



# AIMS

African Institute for  
Mathematical Sciences  
NEXT EINSTEIN INITIATIVE

## WE ARE LEADING AFRICA'S SOCIO-ECONOMIC TRANSFORMATION THROUGH:



Innovative  
scientific training

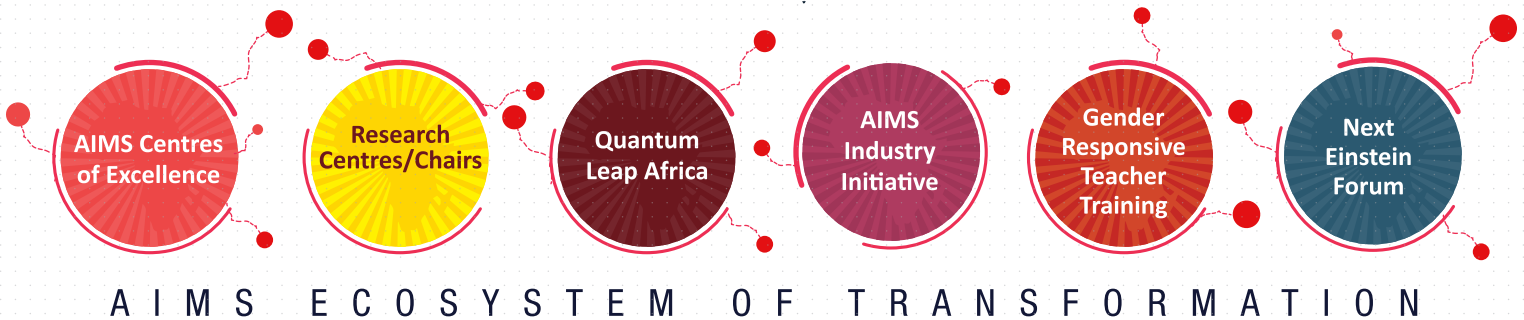


Technical advances  
& discoveries



Strategic foresight  
and policy design

## HOW ARE WE DOING THIS?



## PROFILE OF AIMS ALUMNI



OVER  
**2000**  
ALUMNI  
FROM 43 COUNTRIES SINCE 2003

OVER  
**70%**

OF OUR ALUMNI REMAIN  
ON THE CONTINENT



## FIVE FACTS ABOUT AIMS SOUTH AFRICA



**1ST CENTRE,  
CREATED IN 2003**

885 STUDENTS GRADUATED,  
34 (41% WOMEN) ADMITTED FOR 2020/2021



**FULL SCHOLARSHIPS FOR  
QUALIFIED STUDENTS**



**HOSTED OVER 500  
RENOWNED LECTURERS  
FROM OVER 40 COUNTRIES**



**ADMITS TWO INTAKES  
EACH YEAR IN AUGUST AND JANUARY**

In Partnership with



@AIMSNext

AIMS Next Einstein Initiative

AIMS Next Einstein Initiative

@AIMSNext



# AIMS

African Institute for  
Mathematical Sciences  
SOUTH AFRICA

## A GLANCE AT AIMS SOUTH AFRICA PROGRAMS



### MSc in Mathematical Sciences

AIMS offers an intensive structured Master's degree in mathematical sciences entailing 10 months of course work, research and the oral defence. The program provides a strong grounding in end-to-end skills, from problem formulation, estimation, prioritization, and generally applicable mathematical and computing methods in big data and computer security, to clear and concise scientific report writing. The aim is to equip students with the necessary tools and confidence for policy analysis and decision making. All AIMS students benefit from full scholarships, are selected through a rigorous application process and must have studied mathematics or related sciences for at least four years (4-year BSc or Master's I).



### AIMS Schools Enrichment Centre

AIMSSEC identified a gap between opportunities for previously disadvantaged rural South African teachers concerning transition rates into mathematics and science careers for their learners. AIMSSEC offers courses in Mathematical Thinking, an advanced certificate in teaching, as well as an advanced diploma in education, to strengthen professional development, pedagogical approaches and raise the quality of teaching and learning mathematics.



### House of Science

The AIMS House of Science is the coordination Hub of AIMS South Africa's public engagement activities, mandated to advance leadership, knowledge and skills for scientific outreach and science communication for AIMS students and researchers. House of Science also provides mentoring and capacity building to enhance and up-scale AIMS students and researchers in research dissemination and community outreach.



### Research Centre

AIMS South Africa has a well-established Research Centre which hosts regular workshops and conferences under the leadership of:

- Dr. Bubacarr Bah, German Research Chair of Mathematics with specialization in Data Science ;
- Dr. Mark Sedjro, German Research Chair for Applied Mathematics ;
- Prof. Cang Hui, Chair in Mathematical and Theoretical Biosciences under the South African Government Research Chair Initiative (SARChI) ;
- Prof. Mario Santos, SARChI Chair in Cosmology with Multi-Wavelength Data.



### The AIMS-ESMT Industry Immersion Program

This program provides opportunities for recent AIMS graduates to participate in an 18-week residential and fully-funded Industry Immersion Program to foster skillsbuilding and develop business linkages between African graduates and German business operating in Africa through internship and post-graduate employment. The program is implemented in partnership with the European School of Management and Technology (ESMT Berlin), and is supported by the German Federal Ministry for Economic Cooperation (BMZ) through the German Academic Exchange Service (DAAD).

## ALUMNI SPOTLIGHT



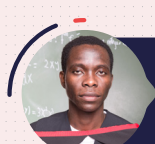
**Dr. Bubacarr Bah**  
(AIMS South Africa) – **Gambia**

Dr. Bah is passionate about developing capacity in applied mathematics and data science research in Africa. He is building a vibrant research group in the applications of data science, and the development of algorithms for communications and signal processing. After earning a BSc in mathematics and physics from the University of The Gambia, he obtained an MSc in mathematical modelling and scientific computing from the University of Oxford, Wolfson College and a PhD in applied and computational mathematics from the University of Edinburgh, Scotland.



**Dr. Nantsoina Cynthia R.**  
(AIMS South Africa, 2012/13) – **Madagascar**

Nantsoina completed her undergraduate studies at the University of Antananarivo, before joining AIMS South Africa in 2012. After completing a Master's at Stellenbosch University in 2013, she was awarded a DAAD scholarship to complete her PhD at Stellenbosch in close collaboration with Tel Aviv University. After obtaining her PhD in December 2016, she became a postdoctoral fellow AIMS South Africa till August 2018, after which she joined Clemson University, South Carolina, as Assistant Professor. Her research is mainly on field arithmetic and algebraic number theory.



**David Niyukuri**  
(AIMS South Africa, 2015/16) – **Burundi**

David is a laureate of the NRF-TWAS African Renaissance Doctoral Fellowship, which he is completing at the South African Centre for Epidemiological Modelling & Analysis (SACEMA). His research focuses on developing new methodologies for HIV prevention by understanding transmission dynamics using bio-behavioural data & phylodynamics. David was part of a team of epidemiologists who assisted the World Health Organisation (WHO) in the Democratic Republic of Congo (DRC) during the Ebola outbreak in May 2019. An alumnus of the Lindau Nobel Laureate Meeting of 2018, he is a member of the Infection Control Africa Network and the Next Einstein Forum Community of Scientists.



**Dr. Omowunmi Isafiade**  
(AIMS South Africa, 2010/11) – **Nigeria**

A post-doc researcher at the University of the Western Cape (UWC), Omowunmi's research interests include machine learning, ubiquitous intelligence, pattern recognition and data-driven decision support. She is the laureate of various awards, such as the NRF-DST Innovation Postdoctoral Fellowship (2017) and the prestigious l'OREAL-UNESCO for Women in Science award (2014). Her research on fostering smart city development in developing nations received the best paper award at ITU Kaleidoscope: Challenges for Data-Driven Society conference, Nanjing, China (2017).

WE BELIEVE THE NEXT EINSTEIN WILL BE AFRICAN!

