Building a Sustainable Future:
The role of science,
technology and innovation
for global development

General Conference on 'Building a Sustainable Future: The role of science, technology and innovation for global development'

Rio de Janeiro, Brazil

Windsor Barra Convention & Expo Center

29 September - 2 October 2025

Draft Programme

(as of 10 September 2025)

Monday, 29 September 2025

Venue: Imperial	
08:30-10:30	45th TWAS Council Meeting (closed session for TWAS Council Members)
Venue: Louvre	
10:30-11.00	Coffee break

11.00-12.25	Opening ceremony Chair: Quarraisha Abdool Karim, TWAS President Keynote address Amb. Csaba Kőrösi, 77th President of the United Nations General Assembly (video message) • H.E. Amb. Mohammad Nafees Zakaria, Executive Director, Commission on Science and Technology for Sustainable Development in the South (COMSATS) (video-message) • Edmondo Cirielli, Deputy Minister of Foreign Affairs and International Cooperation, Italy (video-message) • Sukhit Limpijumnong, President, Alliance of International Science Organizations (ANSO) • Ricardo Magnus Osorio Galvão, President of CNPq, National Council for Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico) • João Paulo Pieroni, Superintendent of the Productive Development and Innovation Area, BNDES, Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social) • Francilene Garcia, President, Brazilian Society for the Advancement of Science (SBPC) • Denise Pires de Carvalho, Coordination for the Improvement of Higher Education Personnel (Capes) • Luiz Antonio Elias, President of FINEP, Funding Authority for Studies and Projects (Financiadora de Estudos e Projetos) • Ylann Schemm, Executive Director Elsevier Foundation, The Netherlands • Atish Dabhokar, Director, Abdus Salam International Centre for Theoretical Physics, Italy • Lidia Brito, Assistant Director-General for Natural Sciences, Natural Sciences Sector, UNESCO • Helena B. Nader, President Brazilian Academy of Sciences, TWAS Vice President (Latin America and Caribbean) • Eduardo Paes, Mayor of the City of Rio de Janeiro *TBC*

	• Luciana Barbosa de Oliveira Santos Minister of Science, Technology and Innovation in Brazil, Brazil, *TBC* • H.E. Luiz Inácio Lula da Silva, President of Brazil, *TBC*
12.25-12.30	Presentation of gift to host country Quarraisha Abdool Karim, President of TWAS Helena B. Nader, President of Brazilian Academy of Sciences Representative of Brazilian Government
12.30-14.00	Lunch
14:00-16:00	Trends and perspectives on science in the global south *Low- and Middle- Income Countries and the U.N. SDGs in a Changing Geography of Research* *Brief introduction by Marcelo Knobel, TWAS Executive Director* Co-Chairs: • Helena B. Nader, President of Brazilian Academy of Sciences, Vice President of TWAS (Latin America and Caribbean) • M. Iqbal Choudhary, Coordinator General OIC-COMSTECH, Vice President of TWAS (Central and South Asia) Panellists: • Lidia Brito, Assistant Director-General for Natural Sciences, UNESCO • Luis Fernandes, Deputy Minister of ST&I (Brazil) • Akissa Bahri, recipient of TWAS Medal 2025, former Minister of Agriculture, Tunisia • Mario Fresta, Director General of the Foundation for Scientific and Technological Development (FUNDECIT), Angola
16.00-16.30	Break

16.30-17.15	Keynote Lecture Co-Chairs: • Quarraisha Abdool Karim, TWAS President • Jaqueline Godoy Mesquita, University of Campinas, Brazil and TWAS Young Affiliate Network (TYAN) H.E. Karin Herrera Vice-President Guatemala *Karin Herrera is a Guatemalan biological chemist and academic who became Vice President of Guatemala in January 2024. She built her scientific career at the University of San Carlos, focusing on fungi and environmental studies, and later earned a Ph.D. in political science and sociology.*
17:15-18:15	40th TWAS Anniversary: Looking Ahead Co-chairs: • Quarraisha Abdool Karim, TWAS President • Mohamed Hassan, TWAS Immediate Past President Remarks by • Mohamed Hassan, TWAS Immediate Past President • Ron Léger, Canada • Moazzum Bajwa and Aziza Rahman (nee Salam) *(video recorded message),* in memory of Abdus Salam, TWAS Founder and President 1985-1995 • Maria Vargas, Universidade Federal Fluminense, Brazil, in memory of José I. Vargas, Brazil (TWAS President 1996-2000) • C.N.R. Rao, India (TWAS President 2000-2006) *(video recorded message)* • Marcelo Viana, IMPA, Brazil, in memory of Jacob Palis, Brazil (TWAS President 2007-2012) • Chunli Bai, China (TWAS President 2013-2018) *(video recorded message)* • Romain Murenzi, TWAS Executive Director 2011-2023 • Looking ahead: Quarraisha Abdool Karim, TWAS President

Venue: Segovia	
19.00	Welcome cocktail and 40th TWAS Anniversary toast

Tuesday, 30 September 2025

Venue: Louvre	
08.30-10.30	32nd TWAS General Meeting (closed session for TWAS Members and Young Affiliates)
10.30-10.45	Break
10.45-12.30	Symposium 1 Responsible Artificial Intelligence for and from the Global South: How to Mitigate Further Inequalities and Ethical Issues in Science Co-chairs: • Bolanle Ojokoh, Department of Information Systems, Federal University of Technology, Nigeria and TWAS Young Affiliates Network (TYAN) • Maohong Fan, Department of Chemical and Biomedical Engineering, University of Wyoming, USA (TWAS Fellow) Panellists: • Virgílio Augusto Fernandes Almeida, (TWAS Fellow), Universidade Federal de Minas Gerais, Coordinator TWAS LACREP, Brazil • Tshilidzi Marwala, Rector of the United Nations University and Under-Secretary-General of the United Nations, South Africa (TWAS Fellow) • Rahinah Ibrahim, University Putra Malaysia (TWAS Fellow) • Sunil Mukhi, Raja Ramanna Chair Professor of Physics, Indian Institute of Science Education and Research, Pune, India (TWAS Fellow)
12.30-14.00	Lunch
14:00-15.55	Symposium 2 Climate Change and Food Security Co-chairs: • Mariangela Hungria, Brazilian Agricultural Research

	Corporation (Embrapa), Brazil, (TWAS Fellow), 2025 World Food Prize Awardee • Huadong Guo, International Research Center of Big Data for Sustainable Development Goals, China (TWAS Fellow) Panellists: • Carlos Nobre, Co-Chair, Science Panel for the Amazon, Sustainable Development Solutions Network, Brazil (TWAS Fellow) IPCC and SPA • Yêyinou Laura Estelle Loko, Benin, Director of the Ecole Nationale Supérieure des des Biosciences et Biotechnologies Appliquées, Head of the Laboratory of Applied Zoology and Plant Health (ZASVE)/ENSBBA), Vice-President of the Entomological Society, Benin • Kaveh Zahedi, Director, Office of Climate Change, Biodiversity and Environment, Food and Agriculture Organization of the United Nations (FAO) • Nana Ama Browne Klutse, Head of the Department of Physics, University of Ghana, the Vice Chair of Working Group 1 of the Intergovernmental Panel on Climate Change (IPCC), and a member of the Scientific Board of UNESCO's International Basic Sciences Programme
15:55-16:10	Launch of the Publication 'Food and Nutrition Security: The Role of Brazilian Science in Fighting Hunger" published by the Brazilian Academy of Sciences and coordinated by Mariangela Hungria. • *Chaired by* Helena B. Nader, President of Brazilian Academy of Sciences
16:10-16:30	Break
16.30-18.30	Induction Ceremony: TWAS Fellows elected in 2023, 2024 and 2025
Venue: Segovia	

19.00	Gala dinner and cultural event

Wednesday, 1 October 2025

Venue: Imperial	
08.00-09.00	TWAS Regional Partners Joint Meeting (closed session for the Coordinators of TWAS Regional Partners, TWAS Management Committee, Vice Presidents)
Venue: Louvre	
09:00-10:15	TWAS Medal Lectures Co – Chairs: • Olubukola Oluranti Babalola, North-West University, Faculty of Natural and Agricultural Sciences, South Africa and TWAS Vice President (Africa) • Carolina Naveira Cotta, Mechanical Engineering Department, Federal University of Rio de Janeiro, Brazil and TYAN
	Medal Lecture by TWAS Member from the South Bridging Science, Policy & Practice - A Tunisian Woman Scientist's Journey in Water & Agricultural Management in Ifriqya Akiça Bahri, Tunisia TWAS Fellow, agricultural sciences (water research management/former Minister of Agriculture Tunisia) Water scarcity is one of the defining challenges of our era. In North Africa and the wider Ifriqya region, per capita availability is among the lowest worldwide. My career has been devoted to tackling this reality by connecting science, policy, and practice. From research on non-conventional water resources, salt-affected soils, and biosolids, to integrated water resources and urban water management, I have worked to make the "unusable usable" and turn constraints into opportunities. Over four decades, I have operated across scales—plot, farm, watershed, national, and continental—combining research with solutions that boost water efficiency, productivity, and environmental health. This path led me from academia in Tunisia, to international leadership at IWMI and the African Water Facility, and into policy as Minister of Agriculture, Water Resources and Fisheries. Citizen science, farmer-centered approaches, and resource recovery have been central to advancing resilience and equity.

	Today, the landscape is shifting. Artificial intelligence, renewable energy, and financial innovations intersect with the Water–Energy–Food–Ecosystems (WEFE) Nexus and climate change, transforming how we do science, how we design policies, and how societies pursue justice and well-being. This lecture will reflect on lessons from bridging science, policy, and practice; the need for integration across disciplines and sectors; and the human dimension of water management—where water security underpins food, health, dignity, and peace. It will also underscore the role of women scientists in shaping sustainable futures. Resilience in water and agriculture is not only about surviving scarcity. It is about reimagining prosperity. When science connects with policy and practice, it becomes a transformative force for sustainable development in Africa and beyond.
	Medal Lecture by TWAS Member from the North Anton Zeilinger, Nobel Laureate, University of Vienna and Institute for Quantum Optics and Quantum Information of the Austrian Academy of Sciences, Austria *(video-recorded) TBC*
	TWAS Medal for contributions to issues of inequalities in developing countries Science: Distributing Opportunity Shirley Malcom, Senior Advisor to the CEO and Director of the SEA Change initiative, American Association for the Advancement of Science, AAAS, USA It has been said that "talent is distributed evenly, but opportunity is not!" If we are to address the larger issue of building a sustainable future for the planet, we must embrace the role that science, technology and innovation (STI) have played and can play in the future in achieving that goal. And we must also work to remove inequalities and distribute opportunity in such a way as to cultivate and build the talent base for STI that will be required to do that. To accomplish our goals of building a sustainable future, it continues to be important to collaborate on activities that can make that possible, especially around working to distribute opportunity for education and research in science. AAAS' work to support science globally, in general, and its connections to TWAS, in particular, have centered around five areas: - building connections to countries, organizations and individual scientists across the globe, such as the longstanding collaboration with TWAS to connect the scientific and diplomatic communities and to support organization of international fora; - advocating and sharing strategies for quality education in STEM for all at all levels; - supporting STEM education for girls and women at all levels, assisting in development of policies and tools to enable this and advocating for a gender lens in the development and implementation of policies related to addressing the SDGs;

	- involvement with building organizational infrastructure for STI, such as through capacity building and advocacy for and cooperation with non-governmental and intergovernmental agencies, and; - promoting greater visibility for science and scientists in the Global South, especially for women scientists.
10.15-10.30	Break
10.30-12.30	Special Session: Science in a complex geopolitical context Co-Chairs: • Emmanuel Kasimbazi, School of Law, Makerere University Uganda (TWAS Fellow) • Elisa Reis, (TWAS Fellow), Chair of the Interdisciplinary Research Network for the Study of Social Inequality (NIED, Brazil); Panellists: • Sukhit Limpijumnong, President, Alliance of International Science Organizations (ANSO) • Saths Cooper, International Science Council ISC Committee for Freedom & Responsibility in Science, Extraordinary Prof Universities of Pretoria & Stellenbosch, South Africa • Hala J. El-Khozondar, Islamic University of Gaza, State of Palestine *TBC* • Prof. Giridhar Kulkarni, President, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), India, TBC • Nina Sartori, Counsellor for Scientific Affairs, German Embassy, Brazil, TBC
12.30-14.00	Lunch
Louvre	
14:00-14:15	Group photo of TWAS President with Young Affiliates appointed in 2023 Group photo of TWAS President with Young Affiliates appointed in 2024 Group photo of TWAS President with Young Affiliates appointed in 2025

Poster session venue: Louvre IV	
14:15-15:00	Connect & Showcase: Poster Session with Coffee Poster presentations open to all participants
Venues: Imperial, Bandeirantes and Liberdade	
15:00 -15:45	Connect & Showcase: Flash Talks Organized by TYAN
15:45 –16:30	Connect & Showcase: Networking Session (parallel sessions) Small groups will be seated together by field of interest to discuss possible collaborations Organized by TYAN
16:30-17:15	TYAN Feedback and Reflections Session and group photo (closed session for TYAN members)

Thursday, 2 October 2025

Venue: Louvre	
08.30–10.00	Symposium 3 Health Challenges in the Global South Co-Chairs: • Helena B. Nader, President of Brazilian Academy of Sciences • Sabah AlMomin, Kuwait Institute for Scientific Research, Kuwait, TWAS Vice President (Arab Region) Panellists • Nisia Trindade, Fundação Oswaldo Cruz, former Minister of Health of Brazil (TWAS Fellow) • Salim Abdool Karim, Director, Centre for the AIDS Programme of Research in South Africa, CAPRISA (TWAS Fellow) South Africa • George Fu Gao, Chinese Center for Disease Control and Prevention (China), (TWAS Fellow) • Prof. Shahlo Turdikulova, Vice-President, Academy of Sciences of the Republic of Uzbekistan (TWAS Fellow)
10.00-10.30	Break

10.30-11:30	Presentation of Awards and certificates *Master of Ceremony: Giovanni Ortolani, TWAS Public Information Officer* • 2024 TWAS Awards Sunday Ekesi and Fang-Jie Zhao, Agricultural Sciences Yi-Fang Tsay and Raghavan Varadarajan, Biology Xing Xu, Earth, Astronomy and Space Sciences Mohd Sapuan Salit, Engineering Sciences Jiangong You, Mathematics Andrew Forbes, Physics Maria Cecília de Souza Minayo, Social Sciences • TWAS-Mohammad A. Hamdan Award: Ihsen Yengui (2024) • TWAS-Abdool Karim Award: Sanata Bamba Pakotogo (2023) and Yêyinou Laura Estelle Loko (2024) • TWAS-Atta-ur-Rahman Award: Bipeen Dahal (2024) • TWAS-Samira Omar Innovation for Sustainability Award: Tista Prasai Joshi (2024) Announcement of 2025 Award recipients Group Photo
11.00-12:30	Break
11.30-12:30	International Year of Quantum Science and Technology - Special session Lecture by TWAS Apex award winner Co-chairs • Quarraisha Abdool Karim, TWAS President • Lê Tuân Hoa, Vietnamese Academy of Science and Technology, TWAS Council Member (East and South East Asia)
12.30-13:00	Closing ceremony Presentation of the next venue • Quarraisha Abdool Karim, TWAS President • Helena B. Nader, President of Brazilian Academy of Sciences
13:00-14.00	Lunch

	Post conference skills building workshops on: 1. Academic ethics 2. The two sides of AI in science
14.00-15.30	Skills building workshop on ethics. 10-12 minutes each by the Panel of TWAS Ethics Committee members followed by an engaging discussion. 1. Roula Abdel-Massih, Community Educator Clinical Professor, Central Michigan University, USA, (TYAN EC): "Fighting Misinformation to Rebuild Trust in Science." 2. Claudia Bauzer-Medeiros, Professor, University of Campinas, UNICAMP, Brazil (TWAS Fellow) "Plagiarism in the Era of AI". 3. Emmanuel Kasimbazi, Professor, School of Law, Makerere University, Uganda (TWAS Fellow): "Ethical and Legal Issues in Scientific Research". 4. Sunil Mukhi, Raja Ramanna Chair Professor of Physics, Indian Institute of Science Education and Research, Pune, India (TWAS Fellow): "Varieties of Academic Misconduct and Redressal Mechanisms".
15.30-15.45	Break

15.45-17.15	**Skills building workshop: The Two Sides of AI in Science** Artificial intelligence (AI) is experiencing an unprecedented surge in development and adoption across all fields of science and the humanities, with significant implications for research institutions, organizations, and individual careers. Its impact ranges from enhancing the efficiency, safety, and quality of research to potentially transforming how knowledge is discovered and complex problems are solved. Accelerating research productivity through AI could be one of its most valuable societal and economic applications. To unlock this potential, we need to invest in broad, multidisciplinary collaborations, dedicated public funding, and open access to high-performance computing and research data. Updated curricula, integrative AI training, and greater support for AI tools that use machine learning techniques, including generative AI and open benchmarking platforms, are also essential. Public R&D should foster bold, cross-disciplinary research, build open knowledge networks, and ensure that AI serves global challenges such as those outlined in the UN Sustainable Development Goals (SDGs). While AI holds transformative promise, its deployment in science should be approached gradually and responsibly. To prevent setbacks like the reproducibility crisis, lack of transparency, and weak methodological standards, careful design and governance are essential. This short seminar will explore how AI can be used in research and will address key questions: Where can AI make the biggest impact? What are the current challenges? And what are the ethical and practical consequences? By examining the motivations behind AI use, the barriers it faces, and its broader implications, the seminar invites scientists, policymakers, and stakeholders to engage with this rapidly evolving frontier of research. • Clécio Roque de Bom, Applied Artificial Intellingence Lab, Brazilian Center of Physics Research (CBPF), Rio de Janeiro • Mohamed Najim (TWAS Fellow), University of Bordeaux, France • Thao Thi Phuong Nguyen (TYAN), Vietnam