



**International  
Science Council**  
The global voice for science

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# ANNUAL REPORT 2019



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**Work with the ISC to advance science as a global public good.**

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**Front Cover Image:** A violet Sabrewing hummingbird photographed in Costa Rica, a global biodiversity hotspot by Ra&#39;id Khalil on Shutterstock

**The vision of the International Science Council is to advance science as a global public good. Scientific knowledge, data and expertise must be universally accessible and their benefits universally shared. The practice of science must be inclusive and equitable, as should opportunities for scientific education and capacity development.**

*The International Science Council (ISC) is a non-governmental organization with a unique global membership that brings together 40 international scientific Unions and Associations and over 140 national and regional scientific organizations including Academies and Research Councils.*

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# A MESSAGE FROM OUR PRESIDENT AND CEO



Photo: Heide Hackmann and Daya Reddy

The International Science Council's first full year of operation has been a period of intense activity, with the aim of positioning the ISC as a distinctive and effective global voice for science. We put in place the Council's new governance system and launched our first three-year action plan, setting out an ambitious programme of priority projects. We took stock of progress to date, working to consolidate existing partnerships and scientific initiatives. And we extended our global reach, appointing the Council's first patrons and a Special Envoy for Science in Global Policy.

The Council has expanded its networks and spheres of influence throughout 2019, working to enhance the visibility and voice of international scientific research and scholarship on issues of major concern to science and society. We have acted to increase the integration of science and evidence-informed understanding in major international policy processes. In June 2019, the Council appointed its inaugural patrons: Mary Robinson, former President of Ireland and United Nations (UN) High Commissioner for Human Rights, Chair of the Elders and leading defender of climate justice; and Ismail Serageldin, Emeritus Librarian of the Library of Alexandria in Egypt. These patrons are using their international standing and influence to assist the Council in advocating for the social, political, economic and cultural value of science to policy-makers and the public. In addition, the appointment of Flavia Schlegel as Special Envoy for Science in Global Policy has bolstered our presence in, and engagement with, the UN and other global policy fora.

In line with our statutes, we have appointed four advisory committees on the basis of nominations from our members: Science Planning; Freedom and Responsibility in Science; Outreach and Engagement; and Finance and Fundraising. Together, these committees bring together considerable scientific expertise and experience from differing sectors and settings, and will be crucial in taking forward our Action Plan 2019–2021 and shaping the next few years for the International Science Council.

Our regional offices in Africa; Asia and the Pacific; and Latin America and the Caribbean have built new partnerships, in particular through emerging ‘open science platforms’. These platforms will convene different interests, ideas and institutions with the aim of mobilizing resources and building and strengthening the expertise required to advance data-intensive, solutions-oriented research in the Global South.

The Council’s convening power was perhaps best demonstrated at the Global Forum of Funders hosted by the United States (US) National Academy of Sciences (NAS) in Washington, DC in early July 2019. This event brought together more than 80 science funders, including international development aid agencies, private foundations and national research councils. The Forum resulted in a common call for a decade of global funding action to address the world’s most pressing challenges, as captured in the Sustainable Development Goals (SDGs). This statement of shared purpose from research institutions and funders was noted in an article published in *Nature Sustainability* in September 2019 (Messerli et al.<sup>1</sup>), which highlighted the ISC’s unique ability to mobilize a diversity of expertise in the context of sustainability science. This exemplifies the kind of globally connected, scientifically impactful organization we want the Council to be.

The development and launch of our first action plan, *Advancing Science as a Global Public Good*, has been a major focus for activity in 2019. This Action Plan 2019–2021 sets out a portfolio of twelve projects, framed by four domains of critical importance for science and society: The 2030 Agenda for Sustainable Development, the digital revolution, science in policy and public discourse, and the evolution of science and science systems. The Action Plan further incorporates activities that address the commitment of the ISC to uphold and advocate for freedom and responsibility in science. It also includes a vision for building the ISC’s presence in different regions of the world, for amplifying the voice for science through outreach and engagement, and for strengthening our funding base.

The development of this strategic action plan has depended on the guidance, energy and commitment of our Governing Board, our members and partners, and staff at our headquarters and regional offices. We thank them sincerely for their collaboration and efficiency. Of course, as we implement the projects set out in our plan, and continue to deliver on existing activities, the goals we strive to achieve will require us to continue to scale up, to further consolidate our resources, to seek new partnerships, and to strengthen existing ones.

As we write this introduction to our Annual Report 2019, our world is **engulfed in a crisis** of almost unimaginable proportions, during which the ISC’s power to convene expert minds in the traditional way has been stymied by the SARS-CoV-2 virus. This external threat has forced us to rethink and to find new, equally effective ways to convene our expert communities and deliver on our Action Plan 2019–2021. In this regard, some activities will be expanded and their schedules brought forward; new activities responding to the crisis, within the realms of our four domains of action, will be added; and some activities will have their timelines adjusted to reflect the new reality of our world.

In these times of great uncertainty, we can be certain about one thing: that science, and scientific thinking and values, must be central components of responses to global challenges. The International Science Council, with its vision of science as a global public good, stands ready to promote, support and enable the achievement of these goals.

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**Daya Reddy**  
President

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**Heide Hackmann**  
Chief Executive Officer (CEO)

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1 Messerli, P., Kim, E.M., Lutz, W. et al. Expansion of sustainability science needed for the SDGs. *Nat Sustain* 2, 892–894 (2019). <https://doi.org/10.1038/s41893-019-0394-z>



# ADVANCING SCIENCE AS A GLOBAL PUBLIC GOOD

Photo by Axel Fassio/  
CIFOR

2019 was marked by the development and launch of the ISC's first action plan, Advancing Science as a Global Public Good, which sets out the Council's strategic priorities from 2019 to 2021.

The Action Plan 2019–2021 was developed over the course of 2019, through consultations within the ISC membership and with the broader international science community, and many months of discussions within the ISC Governing Board. It contains an ambitious programme of much-needed initiatives that will position the ISC as an impactful global voice for science. This programme is framed by four 'domains of impact' that reflect urgent priorities for science, in areas in which the ISC can provide leadership through its unique membership and convening power. The Action Plan also sets out a new regional strategy and fundraising plan for the Council, as well as a major project on scientific freedom and responsibility.

The Action Plan identifies twelve solutions-oriented initiatives to address major opportunities and challenges within the four domains. The projects and programmes presented are diverse in their nature, timescale and need for resources. Some are already in progress, building on previous work and existing partnerships, and some have been identified for further development beyond 2019. All work in synergy with the ISC's portfolio of existing activities.

The Action Plan is designed to be a living document, with project proposals that will be elaborated in consultation with members and partners, and flexibility to allow the Council to respond to major external developments, new opportunities and emerging issues.



## Solutions-oriented projects and programmes

### DOMAIN ONE: THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

#### International science for global sustainability: addressing complexity, supporting policy coherence

With just over a decade to go in achieving the ambitious goals of the 2030 Agenda, there is a pressing need – and a significant opportunity – to amplify the impact of international scientific efforts through strengthened collaboration and strategic coordination. The Council will strengthen the science base for a ‘system of systems’ approach to global sustainability by convening leaders from the science community, from UN agencies, and from science funding bodies.

#### THE GLOBAL FORUM OF FUNDERS: FUNDING SCIENCE FOR SUSTAINABILITY

From 8 to 9 July 2019, the Council organized the first Global Forum of Funders, resulting in a common call for an ambitious ‘Decade of Global Sustainability Science Action’.

*“The International Science Council has done us all a great service in convening funding agencies from the Global North and South to reflect upon the role of research in relation to the UN SDGs. The 2030 Agenda is a call to scholars from across all disciplines to rethink their research with regard to the pressing global challenges of our times.” Andrew Thompson, Executive Chair of the Arts and Humanities Research Council, UK, and International Champion for UK Research and Innovation*

The Forum brought together around 80 leaders from national research funding agencies, philanthropic foundations, development aid agencies and international scientific organizations from around the world. It was designed to foster strategic partnerships to increase and accelerate the impact of science and science funding on the achievement of the

2030 Agenda for Sustainable Development, and was hosted by the National Academy of Sciences in Washington, DC, United States.

Together, science funders and the research community agreed to launch the Decade of Global Sustainability Science Action, through which they would seek to:

- Apply a holistic and systems approach to tackling pressing global challenges, treating the SDGs as an indivisible agenda.
- Support transformative, high-impact and transdisciplinary knowledge creation.
- Promote mission-driven research, but also harness the contributions of fundamental research.
- Support enabling activities, e.g. capacity development and knowledge brokerage.

The resulting initiative is led by the ISC in partnership with the Swedish Development Cooperation Agency (Sida), the National Science Foundation (US), the National Research Foundation (South Africa), the International Development Research Centre (Canada), UK Research and Innovation, the International Institute for Applied Systems Analysis (Austria), Future Earth, Belmont Forum and Volkswagen Stiftung.

Throughout 2020, the Council will mobilize the international scientific community to identify science missions for the next ten years that will be critical for implementation of the SDGs. This portfolio of priority missions will serve as a basis for discussion among funders on potential strategic collaboration at the next Global Forum of Funders, in 2021.

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### SDG interactions as a national policy driver

Building on the ISC's path-breaking work to identify SDG interactions, this project will accelerate implementation of the 2030 Agenda through support for interactions-based research and policy prioritization and programming at all levels of governance. It will support and participate in the piloting of SDG interactions toolkits in several countries and work with partners to map and review existing analyses, approaches and tools to navigate the interactions between SDGs.

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### Science and the Sendai Framework for Disaster Risk Reduction

In line with the [2019–2020 ISC–UN Office for Disaster Risk Reduction \(UNDRR\)](#) partnership agreement, which identified a series of joint initiatives, the ISC and UNDRR co-facilitated a review of hazard definitions and classifications. Led by a Technical Working Group established by the ISC and the UNDRR, this project aims to develop a coherent and comprehensive list of definitions for the extended scope of hazards and risks included in the Sendai Framework, and is intended to assist countries in planning, monitoring and reporting on national disaster risk reduction efforts. In May 2019, the ISC International Research on Disaster Risk (IRDR) programme and UNDRR organized a Science and Policy Forum for the Implementation of the Sendai Framework for Disaster Risk Reduction in Geneva, Switzerland. The Forum, attended by the disaster risk community and policy makers from UN Member States, discussed the latest developments and trends in reducing disaster risk at the interface of science and policy. Its outcomes fed into the Global Platform for Disaster Risk Reduction 2019, the Commission on Science and Technology for Development and high-level UN meetings on climate change and the SDGs. The Technical Working Group provided a preliminary report in December identifying a list of more than 300 hazards and a set of criteria for the identification of hazards relevant to disaster risk reduction. The full report will be released in 2020 and will be positioned as an international reference document on hazards.

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## DOMAIN TWO: THE DIGITAL REVOLUTION

### Data-driven interdisciplinarity

Implemented in partnership with the Council's affiliated programme, the Committee on Data for Science and Technology (CODATA), this project will enable more effective, evidence-based solutions for complex global challenges. These solutions will be based on interdisciplinary collaboration enabled by data integration policies and practices across scientific fields and disciplines. Having successfully completed a series of pilots, in 2019 CODATA designed a ten-year initiative, 'Making Data Work for Cross-domain Grand Challenges', to develop good practice in data integration and technologies that are applicable across a large range of disciplines. The programme will be launched at the 2021 ISC General Assembly.

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### Global data resources and governance

This project is intended to generate a global, cross-sectoral coalition of support for the principles and processes of data access, for the adoption of priorities for its federated governance, and for sustainable business models relating to key scientific databases – in a way that aids the global scientific enterprise. Scoping work for the project will begin in late 2020.

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### Our Common Digital Future

In partnership with the German Federal Advisory Council on Global Change (WBGU), Future Earth and others, the ISC is developing a global charter on '[Our Common Digital Future](#)'. A draft charter was available for review until January 2020. The partners have further agreed to collaborate on proposing to the UN the convening of a World Summit on 'Sustainability in the Digital Age', to be held in 2022, 30 years after the Rio Summit. Heide Hackmann (ISC CEO) and Dirk Messner (WBGU co-chair) co-authored an [op-ed](#) on the need for a charter (published in the German *Frankfurter Rundschau*, the Mexican online periodical *Excelsior*, and *The Conversation*).

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**DOMAIN THREE: SCIENCE IN POLICY AND PUBLIC DISCOURSE**

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**Science–policy interfaces at the global level**

This project aims to create a strengthened mandate for science in global policy, supported by effective and coordinated mechanisms in the science–policy interface. Towards this aim, work in 2019 concentrated on an analysis of science in and for the United Nations system. The main development outputs from this work are a synthetic overview of the entry points for science in UN processes and structures, and an analysis of challenges and opportunities. This work, to be published in 2020, gathers together the experience and expertise of ISC members and partners at the interface between science and policy, and will make recommendations for how ISC actions can achieve increased impact in this area.

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**The public value of science**

This project aims to increase awareness among the wider public, policy-makers and decision-makers of science as a global public good. Scoping work to convene expertise on issues around the public value of science is underway. This has included a meeting with the Australian Academy of Science to consider collaboration on a project, which was presented to members of the Council’s Committee for Science Planning and Committee for Outreach and Engagement. Work will begin in 2020 to launch the project, which will see opportunities for Council members to be involved at national, regional and global levels.

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*“The Action Plan is agile, relevant, well communicated – but the international science community needs to find ways and means to lift its voice in the media.”*  
*Roger Pfister, Swiss Academy of Sciences*

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**Science in the private sector**

With the private sector’s share of global science and innovation growing, this project aims to explore and build understanding on the norms of responsible conduct, transparency and ethical standards that are needed to protect science as a global good in both the public and private sectors. In order to initiate conversations on these issues, the ISC convened a panel of experts to reflect on scientific knowledge gaps and research priorities related to the development and deployment of technological solutions for the SDGs at the [2019 G-STIC \(Global Sustainable Technology and Innovation Community\) conference](#).

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**DOMAIN FOUR: THE EVOLUTION OF SCIENCE AND SCIENCE SYSTEMS**

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**Gender equality in science: from awareness to transformation**

This project aims to increase gender equality in global science through improved sharing and use of evidence for gender policies and programmes in scientific institutions and organizations at national, regional and international levels. Towards this aim, the ISC and InterAcademy Partnership worked with [Gender InSITE](#) to survey academies on effective policies, programmes and practices to advance gender equality in science. A similar survey of the ISC union and association members is underway, and the results will be published in 2020.

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**Refugee and displaced scientists**

This project – to raise awareness of and attention to the issue of refugee and displaced scientists – will be initiated in 2020, thanks to funding from the Swedish International Development Cooperation Agency in 2019. The project is led by The World Academy of Sciences (TWAS) under the auspices of [Science International](#) (a partnership involving the ISC, TWAS and the InterAcademy Partnership).

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### Open science in the Global South

In collaboration with CODATA, the Council has been working with its regional offices and other partner organizations to create open science platforms that will convene and coordinate the regional interests, ideas, people, institutions and resources needed to advance data-intensive, solutions-oriented research in the Global South. A three-year pilot for an African open science platform ended in 2019, and planning is underway for the launch in 2020 of the platform's operational phase. Inspired by the African example, there are now parallel initiatives under development in Asia and the Pacific, and in Latin America and the Caribbean.

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### The future of scientific publishing

With the current model of scientific publishing increasingly questioned by scientists and research funders, the Council will review the role of publishing in scientific enterprise, as a basis for identifying pathways for change that maximize the potential for rigour, creativity and impact. The aim will be to agree a set of principles for scientific publishing that can maximize benefits to global science and to the wider audience of scientific research.

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*“Where a professional society is involved in a journal, normally the people within the society are very motivated to maintain standards. I’ve been in professional societies all my life, and it’s been a major motor for me to be able to ensure standards of refereeing and training...As the ISC is the home for most of the scientific societies in the world, it’s an important issue for the ISC as well.” [Michael Spedding](#), Secretary General, International Union of Basic and Clinical Pharmacology, speaking in a [blog for the ISC](#).*

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### SCIENCE PUBLISHING BLOG SERIES

In the first half of 2019, the International Science Council launched a mini-series of blogs on scientific publishing. This series was sparked by Plan S, an initiative launched by the European Commission in September 2018 and supported by cOAlition S, an international consortium of research funders. Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant open access journals or platforms.

The announcement of Plan S and later consultations on its development sparked a lively debate within the science community, and revealed many differing perspectives on methods for widening access to scholarly publishing, both for readers and authors. The ISC blog series, far from representing a set position, sought to give space to this diversity of views, through interviews with

individuals such as Sabina Leonelli, [co-author of the Global Young Academy’s statement on implementing Plan S](#), and Steven Inchcoombe, [Chief Publishing Officer and member of the management board of Springer Nature](#).

The series launched with an interview with Robert-Jan Smits, then Open Access Envoy of the European Commission, who spearheaded the development of Plan S. We also heard from the community of ISC members, such as [Luke Drury of the Royal Irish Academy and European ISC Members group](#), [Michael Spedding, Secretary General of the International Union of Basic and Clinical Pharmacology](#), and [Dominique Babini, Open Access Advisor to the Latin American Council of Social Sciences](#).

These pieces formed some of the year’s most-read stories on the ISC website, and gave an added impetus to the development of the project outlined above.

## Knowledge production and diffusion as global public goods

This project aims to identify and promote systems of metrics, and rules for their use that could be adopted at the national level and which would enhance the value of research in serving the public good. Scoping work for the project will begin in late 2020.

### **CELEBRATING 2019, THE INTERNATIONAL YEAR OF THE PERIODIC TABLE OF CHEMICAL ELEMENTS**

*As told by [Natalia Tarasova](#): ISC Governing Board member; co-chair of the International Management Committee for the International Year of the Periodic Table of Chemical Elements 2019; Chairholder of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Chair in Green Chemistry for Sustainable Development at Mendeleev University of Chemical Technology of Russia; and in 2015-2017 President and in 2018-2019 – past President of the International Union of Pure and Applied Chemistry (IUPAC).*

After the Big Bang, the universe cooled sufficiently to allow the formation of subatomic particles, and later atoms. Giant clouds of these elements – mostly hydrogen, with some helium and lithium – later merged through gravity, forming early stars and galaxies. Their descendants can still be seen twinkling on a clear night.

As we continued to progress throughout human history and humankind, scientists tried to figure out a way of systematically arranging all of these elements. 1869 is considered as the year of discovery of the periodic system, and Dmitri Mendeleev was a major discoverer. 2019 marked the 150th anniversary of the periodic

table of chemical elements and was therefore [proclaimed](#) the ‘International Year of the Periodic Table of Chemical Elements’ by the United Nations General Assembly and UNESCO.

The periodic table of chemical elements is one of the most significant achievements in science, capturing the essence not only of chemistry, but also of physics, medicine, earth sciences and biology.

Though there have been numerous debates among science historians regarding the name of the person who first established the periodic table, Mendeleev was the first to recognize its ability as a predictive system – it has the ability to forecast the properties of elements to be discovered. This led to numerous key discoveries, making it one of the most significant achievements in science development.

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*“The periodic table of elements symbolizes the role of modern science in sustainable development.”*

Throughout 2019, the [International Year](#) held worldwide events and activities that addressed different aspects of the periodic table – from scientific to educational and historical, as well as the modern state of arts in the periodic table.

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**INTERNATIONAL YEAR OF BASIC SCIENCES FOR SUSTAINABLE DEVELOPMENT 2022**

In late 2019, the UNESCO General Conference adopted a resolution to proclaim 2022 as the [International Year of Basic Sciences for Sustainable Development](#).

The International Year is intended to help highlight the crucial role of basic sciences for sustainable development, and emphasize their contributions to the implementation of the 2030 Agenda and achievement of the Sustainable Development Goals. These aims are strongly aligned with the ISC's mission to increase evidence-informed decision-making on urgent global challenges, and its vision of science as a global public good. The proposal for the International Year was developed by the International Union of Pure and Applied Physics (IUPAP), under the leadership of Michel Spiro, IUPAP President, with the encouragement and support of the ISC, and its many member and partner institutions, and UNESCO. The next step is for the United Nations General Assembly to decide whether to proclaim 2022 as the International Year of Basic Sciences for Sustainable Development, and ISC will continue to support this initiative beyond 2019.

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*“I hope very much that the International Year of Basic Sciences for Sustainable Development in 2022 will be proclaimed this year by the UN General Assembly, so that the message from the international science community of enhancing global awareness of basic sciences will open the door for more research, education and development in these fields.”* **Michel Spiro**, President of the International Union of Pure and Applied Physics, Chair of the Steering Committee for the proclamation of an International Year of Basic Sciences for Development in 2022, and former President of the European Organization for Nuclear Research (CERN) Council

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## PROMOTING INTERNATIONAL RESEARCH AND SCHOLARSHIP ON KEY GLOBAL CHALLENGES

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The Council is committed to supporting the development of all science, from discovery to application, and to making science and its benefits accessible to all. In 2019, the Council continued to support a diverse range of international research programmes and networks, capacity development schemes, special campaigns, projects and global events, both as a lead convenor and as a co-sponsor of initiatives that have multiple sponsors and partners.

Through its network of members and initiatives, the ISC is able to convene and mobilize a range of partners to address particular topics or areas, bringing together a broad range of perspectives, and is able to quickly respond to emerging challenges.

Photo: De ariyo  
olasunkanmi,  
Shutterstock



## Funding programmes

The Council currently runs two funding schemes: The Leading Integrated Research for Agenda 2030 in Africa (LIRA 2030) programme and the Transformations to Sustainability (T2S) programme, which have continued to grow and increase their impact in 2019.

### Leading Integrated Research for Agenda 2030 in Africa

In its fourth and penultimate year of implementation, the [LIRA 2030 programme funded nine additional projects](#), expanding the LIRA community to 28 projects active in 22 countries across Africa.

In March 2019, 28 of the early-career researchers funded through the programme, along with members of the programme's Scientific Advisory Committee and other leading scholars and practitioners on urban research, met in Dakar, Senegal, for the [LIRA Annual Research Forum](#).

The Forum provided an opportunity for peer-to-peer learning and for researchers to explore new connections and collaborations across projects, with the aim of expanding the impact of their research. The Forum was hosted by Université Cheikh Anta Diop de Dakar in partnership with the Senegal Academy of Science and Technology. A public conference on 'Science for Sustainable Urban Development in Africa' allowed for direct engagement between the grantees and local

scientists and policy-makers on the potential of science to support innovative thinking on urban futures in Africa, and in Senegal in particular.

With significant support from the Robert Bosch Foundation, the programme also delivered two capacity-building activities in Ghana, including training on the methods and ethics of transdisciplinary research, theories of change, strategies for knowledge integration, and publishing transdisciplinary academic work. These activities were hosted by the Ghana Academy of Arts and Sciences and Kwame Nkrumah University of Science and Technology.

In 2019, the programme supported African early-career scientists to present their research at international scientific events, to contribute to and learn from global policy processes, and to expand their scientific networks. Events included the UN Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals (the STI Forum), the UN High-level Political Forum on Sustainable Development, Sida Science Days, the International Transdisciplinarity Conference, the International Conference on Sustainable Development, the 3rd International Conference on National Urban Policy, and the Innovation Bridge/Science Forum South Africa, to name but a few.

Research from the programme featured in a series of blogs on the ISC website, and in the World Economic Forum [blog](#). Academic articles published by LIRA researchers can be accessed [here](#).



Early-career researchers funded through the LIRA 2030 programme had the chance to build connections with each other and with members of the programme's Scientific Advisory Committee at the 2019 LIRA Annual Research Forum, which took place in Dakar, Senegal.



Through the Transformations to Sustainability programme, international teams of researchers are working with local communities affected by climate change, including in the Sundarbans, the world's largest mangrove delta. Photo: Sami A. Khan for WorldFish, 2012.

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### Transformations to Sustainability

The [Transformations to Sustainability](#) programme contributes to two of the four key domains of ISC work: providing knowledge about social transformations to sustainability to help advance the 2030 Agenda for Sustainable Development; and providing evidence about the design of innovative research programmes that can inform work for the evolution of science systems.

The ISC team has made special efforts to scale up the visibility of research on transformations to sustainability, to good effect. A partnership with the highly regarded journal *Current Opinion in Environmental Sustainability* (COSUST) was launched with a joint [editorial](#) in February 2019. Peer-reviewed analytical reviews of literature on key dimensions of transformations to sustainability will be sourced from the T2S networks for selected issues of COSUST, and will appear online in a [virtual special issue](#). Over time, this special issue is intended to grow into a compendium of up-to-date knowledge on transformations to sustainability. Two '[knowledge briefs](#)', bringing peer-reviewed research relevant to social transformations to a wider audience, were produced in 2019, and others will follow in 2020, based on the papers appearing in the COSUST virtual special issue.

A new [programme website](#) was launched in April 2019, featuring original and curated blogs and other resources resulting from or related to the Belmont Forum–New Opportunities for Research Funding Agency Cooperation in Europe (NORFACE) initiative.

A highlight of the year was the Transformations 2019 conference in Santiago, Chile, in October. In addition to a keynote talk and numerous presentations of research findings at the main conference, the T2S programme convened a public pre-conference workshop, entitled 'Transformation laboratories (T-LABS) as spaces for co-designing socio-ecological transformation: learning from different contexts and approaches' in which projects [shared their learning about multi-stakeholder research methodologies in discussion with other researchers and non-academic stakeholders](#).

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*"The T-LAB workshop was a very enriching experience...The participants put all their knowledge and capacities into play and made very interesting reflections and proposals."* [Almendrea Cremaschi and Lakshmi Charli-Joseph, Transformations to Sustainability early-career researchers](#)

Following the conference, researchers associated with the programme led the development of a policy brief entitled '[Transformation from science to decision-making](#)' which is available in English and Spanish and was the programme's most-visited publication in 2019.

## Grant-funded projects

In 2017, one of the Council's predecessor organizations, the International Council for Science (ICSU), selected three projects led by its members for grant funding. 2019 was the final year of funding for the three projects, and we take this opportunity to review the impact they have made across different spheres.

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### A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences

The mathematical and natural sciences have long benefited from the participation of excellent women scientists. However, at the end of the first decade of the 21st century, the percentage of women scientists remains shockingly low, and barriers to women's participation persist, leading to a gender gap at all levels and across all continents. It is against this backdrop that in 2016, the International Mathematical Union (IMU), through its Committee for Women in Mathematics, and the International Union of Pure and Applied Chemistry (IUPAC), supported by nine other ISC member unions and other partners, launched a project on the gender gap in science.

The project comprised three main areas of research: a global survey of scientists, a data-backed study on publications, and development of a database of good practice. The global survey asked scientists, both male and female, to reflect on their career experiences and any challenges they had encountered. It received responses from over 30,000 people in more than 150 countries, finding clear evidence for a gender gap in science.

The project's second task was to develop an online tool to investigate the gender imbalance of scientific publications by women and men, across countries and fields of research. Shockingly, the study found that despite an increase in the proportion of women authors over time, women scientists were not publishing in top journals any more frequently than in the past, indicating that a gender barrier persists.

Finally, the project developed a ['database of good practices for girls and young women, parents, and organizations'](#), to curate initiatives from all around the world that encourage the involvement of women in science. The database was made available on the IMU website in 2019, and is expected to expand in coming years.

At its final conference in late 2019, the project team reviewed its preliminary results, suggesting four strategies in order to inspire young women to pursue careers in scientific fields:

- Engage families and communities in promoting science, technology, engineering and mathematics (STEM) careers to girls, especially when these careers are contrary to cultural expectations and norms.
- Engage girls and women in exploring socio-scientific issues.
- Promote social support for women and girls, such as peer networks and mentoring by more experienced STEM researchers or professionals.
- Develop women and girls' STEM leadership, advocacy and communication skills.

The project's [final report](#) was published on 11 February 2020, the International Day of Women and Girls in Science. Plans to continue work in the coming years, and to maintain accessibility to the interactive resources that have been created, are currently under discussion.

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*"We are happy with what we were able to do until now, but the long-term plan is to produce useful tools capable of living after the end of the project."*

*Marie-Françoise Roy, International Mathematical Union, speaking on the occasion of the final conference at [the Abdus Salam International Centre for Theoretical Physics \(ICTP\)](#).*

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### Climate Change Education Across the Curricula, Across the Globe

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*"TROP ICSU has brought new innovation on how to integrate climate change education into different disciplines at different levels."*

*Raymond Ktebaka, Uganda*

Education is one of the most critical elements in the global response to mitigate climate change. The quality of life for future generations and the planet itself is largely dependent on the quality of education

provided for today's students. This imperative is what drives the Climate Change Education Across the Curricula Across the Globe (TROP ICSU) project, launched in 2017 by the International Union of Biological Sciences (IUBS) and the International Union for Quaternary Research (INQUA), in partnership with other international unions, national academies of several countries, national research centres, and United Nations agencies.

TROP ICSU aimed to integrate climate change education into the formal education system worldwide, in order to equip the next generation with the skills and knowledge required for climate change adaptation and mitigation. Over the course of the project, around 150 teaching tools for educators were created, as well as more than 65 free and easy-to-access lesson plans for use by teachers across the world. The project team also conducted 14 workshops for 650 high school and undergraduate-level teachers in nine countries across the globe, and four workshops for climate experts, which brought together around 50 people in total.

During 2019, TROP ICSU featured in several UN fora, including the STI Forum and the High-level Political Forum on Sustainable Development. TROP ICSU also signed a memorandum of understanding (MoU) for collaboration with the World Meteorological Organization (WMO).

TROP ICSU has significant plans for the future, including the intention to translate its lesson plans into as many languages as possible, and to create video guides as additional lesson planning resources for teachers.

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### **Lightsources for Africa, the Americas, Asia and Middle East Project**

Advanced light sources (AdLS) have revolutionized research in many fields of science and technology. They are key to research frontiers in numerous disciplines and industries and have become prime enablers of scientific and technological progress and innovation.

In 2016, the International Union of Pure and Applied Physics (IUPAP) and the International Union of Crystallography (IUCr) received funding for a project to enhance advanced light source research and crystallographic sciences in Africa, Mexico, the Caribbean, Southeast Asia and the Middle East, and it is having a marked impact in the communities that it is serving.

At the outset, the Lightsources for Africa, the Americas, Asia and Middle East Project (LAAAMP) identified five key tasks: to conduct a survey of crystallography and AdLS users in the targeted regions and develop a strategic plan for each; to send experienced AdLS users to the targeted regions to support capacity building and to partner in the launch of IUCr–UNESCO–LAAAMP OpenLabs, which is a network of operational crystallography laboratories in developing countries; to advocate for science and science education by developing and sharing non-technical information explaining the benefits derived from crystallography and AdLS research and training; to support the mobility and training of researchers through its FAST (faculty-student teams) grant scheme; and to develop strategic plans for the implementation of new AdLS in regions where they do not currently exist.

The LAAAMP brochure [Advanced Light Sources and Crystallography: Tools of Discovery and Innovation](#) is now available in English, French, Spanish and Arabic. Hundreds of copies were shared over the course of the project, and a Portuguese version is in development.

During 2019, LAAAMP also launched a crystallography training program in Benin called [X-TechLab](#), hosting roughly 100 students per year, and provided unique opportunities for approximately 50 faculty and students from low- and middle-income countries to train at various advanced light source facilities around the world.

The future is bright for LAAAMP, which has launched a fundraising campaign in order to continue its activities beyond the initial grant-funded period.

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*“AdLS facilities promote multidisciplinary collaboration with the wider global community, while promoting science diplomacy and peace at large.” Michele Zema, Executive Outreach Officer of the International Union of Crystallography and member of the LAAAMP Executive Committee*

## Global scientific networks

The ISC co-sponsors a number of science initiatives and programmes that are contributing to the development of the actionable knowledge most needed today. A few of these networks are highlighted in this annual report.

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### The Global Research Programme on Inequality

2019 marked the official launch of the Global Research Programme on Inequality (GRIP) by the University of Bergen (UiB) and the International Science Council.

The establishment of GRIP followed a process to re-orient the long-standing Comparative Research Programme on Poverty (CROP) towards a broader focus on the multi-dimensions of inequality. GRIP aims to make substantive contributions to global policy processes such as the 2030 Agenda.

Following the advice of an international group of experts on inequality who gathered in Bergen, Norway in March 2019, the newly launched programme will help to further understanding of the interactions between various dimensions of

inequality in cities around the world. Over the next 18 months, the new programme will lead activities and develop an agenda for multi-year research on that topic. The agenda will be reviewed by UiB and the ISC.

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*“For several years, UiB has contributed to SDGs and Agenda 2030. Through its focus on inequality and its truly global approach, GRIP deepens this commitment significantly.”* **Dag Rune Olsen**, Rector, University of Bergen

Two monographs were also published in CROP’s [International Poverty Studies series](#).

The Global Research Programme on Inequality will explore different dimensions of inequality in cities around the world. Photo: Jason Sung on Unsplash.



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### The World Climate Research Programme

2019 marked the 40th anniversary of the World Climate Research Programme (WCRP). To celebrate this milestone, the WCRP [Climate Science Week](#) was held as part of the American Geophysical Union Fall Meeting in San Francisco, on 7–13 December 2019.

The WCRP 40th Anniversary Symposium brought together more than 200 researchers from around the world to showcase the successes of its community over the past forty years, and to highlight some of the challenges and opportunities for climate science now and into the future.

[Watch a short film capturing 40 years of international climate science](#) at WCRP.

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*“Our social and economic life is vulnerable to periods of climate stress. Human activity may itself influence local, regional and global climate. These are problems which the international community should address through a World Climate Research Programme (WCRP) which will attempt to determine why, how and where climate changes and variations occur, and thereby attempt prediction of their future occurrence.”* *Proceedings of the World Climate Conference, 1979*

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*“In its relatively short life, the WCRP has played a key role in the transformation of climate science, transformation which has contributed to change the perception of our environment and societal priorities. Coordination methods developed by WCRP serve as examples in other domains where science–society interface is important, such as biodiversity and oceanography.”* *From a special article on the history of WCRP and its achievements, by Gilles Sommeria, formerly of the French National Centre for Scientific Research [CNRS] and WMO, Geneva and Ludovic Touzé-Peiffer, Laboratoire de Météorologie Dynamique, CNRS, Paris*

Looking ahead, the WCRP [Strategic Plan 2019–2028](#) outlines four scientific objectives that the international climate science community needs to address in the next decade:

- Fundamental understanding of the climate system.
- Prediction of the near-term evolution of the climate system.
- The long-term response of the climate system.
- Bridging climate science and society.

The process of developing the implementation plan needed to achieve these objectives is now underway and will include many more discussions, both within WCRP and with its sponsors – including the ISC – its partners and the wider climate science community.

## The International Network for Government Science Advice

2019 saw the regional chapters of the International Network for Government Science Advice (INGSA) in Africa, Asia and Latin America swell in outreach and influence.

All three chapters worked with regional INGSA capacity-building workshop alumni to run a competitive award programme for essays, workshops and articles to address the state of science advice to regional, provincial, municipal or national legislative and executive branches of governments. Read the winning submissions from [Africa](#), [Latin America](#) and from the grassroots science advice promotion award winners in [Asia](#).

The importance of the [Country Research Associate](#) programme was validated again in 2019 by the sheer volume of applications to its second round. Two hundred and twenty highly competitive applicants competed for seven grants. INGSA asked submitters to consider “What are the challenges in your country/region/organization limiting the use of scientific evidence by policy-makers?” and “How will your research contribute to overcoming them?”.

INGSA’s two science diplomacy divisions are moving from strength to strength. The Foreign Ministries Science & Technology Advice Network ([FMSTAN](#)) was invited to an influential meeting in Oman in early March. This was a key element of relationship building with the Sultanate of Oman ahead of the 2021 ISC General Assembly. The Oman meeting launched a second science diplomacy division: The Science Policy in Diplomacy and External Relations ([SPIDER](#)) network. The [SPIDER](#) network focuses on the role science can play in fostering collaboration between nations, for the advancement of society. The network is open to anyone with an interest in the practice, theory or discussion of science diplomacy.

In November, FMSTAN and SPIDER were invited to undertake a joint meeting in Vienna with the Austrian Ministry of Foreign Affairs and the International Institute for Applied Systems Analysis. Keynote speakers included the economist Jeffrey Sachs and Martin Lees, the former Secretary General of the Club of Rome. Both FMSTAN and SPIDER are developing ideas for international research projects to share their expertise in science diplomacy.

## Future Earth

In 2019 Future Earth made significant progress in providing scientific guidance to develop local and global targets that help maintain Earth systems such as land, water and biodiversity. A critical part of this effort was the official launch of the [Earth Commission](#), a group of leading scientists that aims to establish scientific guardrails, at global and regional levels, for Earth’s life support systems, working with the broader Global Commons Alliance. Similarly, Future Earth convened around 120 interdisciplinary participants to launch the [Science-Based Pathways for Sustainability](#) initiative to contribute to knowledge-based decision-making that supports achievement of the Sustainable Development Goals.

A successful second round of funding for Future Earth’s Programme for Early-stage Grants Advancing Sustainability Science ([PEGASuS](#)) took place in 2019. The programme is supporting two working groups and two postdoctoral researchers focusing on ocean sustainability.

During the second half of 2019, Future Earth advanced its [Sustainability in the Digital Age](#) initiative to examine the opportunities and challenges of leveraging digital capabilities for societal transformation to sustainability. In October, the first ever [Global Risks Perceptions Survey was launched](#), gathering views from more than 200 global change scientists from 52 countries – with more than 50% of respondents from the Future Earth community. Surveyed scientists identified climate-extreme weather–biodiversity–food–water as a critical nexus of risk that could lead to a global systemic crisis.

Finally, Future Earth wrapped up the year with another edition of [10 New Insights in Climate Science](#). This report was launched by United Nations Framework Convention on Climate Change (UNFCCC) Executive Secretary Patricia Espinosa at the 25th Conference of the Parties (COP25) of the UNFCCC. It summarizes recent advances in climate research across disciplines and is based on the scientific expertise of many global research projects and knowledge–action networks in the Future Earth community. The 2019 list focuses on equity and equality, nutrition, impacts on the most vulnerable and social tipping points.



The ISC is contributing to preparations for the UN Decade of Ocean Science for Sustainable Development, which will begin in 2021. Photo: Gergana Georgieva (distributed via [imaggio.eu.eu](http://imaggio.eu.eu))

## THE OCEAN DECADE

In 2017, the United Nations proclaimed that 2021 to 2030 would be the ‘UN Decade of Ocean Science for Sustainable Development’, or the ‘Ocean Decade’ for short. The Ocean Decade is a major effort to boost ocean science, to share knowledge on the ocean, and to work together to meet Sustainable Development Goal 14 (healthy oceans) and the other SDGs with an ocean dimension.

The ISC supports the aims of the Ocean Decade, and in 2019 developed a memorandum of understanding with UNESCO’s Intergovernmental Oceanographic Commission (IOC). This MoU sets out a framework of cooperation, include promoting the Ocean Decade among the scientific community, contributing to Ocean Decade preparations, accelerating scientific initiatives, and exploring opportunities for joint fundraising for scientific research. The [MoU was signed in early 2020](#).

One of the main aims of the Ocean Decade is to develop innovative ways to communicate ocean science, and to promote ocean literacy to a broad audience. Towards this aim, in 2019, the ISC and IOC launched a series of blogs. The blogs aim to feature new voices that we need to hear from – across human, natural, social and

indigenous science and traditional knowledge – if the Ocean Decade is to be truly inclusive and multidisciplinary.

*“Ocean data and information should be considered a ‘public good’ in the same way that weather observations are.”* [Martin Visbeck](#), a member of the Ocean Decade’s Executive Planning Group

The MoU developed with UNESCO’s IOC is another chapter in a long collaboration between the two organizations. The ISC and IOC helped found, and remain at the helm of, two key international ocean science initiatives: [The Global Ocean Observing System](#), and the [Scientific Committee on Oceanic Research](#). The IOC–ISC partnership on the Ocean Decade illustrates the importance of collaboration between international scientific organizations, which together can mobilize key national, regional and global actors across the science–policy–society nexus to generate knowledge for the benefit of humankind.

### Integrated Research on Disaster Risk

A major focus for [Integrated Research on Disaster Risk \(IRDR\)](#) has been to work with its scientific committee and undertake broad consultations at different international and regional scientific conferences in order to identify priority actions for concluding its current programme phase (2010–2020). Priorities that have been identified for work in 2020 are preparing a new global integrated research agenda on disaster risk reduction, compiling the main achievements and lessons learnt through the programme, and soliciting scientific and technical input towards an IRDR conference.

The IRDR programme has been active on many different fronts in 2019, including launching the first volume of the [IRDR Working Paper Series](#). This series anchors the IRDR contribution towards the Sendai Framework for Disaster Risk Reduction, the SDGs and the Paris Agreement on Climate Change from its International Centres of Excellence (ICoEs), national committees, Young Scientists Programme and main partners.

IRDR continued its Young Scientists Programme throughout the year, bringing the number of young disaster risk professionals supported to a total of 162 (from 46 countries). In October to November, IRDR – together with WCRP and Nanjing University of Science and Technology – organized a three-week advanced course entitled ‘Institute of Advanced Studies in Climate Extremes and Risk Management’ for 39 participants from 17 countries. In December, IRDR co-organized the International Workshop of Youth and Young Professionals in disaster risk

reduction research with U-INSPIRE, Sichuan University, to promote international collaboration among young disaster risk reduction professionals.

### The Urban Health and Wellbeing programme

In 2019, the Urban Health and Wellbeing (UHWB) programme strengthened its recognition as a key actor in the area of urban health, within both scientific and policy communities, through networking activities such as the ‘International Conference on Urban Health – People Oriented Urbanization’, which gathered 300 international experts in Xiamen, China, and included a workshop for exchange and debates between a group of mayors from Latin American cities, researchers and other stakeholders in urban health.

In partnership with Future Earth, the programme developed [The Xiamen Call for Action](#) – a set of universal principles for urban health and an international call to cross the gap from knowledge to action. The programme was also invited to sit on the jury of WWF’s One Planet City Challenge.

The ISC signed an agreement with the Institute of Urban Environment at the Chinese Academy of Sciences in May 2019, to allow the UHWB programme to support the implementation of the UN-Habitat International Guidelines on Urban and Territorial Planning and the National Urban Policy Programme. As contribution to this partnership, the UHWB programme published [The Little Book of the Health of Cities](#), which is available with open access.

#### ENHANCED COLLABORATION WITH UN-HABITAT AND UNDRR ON URBAN HEALTH AND WELL-BEING AND DISASTER RISK REDUCTION

In 2019, the ISC signed agreements with two UN agencies, in order to strengthen collaboration on urban health and well-being and disaster risk reduction.

*“There is a growing recognition by governments that the implementation of the Habitat Agenda and Sendai Framework must be informed by the latest scientific evidence. The ISC stands ready to ensure that this happens. We are pleased to strengthen our long-standing collaboration with UN-Habitat and UNDRR, and to have identified multiple paths for increased partnership in the years to come.”*

*Mathieu Denis, Science Director, ISC*

## The Committee on Data for Science and Technology

CODATA's major efforts and contribution to international science in 2019 aimed to help address limitations in our ability to access and combine data.

In September 2019, through its International Data Policy Committee, CODATA produced the Beijing Declaration on Research Data. The text was the result of wide consultation and an intensive two-day workshop with more than 100 participants preceding the [CODATA 2019 Beijing Conference](#), which was attended by 350 people. The UN's Beijing Declaration argues that data produced by research and for research must be FAIR (findable, accessible, interoperable and reusable), as open as possible on a global basis, and wherever possible automatically processible, at scale, by machines. The Declaration emphasizes the need for a global FAIR data commons and international cooperation on 'open science' platforms.

In 2019, CODATA continued to mobilize its global expert community to prepare the foundations for its contribution to the ISC Science Action Plan: Project for the [Decadal Programme 'Making Data Work for Cross-Domain Grand Challenges'](#). Significant progress was made as the result of an intensive, [week-long Dagstuhl workshop, co-organized with the Data Documentation Initiative](#), and attended by experts in data and metadata specifications. The workshop allowed CODATA to make significant progress with the design of the Programme and the scope of four initial working groups, which together will apply technical and semantic solutions to a range of policy and cross-domain research questions, including those of infectious diseases and resilient cities.

In addition to its Beijing conference, CODATA continued two important series of scientific meetings. The second and third workshops in a series allowing research institutions and universities to share knowledge and insights into how improve the way they look after research data took place in [Philadelphia](#) and [Helsinki](#) in April and October respectively, each with 120 participants. The [second edition of the VizAfrica series](#), sharing knowledge and expertise on data visualization, particularly for vital research in relation to the Sustainable Development Goals, took place in Gaborone, Botswana in November. Finally, we have continued the [CODATA-RDA School of Research Data Science](#), providing foundational training in data skills for nearly 200 early career researchers in events in Trieste, Italy; Addis Ababa, Ethiopia; Beijing, China; and San José, Costa Rica.

## The World Data System

2019 was a significant year for the World Data System (WDS), as the initiative marked its tenth anniversary, and launched its new [Strategic Plan for 2019–2023](#). This document, produced in consultation with the ISC Governing Board and ISC members, sets out three strategic targets at the core of the WDS mission: to improve the sustainability, trust in, and quality of open scientific data; to support active disciplinary and multidisciplinary scientific data services communities, and to make trustworthy data services an integral part of international collaborative scientific research. In parallel with its five-year strategic plan, a rolling two-year implementation plan has been developed that outlines the activities that WDS will achieve towards realizing these strategic targets.

On 7–8 May 2019, over 120 participants from 14 different countries gathered in Beijing at the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, for the WDS Asia–Oceania Conference 2019. The principle objective of the Conference was to strengthen data-oriented alliances in the Asia–Oceania region through the building of a network to share data policies, technologies and practices, as well as to promote education and training in research data management (RDM). The Conference highlighted that there is still work to be done involving all disciplines and countries in the region, particularly those in Southeast Asia. In support of this aim, WDS plans to increase collaboration with the ISC Regional Office for Asia and the Pacific, and with ISC co-sponsored programmes.

In October 2019, Libby Liggins was awarded the 2019 WDS Data Stewardship Award in recognition of her work as founder and a director of the [Ira Moana – Genes of the Sea – Project](#), which is enabling a collaborative network of scientists to deliver a searchable meta-database for marine genetic and genomic data.

On 6–8 November 2019, WDS held an RDM Training Workshop at Institut de Physique du Globe in Paris for 23 early career researchers and scientists (ECRs) from 14 different countries. The Workshop was sponsored by the European Geosciences Union and enabled the ECRs to gain practical skills in data curation and management. Training took the form of lectures and group discussions, plus working on individual problems, with content tailored to the needs expressed by participants. Feedback showed that the Workshop was highly successful, with the ECRs stating that the training was relevant and meaningful to their future careers.

# 3

## INCREASING EVIDENCE-INFORMED DECISION-MAKING IN POLICY, DISCOURSE AND ACTION



In its first full year of operation, the ISC expanded its work to ensure that science is integrated into international policy development. It did this through expanding its connections within global policy fora, facilitating the participation of scientists in policy processes, and providing advice on how to harness science to achieve the Sustainable Development Goals and other policy priorities.

Photo: coldsnowstorm,  
iStock



## Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals

The theme of the May 2019 STI Forum was science, technology and innovation for ensuring inclusiveness and equality. Representatives of the Council, together with TROP ICSU, participated in a series of side events, speaking on topics such as improving scientific input to the SDGs, and Earth and environmental education for sustainable development.

The annual STI Forum provides a venue for the science and technology community to explore opportunities for collaboration and to join efforts towards the development, transfer and uptake of relevant technologies for the SDGs.

## High-level Political Forum on Sustainable Development

The July 2019 High-level Political Forum on Sustainable Development (HLPF) held in New York focused on six of the SDGs: SDG4 (Education); SDG8 (Economic Growth); SDG10 (Inequality); SDG13 (Climate Action); SDG16 (Peace) and SDG17 (Partnerships), under the theme of ‘Empowering people and ensuring inclusiveness and equality’. The HLPF is the United Nations’ main platform on sustainable development and it has a central role in the follow-up and review of the 2030 Agenda for Sustainable Development and the SDGs at the global level.

ISC CEO Heide Hackmann spoke during the [HLPF plenary session](#) dedicated to the Global Sustainable Development Report (GSDR) 2019. Hackmann highlighted the ISC’s work at the science–policy interface and introduced an initiative launched at the Global Forum of Funders and calling for a ‘Decade of Global Sustainability Science Action’ in order to further the impact of investments in SDG-related research.

As co-coordinator with the World Federation of Engineering Organizations of the Scientific and Technological Community Major Group (STC MG), the ISC delivered a [statement](#) stressing the importance of identifying synergies between the 2030 Agenda and the Paris Agreement on climate change to enable more effective and ambitious national action for implementing both frameworks.

Together with the World Federation of Engineering Organizations, the ISC organized a [side event](#) on the lessons learned in the science–technology–policy interface during the first cycle of the HLPF. The event addressed the impact of science–policy tools and reports such as the GSDR, as well as how the role and contributions of the STC MG could be strengthened. An [SDG learning lab](#) on ‘Practices and approaches on quality education towards environment and climate action’, including findings and teaching tools emerging from the [TROP ICSU project](#), was hosted by the ISC in conjunction with the International Federation of Social Workers and Harvard University. In another side event exploring the impact of the digital revolution on sustainable development, Hackmann underscored the importance of developing data platforms, such as the [African Open Science Platform](#), to build greater interactions between digitization and the SDGs.

## Climate Action Summit

The United Nations Climate Action Summit which took place in September 2019 was designed to be a springboard for the decisions to be taken in 2020 under the Paris Agreement on climate change. The Council was present, with President Daya Reddy speaking at the [launch event for an important synthesis report, \*United in Science\*](#), commissioned by the United Nations Secretary General’s Science Advisory Group and including a chapter on the Future Earth programme. The report highlights the urgent need for the development of concrete actions that halt global warming and the worst effects of climate change. “United in science, building and deploying knowledge together, we can succeed” said Reddy.



The Bladen River flows through one of the most biodiverse and untouched pieces of land in Central America. Photo: Kevin Wells Photography. Shutterstock

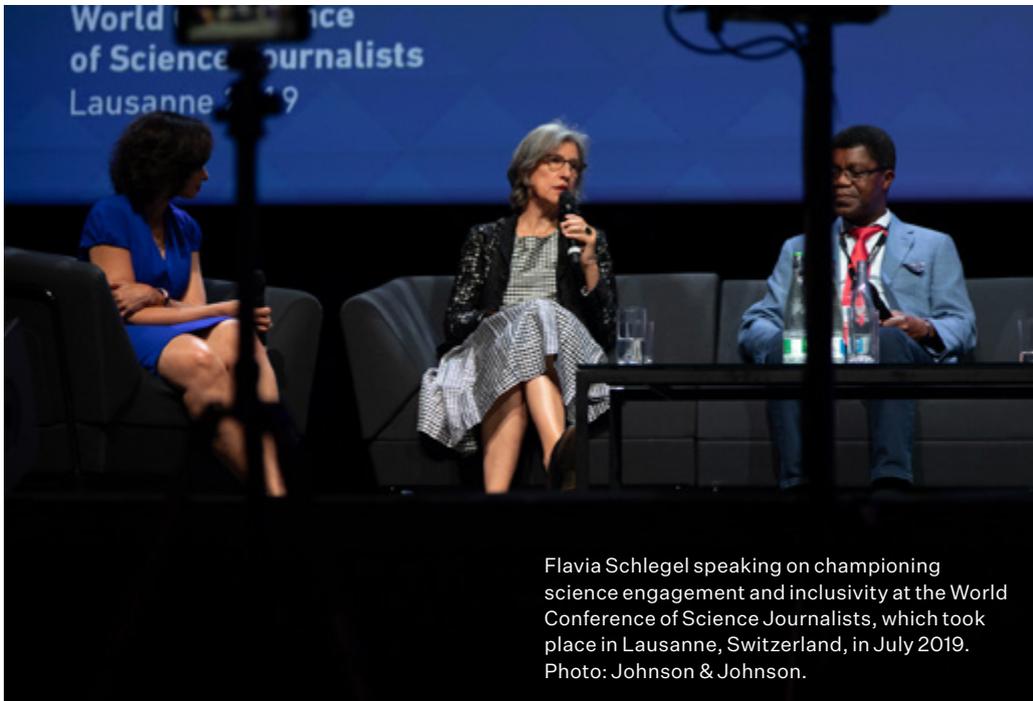
### **INTERGOVERNMENTAL SCIENCE– POLICY PLATFORM FOR BIODIVERSITY AND ECOSYSTEM SERVICES REVIEW REPORT COORDINATION**

The ISC was selected in 2018 by the Intergovernmental Science–Policy Platform for Biodiversity and Ecosystem Services (IPBES) Bureau and the Multidisciplinary Expert Panel of IPBES – the ‘Intergovernmental Panel on Climate Change (IPCC)-like mechanism’ for biodiversity established in 2012, which now has 136 members. The review was undertaken by an [international panel of experts](#) appointed by IPBES and looked at the effectiveness of IPBES as a science–policy interface mechanism across the Platform’s core functions, namely assessing the state of knowledge on biodiversity and ecosystem services, supporting policy formulation and implementation, building capacity, and catalysing new knowledge.

The review involved over 60 in-depth interviews, a survey of IPBES stakeholders from the policy, scientific and stakeholder communities – which was also opened to ISC

members – and a bibliometric and media impact study led by the ISC. The [review found that IPBES has established its scientific credibility and made significant contributions to advancing knowledge on biodiversity and ecosystem services](#). The Platform had also built a large network of members and experts across a range of disciplines, and experimented with working with different types of knowledge and world views despite financial constraints. However, the review found that IPBES should strengthen the policy aspects of its work and shift from focusing on assessments as products to viewing them as a process. By doing this, it could make its work more relevant to decision-makers and practitioners managing natural resources at national and local levels, and mainstream biodiversity into other sectors.

The review was considered at the 7th session of the IPBES Plenary in April 2019, and welcomed by all countries. The findings were discussed in the context of the finalization of the Platform’s rolling work programme up to 2030. More information can be found in an open access paper in [Ecosystems and People](#).



Flavia Schlegel speaking on championing science engagement and inclusivity at the World Conference of Science Journalists, which took place in Lausanne, Switzerland, in July 2019. Photo: Johnson & Johnson.

### **'SCIENCE MULTILATERALISM' IN ACTION: BUILDING RECOGNITION OF THE ISC WITHIN THE UN SYSTEM**

In April 2019, the ISC appointed Flavia Schlegel as its first Special Envoy for Science in Global Policy, in order to build the ISC's identity and presence within the UN and other global policy fora. We spoke to Flavia to find out more about how the ISC made a difference during a busy year for science in global policy.

**When you joined the ISC in April 2019, what was the starting place – what was your perception of how the ISC was working to strengthen science in global policy?**

I came to the ISC with a great appreciation for what had been achieved through the merger of ICSU and ISSC. The merger demonstrated that ISC members were ready for the challenge and the ambition of the 2030 Agenda, which is my guiding compass for science and public policy. Success on the 2030 Agenda will not lie in one discipline or in one approach, but in bringing the natural and social sciences closer together. What we needed was a 'multilateral science' organization, bringing the full power, creativity and knowledge of the science community in all its diversity to the table.

As the Special Envoy, I had the opportunity to introduce and to explain the new ISC to UN bodies and agencies. Thanks to the ISC's investment in communication and outreach, the ISC's added value in bridging disciplinary gaps has been widely recognized and appreciated. By the end of 2019, the global voice for science had created a new, unique identity that made it visible and recognizable in the very complex landscape of global science and governance networks in and around the UN.

**What were your key moments from 2019?**

One of my priorities is to open doors for ISC, and while I focus on the UN, other multilateral entities are important players as well. A key moment was the meeting with the leadership team of the science track (S20) of the G20. We met with the Chair of the S20 for the first time in person during the World Science Forum in Budapest. This meeting was about building trust and a long-lasting relationship. Now, in view of the G20 meeting 2020 in Saudi Arabia, we have the opportunity to follow the process, and participate in their meetings. Over the longer term, we are now looking into formalizing our cooperation with S20.

Another highlight was the positive feedback from the UN Secretary General's office to our initiative 'inside-out'. I had made the case at the ISC that good relations with the UN in New York are essential, but that cooperation with technical UN agencies (such as WHO, UNESCO and others) was as important for real impact on the ground. The ISC already had long-standing cooperation with many of them. My idea was to reach out to the senior science leaders at these organizations and to establish an informal exchange on how to foster cooperation among science communities inside and outside (therefore the title 'insideout') the UN system, and how to harness synergies and cooperate with the UN country teams. A first meeting took place in Geneva in November 2019 with a commitment to concrete action.

The publication of the Global Sustainable Development Report in 2019 was a major milestone for the SDGs, and it was important for the ISC. While the Report confirms the directions given by the Agenda 2030, it is also a serious wake-up call that progress made is far from sufficient. But it's not all bad news: The report concludes that a sustainable future is still possible if we drastically change policies, funding and actions. It goes further, by offering a set of entry points and levers for governments and stakeholders, and includes a list of concrete recommendations for action. Science remains at the centre of sustainable development as one of the four main levers.

The report recognizes the ISC and its partners, and the authors suggest [a clear role for the ISC in convening diverse scientific communities in order to develop knowledge production around six global systemic entry points for research](#).

While representing the ISC at a number of the GSDR roll-out events, I felt that the ISC is a reliable, credible and representative partner for the UN. Its reach into the regions and countries is another key asset which could be further leveraged. I am in contact with UNDESA to discuss how the ISC can support future editions of the GSDR (the next edition will be published in 2023) and the Independent Group of Scientists that author it.

In a broader sense, my highlights include cooperation with the team in Paris and exchanges with the ISC members – I always

appreciate their insights and views and the great commitment and engagement shown by members is impressive.

#### Where does the ISC still need to make progress in order to become a stronger advocate for science in informing policy?

The ISC's members have huge potential, and bringing all these diverse voices together is 'science multilateralism'. I've seen huge progress made over 2019, especially thanks to the communication team's work to re-connect with the members and to fully harness the wealth and the power of the ISC's membership. There's still room to deepen engagement, but the very diverse membership of the ISC means it has a lot to offer.

Another challenge is focus. There are an immense number of issues and fora where the ISC could contribute. The ISC really is a treasure chest full of different initiatives, programmes and knowledge! Working in partnership will be important to promote and amplify these initiatives.

Personally, I think that ISC could strengthen its voice for responsible advocacy for science. There is so much pressure on the freedom of science and scientists in so many countries, even in democracies, that the reminder of and advocacy for minimal norms and standards (such as the [UNESCO recommendations for the freedom of science and scientists](#)) is both a global and unfortunately urgent task. This requires steady and continuous action, sometimes behind the scenes. Science multilateralism needs strong and credible voices who dare to speak out.

Looking beyond outreach and engagement, the whole question of funding is crucial. When ISC organized the first [Global Forum of Funders](#), it took the lead in highlighting the fact that if we need to transform science production for the 2030 Agenda, we also need to transform the funding environment for science. The commitment of the Forum's participants to potentially re-direct a substantial part of funding towards mission- (or outcome-) oriented research was a very promising result. I hope this initiative will continue to bear fruit in 2020.

# 4

## PROTECTING SCIENTIFIC FREEDOM AND ADVOCATING FOR RESPONSIBLE PRACTICE

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The principle that the free and responsible practice of science is fundamental to scientific advancement and human and environmental well-being is enshrined in the Council's statutes. Within the Council, work to advocate for the free and responsible practice of science is overseen by the Committee for Freedom and Responsibility in Science (CFRS).

Photo: Photo by  
ThisisEngineering  
RAEng on Unsplash.



A [committee of eleven members](#) was appointed by August 2019, with ISC President Daya Reddy as its Chair, and met for the first time in November 2019. The work of the CFRS in the coming years will be concerned with defending freedom for scientists, the need for effective responses to anti-science discourse, and re-examination of the meaning of scientific freedom and responsibility in the 21st century. The Committee developed an action plan to guide its work until 2022 and to deliver a number of projects, including the CFRS project on ‘Freedom and responsibility in the 21st century: a contemporary perspective of the responsible practice of science’.

The Committee responded to freedom and responsibility cases in Hungary, Turkey, Russia, China, the US, Brazil, Argentina, Iran and Egypt in 2019. This was in line with the [CFRS mandate](#) to consider and respond to threats to science systems and individual scientists whose freedoms and rights are restricted as a result of carrying out their work.

The Committee was pleased to report that [Princeton graduate Xiyue Wang was released](#) early from prison in Iran and returned to the US to be reunited with his family.

CFRS’s engagement in this area is prompted by alerts from ISC Members and the broader scientific community, and is underpinned by international human rights instruments relevant to science and scientists.

Support for the Committee from the New Zealand government (2016 to the present) is provided by Roger Ridley, Director Expert Advice and Practice at Royal Society Te Apārangi, assisted by Francine Harland.



Budapest  
Photo: Giuseppe  
Romano via Flickr.

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### WORLD SCIENCE FORUM 2019

The ISC was honoured to partner with the Hungarian Academy of Sciences for the World Science Forum (WSF) in 2019.

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*“The right to engage in scientific enquiry, pursue and communicate knowledge, and to associate freely in such activities cannot be separated from the responsibility of scientists to uphold the highest ethical standards when pursuing their work, and to contribute their knowledge in the public space.” From [Daya Reddy’s](#) opening remarks to the World Science Forum, November 2019*

This resulted in meetings with representatives of the S20 (the G20’s science stream), the InterAmerican Institute for Global Change, the European Commission’s Open Science Unit and twelve of the ISC’s members as part of its

outreach and engagement process.

The Council’s visibility at the Forum was high, with ISC President [Daya Reddy](#) and Vice-President [Elisa Reis](#) featuring at the opening and closing ceremonies respectively, and Secretary Alik Ismail-Zadeh and Chief Executive Officer Heide Hackmann giving speeches and interventions during panel sessions on issues such as the urgent need for [science to support the SDGs](#), the [centenaries of science unions](#) and [open science and the future of publishing](#). The Forum theme, ‘science ethics and responsibility’, also meant strong representation by the CFRS in panels and side events.

Through the Council’s dedicated [WSF webpage](#), its special edition [newsletter](#) distributed to all participants and strong presence on [social media](#), the feedback on its engagement at the Forum from ISC members and participants was very positive.

The Council looks forward to partnering with the WSF on its 2021 edition and is keen to see enhanced use of online conferencing technologies to open the Forum to a wider audience and to ensure its relevance into the 21st century.



# OUR GLOBAL REACH

Photo: NASA.

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The ISC greatly expanded its reach in 2019, appointing its first patrons, launching an in-depth consultation with members and developing a new vision for the ISC's presence in different regions of the world.



## First patrons appointed

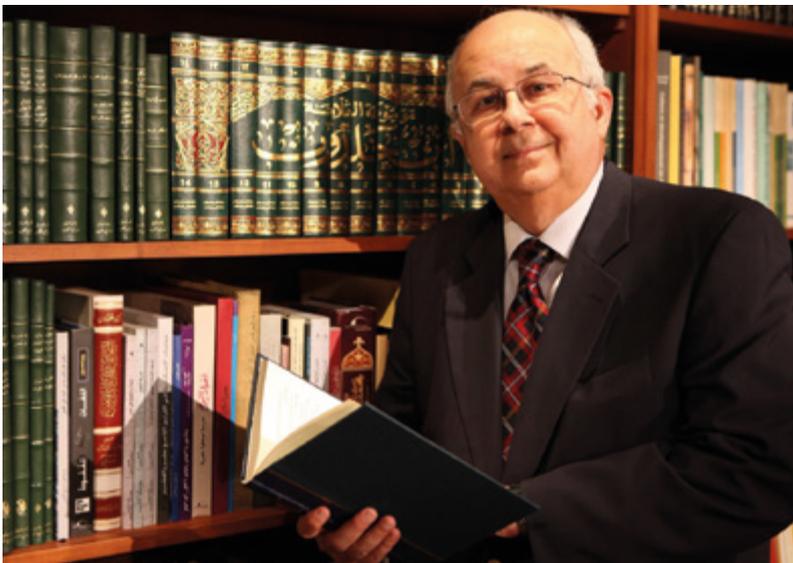
As part of its Outreach and Engagement Strategy and in accordance with its statutes, the ISC seeks to engage the patronage of a diverse group of individuals from within and beyond the scientific world. This

started in earnest in 2019, with [Mary Robinson](#), Former President of Ireland, and [Ismail Serageldin](#), Founding Director of the Bibliotheca Alexandrina, appointed as the ISC's inaugural patrons.




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*“We need science to empower citizens’ active engagement in finding the solutions to the climate emergency, especially from poor and vulnerable communities. There has never been a more important time for an organization with the global reach of the International Science Council, and I am delighted to be its patron.”* [Mary Robinson](#), 7 June 2019




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*“This is a pivotal moment in history where the global scientific community must come together and respond sensibly and firmly to developments such as populism and post-truth. I am honoured to be a patron of the ISC and will advocate open and accessible science as a way of driving breakthroughs for the benefit of people everywhere, particularly in the Global South.”* [Ismail Serageldin](#), 7 June 2019

Both patrons spent time with the ISC Governing Board and secretariat in the latter half of 2019, building their relationship with the Council by providing advice on priorities for its work, establishing contacts with key individuals in the United Nations and speaking on behalf of the ISC at global events. Mary Robinson represented the ISC in the UN Leaders Event on Nature and People

during the Climate Summit in September. Ismail Serageldin contributed to ISC publications, writing the piece [Confronting the Problems of Our Time](#), and established contact with internet pioneer Vint Cerf, who was appointed an ISC patron in early 2020. New patrons will continue to be appointed in 2020 and beyond.

## Outreach and engagement

The ISC embarked on an ambitious plan in 2019 to hold a broad consultation with its individual members around the world. The goal is for all ISC members to have at least one strategic conversation with staff of the headquarters about their current relationship with the ISC, and future engagement opportunities that are relevant to their priorities and to the ISC Action Plan.

With the launch of the Action Plan in August, individual discussions with members started in November during the World Science Forum. Twelve ISC members took the opportunity whilst at the Forum to go through the guided conversation with the ISC's Senior Communications Officer and members of the Governing Board. This 'beta' testing allowed for immediate feedback from Governing Board members, ensuring that the process would be fully operational for the start of 2020.

The results of these consultations will provide guidance to the ISC on its value proposition for members and promote actions between ISC members on the projects outlined in the Action Plan. The consultation will be rolled out to the regions in early 2020, with a preliminary report expected in the second half of 2020.

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*“During our discussion around the Action Plan, I was able to share our Union’s view that the area of healthcare and its links to the engineering and physical sciences is underrepresented. It has a lot of potential for scientific development in many areas, including the expected demand growth in the Global South. I hope the ISC can convene its broad membership around these issues.”*

*Magdalena Stoeva, Treasurer of the International Union for Physical and Engineering Sciences in Medicine*

## Our regional offices

The ISC's regional offices work to secure an effective regional presence for the ISC, and to ensure that regional scientific communities are fully engaged in international collaboration.

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### Regional Office in Africa

In 2019, the Regional Office in Africa (ROA) focused on three interlinked priorities: support for ISC international programmes, engagement with policy-makers and other stakeholders, and building the ISC's membership within the region.

The regional team supported efforts to increase the production of high-quality, inter- and transdisciplinary, solutions-oriented research on global sustainability by early career scientists in Africa through its involvement in the organization of the [Leading Integrated Research for Agenda 2030 in Africa](#) Annual Research Forum held in Dakar, Senegal.

A [workshop for lecturers and professors from a number of South African universities was organized in collaboration with TROP ICSU](#). It introduced participants to digital educational tools and innovative teaching practices using climate-related examples, case studies, and activities, thus improving students' understanding of climate change.

Through the [African Future Earth Committee](#), ROA supported the establishment of a Future Earth Regional Office for Southern Africa, hosted by South Africa's [National Research Foundation](#).

In addition, ROA supported the [INGSA-Africa Chapter](#) to develop and reinforce the capacity of researchers, academics, government members and civil society on the concept of 'science advice to governments' for decision-making and the implementation of evidence-informed policies on the continent. This was achieved through sub-regional workshops and support for the development of a pilot survey on 'The role of scientific knowledge in policy-making: Scientists/researchers and policy-makers' perspectives'.

Through the ISC's role as co-convenor of the UN's Scientific and Technological Major Group, ROA worked to ensure that the voice of the African science community is included in the 2019 STI Forum statement. Furthermore, the Office contributed to the United Nations Economic Commission for Africa (UNECA)'s continental and regional STI policy design and implementation. The Office also emerged as an important partner with the [Department of Science and Innovation](#) of South Africa, UNECA and other stakeholders in reaching out to the region during the [Africa Regional Forum on Sustainable Development](#).

Through two workshops organized with the Regional Economic Communities (RECs) and relevant stakeholders in [Southern Africa](#) and East Africa, the Office galvanized the individual efforts of African scientists and indigenous knowledge practitioners to showcase the health-promoting and disease-preventing properties of African food plant and insect species, and thus encourage their value-added production and consumption. With the endorsement of the workshop recommendations by the RECs, a compendium of beneficial plant and insect species from each sub-region is being compiled as a resource for intervention measures to improve human health and well-being.

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### Regional Office for Asia Pacific

With the publication of the ISC Action Plan, the Regional Office for Asia Pacific (ROAP) embarked on new initiatives and ramped up its engagement with members of ISC and regional organizations during 2019.

2019 marked the beginning of ROAP's involvement in 'open science', a new priority area. The Office began scoping the topic of open science for the Asia Pacific region and participated in discussions on open data and open science within different fora.

ROAP, together with the Association of Southeast Asian Nations (ASEAN) Young Scientist Network and Global Young Academy, organized a workshop on the responsible conduct of research, bringing together more than 45 early career scientists.

In continuing ROAP's emphasis on disaster risk reduction, together with the IRDR International Centre of Excellence Taipei, the Office organized four 'Advanced Institute' meetings and also co-sponsored a capacity-building workshop in Fiji on the IPCC's role, activities and findings, together with the Asian Network on Climate Science Technology and IRDR ICoE-Southeast Asia Disaster Prevention Initiative. At the workshop, ROAP assembled a panel of representatives from Small Island Developing States to deliberate on bridging the science and technology divide in the Pacific Islands.

Support for ISC members included a capacity-building activity with the International Astronomical Union (IAU), an ASEAN Astronomy Workshop for Teachers held in conjunction with the annular solar eclipse and IAU's celebration of its 100-year anniversary.

ROAP also hosted the final meeting of the Regional Committee for Asia and the Pacific, which provided the oversight of ROAP's activities in recent years. One of the important innovations implemented under the Committee was a Small Grants Programme, which provided nominal funding, awarded on a competitive basis, for regional activities in ROAP's priority areas. An announcement for 2021 applications will be made in August 2020 through ISC Asia Pacific members.

In the context of engaging ISC member stakeholders, ROAP visited Nepal and Fiji to strategize collaboration on disaster risk reduction and climate change, and to discuss greater engagement with the ISC. In the case of Nepal, a disaster risk reduction workshop is planned for 2020.

ROAP continued to work on mobilizing the scientific community from low-income countries, and in 2019, 17 early career scientists from these countries were sponsored to attend various workshops in the region.

### **Regional Office for Latin America and the Caribbean**

Regretfully, the Regional Office for Latin America and the Caribbean (ROLAC) has been closed as a result of a financial decision by the government of El Salvador.

In 2019, ROLAC took forward a number of different actions to provide a wider leverage and understanding of disaster risk reduction. Some of the actions included participation in important regional and global meetings such as the conference 'Towards a More Resilient Central America' (Panama), organized by the World Bank, the Central American Integration System and the United Nations Office for Disaster Risk Reduction; and the Global Platform for Disaster Risk Reduction (Switzerland) organized by the UN Office for Disaster Risk Reduction and hosted by the Government of Switzerland. To mark the launch of the book *Forensic Investigations after Disasters* by IRDR-FORIN, ROLAC organized an experts' exchange on the reduction of vulnerabilities and the increase of resilience against the hazards of natural origin in Latin America, in Cuba.

In the context of a growing urban population, ROLAC continued its work to advance urban health. ROLAC's Urban Health Working Group (composed of more than 14 governmental institutions, regional and international actors, the Urban Health and Wellbeing programme, and others) organized the International Urban Health Workshop for Latin America and the Caribbean (El Salvador). At this workshop, representatives from 19 countries, and around 18 international organizations, exchanged knowledge and experiences in implementing actions and initiatives to improve urban health.



## GOVERNANCE

Photo: De Dudarev  
Mikhail, Shutterstock.

The Council is governed by a 17-member Governing Board which provides scientific and strategic leadership for the organization, with guidance from a number of advisory bodies.

The Governing Board appointed its advisory committees in 2019, on the basis of nominations from ISC members. Each of the committees is chaired and vice-chaired by Governing Board members and includes non-Governing Board members. The committees are:

- The Committee for Science Planning, which undertakes strategic scientific planning and reviews, addressing major thematic issues concerned with science for policy and policy for science.
- The Committee for Freedom and Responsibility in Science, which safeguards the principle of freedom and responsibility in science and deals with related issues at the global level.
- The Committee for Outreach and Engagement, which focuses on membership matters, outreach to external stakeholders, partnerships and strategic communications.
- The Committee for Finance and Fundraising, which addresses issues of finance, auditing, resource mobilization and risk management.

A General Assembly of all members is convened every three years. The next General Assembly, and first ever 'Global Knowledge Dialogue' to be held by the ISC will take place between 9 and 14 October 2021 in Muscat, Oman.

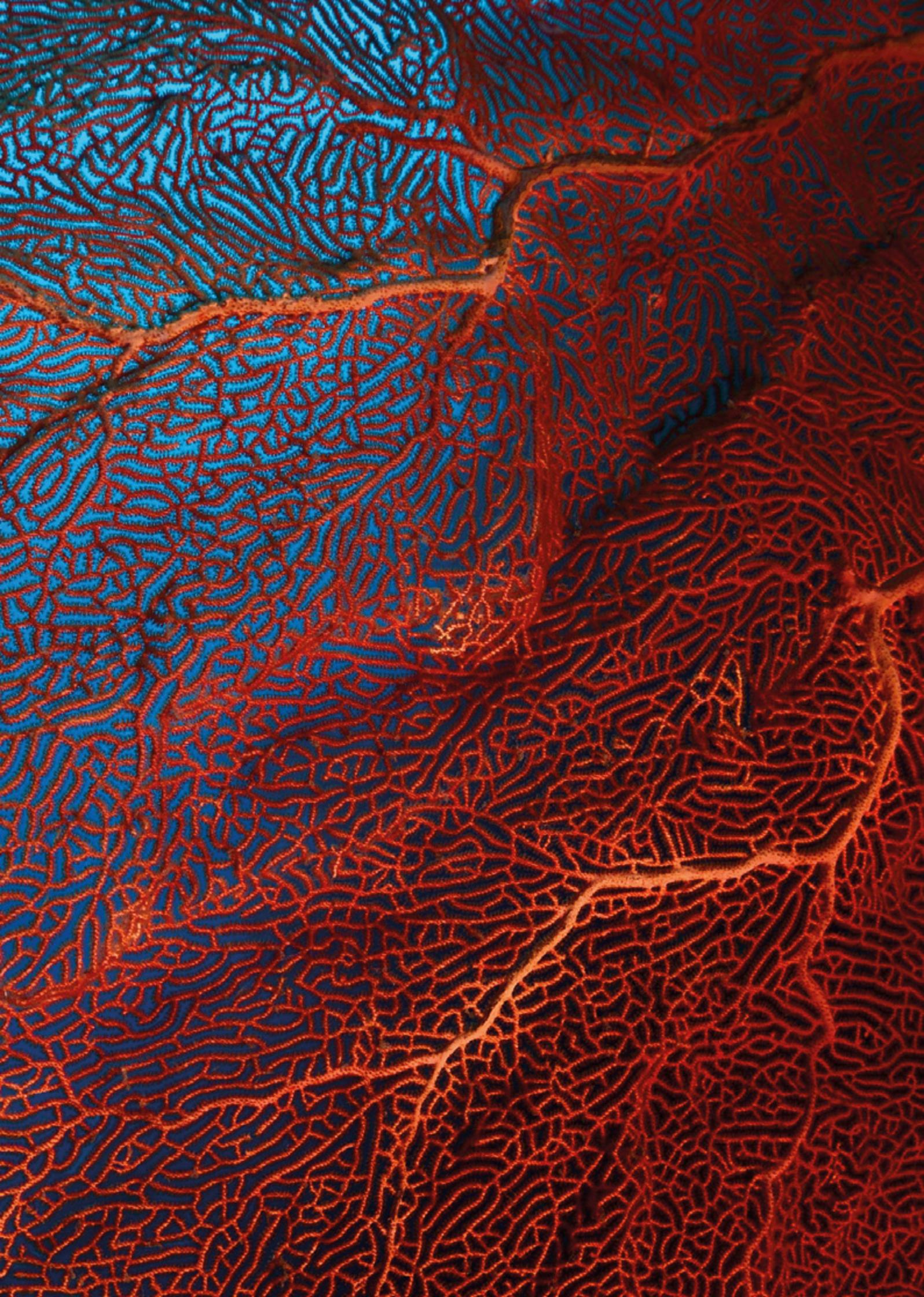




Photo: Arisa S. on Unsplash

**Join us in Muscat, Oman, virtually or in person, for the [2021 ISC General Assembly and first-ever 'Global Knowledge Dialogue'](#), a unique forum for interdisciplinary, international exchange on the most urgent questions of our time. Join the ISC Governing Board and patrons for an agenda-setting dialogue engaging the world's top scientists, opinion leaders, decision-makers and innovative thinkers to advance science as a global public good.**

The week will provide an unparalleled opportunity to network with peers from across the world. In order to further scientific exchange and mutual learning, we invite you to host a meeting of your organization, union or association on the fringes of the Assembly.

### **Key dates:**

**9 October 2021** – registration and meeting of the ISC Governing Board

**10–11 October 2021** – 2nd ISC General Assembly

**12–13 October 2021** – Global Knowledge Dialogue

**14 October 2021** – special excursions

### **Join us in Muscat to safeguard our planet, our science, our future.**

The 2021 General Assembly is hosted by the International Science Council in partnership with the Research Council Oman, the Ministries of Foreign Affairs, the Ministry of Education, the Sultanate of Oman, the Oman Convention Bureau, and the Oman Exhibition and Convention Centre.

## FINANCES FOR THE PERIOD

Statement of income and expenditure of the International Science Council from 1 January 2019 to 31 December 2019

<b>Income (Euros)</b>	
<i>Membership</i>	
Member Organizations	2,857,429
Member Unions and Associations	197,697
Affiliated Members	14,790
Contribution from French Government	100,000
US/NSF contribution to WCRP	71,775
NSF dedicated funds at the end of previous year	356,198
Taipei grant for ICoE IRDR	296,121
Taipei IRDR dedicated funds at the end of the previous year	435,531
Bosch Foundation for LIRA	62,325
Sida grant for LIRA activities	730,596
Sida dedicated funds at the end of the previous year	227,627
IDRC funds for INGSA	344,490
IDRC dedicated funds at the end of the previous year	39,977
IDRC for funding study	30,244
Sida and NORFACE funds for T2S	344,394
Sida and NORFACE T2S grants dedicated funds at the end of the previous year	570,676
Other income	6,927
Balance on exchange	31,090
Balance on ISC investment	57,107
<b>Total Income</b>	<b>6,774,994</b>

<b>Expenditure (Euros)</b>	
Governance meetings	189,359
Policy committees	31,872
<i>International Programme &amp; Interdisciplinary Bodies</i>	
Interdisciplinary bodies	1,376,917
Policy activities and fora	28,957
Science activities	1,467,270
International Events	59,756
Other review response actions and new initiatives	126,712
Membership	317,982
Regional Offices	227,249
Communications and outreach	132,713
Human resources	2,512,162
Administration/audit fees	181,923
Loss on arrears/arrears provision	275,510
<b>Total Expenditure</b>	<b>6,928,382</b>
<b>Excess of expenditure over income</b>	<b>-153,388</b>

**BALANCE SHEET**

Balance Sheet of the International Science Council  
on 31 December 2019.

<b>Assets (Euros)</b>	
Bank & cash balances	3,393,932
Marketable securities	2,336,111
Others assets	90,035
Fixed assets	33,587
<b>Total assets</b>	<b>5,853,666</b>

<b>Liabilities (Euros)</b>	
External funds allocated	856,113
Sundry creditors & accruals	1,272,471
Provision/retirement	259,551
<b>Total liabilities</b>	<b>2,388,135</b>

<b>Reserves (Euros)</b>	
Mandatory reserve 1,500,000	1,500,000
General fund / Retained earnings 2,244,651	2,118,918
<b>Total reserves</b>	<b>3,618,918</b>

<b>Net Result</b>	<b>-153,388</b>
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# WELCOMING NEW MEMBERS

At the time of writing, the ISC has 142 member organizations, 40 member unions and associations, and 30 affiliated members.

The Council was delighted to welcome three new members and affiliates in 2019:

- [Bilim Akademisi](#), which was established in 2011 in Istanbul, Turkey, as an independent non-governmental organization to promote, practise and uphold the principles of scientific merit, freedom and integrity. The academy brings together accomplished scientists from Turkey to promote and preserve scientific excellence, scientific methods, traditions and procedures, as well as scientific freedom and integrity to represent and sustain the spirit of science.
- The [International Statistical Institute \(ISI\)](#), which aims to lead, support and promote the understanding, development and good practice of statistics worldwide by providing the core global network for statistics. Founded in 1885, the ISI family is made up of seven associations and its organizational members, covering a range of statistical areas and interests, with over 4,500 members from over 100 countries.
- The [Scientific Committee of Problems of the Environment \(SCOPE\)](#), which is an independent, international interdisciplinary body of natural and social science expertise focused on regional and global environmental issues, operating at the interface between scientific and policy-making. Its worldwide network comprises scientists and scientific institutions that develop syntheses and reviews of scientific knowledge on current or potential environmental issues. SCOPE was originally established as a committee by the ISC predecessor organization, the International Council for Science.

# OUR MEMBERS

## As of 31 December 2019

### A

4S, Society for Social Studies of Science

AAS, African Academy of Sciences

AASSA, Association of Academies and Societies of Sciences in Asia

ACSS, Arab Council for the Social Sciences

Albania, Academy of Sciences

Angola, Foundation of Science and Development

Argentina, National Scientific and Technological Research Council (CONICET)

Armenia, National Academy of Sciences of the Republic of Armenia

ASTC, Association of Science and Technology Centers

Australia, Australian Academy of Science

Austria, Die Österreichische Akademie der Wissenschaften

Azerbaijan, Azerbaijan National Academy of Sciences

### B

Bangladesh, Bangladesh Academy of Sciences

Belarus, National Academy of Sciences (NASB)

Belgium, Royal Academies for Science and the Arts of Belgium (RASAB)

Bolivia, Academia Nacional de Ciencias de Bolivia (ANCB)

Bosnia and Herzegovina, Academy of Sciences and Arts of Bosnia and Herzegovina (ANUBiH)

Bosnia and Herzegovina, Academy of Sciences and Arts of the Republic of Srpska (ANURS)

Botswana, Ministry of Infrastructure, Science and Technology

Brazil, Academia Brasileira de Ciências (ABC)

Brazil, Associação Nacional de Pós-Graduação e Pesquisa em Ciências Sociais (ANPOCS)

Bulgaria, Bulgarian Academy of Sciences (BAS)

Burkina Faso, Centre National de la Recherche Scientifique et Technologique

### C

Cameroon, Cameroon Academy of Sciences

Canada, National Research Council of Canada

Canada, Social Science and Humanities Research Council of Canada (SSHRC)

Caribbean, Caribbean Academy of Sciences (CAS)

Chile, Academia Chilena de Ciencias

China, China Association for Science and Technology (CAST)

China, Chinese Academy of Social Sciences (CASS)

China, Academy of Sciences located in Taipei

CIE, Commission Internationale de l'Éclairage

CLACSO, Consejo Latinoamericano de Ciencias Sociales

CODESRIA, Council for the Development of Social Science Research in Africa

Colombia, Academia Colombiana de Ciencias Exactas, Físicas y Naturales

Costa Rica, Academia Nacional de Ciencias

Côte d'Ivoire, Académie des Sciences, des Arts, des Cultures d'Afrique et des Diasporas Africaines (ASCAD)

Cuba, Academia de Ciencias de Cuba

Czech Republic, Czech Academy of Sciences

### D

Denmark, Royal Danish Academy of Sciences and Letters

Dominican Republic, Academy of Sciences of the Dominican Republic

### E

EADI, European Association of Development and Training Institutes

ECPR, European Consortium for Political Research

Egypt, Academy of Scientific Research and Technology (ASRT)

El Salvador, Viceministerio de Ciencia y Tecnología de El Salvador

Estonia, Estonian Academy of Sciences

Ethiopia, Ethiopian Science and Technology Agency

### F

FIG, Fédération Internationale des Géomètres

Finland, Council of Finnish Academies

FLACSO, Facultad Latinoamericana de Ciencias Sociales

France, Académie des Sciences

### G

Georgia, Georgian Academy of Sciences

Germany, Deutsche Forschungsgemeinschaft (DFG)

Ghana, Ghana Academy of Arts and Sciences

Greece, Academy of Athens

Guatemala, Academia de Ciencias Médicas Físicas y Naturales de Guatemala

**H**

Honduras, National Academy of Sciences of Honduras

Hungary, Hungarian Academy of Sciences

**I**

IAAP, International Association of Applied Psychology

IAHR, International Association for Hydro-Environment Engineering and Research

IALS, International Association of Legal Science

IASC, International Arctic Science Committee

IASSA, International Arctic Social Sciences Association

IAU, International Astronomical Union

ICA, International Cartographic Association

ICA, International Commission for Acoustics

ICIAM, International Council for Industrial and Applied Mathematics

ICLAS, International Council for Laboratory Animal Science

ICO, International Commission for Optics

ICSTI, International Council for Scientific and Technical Information

IEA, International Economic Association

IFDO, International Federation of Data Organizations for Social Science

IFIP, International Federation for Information Processing

IFLA, International Federation of Library Associations and Institutions

IFS, International Foundation for Science

IFSM, International Federation of Societies for Microscopy

IGU, International Geographical Union

IIASA, International Institute for Applied System Analysis

IMU, International Mathematical Union

India, Indian Council of Social Science Research (ICSSR)

India, Indian National Science Academy

Indonesia, Indonesian Institute of Sciences (LIPI)

INQUA, International Union for Quaternary Research

IPRA, International Peace Research Association

IPSA, International Political Science Association

Iran, Islamic Republic of, University of Tehran

Iraq, Ministry of Science and Technology

Ireland, Royal Irish Academy

ISA, International Sociological Association

ISA, International Studies Association

ISDE, International Society for Digital Earth

ISEE, International Society for Ecological Economics

ISPRS, International Society for Photogrammetry and Remote Sensing

Israel, Israel Academy of Sciences and Humanities

Italy, Consiglio Nazionale delle Ricerche

IUBS, International Union of Biological Sciences

IUCr, International Union of Crystallography

IUFoST, International Union of Food Science and Technology

IUFRO, International Union of Forest Research Organizations

IUGG, International Union of Geodesy and Geophysics

IUGS, International Union of Geological Sciences

IUHPST, The International Union for History and Philosophy of Science and Technology

IUIS, International Union of Immunological Societies

IUMRS, International Union of Materials Research Societies

IUMS, International Union of Microbiological Societies

IUNS, International Union of Nutritional Sciences

IUPAB, International Union for Pure and Applied Biophysics

IUPAC, International Union of Pure and Applied Chemistry

IUPAP, International Union of Pure and Applied Physics

IUPESM, International Union for Physical and Engineering Sciences in Medicine

IUPHAR, International Union of Basic and Clinical Pharmacology

IUPS, International Union of Physiological Sciences

IUPsyS, International Union of Psychological Science

IUSS, International Union of Soil Sciences

IUSSP, International Union for the Scientific Study of Population

IUTAM, International Union of Theoretical and Applied Mechanics

IUTOX, International Union of Toxicology

IUVSTA, International Union for Vacuum Science, Technique and Applications

IWA, International Water Association

**J**

Jamaica, Scientific Research Council

Japan, Science Council of Japan

Jordan, Royal Scientific Society

**K**

Kazakhstan, National Academy of Sciences of the Republic of Kazakhstan

Kenya, Kenya National Academy of Sciences

Korea, Democratic People's Republic of, State Academy of Sciences

Korea, Republic of, Korean Social Science Research Council (KOSSREC)

Korea, Republic of, National Academy of Sciences of the Republic of Korea

**L**

Lao, People's Democratic Republic of, Lao National Science Council

Latvia, Latvian Academy of Sciences

Lebanon, National Council for Scientific Research

Lesotho, Department of Science and Technology

Lithuania, Lithuanian Academy of Sciences

Luxembourg, Fonds National de la Recherche

**M**

North Macedonia, Former Yugoslav Republic of, Macedonian Academy of Sciences and Arts

Madagascar, Ministère de l'Enseignement Supérieur et de la Recherche Scientifique

Malawi, National Commission for Science and Technology

Malaysia, Academy of Sciences Malaysia

Mauritius, Mauritius Research Council

Mexico, Academia Mexicana de Ciencias

Mexico, Consejo Mexicano de Ciencias Sociales (COMECOSO)

Moldova, Academy of Sciences of Moldova

Monaco, the Principality of, Centre Scientifique de Monaco

Mongolia, Mongolian Academy of Sciences

Montenegro, Montenegrin Academy of Sciences and Arts

Morocco, Hassan II Academy for Science and Technology

Mozambique, Scientific Research Association of Mozambique (AICIMO)

**N**

Namibia, National Commission on Research, Science and Technology (NCRST)

Nepal, Nepal Academy of Science and Technology (NAST)

Netherlands, Koninklijke Nederlandse Akademie van Wetenschappen

New Zealand, Royal Society Te Apārangi

Nigeria, Nigerian Academy of Science

Norway, Norwegian Academy of Sciences and Letters

Norway, Research Council of Norway

Norway, University of Bergen (UiB)

**O**

Oman, Sultanate of, Research Council of Oman

OSSREA, Organization for Social Science Research in Eastern and Southern Africa

**P**

Pakistan, Pakistan Association for the Advancement of Science

Panama, Universidad de Panama

Peru, Academia Nacional de Ciencias

Philippines, National Research Council

Philippines, Philippine Social Science Council (PSSC)

Poland, Polish Academy of Sciences

Portugal, Academia das Ciencias de Lisboa

PSA, Pacific Science Association

**R**

Romania, Academia Româna

Russian Federation, Russian Academy of Sciences

Rwanda, Kigali Institute of Science and Technology (KIST)

**S**

Saudi Arabia, Kingdom of, King Abdulaziz City for Science and Technology (KACST)

Senegal, Association des Chercheurs Sénégalais

Serbia, Serbian Academy of Sciences and Arts

Seychelles, Seychelles National Parks Authority

Singapore, Singapore National Academy of Science

Slovak Republic, Slovak Academy of Sciences

Slovenia, Slovenian Academy of Sciences and Arts

South Africa, Human Sciences Research Council of South Africa (HSRC)

South Africa, National Research Foundation (NRF)

South Pacific, University of the South Pacific

Spain, Ministry of Science and Innovation (MCIN)

Sri Lanka, National Science Foundation

SSRC, Social Science Research Council

Sudan, Republic of, National Centre for Research

Swaziland, National Research Council

Sweden, Royal Swedish Academy of Sciences

Switzerland, Swiss Academy of Humanities and Social Sciences (SAHS)

Switzerland, Swiss Academy of Sciences

**T**

Tajikistan, Academy of Sciences of the Republic of Tajikistan

Tanzania, Tanzania Commission for Science and Technology

Thailand, National Research Council of Thailand

TNI, Transnational Institute

Togo, Chancellerie des Universités du Togo

Tunisia, Université Tunis El Manar

Turkey, Bilim Akademisi

Turkey, Scientific and Technical Research Council of Turkey

Turkey, Turkish Academy of Science (TÜBA)

TWAS, The World Academy of Sciences

**U**

Uganda, Uganda National Council for Science and Technology (UNCST)

UIS, Union Internationale de Spéléologie

Ukraine, National Academy of Sciences

United Kingdom, Academy of Social Sciences

United Kingdom, British Academy

United Kingdom, Economic and Social Research Council (ESRC)

United Kingdom, Royal Society

United States, National Academy of Sciences

URSI, Union Radio-Scientifique Internationale

Uruguay, Consejo Nacional de Innovación, Ciencia y Tecnología (CONICYT)

Uzbekistan, Republic of, Uzbekistan Academy of Sciences

**V**

Vatican City State, Pontificia Academia Scientiarum

Venezuela, Fondo Nacional de Ciencia,  
Tecnología e Innovación

Vietnam, Vietnam Union of Science and  
Technology Associations

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**W**

WAPOR, World Association for Public  
Opinion Research

WAU, World Anthropological Union

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**Z**

Zambia, Zambia Academy of Sciences

Zimbabwe, Research Council of  
Zimbabwe

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**IMPRINT**

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