

BRICS BRIEF REPORT

The Academy of Science of South Africa (ASSAf) and the Department of Science and Innovation (DSI) jointly hosted the 2023 BRICS Academies Forum on 1-2 December 2023 in Pretoria, South Africa. The Forum is the body of science academies of the BRICS member states including the: Brazilian Academy of Sciences (ABC), Russian Academy of Sciences (RAS), Indian National Science Academy (INSA), Chinese Academy of Sciences (CAS), and ASSAf. Unfortunately the Brazilian Academy of Science could not attend.

The theme of the 2023 BRICS Academies Forum Meeting was "Inter-Academy Collaboration on Global Crises" which was aligned to the 2023 BRICS Science, Technology, and Innovation (STI) theme; "Building BRICS and Africa Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism."

The delegations of the BRICS Academies were welcomed by ASSAf Acting President, Prof Stephanie Burton, and DSI Deputy Director-General for International Cooperation and Resources, Mr Daan du Toit during the Opening and Welcome Dinner ceremony on the 1st of December. At the Welcome Dinner welcome remarks were received from RAS, INSA, CAS and ASSAf. Dr Rasigan Maharajh, ASSAf member gave a keynote address titled, "Global Polycrisis and the BRICS Academies of Sciences." He presented some of the defining characteristics of polycrisis and explored the implications of the Academies of Sciences from Brazil, Russia, India, China, and South Africa (BRICS). Day 2 of the meeting was dedicated to technical presentations by each Academy and subsequent discussions. Prof Burton directed the proceedings and Prof Himla Soodyall the ASSAf Executive Officer moderated the discussions.

Prof Stepan Kalmykov, the Vice President of RAS, delivered the first presentation: "Facing the global polycrisis-Scientific infrastructure and break-through research directions in Russia." He focused on nuclear heritage and stated how nuclear energy is the best for decarbonization target of 50 gCO₂ per kWh. He further explained how nuclear waste, the major challenge in developing safe and reliable nuclear energy, can be solved through the new identified strategy.

Prof Narinder Mehra, INSA Vice President delivered a presentation titled: 'One Earth, One Family, One Future; Global Polycrisis and The Need for Interdisciplinary Policy Solutions'. He unpacked the challenges and consequences of polycrisis. The focus of his presentation focussed on the *One Health* approach detailing how Zoonotic spillover has emerged as a poignant example of profound interconnections between environmental degradation and public health crises.

Prof Gensuo Jia and Prof Chunliang Fan presented on behalf of CAS. Prof Jia's was titled, "Coupled changes of climate and ecosystems: from crisis to nature-based solutions". He emphasised that climate change and ecosystem degradation are coupled crisis. Ecosystems play an active role in regulating climate system via carbon flux and biophysical feedback. Neither will be successfully resolved unless both are tackled together. Joint scientific research on climate-ecosystem-land use interactions among BRICS academies, with *in-situ*, satellite, and modelling network. Fill knowledge gaps, towards nature-based solutions. Prof Fan followed with the talk: "Energy Development Pathways and Policies under Peak Carbon, Carbon Neutral Targets". He shared Lessons from major countries' dual-carbon targets; challenges to achieving carbon neutrality in China; achievements and problems in China's energy development under the dual-

carbon target and major policy recommendations for China's future energy development under the dual- carbon target.

The last presentation was from ASSAf and delivered jointly by Prof Soodyall, Prof Pat Naidoo and Prof Caradee Wright: "South Africa in polycrisis and developmental challenges". They highlighted the complexity of problems and challenges of polycrisis from a South African perspective. These include gender, race, and disability inclusivity; unemployment; and climate resilient society and just energy security; as well as Geopolitics; potential solutions were presented, as well as prioritization and budgeting and monitoring, evaluation and learning Tools.



In the caption from right to left: Prof Stephanie Burton, Prof Chunliana Fan, Prof Nikolaevich Stepan Kalmykov, Prof Narinder. K. Mehra, Prof Gensuo Jia, Prof Caradee Wright, Prof Himla Soodyall and Prof Pat Naidoo

The BRICS Academies Forum took the following resolutions on the 2nd of December 2023

- **An article focussed on the 2023 BRICS Academies Forum will be published in the South African Journal of Science (SAJS) by ASSAf.** Other academies may also follow suit with their perspective in their respective journals.
- **A Joint Declaration by the BRICS Academies Forum 2023 will be published.** The forum agreed that the host Academy is responsible for the first draft and ASSAf as the host academy is responsible for 2023. The *Tshwane Declaration* will be circulated between the academies for input and once finalized sent to the academies respective government departments. It should be 4-5 pages and will be summarised to 2 pages.

Themes identified

1. Energy, Environment and Economy (Energy Transition in Climate change era, Energy Poverty)

2. Human Health, Well Being and Climate Sensitivity (Climate sensitive diseases) (Human Health in Climate emergency)
3. Nutrition, Agriculture and Food Security (Modernisation of Agriculture)
4. New technologies related to Digitalisation, Artificial Intelligence, Technology Equity and Access
5. The role of academies -Capacity to manage, monitor and highlight research integrity, Building public trust, Science Engagement, Multidisciplinary approaches to polycrisis, International Cooperation)
6. Education
7. Recommendations on Scientific Policy to address polycrisis