The future of science diplomacy

Note of a satellite event held at the INGSA 2024 conference, Kigali, 3 May 2024

Background

On 3 May 2024, the American Association for the Advancement of Science (AAAS), the European Commission, the Geneva Science and Diplomacy Anticipator (GESDA) and the Royal Society convened a satellite event at the INGSA conference in Kigali, to consider how the core concepts of science diplomacy – a topic of major strategic importance to all four organisations – should be updated to help address pressing global issues effectively. Participants were asked to consider how the scientific and diplomatic landscapes have changed and how the concept of science diplomacy should evolve to reflect this changing environment. Below is a summary of the discussion. It does not necessarily represent the views of the partner organisations. A list of participants is in Annex 1.

Changes to the scientific landscape

A number of changes were highlighted which can be broadly summarized as follows: global challenges such as climate change and biodiversity loss have become even more urgent and the need for collaboration to address them is more important than ever; the pace of new technologies, in particular AI – which derives its strength from an increasingly data-intensive research enterprise – are outstripping the ability of policymakers to keep pace, while fundamentally transforming the practice of science itself; a greater share of basic research is now coming from the private sector, where it is more difficult to monitor, understand and regulate; trends in science and research policy are favouring increasing interdisciplinarity, open science and mission-oriented research; with greater mobility in scientific careers, more competition for talent and a growing influence of diaspora networks.

Science is more embedded in the world of government – as demonstrated by the many scientists and science advisers in foreign ministries in this discussion along with their counterparts now seen in a wider range of ministries and agencies. While some countries have a long track record of policymakers with a scientific background, other parts of the world are increasingly recognizing the importance of this expertise. This has led to the development of what could be characterized as sub-fields of science diplomacy – such as climate, health, space, ocean, digital and technology diplomacy – all of which require both scientific expertise and the ability to manouevre the political trade-offs involved.

The COVID-19 pandemic also had a transformative effect on science and its place in society. The rapid adoption of remote communication technologies has made international scientific collaboration easier, and the practice of science advice reached hitherto unprecedented worldwide political attention, but also exposed scientists to greater risks from those who opposed the advice – sometimes rejecting expertise and evidence altogether.

The importance of diversity in science is also increasingly recognized and improved, although there is still a long way to go, particularly at more senior levels. This goes in tandem with greater recognition of the importance of understanding different perspectives.

Changes to the political landscape

One characteristic of the current age is growing populism and nationalism, characterized by disinformation and misinformation (much of it amplified by social media), growing threats to academic freedom in some countries and regions, and declining trust in science and in the multilateral system. This takes place in an increasingly contested, fragmented and multipolar world with a much greater number and variety of leading and emerging scientific nations. The voice of the Global South is much more influential in today's world, as is greater South-South collaboration and recognition of the importance of science in development, all of which has helped to highlight different interpretations of and priorities in science diplomacy.

At the same time, there are numerous ongoing conflicts, including in Ukraine and the Middle East. Restrictive measures limiting international scientific collaboration have been imposed in response to the war in Ukraine, which has led to cooperation between countries in the West and Russia having effectively ceased in several key areas. Science and technology have become a geopolitical currency. The risks of international scientific collaboration are on the radar of policymakers in a more significant way, and international research projects are subject to greater scrutiny for perceived national security risks. Science has also played a key role in the major diplomatic wrangles of modern times, most notably in the post-Brexit negotiations which eventually saw the UK rejoin Horizon Europe as an associate member. Finally, the conduct of diplomacy itself has been transformed by new technology, from the use by diplomats of social media, big data and computational tools, to the rise of major multilateral summits and negotiations on AI safety.

Science diplomacy is increasingly being conducted by a wider range of players, from powerful individuals and corporations in the tech industry, with the power to shape global dynamics at will, to regional and sub-national actors such as cities and regional governments, and taking in an expanded informal multilateral system.

How have these changes affected science diplomacy, and how should the concept evolve?

While there continues to be debate over the precise definition of science diplomacy, and what exactly it constitutes and what it does not, the fundamental trade-off between the two worlds remains: the world of science, which seeks to understand the nature of reality with as much accuracy as possible; and the world of diplomacy, which inevitably involves compromise, imperfect outcomes and the 'next best thing'.

That said, a number of important themes for a reinvigorated concept of science diplomacy were suggested.

- The original framing of the concept of science diplomacy was largely, although not exclusively, driven by scientists from the Global North. To update the concept for today's world, we need to hear from a wider range of voices, including from the Global South, civil society, universities, non-scientific advisers and diplomats, local and regional administrations, industry, and national security experts.
- The role of science in crises – as demonstrated by the COVID-19 response and the global vaccination effort, characterized by rapid international cooperation by scientists and science advisers – is another crucial element.
- How science diplomacy tools can be used in both positive and limiting ways, including through sanctions and restricting some international scientific collaboration. There needs to be an acknowledgement that there are aspects of science diplomacy aimed at limiting relations, rather than opening/maintaining them. On such occasions science diplomacy appears to be rather a hard than a soft power.
- Science advice has often been characterised as separate from science diplomacy, but in practice, as the pandemic showed, the two are becoming increasingly intertwined. In some countries and regions such as some parts of South and Central America, science policy itself is also similarly interlinked.
- One of the key strengths of science diplomacy is the fact that science often remains the last subject that can be discussed when there is disagreement or hostility between countries or interlocutors on other issues and the first once relations begin to thaw. This makes it uniquely useful even in the most difficult of diplomatic situations. However, this can be more challenging or not possible when science or technological competition is the basis of the hostility between countries.
- While there is much more recognition of the need for scientific expertise within government, there needs to be a reciprocal recognition of the need for geopolitical/diplomatic expertise in the conduct of science. More training in the concepts and trade-offs of science diplomacy, including aspects of research security or dual-use in academia, government, and many other sectors as highlighted above - is required.
- The accelerating pace of scientific breakthroughs will require new approaches to the global governance of emerging science – proactive, long-term and involving the whole of society – in order to reinvigorate a slow-moving multilateral system.

Annex 1

List of participants
Christian Acemah, Executive Director, Uganda National Academy of Sciences
Ikirezi Anitha, African Leadership University
Anna-Maria Arabia, Chief Executive, Australian Academy of Science
Salvatore Arico, CEO, International Science Council
Kana Asano, Fellow, Center for Research and Development Strategy, Japan Science and Technology Agency (JST)
Tateo Arimoto, Director, Research Institute of S&T for Society, Japan Science and Technology Agency (JST)
Akeem Babatunde, Nigerian Young Academy
Laurent Bochereau, Minister-Counsellor, Delegation of the European Union to the African Union
Adriana Castaño, Member of Steering Committee, INGSA Latin America - Caribbean
Lila Chibane, Research Director, Center Research Economy Applied Pour Le Développement-Cread (CREAD), Algeria
Luke Clarke, Head of International Affairs (Americas, International Organisations and Africa), the Royal Society
Gavin Costigan, Chief Executive, Foundation for Science and Technology
Thierry Damerval, Managing Director, French National Research Agency (ANR)
Fran Davies, Head of Global Science, UK Foreign, Commonwealth and Development Office (FCDO)
Agnieszka Gadzina-Kolodziejska, Deputy Head of the Science for democracy and evidence-informed policymaking Unit, Joint Research Centre (JRC), European Commission
Daan du Toit, Acting Director-General, South African Department of Science and Innovation
Sir Peter Gluckman FRS, President, International Science Council
Patricia Gruber, Science and Technology Adviser to the US Secretary of State
Nick Hart, President, Data Foundation
Maggy Heintz, Executive Director, UK Collaborative on Development Research
Niccolò Iorno, Scientific Advisor, Science Diplomacy, Federal Department of Foreign Affairs, Switzerland
Maria Jarquin, International Relations Coordinator, UK Centre for Ecology and Hydrology
Motoko Kotani, Science and Technology Advisor, Minister of Foreign Affairs of Japan
Kathrin Kohs, Programme Director, Deutsche Forschungsgemeinschaft (DFG)
Professor Lise Korsten, President, African Academy of Science
Professor Yoichiro Matsumoto, Science and Technology Advisor, Minister of Foreign Affairs of Japan
Dr Jean-Christophe (JC) Mauduit, Associate Professor of Science Diplomacy, University College London (UCL)
Sofía Mazariegos, Deputy Director, Organization for Women in Science in the Developing World (Guatemala chapter)
Chomora Mikeka, Director of Science, Technology and Innovation, Ministry of Education, Malawi
Alma Cristal Hernández Mondragón, President, Mexican Association for the Advancement of Science (AMEXAC)
Kim Montgomery, Director of International Affairs and Science Diplomacy, American Association for the Advancement of Science (AAAS)
Jan Marco Müller, Coordinator for Science Diplomacy and Multilateral Relations, DG Research and Innovation, European Commission
Romain Murenzi, Professor of Physics, Worcester Polytechnic Institute (WPI)
Oladoyin Odubanjo, Executive Secretary, Nigerian Academy of Science

List of participants (continued)
Philip Osano, Centre Director, Stockholm Environment Institute (SEI) Africa
Liliana Pasecinic, Deputy Head of Unit, Joint Research Centre, European Commission
Alícia Pérez-Porro, Deputy Director / Scientific Coordinator, Ecological and Forestry Applications Research Centre (CREAF)
Professor João Pinto, Professor of Diplomacy, University of Minho, Portugal
Professor Mu Rongping, Director-General and Professor of the Institute of Policy and Management, Chinese Academy of Sciences
Elizabeth Silvestre, Senior Environmental Science and Policy Advisor / Climate Change Consultant
Marga Gual Soler, Head of Science Diplomacy Capacity Building, Geneva Science and Diplomacy Anticipator (GESDA)
Nathalie Tremblay, Digital Health and MedTech Advisor, Fonds de recherche du Quebec
Vaughan Turekian, Executive Director, Policy and Global Affairs, National Academy of Sciences
Eva Liliane Ujeneza, Senior Lecturer, Rwanda Institute for Conservation Agriculture
Professor Charlotte Watts, Chief Scientific Adviser, UK Foreign, Commonwealth and Development Office (FCDO)
Ian Wiggins, Director of International Affairs, the Royal Society
James Wilsdon, Professor of Research Policy, University College London