



The World Academy of Sciences

for the advancement of science in developing countries

Capacity Building Programmes for Science and Technology in the Global South

Peter McGrath – Coordinator, TWAS Science Diplomacy Programme;
– Coordinator, InterAcademy Partnership (IAP)
Email: mcgrath@twas.org



**ABDURRAHMAN,
Naeem Mohamed**
Libya



ALBARWANI, Sulayma
Oman



ENSHASSI, Adnan
Palestine (West Bank and
Gaza Strip)



**CHERKAOUI EL
MOURSLI, Rajaa**
Morocco



MADKOUR, Magdy
Egypt



EL-KHOZONDAR, Hala
Palestine (West Bank and
Gaza Strip)



**IBRAHIM, Muntaser
Eltayeb**
Sudan



JEREW, Dakhil Hassan
Iraq



BAHRI, Akiça (Akissa)
Tunisia



BOUJAOUDE, Saouma
Lebanon



**OKEKE, Francisca
Nneka**
Nigeria



**BAKIBINGA, David
Justin**
Uganda



ALMOMIN, Sabah
Kuwait



**AL-KHARAFI, Fayzah
M.A.**
Kuwait



**OLUNLOYO, Vincent
Olusegun Sowemimo**
Nigeria



MANDO, Abdoulaye
Togo



**EZIN, Jean-Pierre
Onvèhoun**
Benin



JONES, Monty Patrick
Sierra Leone



TOURE, Mactar
Senegal



**ÉHOLIE, Rose
Hubertine**
Côte d'Ivoire



DALKARA, Turgay
Turkey



**HAMDAN, Mohammad
Ahmad**
Jordan



HEONG, Kong Luen
Malaysia



HUSSAIN, Rabia
Pakistan



ZAKRI, Abdul Hamid
Malaysia



ERZAN, Ayse
Turkey



**YUSOFF, Khatijah
Mohamad**
Malaysia



**JAN, Mohammad
Qasim**
Pakistan



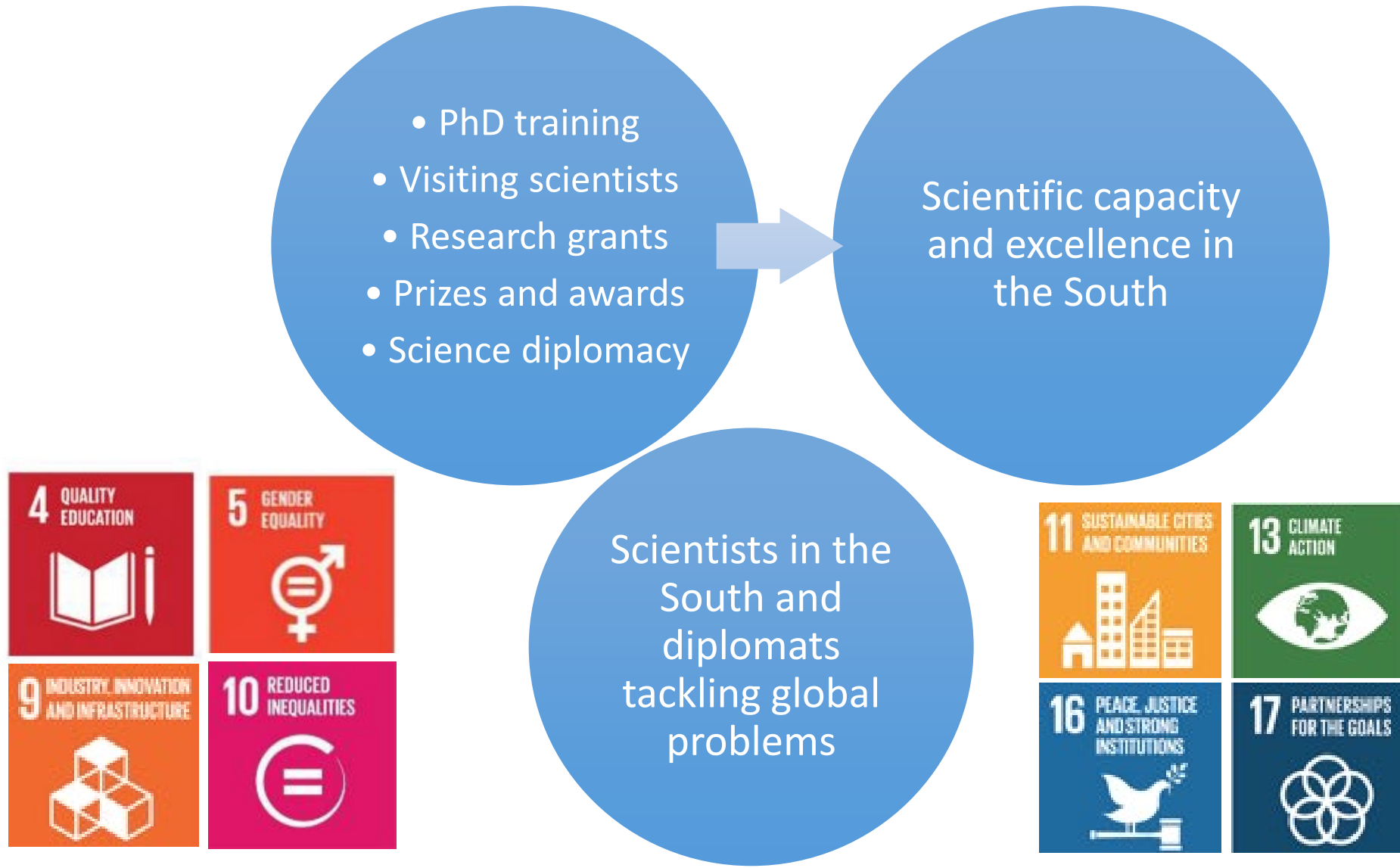
HASAN, Mashooda
Pakistan



KHAN, Haseena
Bangladesh

**The Academy in its memberships brings together
more than 1200 scientists of the highest level**

TWAS Programmes – in line with the SDGs



The role of TWAS Programmes: build research capacity and scientific strength

- Increase research skills
- Improve research infrastructure
- Support early-career scientists
- Promote and catalyze research links
- Reward scientific excellence

TWAS Programmes – in line with the SDGs

- **Research Grants**
- **PhD and Postdoctoral Fellowships**
- **Exchange/Mobility Schemes**
- **Seed Grants for New African Principal Investigators**
- **Recognizing Scientific Achievements: Awards**
- **Regional Partners**
- **Science Diplomacy**
- **Climate Action**
- **Young Affiliates and TYAN**

TOTAL no. of programmes: 60+

TOTAL no. of opportunities/awards offered per year: 600+

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Research Grants Programme



- Longest standing programme at TWAS
- Research projects in the **basic sciences**
- Core grant for **equipment** and **consumables**
- Support for **international conference** and **open access publishing**
- **2 schemes:** *Individual Grants* for early-career scientists
Group Grants for established researchers
- Group Grants also include funds for **MSc student training**
- **2,763 grants awarded** between 1986-2022 period thanks to Sida
- Among awarded scientists, many **African LDCs** have benefited

66 awards
in 2022

TWAS Programmes – in line with the SDGs



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Article | [Open Access](#) | Published: 14 October 2020

High abundance of the colistin resistance gene *mcr-1* in chicken gut-bacteria in Bangladesh

Salekul Islam , Umme Laila Urmi, Masud Rana, Fahmida Sultana, Nusrat Jahan, Billal Hossain, Samiul Iqbal, Md. Moyazzem Hossain, Abu Syed Md. Mosaddek & [Shamsun Nahar](#) 

Scientific Reports **10**, Article number: 17292 (2020) | [Cite this article](#)

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DR. SHAMSUN NAHAR,
A 2017 GRANT RECIPIENT
FROM BANGLADESH



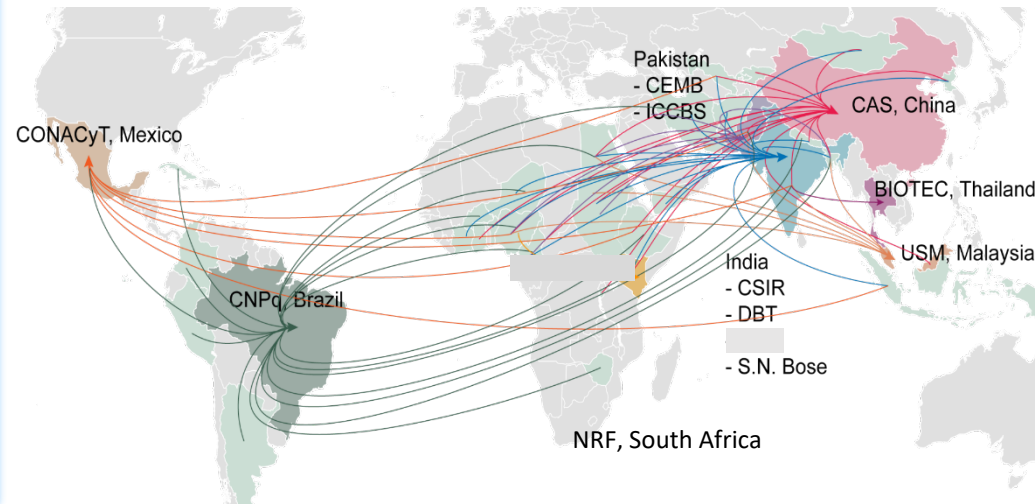
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TWAS PhD FELLOWSHIPS



- South-South mechanism
- **9 Programme Partners:** centres of excellence in emerging economies (Brazil, China, India, Pakistan, South Africa, Turkiye)
- **778 PhDs on site** in the host countries in 2022.
- **1,018 PhD awardees have graduated** thanks to TWAS and its Partners since the onset in 2004.
- **Over 2,000 peer-reviewed publications** by TWAS PhD graduates.

TWAS South-South PhD Fellowships

Established in 2004

Number of partners in emerging economies: 19

PhDs currently onsite in 2022: 778

Total number of fellowships offered since inception: 2,363

% awards to women: 28%

% awards to LDCs: 27%

% awards to Africans: 57%

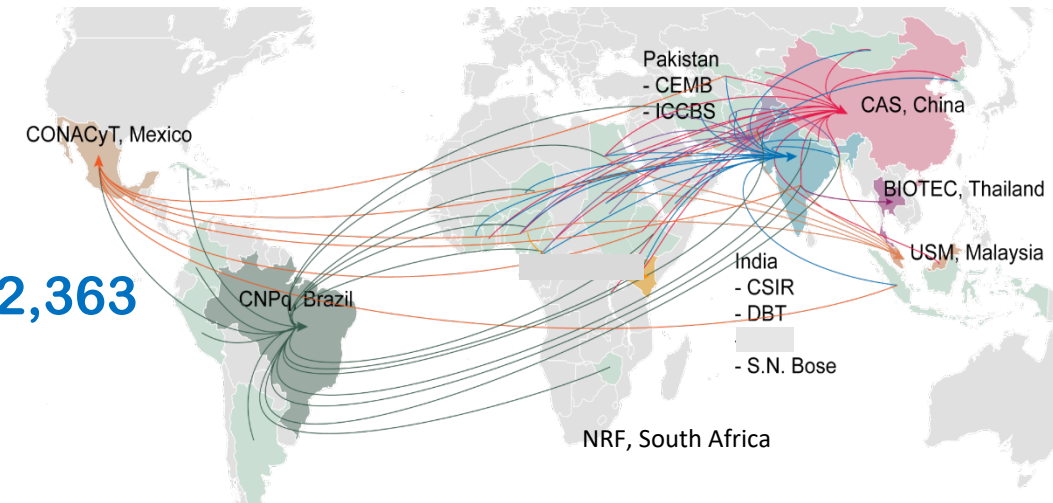
Number of developing countries covered in awards: 81

Number of graduates since inception: 1,018

Examples of well-represented LDCs: Bangladesh, Ethiopia, Nepal, Mozambique, Rwanda, Sudan, Tanzania and Uganda

Number of graduates in 2022: 47 from 16 developing countries

Number of publications from 2022 graduates: 105



TWAS Programmes – in line with the SDGs

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EXCHANGE PROGRAMMES

- **Research training and transfer of skills**
- **Collaboration and interdisciplinary research**
- **Possibility of building long-lasting links**
- **Internationalization, ideas, innovation**
- **Inspiration and capacity building**

TWAS Mobility Programmes for Research Visits

Visiting Professors

Programme	Sponsor/donor	Partner	Mechanism
TWAS Visiting Expert	Italian Government	—	South-South North-South
TWAS Research Professors in LDCs	Italian Government	—	South-South North-South

Visiting Researchers

UNTBLC-TWAS-ICGEB South-South Programme for Exchanges and Collaborations	United Nations Technology Bank for Least Developed Countries	International Centre for Genetic Engineering and Biotechnology	South-South
UNTBLC-TWAS-ICGEB South-North Programme for Exchanges and Collaborations	United Nations Technology Bank for Least Developed Countries	International Centre for Genetic Engineering and Biotechnology	North-South
TWAS-SISSA-Lincei Research Cooperation Visits Programme	Italian Ministry of Foreign Affairs and International Cooperation, Italian Agency for Development Cooperation	Accademia Nazionale dei Lincei, Scuola Internazionale Superiore di Studi Avanzati	South-North
TWAS-DFG Cooperation Visits Programme	German Research Foundation (DFG)	German Research Foundation (DFG)	South-North
TWAS-UNESCO Associateship Scheme	Italian Government	—	South-South
TWAS Fellowships for Research and Advanced Training	Italian Government	—	South-South

TWAS Visiting Expert Programme

- The Scheme aims at supporting research visits by scientists with established competencies.
- The programme is for either training or collaboration.
- It can work both South-South and North-South.
- Possibility to reserve awards for Argentinian scientists through earmarked funds provided by Argentina.

Professor N'Guerekata at the Faculty of Science, University of Bangui, Central African Republic



From Gaston Nguerekata

Reply

Reply All



Forward

More

Subject **Re: TWAS Research Professor_Prof. N'Guerekata**

29/01/2019, 18:

To exchanges@twas.org ★

Dear Colleagues

As a result of my nomination as Research Professor at the University of Bangui., I am happy to inform you that my Ph. D. student Roger Enock Oueama Guengai has his second paper published (cf attached) and is now writing his dissertation. He might defend the dissertation sometime this summer in Bangui. He will be the first Ph.D. in mathematics who graduated from the University of Bangui.
Thank you for TWAS support.

Cordially.

Gaston M. N'Guerekata, Ph.D.

Associate Dean

University Distinguished Professor of Mathematics

The World Academy of Sciences Fellow

The African Academy of Sciences Fellow

School of Computer, Mathematical and Natural Sciences

Morgan State University

Baltimore, MD 21251 USA



TWAS Visiting Expert Programme

Examples of awards benefiting African countries

SUSTAINABILITY VISITING EXPERT	FROM	GENDER	HOST COUNTRY	VISIT DATES
Nwani Christopher	Nigeria	M	Ethiopia	Nov - Dec 2017
Ekunwe Peter Ayodeji	Nigeria	M	Malawi	June-July 2018
Barshep Yahkat	Nigeria	F	Liberia	Jan-Feb 2017
Meyer-Renschhausen Martin	Germany	M	Lesotho	Jul-Aug 2017
van Abel Nicole	USA	F	South Africa	Feb-17
Khujamberdiev Mirabbos	Uzbekistan	M	Tanzania	Oct-17
Koch Florian	Germany	M	Rwanda	Sep-Oct 2017
Leipold Sina	Germany	F	Senegal	Jan-Feb 2018
Morgado Fernando Manuel	Portugal	M	Mozambique	Jul-18

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TWAS Fellowships for Research and Advanced Training	Italian Government	—	South-South

TWAS-DFG South-North Cooperation Visits Programme

The TWAS – DFG Cooperation Visits Programme 2010 – 2020

AT A GLANCE:

- Started in 2010: over 300 awards 2010-2020
 - Total number of applications: over 1200
 - Three-month visits in German laboratories
- Applicants: young researchers from Sub-Saharan African countries
 - Early-career candidates: within 5 years of their PhD degree
 - All fields supported
 - Increasing demand for the programme
- 100% return rate, no brain-drain, high-potential for capacity-building

TWAS-DFG Cooperation Visits Programme

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Review

Environmental levels and human body burdens of per- and poly-fluoroalkyl substances in Africa: A critical review



Patrick Ssebugere^{a,*}, Mika Sillanpää^{b,c,d}, Henry Matovu^{a,e}, Zhanyun Wang^f, Karl-Werner Schramm^g, Solomon Omwoma^h, William Wanasoloⁱ, Emily Chelangat Ngeno^a, Silver Odongo^a

^a Department of Chemistry, Makerere University, P.O. Box 7062, Kampala, Uganda

^b Institute of Research and Development, Duy Tan University, Da Nang 550000, Viet Nam

^c Faculty of Environment and Chemical Engineering, Duy Tan University, Da Nang 550000, Viet Nam

^d School of Civil Engineering and Surveying, Faculty of Health, Engineering and Sciences, University of Southern Queensland, West Street, Toowoomba, 4350, QLD, Australia

^e Department of Chemistry, Gulu University, P. O. Box 166, Gulu, Uganda

^f Institute of Environmental Engineering, ETH Zurich, 8093 Zurich, Switzerland

^g Helmholtz Zentrum München, German National Research Centre for Environmental Health (Helmholtz Zentrum München), Molecular EXposomics (MEX), Ingolstaedter Landstrasse 1, Neuherberg, Munich, Germany

^h Department of Physical Sciences, Jaramogi Oginga Odinga University of Science and Technology, P. O. Box 210-40601, Bondo, Kenya

ⁱ Department of Chemistry, Kyambogo University, P.O. Box 1, Kyambogo, Uganda

TWAS Annual Report 2022

The Academy has released its Annual Report for 2022, which showcases programmatic advancements, special milestones, and insights on how the Academy has pursued its mission of advancing developing-world science.

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THE ELSEVIER FOUNDATION

Thank you for your attention

Peter McGrath

m c g r a t h @ t w a s . o r g

With thanks to:

Max Paoli

TWAS Programme Coordinator

m p a o l i @ t w a s . o r g

www.twas.org



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