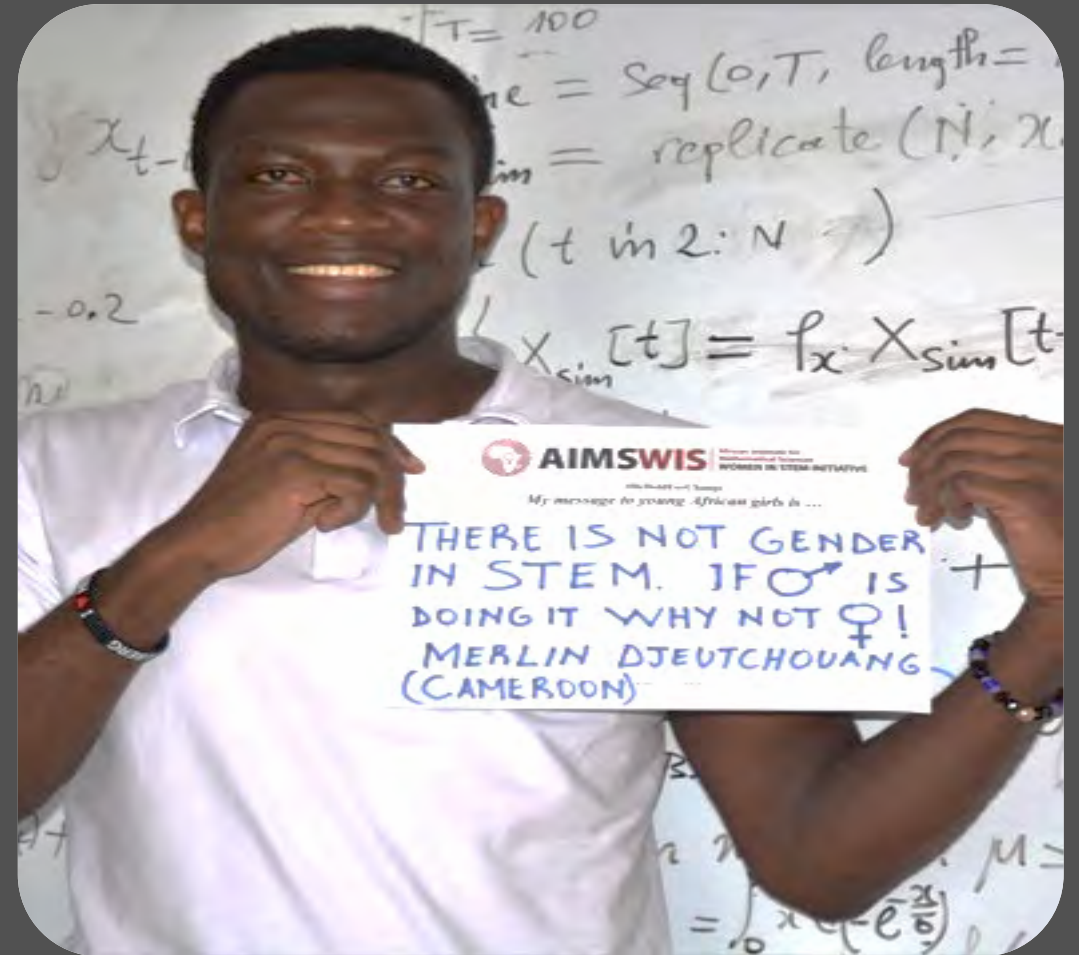
Organizational Effort to Raise Awareness (1/3)

AIMS provides an inclusive and gender sensitive environment for both women and men

Students are informed during their on-boarding that everyone at AIMS is to be treated equally out of respect for each other

Every student is actively engaged in a range of activities:

- Gender Training
- Celebration of International Women Day
- Outreach to secondary schools
- Mentoring activities...



PARTNERS and building...

- FAWE
- Gender summit
- WAAW Fdn
- ASSAf
- UNESCO
- AAS
- AUC
- AFDB
- SUBREGIONAL BODIES & Others

WHAT NEXT

**GENDER
SUMMIT
AFRICA**

**NEF 2020
NAIROBI**

**BUILD A
COLLABORATING
INSTITUTION IN
PARTNERSHIP WITH
THE NEF**

**DATABASE FOR
AFRICAN WOMEN IN
SCIENCE WITH AAS**

AIMS Stories of Impact



**Tabitha Gathoni
Mundia**

Kenya

AIMS-SA 2009

- At Equity Bank Group, Tabitha played a lead role in developing the world's first mobile money statistical scorecard: Mkesho – utilized by Equity Bank to grant credit to the unbanked population in Kenya
- In 2012, she joined the International Finance Corporation (IFC) as a risk analyst



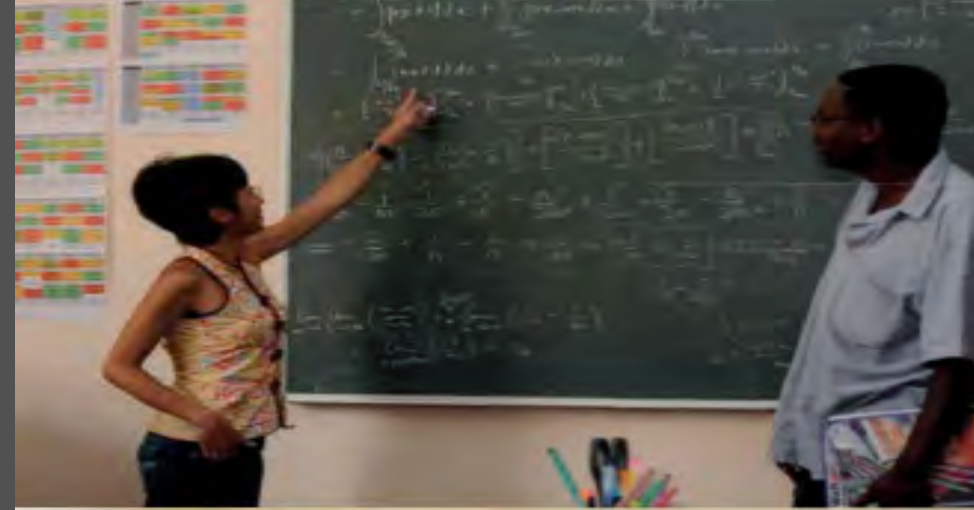
**Dr. Martial Ndeffo
Mbah**

Cameroon

AIMS-SA 2005

Currently Associate Research Scientist at Yale School of Public Health focusing on developing mathematical, epidemiological, economic, and behavioral models to address public health challenges, including HIV and schistosomiasis in sub-Saharan Africa, dengue fever in Brazil and Thailand, and influenza in the USA.

Thank You!



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