



**International
Science Council**

The global voice for science

ANNUAL REPORT 2022



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About the International Science Council: The International Science Council (ISC) is a non-governmental organization that convenes the scientific expertise and resources needed to lead on catalyzing, incubating and coordinating impactful international action. It is the largest organization of its kind to bring together natural and social sciences for the global public good, bringing together over 230 international scientific unions and associations as well as national and regional scientific organizations including academies and research councils.

Cover Photograph: “Starlings shaping a giant bird” by Daniel Biber

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ANNUAL REPORT 2022



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MESSAGE FROM THE PRESIDENT AND THE CEO

2022 saw a succession of crises: a continuation of the COVID-19 pandemic; the war in Ukraine which, at the time of writing, continues to upend lives and livelihoods; worsening economic disparities; and the hottest year on record. It was a turbulent year for the world.

In times of crises such as these, we are reminded of the importance of collaboration and the resilience of our networks – we are indeed stronger together. The International Science Council (ISC) has achieved much that deepens and strengthens our global membership and networks in 2022. This report covers just some of the activities and achievements of the ISC during the past year, including updates on our key initiatives, events and partnerships.

The war in Ukraine dominated our outreach and engagement in the early months of the year. The scientific community acted quickly, sharing statements and resources through the Council's homepage. ISC Members expressed grave concern over citizens' wellbeing, and the severe impact that the war would have on the research and academic community. We were thus reminded of the importance of scientific freedom and responsibility, and solidarity in science. Working with partners, the ISC co-hosted the 'Conference on the Ukraine Crisis: Responses from the European Higher Education and Research Sectors', with the goal of providing recommendations that would assist academics, scientists, researchers and students who are at risk, displaced or refugees as a result of the war. This was a substantial part of the ISC's work on science in times of crisis and science diplomacy.

While the acute crisis of the COVID-19 pandemic subsided in 2022, its impacts continued at both local and global levels. In May, the ISC released '*Unprecedented & Unfinished: COVID-19 and Implications for National and Global Policy*'. This deepened the ISC's connection to the World Health Organization, resulting in a memorandum of understanding for future work, including a project on the social determinants of, and needed solutions to, the mental health and wellbeing of young people.

Our work at the multilateral level, including at the United Nations (UN) in New York, continues to unfold, and already shows impact. By implementing the recommendations of its 2021 report '*ISC Strategy in the Intergovernmental System*', the Council grew closer to its goal of ensuring science remains at the forefront of international decision-making. As we build our influence at the UN, through the appointment

of focal points for the Council in New York and Geneva and the launch of a Group of Friends of UN Member States on 'Science for Action', the ISC aims to harness the power of its Members in building a more sustainable, equitable and just world for future generations – in this critical decade of action on sustainability and the role of science therein. We will do this also through mobilizing ISC Members in support of the UN Secretary-General's scientific advisory mechanism.

In 2022, the Council signed memoranda of understanding with the United Nations Environment Programme on environmental foresight, and with the United Nations Development Programme on the expansion of the Human Development Index as part of efforts to go 'beyond GDP'. As we write, we are scoping an ambitious initiative on trust in science, together with the office of the UN Under-Secretary-General for Global Communications and several UN organizations. All these continuous efforts further strengthen our voice within the organs and organizations of the UN and, in turn, ensure that the multilateral system and its deliberations are reflective of scientific findings, and honour the universal principles of science: integrity, criticism and iterative thinking.

To reach new audiences and increase the Council's visibility and credibility, the ISC launched in 2022 the ISC Fellowship, recognizing 123 individuals for their outstanding contributions to the promotion of science for the global public good. The ISC appointed the previous ISC Patrons as inaugural Honorary Fellows, and Irina Bokova as a new patron. The ISC Fellowship, the highest honour that can be conferred on an individual by the Council, will continue to grow in 2023, strengthening the ISC's global representation through individual excellence. At the same time, the ISC



opened its membership to young academies and associations, recognizing that the Council's success as the global voice for and of science can only thrive when fostering an ecosystem of collaboration, resource sharing and partnership – through the engagement of young scientists who will carry the Council's values into the future.

The year 2022 saw the return of physical meetings, including of the Secretariat, the ISC Governing Board and at the Membership level. We were delighted to organize networking activities at the EuroScience Open Forum, and to launch our Global Knowledge Dialogue series in South Africa at the World Science Forum. More than 120 Member representatives from 40 countries attended this dialogue, setting the scene for rich future dialogues in different regions, including our global meeting in Paris, France in May 2023, Asia and the Pacific in Kuala Lumpur in the third quarter of the year, and Latin America and the Caribbean in early 2024.

The global voice of the Council was strengthened by the launch of regional focal points during the year. The Colombian Academy of Exact, Physical and Natural Sciences was appointed to host the ISC Regional Focal Point for Latin America and the Caribbean, and the Australian Academy of Science to host the Regional Focal Point for Asia and the Pacific.

The Council also developed an agreement with Future Africa that will strengthen the presence of African science on the global stage, based on a pan-African consultative process facilitated by a consortium of African Members, with the goal of establishing an ISC regional focal point for Africa in 2025.

In 2022, the future of science systems was placed firmly on the ISC agenda. The Council interacted with actors such as science funders, science publishers and science journalists, and conducted dialogues with communities of researchers in multiple regions of the world. As outlined in the Council's Action Plan 2022–2024, ensuring that the practice of science is sustainable and thriving within robust science systems is a critical mission for the ISC. In this regard, 2022 saw an impactful year for the ISC's Global Commission on Science Missions for Sustainability, supported by its Technical Advisory Group. Good progress was made on developing a new scientific approach for sustainability, which supports the realization of the United Nations 2030 Agenda for Sustainable Development. The Commission will launch a report on this new approach at the High-Level Political Forum in New York in July 2023.

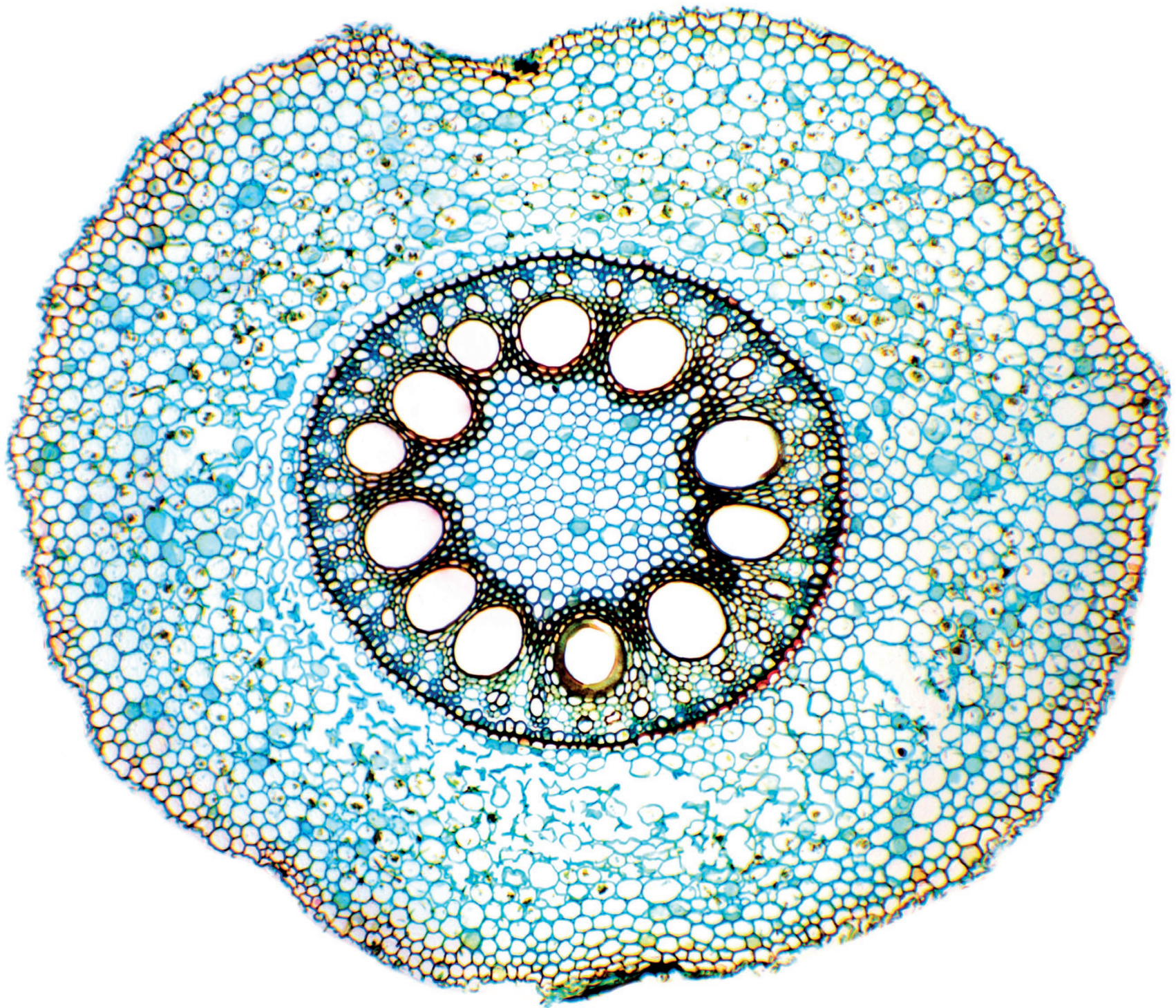
We hope you enjoy reading our Annual Report for 2022 and are compelled to strengthen the global voice of science through the many engagement opportunities the Council has to offer. We want to thank Mathieu Denis for guiding the ISC through this period as Acting Chief Executive Officer during the past year, guaranteeing that the Council is in a strong position to take forward our ambitious and impactful activities in 2023.



Peter Gluckman,
ISC President



Salvatore Aricò,
ISC Chief Executive Officer



VISION AND MISSION

The International Science Council (ISC) works at the global level to catalyze and convene scientific expertise, advice and influence on issues of major concern to both science and society.

Through a diverse and growing global membership of over 230 organizations, namely international scientific unions, national academies of natural and social sciences, research councils, and other scientific bodies, the ISC has a unique capacity to integrate scientific excellence and science – policy expertise from all fields of science and all regions of the world.

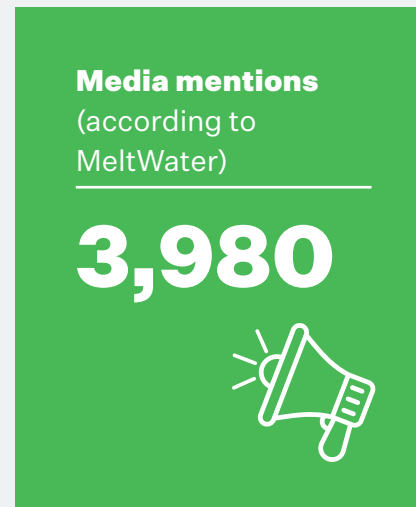
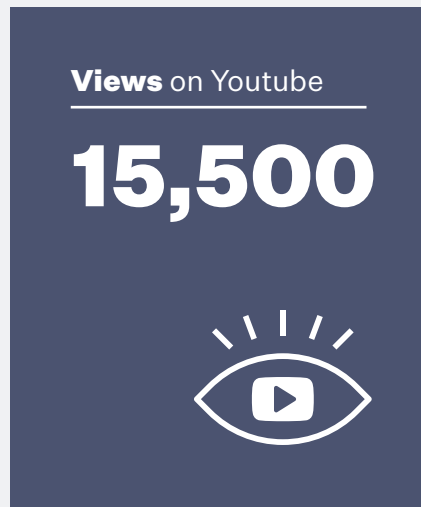
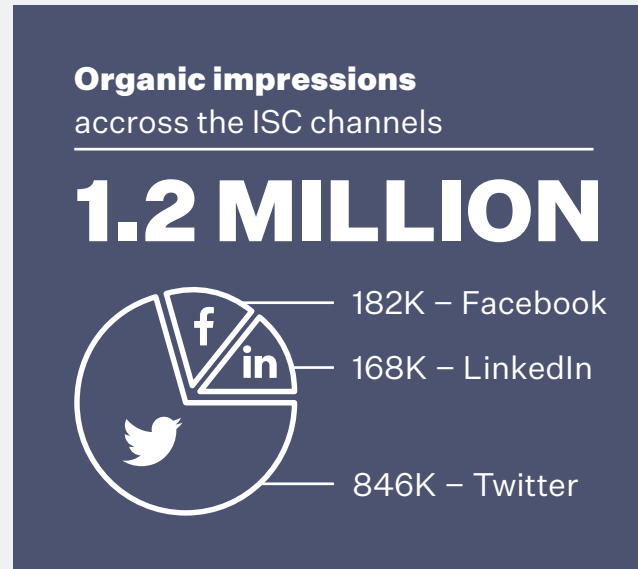
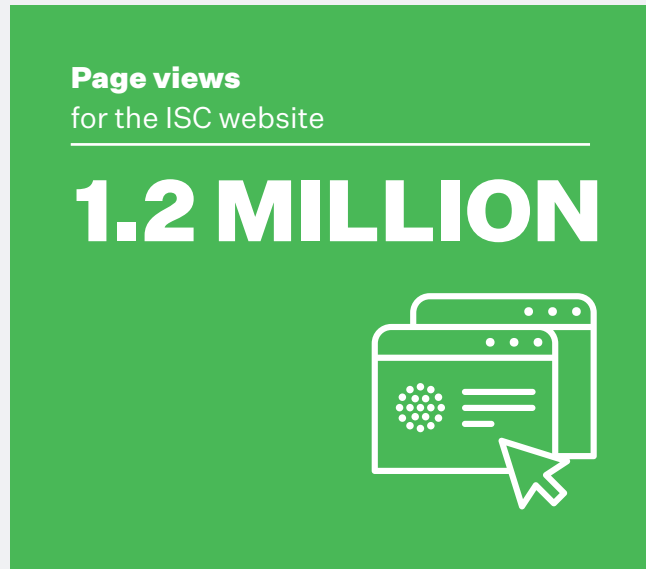
Advancing human development within sustainable planetary and social boundaries is the most important challenge for humanity and for science. To deliver on the United Nations (UN) 2030 Agenda for Sustainable Development and its 17 Sustainable Developmental Goals (SDGs), we must urgently intensify fair and equitable transformations to sustainability across all sectors – science, policy, business and civil society.

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

The mission of the ISC is to act as the global voice of (and for) science. As part of that mission, the ISC:

- Speaks for the value of all science- and evidence-informed decision-making.
- Stimulates and supports international scientific research and scholarship on major issues of global concern.
- Articulates scientific knowledge on such issues in the public domain.
- Brings the voice of science to the highest level of policy-making – through the United Nations and other multilateral fora.
- Promotes the continued and equal advancement of scientific rigour, creativity and relevance in all parts of the world.
- Defends the free and responsible practice of science.

2022 AT A GLANCE



Over 200 events were featured on the ISC website this year, grappling with issues related to the COVID-19 pandemic, women's participation in science, science communication, social change, the global sustainability agenda, and much more.



15 young academies and associations have applied for Affiliated Membership as part of the ISC's programme of diversifying the membership. Along with these new young members who have been invited to join, the ISC welcomed a total of **six new Full and Affiliated Members** this year.



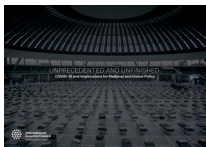
The ISC released the **Unlocking Science series**, jointly with BBC Storyworks, resulting in **over 83 million impressions** on the BBC website, as part of the ISC's programme to increase the visibility of the Council and the public value of science through storytelling.



The ISC Governing Board announced the appointment of **Dr Salvatore Aricò as Chief Executive Officer** of the ISC, succeeding Dr Heide Hackmann.



The ISC actively strengthened its cooperation with the United Nations system, notably through signing Memorandum of Understanding with the **World Health Organization (WHO)** and the **United Nations Environment Programme (UNEP)**.



A result of the Council's COVID-19 Outcome Scenarios Project, the ISC released the

Unprecedented and Unfinished: COVID-19 and Implications for National and Global Policy report to support the shift in thinking required to achieve a more comprehensive 'worldview' of pandemics and similar emergencies.



The first of the series of **Global Knowledge Dialogue (GKD)** was held in Cape Town, South Africa, on the margins of the World Science Forum in December 2022. Following the GKD,

the ISC and **Future Africa** signed an agreement to respond to the need to support African agendas and capacities and strengthen the presence of African science on the global stage.



The **ISC launched its Fellowship** to recognize individuals for their outstanding contributions to the promotion of science as a global public good. 66 Foundation Fellows were appointed at the launch of the Fellowship, together with three Honorary Fellows for the inaugural and outgoing ISC Patrons. The second cohort of 60 Fellows was appointed in December 2022, on the margins of the World Science Forum in Cape Town, South Africa.



The ISC launched its first two **Regional Focal Points** in Latin America and the Caribbean and Asia-Pacific to ensure that regional needs and priorities are adequately represented in the ISC's global agenda, that regional voices are actively engaged in the governance and management of the ISC's work, and that regions benefit from the results of that work.



The ISC and partners organized a conference on the war in Ukraine 'Responses from the European higher education and research sectors', **bringing together 150 stakeholders from across Europe**, with over half of them from Ukraine. The discussions were summarized in a report including seven key recommendations for the international community to better support science systems affected by conflict.



The Talk Back Better webinar series explored the capacities that research institutions need to practice progressive, effective science communication in the current global context and delivered six compelling messages on science communication.



After nine years, the **Transformations to Sustainability (T2S)** programme ended in December 2022. It involved about 370 people across more than 35 countries and produced over 400 academic publications. In 2022, seven films on social transformations to sustainability were launched to illustrate the project's global impact.

THE ISC IN GLOBAL POLICY AND THE UNITED NATIONS

The Council's ambition is to become the 'go-to' organization for scientific expertise and advice at the global level. By working at the intersection of science and policy, the ISC reaches multiple policy communities, striving to ensure that science is integrated into decision-making and implementation at national, regional and global scales.





In 2022, the ISC made significant progress in its objective to engage with the intergovernmental system, enhance the impact of the Council, and strengthen the use of scientific evidence in policy and public action on the most pressing issues faced by societies today.

Notably, the ISC is actively cooperating with the United Nations system through engagement in numerous multilateral processes, such as the annual Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum), the High-Level Political Forum (HLPF), the Sendai Framework for Disaster Risk Reduction, the United Nations Framework Convention on Climate Change (UNFCCC), and the Convention on Biological Diversity, co-organized with the International Union of Biological Sciences (IUBS), the Convention on Biological Diversity (CBD) Secretariat and other partners of the Fifth Science–Policy Forum on Biodiversity held at COP15.

The ISC also has several formal agreements with United Nations organizations including:

- ★ **The United Nations Environment Programme (UNEP).**
- ★ **The World Health Organization (WHO).**
- The United Nations Office for Disaster Risk Reduction (UNDRR).
- The United Nations Development Programme (UNDP).
- The Intergovernmental Oceanographic Commission of UNESCO.
- The United Nations Human Settlement Programme (UN Habitat).

In addition, the Council collaborates actively with the United Nations Department of Economic and Social Affairs (UNDESA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Intergovernmental Panel on Climate Change (IPCC), the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

(IPBES), the United Nations University (UNU), the World Meteorological Organization (WMO), the World Intellectual Property Organization (WIPO), the Food and Agriculture Organization (FAO), the International Telecommunication Union (ITU), and the United Nations Regional Economic Commissions.

The ISC and the Sustainable Development Goals

The ISC has been continuously pushing for a sound scientific basis and strong role of science in the implementation of the SDGs. As coordinator of the Science and Technological Community Major Group for the 2030 Agenda for Sustainable Development, the ISC actively mobilizes the latest scientific evidence and thinking from its membership and research networks, notably through annual position papers and engagement in key gatherings such as the STI Forum and the HLPF, to support the implementation of the SDG agenda.

In 2022, the ISC was strongly involved in the HLPF, the annual intergovernmental forum at which countries review and report on progress towards the achievement of the Sustainable Development Goals. Together with the World Federation of Engineering Organizations (WFEO), the ISC organized a side event in the SDG midterm review focusing on major achievements, challenges and barriers to implementation, as well as emerging lessons, actions and priorities for accelerated progress.

This year, the ISC's engagement was particularly notable as it led the scientific review of the 2023 Global Sustainable Development Report (GSDR) at the invitation of the United Nations Department of Economic



and Social Affairs (UNDESA). Following an open call open to Members and partners, the ISC received nominations of more than 160 experts to review the first-order draft of the GSDR, with a total 104 comments submitted by the experts over the review period. The final version of the GSDR, which provides evidence-based guidance on the implementation of the 2030 Agenda for Sustainable Development, is expected to be published by September 2023 as the main instrument to inform the deliberations of the 2023 HLPF.

The ISC was also involved in the critical UN Ocean Conference, held from 6 to 8 April 2022 in Lisbon. The Council facilitated the participation of several

experts from its network and released critical statements underlining the need to build on the momentum of the conference and ensuing declaration in order to change words into action on ocean protection, and ultimately achieve SDG14.

Throughout the year, the ISC was moreover involved in the preparations of the much-anticipated UN 2023 Water Conference. The Council developed a technical brief drawing on diverse inputs from its membership to highlight the importance of science and actionable knowledge in responding to current global water crises as well as emerging and future challenges.



The ISC and the World Health Organization

In October 2022, the ISC and WHO signed a memorandum of understanding (MoU) to ensure mutual scientific cooperation aimed at promoting and achieving healthier lives and wellbeing for all. The agreement will enhance the contribution of science to global health and sustainable development, facilitate the mobilization of scientific expertise, and strengthen science–policy interfaces relevant to health.

The first project of this partnership will focus on developing a comprehensive understanding of the factors that contribute to the reported decline in mental health among young people, and on identifying effective strategies to address this problem. The signing of this MoU is a direct result of the successful collaboration of the two organizations on the COVID-19 Outcomes Scenarios Project.



THE COVID-19 OUTCOME SCENARIOS PROJECT

In May 2022, the ISC launched its flagship report '*Unprecedented & Unfinished: COVID-19 and Implications for National and Global Policy*'. Produced in consultation with close to 200 interdisciplinary experts from its membership, the report was released by the ISC together with the WHO and the UNDRR in Geneva, Switzerland.

The report outlined plausible scenarios and best options to end the COVID-19 crisis, highlighting how future decisions need to be informed by not only short-term priorities but also long-term challenges. The report was conceived as a practical analytical tool for policy-makers in leading towards a more positive outcome to the pandemic.

The report's launch led to further discussions with the WHO on reinforcing mutual scientific cooperation for global health and sustainable development, eventually resulting in the signing of a formal MoU.

Throughout 2022, the ISC held events to continue its outreach and ensure impact of the report. Notably, on 29 June, the findings were introduced to national academies and regional bodies of sciences, health and medicine, and on 15 July, the ISC held an online session at the EuroScience Open Forum (ESOF) entitled 'Rolling the dice or planning ahead with confidence?'

In late 2022, the Council began working on a second edition of the report, with the goal of reflecting the continuing evolution of the COVID-19 pandemic and updating the lessons and policy recommendations. The updated version will be released in the second quarter of 2023 alongside an accompanying campaign to encourage academies of medicine and health to join the ISC.

The ISC and the United Nations Office for Disaster Risk Reduction

In 2022, the ISC pursued its long-standing role in fostering international research on disaster risk reduction (DRR), working in close collaboration with the UNDRR, and driving expertise in the field through several policy briefs and active engagement at key events of the DRR global agenda.

Jointly with the UNDRR and the Knowledge Action Network on Emergent Risks and Extreme Events (Risk KAN), the ISC co-published a briefing note on systemic risk. The brief provided an innovative integrated perspective of climate, environmental and disaster risk science and practice regarding systemic risk. Through an overview of the concepts of systemic risk that have evolved over time, it identified commonalities across terminologies and perspectives in different contexts.

The ISC was also actively involved in the 2022 Global Platform for Disaster Risk Reduction held in Bali, Indonesia. The ISC coordinated the Scientific and Technological Community Major Group inputs, in close collaboration with the Integrated Research on Disaster Risk Programme (IRDR). The ISC also organized an event focusing on closing the gap between DRR knowledge and practice at the local level, with an ‘Ignite Stage’ presentation to better understand and measure disaster vulnerability at different levels. Additionally, the ISC published three policy briefs addressing (i) data for disaster response and recovery, (ii) the use of the UNDRR–ISC Hazard Information Profiles, and (iii) the knowledge-to-action gap at the local level.

Finally, the ISC assembled a working group to prepare a critical input into the Midterm Review of the Sendai Framework for Disaster Risk Reduction, with a comprehensive evaluation report to be published in early 2023.







The ISC and the United Nations Environment Programme

In December 2022, the ISC signed an MoU with UNEP in order to cooperate more closely on strengthening the capacity of science – including data, engineering, and the social and behavioural sciences – to achieve common objectives aimed at living sustainably within planetary boundaries.

This enhanced collaboration came at a key juncture in global environmental policy when countries were setting new global biodiversity and climate goals for the next decade at the COP15 United Nations Biodiversity Conference, and at the COP27 United Nations Framework Convention on Climate Change.

The first joint project between the ISC and UNEP is centred on strategic foresight and horizon-scanning of environmental trends and signals. The ISC was delighted by the overwhelming response from its Members in nominating experts to join the interdisciplinary Foresight Expert Panel. This group will guide and oversee the development of a joint global report that will be published in 2024 to inform the deliberations of the sixth session of the United Nations Environment Assembly and the Summit of the Future.

In 2022, the ISC also co-organized the COP15 Fifth Science–Policy Forum for Biodiversity, together with its Members, the International Union of Biological Sciences (IUBS), UNEP and the Secretariat of the Convention on Biological Diversity (CBD). The Forum enabled analysis of the emerging science–policy landscape, a review of experiences from science-based policy-making in the context of the CBD, and the drawing of lessons

from multilateral environmental agreements and national actions. The discussions produced concrete ideas to strengthen implementation of the post-2020 global biodiversity framework.

The ISC facilitated inputs of experts and scientists in the first negotiation talks on the creation of a legally binding treaty on plastic pollution, following a resolution by the United Nations Environment Assembly.

Finally, the ISC participated in mobilizing transdisciplinary and geographically diverse expertise to support the seventh edition of UNEP’s flagship assessment: the Global Environment Outlook (GEO-7), to be released during the next United Nations Environment Assembly in 2026.

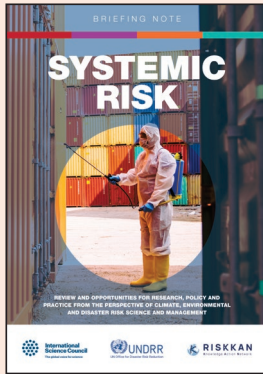


ISC presence in New York formally established

A senior special advisor, Anthony Rock, was appointed to represent the ISC within multilateral institutions based in New York. This presence will provide strategic advice and support in implementing an organization-wide effort to further strengthen the profile of the ISC within the UN system and its member states as the go-to organization for scientific input and advice.

56TH SESSION OF THE IPCC

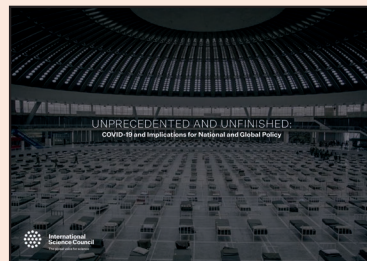
March 2022



ISC Output: A ‘Briefing Note on Systemic Risk’ set out opportunities for research, policy and practice from the perspective of climate, environmental and disaster risk science and management, and four further briefs considered different aspects of risk management.

LIVE LAUNCH AT THE PALAIS DES NATIONS, UN HEADQUARTERS IN GENEVA + THE EUROSCIENCE OPEN FORUM (ESOF)

May 2022



ISC Output: ‘Unprecedented and Unfinished: COVID-19 and Implications for National and Global Policy’ informed policy-makers about the wide-ranging, long-term impacts of COVID-19, with

the aim of shifting the evolution of the pandemic towards more positive and equitable outcomes.

2022 GLOBAL PLATFORM FOR DISASTER RISK REDUCTION (GP2022) IN BALI, INDONESIA

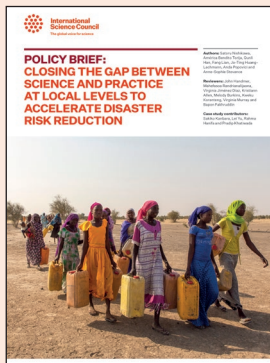
May 2022

ISC Outputs:

- 1 ‘Using UNDRR/ISC Hazard Information Profiles to manage risk and implement the Sendai Framework for Disaster Risk Reduction’ showcased examples of how the hazard definitions published in the UNDRR/ISC Hazard Information Profiles are being used to support DRR at global and national levels.



2



‘Closing the gap between science and practice at local levels to accelerate disaster risk reduction’ analyzed the existing gap between science and technology (S&T) and its incorporation into disaster risk management at local levels.

3



‘Harnessing data to accelerate the transition from disaster response to recovery’ exhibited how using different domain data could enhance management to deal with the emergency response process and enable a swift transition from the response to the recovery phase.

CONVENTION ON BIOLOGICAL DIVERSITY

December 2022



ISC Output: ‘Ten key messages for the Convention on Biological Diversity’ called for The Global Biodiversity Framework (GBF) to encompass ambitious and integrated action, grounded in science, in order to halt alarming biodiversity loss and restore biodiversity as part of human wellbeing, ahead of COP15.

2022 HIGH-LEVEL POLITICAL FORUM (HLPF)

June 2022



ISC Output: ‘Position paper of the Scientific and Technological Community Major Group for the 2022 High-level Political Forum’ brought together the latest scientific evidence and thinking from the scientific, engineering and technological community. It highlighted policy domains to be prioritized to advance progress on the Sustainable Development Goals (SDGs).

MEMBERSHIP, OUTREACH AND ENGAGEMENT

Strengthening our membership engagement and outreach is a core priority for the Council. It does this by building a global voice for science that represents the full range of scientific and science policy constituencies worldwide.





To foster the active engagement of its Members, the Council kickstarted the ISC Global Knowledge Dialogue (GKD) series. The GKD series, which started with Africa at the 2022 World Science Forum, will follow with Asia and the Pacific in 2023, and Latin America and the Caribbean in 2024.

This year, Members strongly benefitted from the ISC's increased cooperation with the UN system. The Council relayed numerous calls for experts from UN-led initiatives, opening exclusive nomination tracks to its membership. Through the ISC, Members were able to nominate experts in a UN open call to advise the seventh edition of UNEP's flagship assessment, GEO-7, as well as appoint their experts in a group dedicated to developing a policy brief ahead of the UN 2023 Water Conference. Members moreover received special accreditations for 40 experts to attend the conference in 2023. The ISC also sought Members' nominations in order to establish the Liaison Committee of its Regional Focal Point for Latin American and the Caribbean. Such opportunities to participate in high-level international working groups and expert panels continue to be regularly published on the ISC Membership Noticeboard.

Event-wise, the ISC also partnered with Members to celebrate the kick-off of the International Year of Basic Sciences for Sustainable Development 2022, led by the International Union of Pure and Applied Physics, and the second year of the International Year of Caves and Karst, led by the International Union of Speleology.

Such sharing of expertise and input from ISC Members and their networks is critical to the ISC and to science as it ensures a greater transdisciplinary and geographical variety – creating a skilled and diverse scientific

representation globally. Continuously eager to improve its commitment by hearing and learning from its membership, the ISC Secretariat held a series of in-depth consultations with African Members to understand their organizational and scientific priorities for the coming years. Dubbed 'one-on-ones', these discussions took place prior to the Global Knowledge Dialogue held in South Africa in December 2022. They fed into the programme of the event, as well as discussions between the ISC and Future Africa to develop an agreement to support African agendas and capacities, and strengthen the presence of African science on the global stage.

Throughout the year, the ISC fuelled dialogues by organizing regular online meetings with its Members, including sessions to discuss UN processes and outputs, such as the UNESCO Recommendation on Open Science, and by offering new opportunities to engage with the ISC leadership through privileged exchanges. At the beginning of his presidency in January 2022, Peter Gluckman invited all representatives of ISC Members and affiliated bodies for a virtual 'meet and greet'. The ISC repeated these occasions, first in May with a session that provided an opportunity for Members to receive critical updates from the ISC President, and in September with an interactive discussion on recent and upcoming developments for the ISC.

Finally, the ISC substantially increased the capacity of its membership team in 2022, by appointing a Membership Development Officer dedicated to identifying new opportunities for engagement and collaboration with ISC Members. This year, this translated into working more closely with next-generation science leader organizations to provide young and early-career scientists with increased opportunities to participate in the ISC's activities and programmes.

Diversity in science is reflected in the diversity of the ISC membership. Such diversity of disciplines and epistemologies play across different aspects of the science enterprise, resulting in a knowledge that is salient, timely and cogent. The ISC constituency as a whole will continue to nurture and treasure the diversity of and synergies among all ISC Members.

Salvatore Aricò,
Chief Executive Officer of the
International Science Council





■ EuroScience Open Forum

In July 2022, the ISC partnered with ESOE, Europe’s largest biennial meeting providing a platform to the scientific community for interdisciplinary and intersectional debate on scientific culture, scientific research and innovation – for and with society.

The Council and its partners participated in several events at the forum, including the ‘Rolling the dice or planning ahead with confidence?’ panel

where the ISC introduced its flagship COVID-19 report, ‘*Unprecedented and Unfinished*’, and the International Network for Government Science Advice (INGSA)/EuroScience joint high-level panel ‘Giving and taking scientific advice: mind the gap’, featuring newly appointed ISC Patron, Irina Bokova.

The forum was one of the first opportunities the Council had to re-engage with Members in person since the COVID-19 pandemic started. A VIP lunch event was one of the highlights of the forum, bringing together the ISC’s Members and broader community, providing a chance to officially welcome Ms Bokova into the ISC family.

World Science Forum and the Global Knowledge Dialogue

In early December, the ISC held the first edition of its Global Knowledge Dialogue series in Cape Town (South Africa) on the margins of the 2022 World Science Forum. The Forum, an international conference fostering and maintaining a dialogue between the scientific community, society, policy-makers and industry, was held this year under the theme ‘science for social justice’.

The ISC took part in the Forum preparations, as partner organization, with ISC President Peter Gluckman serving in the conference steering committee and intervening in the opening ceremony. An ISC delegation including Board and staff members, was also present in Cape Town, with the ISC exhibition space proving popular with delegates. In total, more than 40 African and international ISC Members attended the World Science Forum.

For its part, the ISC-led side-event, the inaugural meeting of the GKD series, gathered more than 120 Member representatives from 40 countries, including members from the Organization for Women in Science for the Developing World (OWSD), the Global Young Academy, Future Earth, and international representation from Australia, Malaysia, Japan, Turkey, Iran and the United Kingdom. Regional chapter members from INGSA also attended the event. Salim Abdool Karim, ISC Vice-President for Outreach and Engagement, opened proceedings, welcoming ISC Members and challenging the assembly to think about the myriad of unfolding crises that are converging on our planet.

‘Science needs a strong voice, science needs a courageous voice, and science needs a voice that speaks to all of these challenges with integrity.’

Salim Abdool Karim,
ISC Vice-President for
Outreach and Engagement



Delegates heard from ISC Fellows and thought leaders including Lidia Brito, Connie Nshemereirwe, Carlos Lopes, Christian Acemah, Oladoyin Obubano and Michael Atchia, and participated in a broad dialogue to determine the top eight issues for science in Africa: governance and representative bodies, capacity strengthening, funding, African knowledge systems, African identity, education, social systems and gender equality.

The day also featured ‘ignite talks’ by four ISC Members who shared how they overcame barriers in science to create ‘knowledge societies’. Palesa Sekhejane, Olubokola Babalola, Josephine Ngaira, and Kevin Govender provided personal perspectives on their work, celebrating resilience and innovation in science.

At the end of the Dialogue, an agreement was signed between the ISC and Future Africa, with the aim of supporting African agendas and capacities and strengthening the presence of African science on the global stage.

The productive day concluded on a 150 guests dinner, gathered to celebrate the day and honour ISC’s founding President, Daya Reddy, and first Chief Executive Officer (CEO), Heide Hackmann.





■ Young academies and associations membership campaign

In 2022, the ISC launched a new global campaign offering Affiliate Membership to eligible young scientific groups that would build the voice of early-career scientists and researchers in the Council's structures. The membership campaign included exploratory one-on-one meetings with international young academies and associations. These critical conversations provided the backdrop for global scientific collaboration and exchange, which resulted in 15 membership applications from young scientific groups from all regions of the world.

The campaign included a co-design process working with the Global Young Academy, and directly with other young academies in identifying career challenges and matching them with opportunities. The goal of the campaign is to provide early-career scientists and researchers opportunities within the ISC network that could advance their scientific careers, offer opportunities for collaboration with other ISC Members, and promote diversity and inclusion when it comes to scientific representation across the world.

■ The ISC Fellowship

In 2022, the ISC launched its new fellowship programme. Envisaged as a pillar of the Council's structure and capacity, the ISC Fellowship will help advance the ISC mission to promote and use science for the global public good, so that science can benefit everyone.

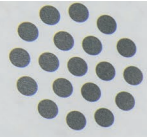
The ISC Fellowship represents the highest honour that can be conferred on an individual by the Council. Over the course of the year, 123 ISC Fellows from diverse geographies, disciplines and career stages were appointed, following nominations by ISC Members and Governing Board. Additionally, the three inaugural and outgoing ISC Patrons were awarded Honorary Fellowships for their exemplary service to the ISC. Fellows include eminent scientists, engineers and thought leaders from the science–policy sphere who have made significant contributions to furthering the understanding, use and engagement of science in public policy.

‘Being an ISC Fellow is a wonderful opportunity to participate in connecting the science and policy communities worldwide, but also regionally and locally. I’m looking forward to developing the Fellowship.’



Connie Nshemereirwe,

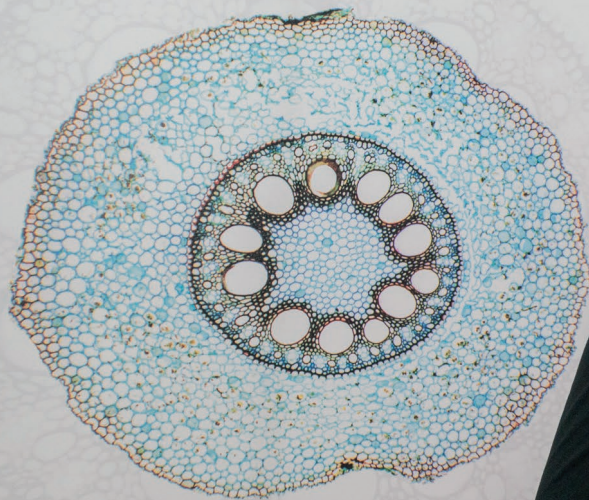
Uganda



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

ACTION PLAN 2022–2024

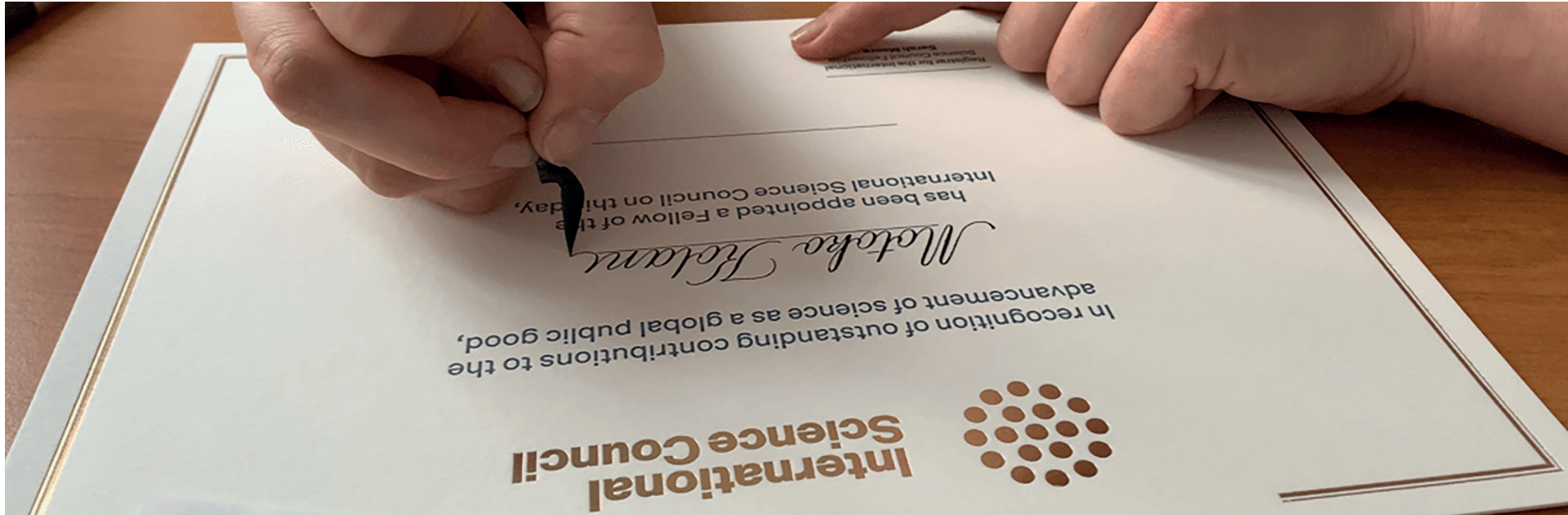
Science and Society in Transition



The International Science Council's Action Plan guides our work until the end of 2024 and responds to the evolving global context in which science operates. We work in five domains of impact:

- i. Global Sustainability
- ii. Converging Science and Technology
- iii. Science in Policy and Public Discourse





Under the leadership of the Council, the ISC Fellowship will be expanded through annual nominations engaging ISC Members and partners, with the aim of increasing it to around 600 active and diverse ISC Fellows by 2025. These individuals will help plug important skills gaps by acting as experts or advisers for ISC projects, programmes and collaborations, and as ambassadors and advocates for the ISC’s work, connecting the Council with influential actors. As the programme develops, there will be opportunities for increased engagement, including participating in flagship programmes, supporting ISC regional focal points in their development, and representing science and the scientific community at regional and global levels.

‘I am very much looking forward to working with Council members and ISC colleagues to develop this exciting initiative, as a vital arm to the ISC’s mission of bringing science to society. Together, we will develop a unique identity, culture and set of values that will help the ISC, and global science more generally, to be more inclusive, representative and impactful.’



Terrence Forrester,
Chair of the Fellowship Council

■ ISC Standing Committees

The membership of the ISC's four Standing Committees was renewed in 2022 for the period 2022–2025, on the basis of nominations from the ISC members. The Standing Committees, representing diverse areas of the worlds of science and practice, are mandated to advise the ISC Governing Board in its four major domains of work:

- 1 **Science planning**
- 2 **Outreach and engagement**
- 3 **Freedom and responsibility in science**
- 4 **Finance**

The full list of Standing Committees members is available in the Annexes.

■ New members in 2022

The ISC was delighted to welcome six new Members in 2022.

CATEGORY 1 (FULL MEMBER)

- International Commission for Optics – *formerly Affiliated Member*
- International Commission on Illumination – *formerly Affiliated Member*
- International Council for Industrial and Applied Mathematics – *formerly Affiliated Member*

CATEGORY 2 (FULL MEMBER)

- Kenya, National Commission for Science, Technology and Innovation
- Congolese Academy of Sciences

CATEGORY 3 (AFFILIATED MEMBER)

- International Consortium of Research Staff Associations

The full list of ISC Members is available in the Annexes.

STRENGTHENING THE ISC'S REGIONAL PRESENCE

Following an open call for expressions of interest to host an ISC regional presence in late 2020, the ISC inaugurated its new Regional Focal Point for Latin America and the Caribbean (RFP-LAC) in 2022, within the Colombian Academy of Exact, Physical and Natural Sciences. In October, the Australian Academy of Science was selected to become the Regional Focal Point for Asia and the Pacific (RFP-AP), with critical financial support from the Australian Government.

These regional focal points will mobilize the engagement of regional ISC members and ensure strong representation and participation of regional scientists and institutions in the Council's programmes and events. They will also serve to widen the ISC community by strengthening global outreach to further a distributed and disciplinary diverse membership.





The ISC and the Regional Focal Point for Latin America and the Caribbean

The Regional Focal Point for Latin America and the Caribbean is led by Enrique Forero, Chair, assisted by Carolina Santacruz-Perez, Regional Science Officer. During the year, the RFP-LAC was strengthened by the creation of its Liaison Committee, which met for the first time in July. Comprising eleven renowned scientists and thought leaders, active in the dissemination of science in the region, the Committee will provide advice and guidance on the activities of the regional focal point.

The eleven members of the RFP-LAC are: Elisa Reis (Brazil); Graciela Díaz de Delgado (Venezuela); Adelle Thomas (Bahamas); R. Daniel Peluffo (Uruguay); Silvina Ponce Dawson (Argentina); Ana Rada (Bolivia); Luisa Fernanda Echeverria-King (Colombia); María del Carmen Samayoa (Guatemala); Luis Sobrevia (Chile); Germán Gutiérrez (Colombia); and Dora-Luz Flores (Mexico).

The RFP-LAC was developed to advance the following objectives:

1. Develop databases and digital platforms to map the regional scientific community;
2. Partner with regional funding agencies to improve the management of science resources in LAC countries;
3. Promote the establishment of regional research centres;
4. Work with INGSA to build capacity for science advice in the region.

In 2022, the regional office developed its action plan to support the scientific community of the LAC region. This effort started with a mapping exercise, identifying national Member academies and research councils and other relevant partners with the most expertise in five areas of specific interest:

1. LAC sciences in the pursuit of regional and global sustainability;
2. Interdisciplinary collaboration in the digital age;
3. Science for policy, and science advice;
4. Collaboration between academia, public and private sectors, and civil society.
5. Science education and the establishment of scientific and research infrastructure in the LAC region.

In a short time, RFP-LAC was able to liaise with various government entities and carried out several activities with influential scientific groups. Examples include working with the UNESCO committee for the International Year of Basic Sciences for Sustainable Development; participating in the General Assembly of the Inter-American Network of Academies of Sciences, holding several meetings with important regional stakeholders, including the International Union of Basic and Clinical Pharmacology, the Organization of Ibero-American States for Education, Science and Culture, the Latin American Council of Social Sciences, and the Latin American Academy of Sciences.



The ISC and the Regional Focal Point for Asia and the Pacific

In 2022, the Council announced that the Australian Academy of Science would lead a new regional presence for the ISC in the Asia-Pacific as its Regional Focal Point for Asia and the Pacific. The hub will be boosted by support from the Australian Government, with an AUD 10.3 million investment over the next six years.

Petra Lundgren was appointed to lead the RFP-AP, and work has already begun in earnest to develop a governance structure and to deliver the Global Knowledge Dialogue in partnership with the Academy of Sciences of Malaysia in the final quarter of 2023.

‘We look forward to fostering engagement with the diverse nations across the Asia-Pacific region and working on our shared goal of championing science as a global public good.’

Chennupati Jagadish AC,
President of The Australian Academy of Science



The new regional focal point will build on the strong network established by the former regional office of the ISC, hosted by the Academy of Sciences Malaysia. The ISC Governing Board and headquarters thanked the Academy, as well as Mazlan Othman who provided leadership for the office from 2017, for the support provided to maintain the regional office over the years.

■ Future Africa agreement

In December 2022, following the Council's Global Knowledge Dialogue in Cape Town (South Africa), the ISC signed an agreement with Future Africa to jointly support African agendas and capacities, and strengthen the representation of African science on the global stage.

Future Africa, a pan-African collaborative research institute at the University of Pretoria will, on behalf of the Council, lead the work on convening African partners in an inclusive scoping and development process aimed at articulating the needs of African scientists and science systems. It will make recommendations about the ISC's future role and institutional presence in Africa and will identify pathways to implement those recommendations.

'I thank the ISC for being open minded about developing new strategies on how best to cooperate with African partners. We as the University of Pretoria, with Future Africa in the lead, throw our full support behind this initiative and are excited about the prospect of fostering closer connections between the ISC and the higher education network in Africa.'

Tawana Kupe, Principal and Vice-chancellor
of the University of Pretoria



CHANGING PRACTICES IN SCIENCE SYSTEMS: mission science, transdisciplinary research and communicating science

Beyond representing the voice of science in the global fora, the ISC strives to make science systems more equitable and inclusive of a wider range of voices, institutions and knowledge types, including marginalized perspectives, indigenous knowledge and stakeholders without scientific training. These efforts also address the need for increased opportunities for international research collaboration, particularly on global issues, to foster transdisciplinary research.





Global Commission on Science Missions for Sustainability

In 2022, the Global Commission on Science Missions for Sustainability, established at the end of 2021, issued an emergency warning on sustainability inaction and the urgent need to mobilize support for mission-oriented science as part of the UN Decade of Action on the Sustainable Development Goals. Composed of political leaders, scientists and influential personalities, the Commission is co-chaired by Irina Bokova, former Director-General of UNESCO, and Helen Clark, former Prime Minister of New Zealand and previous administrator of the United Nations Development Programme.

The Commission, backed by the Council's *'Unleashing Science: Delivering Missions for Sustainability'* report, makes a compelling case for stepping out of 'business-as-usual' approaches in the way we structure, fund and do science.

A technical advisory group (TAG) was set up to advise the Commission on advancing the science missions for sustainability. The TAG, co-chaired by ISC Governing Board member and Co-Director of Stanford University Change Leadership for Sustainability Program, Pamela Matson, and Director-General of the International Institute for Applied Systems Analysis, Albert van Jaarsveld, gathers experts in sustainability and complex systems from around the world, as well as representatives from the science funding community.

Over the year, the Commission and the TAG met several times to deliberate on complex issues, with the TAG tasked with proposing a model for advancing missions science for sustainability. The report and a proposed model will be launched in the second quarter of 2023.

FROM COOPERATION TO INNOVATION: How scientific diplomacy can drive our pathway to sustainability

Irina Bokova, *ISC Patron and Co-Chair of the Global Commission on Science Missions for Sustainability*



Scientific diplomacy in the 21st century has emerged as a crucial tool for addressing our global challenges and fostering international cooperation. As former Director-General of UNESCO and now as a patron of the International Science Council, I have seen first-hand how science and diplomacy can, and must, work together to promote peace, security and sustainable development. The ISC now has a unique opportunity to forge itself as a credible 'track two' diplomacy organization to meet these challenges, especially at the multilateral level and through initiatives like the newly established Group of Friends on Science for Action by UN General Assembly Member States.

Scientific diplomacy has the power to bring people together across borders, fostering mutual understanding and trust. The response by the scientific community to the war in Ukraine, and the many ongoing conflicts around the world that force scientists into exile, are a testament to this – by continuing to share knowledge and expertise, scientists can help address some of the world's most pressing challenges, such as climate change, food insecurity and threats to public health. We must

do all we can to future-proof scientific collaboration, at local national and international levels, through the strengthening of voices in our scientific unions, academies and research councils and the convening power of organizations like the International Science Council.

One of the key drivers in future-proofing scientific collaboration and strengthening the track two diplomacy model will be the ability of scientists and researchers to work together regardless of their governments' policies or ideologies. This is particularly important in today's world, where geopolitical tensions are high, and international cooperation is often strained. By focusing on science, we can build relationships based on shared goals and mutual interests, rather than political differences. In a world where misinformation and disinformation are ever present, knowledge brokerage driven by transdisciplinarity will both inform and transform policy decisions that ultimately improve outcomes for all.

This is where the Council's Global Commission on Science Missions for Sustainability, which I co-chair with Helen Clark, former Prime Minister of New Zealand and former administrator of the UNDP, will become a critical mechanism in this decisive decade, where science must be empowered to support societies that build dignified futures for humanity and the planet. Supported by its Technical Advisory Group, the Global Commission will propose a co-design process to set priorities for mission-led science for sustainability that will be a call to arms for funders, ISC Members and policy-makers alike. We will launch this process at the High-Level Political Forum in July 2023.

In order to fully realize the potential of scientific diplomacy, and to generate the outcomes we desire through such innovations as the Global Commission, we will need investment. This doesn't stop at financial investment in our science missions for sustainability; it includes investment in science education and the promotion of scientific literacy. Critical thinking will help to ensure that more people understand the value of science and its role in shaping the world around us. Investing in scientific literacy is an antidote to misinformation and disinformation in science – it paves the way for enabling policy-makers and the broader public to understand the scientific method, how scientific research is conducted, and how to interpret scientific results – with the ultimate reward of creating trust in science. Critical thinking means questioning information, evaluating sources and considering alternative viewpoints; when people have these skills, they are less likely to fall for false information and are more likely to seek out accurate information from reliable sources.

The International Science Council is therefore crucial in driving international collaborations and partnerships between scientists, institutions and governments. This includes promoting open access to scientific data and research, and ensuring that scientists from all countries have equal access to funding and resources. In this regard, we must ensure that scientific diplomacy is inclusive and equitable, promoting diversity and inclusion within the scientific community itself. By bringing together scientists with different perspectives and experiences, we can foster creativity and innovation, bridge knowledge gaps and find new solutions to global challenges.



Leading Integrated Research for Agenda 2030

After six years of supporting transdisciplinary research on sustainability across African cities, the research funding programme 'Leading Integrated Research for Agenda 2030' (LIRA) ended in 2022.

Launched in 2016, LIRA has been a unique research funding programme that has built the capacity of early-career researchers in Africa to undertake transdisciplinary research and make scientific contributions to the implementation of Agenda 2030 in African cities. By fostering new partnerships across different stakeholders and sectors, 28 LIRA projects have helped anchor the Sustainable Development Goals in local contexts, and have increased local ownership and responsiveness of communities to the global agenda.

One of LIRA's key impacts has been contributing to shifting the political economy of research on African cities from the Global North to the African continent. More than 60 academic articles and 20 policy briefs have been published since its inception. LIRA grantees have also produced books, reports and publications, gained Master's and postgraduate degrees, and worked together to produce geographic information system maps, databases, training courses and research tools. Besides all these achievements, the most significant contribution of the programme has been the creation of a community of practice of engaged early-career scholars who are skilled and practiced in transdisciplinary approaches in various contexts.

By experimenting with alternative ways of engaging with and influencing contemporary urban challenges, early-career African scientists have crossed the conventional boundaries between science, policy and society, carrying out innovative, engaged and relevant research that ultimately contributes to social change. The knowledge and data generated through the LIRA projects are extensive and are of academic interest and significance for local communities and policy-makers.

LIRA has made an impact in many countries. In Mozambique, it was instrumental in preparing the country's SDG Voluntary National Review and contributing to a collective Voluntary Local Review for municipalities. In Angola, the federal government invited project stakeholders to support the development of a national housing policy. In Zimbabwe, a climate change desk was established under the Town Clerk of Harare. In South Africa, the project's lessons learned are being included in the review of the informal settlement upgrading policy of eThekweni. The LIRA project team was also included in South Africa's COVID-19 informal settlement policy and technical platform. In the city of Durban, transformative adaptation was added as an agenda item to meetings of the Environmental Health Services.

The full range of achievements and lessons learned were captured exhaustively and featured in two reports to be released in early 2023.



The value of the transdisciplinary approach for understanding and addressing urban complexity in African cities was endorsed by the LIRA community, who all indicated that they would like to continue practising transdisciplinary research. However, this would require creating a more enabling environment for transdisciplinary research in Africa and globally. In addition, to foster a profound transformation of existing institutional structures, policies and processes within universities and science funders, strategic dialogues with key actors must continue to ensure that science is geared towards transformative and systemic change.

‘My experience with LIRA has been remarkable. I am glad to be selected to be part of this amazing academic journey. I intend to further enhance the relationship through future collaborative engagements with colleagues, communities and practitioners we have grown to know.’

A LIRA researcher in an anonymous evaluation form

The LIRA cohort has done more than any other group on the continent to substantially advance the volume, quantity and relevance of urban research on the continent. LIRA is ahead of its time, and it was able to harness significant work and initiate significant shifts in thinking that will anticipate shifts in practice in urban research. Now we need to do more: we need to use LIRA to mobilize the African community of urban scholars to think and act differently and to consolidate and advance what we have built.

Susan Parnell,
*Chair of the LIRA Scientific Advisory Committee
and Professor of Geography, University of Bristol*



■ Transformations to Sustainability

After an exciting and productive nine years, the pioneering Transformations to Sustainability (T2S) programme ended in December 2022. The programme was designed to enable social sciences to bring their unique and urgently needed contribution to international sustainability research, with a focus on the human and social dynamics of global change and transformation.

Launched in January 2014 by the International Social Science Council (ISSC) with funding from the Swedish International Development Cooperation Agency (Sida), the programme funded 38 seed grants, followed by three international projects which ran from 2016 to 2019. Each project, or ‘transformative knowledge network’, was led or jointly led by a social scientist in the Global South; involved research partners in an average of eight countries across the Global North and South from a wide range of social science and environmental science disciplines; co-designed and co-produced research with societal partners; and nurtured a cohort of post-doctoral scholars in transformations research and practice.

Inspired by the ISSC model, the Belmont Forum then engaged with the New Opportunities for Research Funding Agency Cooperation in Europe network of social science funders, the European Commission and the ISC to develop a ‘collaborative research action’. This effort generated EUR 11.5 million of research funding for a further 12 international projects, running between 2018 and 2022. In this partnership, the ISC funded researchers in low-income countries to participate in the international projects, coordinated cross-project knowledge exchange and activities.

Altogether, the T2S projects collectively explored solutions to a wide range of socio-environmental problems, using a rich variety of conceptual and methodological approaches. The common factor was the social framing of problems and potential solutions, the deep involvement of non-academic partners in the joint framing, design and implementation of the research, and the effort to understand and nurture processes of social change towards more sustainable and socially just situations.

‘The history of the T2S programme is part of the history of science and the realization that interdisciplinary collaboration between the natural and social sciences was essential to the effort to tackle global challenges.’

Heide Hackmann, *Director, Future Africa Institute
(and former ISC CEO and ISSC Executive Director)*







Altogether, the programme involved about 370 people across more than 35 countries, including about 180 project members based in the Global South. Several thousand more were involved in participatory forms of research. The projects were prolific, producing more than 400 academic publications, including three cross-project special issues, and a myriad of non-academic and multi-media outputs. All the projects produced impressive scientific, practical and policy outcomes over their lifespans, with more expected in the coming years as the seeds planted by the projects mature, come to fruition and create offshoots.

EXEMPLARY OUTCOMES OF THE PROJECTS

- Since 2018, the Bioleft community, an offshoot of the Pathways Transformative Knowledge Network, has been building an open seed exchange and breeding network in Latin America. The platform has made it possible to register and transfer open seed varieties to hundreds of agricultural producers.
- An app developed by the Waterproofing Data Research project allows communities in flood-prone areas to monitor and manage their own flood risk, which has already contributed to the saving of lives. The Brazilian National Centre for Disaster Monitoring and Early Warning has adopted and institutionalized the application.
- The MISTY project was instrumental in the process which led, in 2021, to the Government of Bangladesh adopting a comprehensive displacement management strategy with a rights-based framework for internally displaced people.
- CONVIVA project members are working with the Dutch Planning Bureau for the Environment to build convivial conservation scenarios that can inform post-2020 biodiversity frameworks.

The project outcomes and learnings can be explored on the T2S programme websites. In 2022, the ISC produced a set of short films and ‘impact stories’ illustrating the value of transdisciplinary research approaches in re-imagining and supporting social transformations. The dedicated website hosting the films and impact stories registered 3,500 pageviews in its first five months and the centrepiece film on social transformations was featured at the World Science Forum expo in South Africa in December.

The T2S programme has been a hugely challenging and rewarding initiative. It represented a significant and daring step up in scale and scope for sustainability research cooperation and leadership in the social sciences. It made it possible to test experimental transdisciplinary research designs which validated the knowledge of non-academic stakeholders. Crucially, it offered opportunities for equitable research participation and leadership from the Global South.

‘The T2S programme made the improbable possible, due in large part to the collective intellectual strength of an amazing network of philosophers, researchers and practitioners.’



Leo Saldanha, *Governance of Sociotechnical Transformations project member, Environmental Support Group, India*

An independent final evaluation conducted in 2022 concluded that the projects had made great contributions to theoretical and conceptual debates around concepts of transformation to sustainability. The panel saw the programme as a forerunner in the evolution of sustainability research towards more interdisciplinary and transdisciplinary approaches, and as instrumental in normalizing the idea that social scientists should lead research for sustainability.

Lessons learned and recommendations from the experience of the T2S programme are still being harvested. Reports synthesizing knowledge on social transformation gleaned from the projects will be published in 2023, as will a programme design study drawing lessons from the variations in programme design between the first and second generations of projects. A chapter in the *Handbook of Transdisciplinarity: Global Perspectives* (Lawrence, forthcoming 2023) offers learning from a cross-programme comparison between the two phases of the T2S programme and the LIRA 2030 programme.

‘The explicit demand for non-academic knowledge products in the T2S programme was transformative.’



Adrian Ely, *Pathways TKN coordinator, University of Sussex*

The T2S programme has confirmed that transdisciplinary research can be truly transformative and must be part of local and global, integrated efforts to achieve social and environmental sustainability. However, the T2S experience also shows that academic science systems are not conducive to transdisciplinary research. Science itself will need to transform, in its funding and incentive structures, evaluation cultures, training approaches, and interfaces with practice and policy, to enable transdisciplinary research to flourish. Transformations to environmental and social sustainability can be achieved, but only with fundamental shifts in social relations, including with and within the scientific community.

Stories of transformation, in film and articles, can be accessed online.

■ Public Value of Science

UNLOCKING SCIENCE CAMPAIGN

The ISC-BBC StoryWorks multimedia hub launched in 2021, ‘Unlocking Science’, finished on a high note in November 2022, with record levels of engagement for BBC global audiences.

The series told stories that demonstrated the transformative power of scientific innovation and progress. Each episode showcased evidence-based actions towards the UN’s Sustainable Development Goals and featured dynamic protagonists to support innovative and engaging storytelling.

The ISC played a critical role by identifying impactful, solution-oriented science stories and innovations that allowed the BBC to produce compelling content, providing selected initiatives with sizable promotion and raising awareness around important topics. The ISC also used the films to create pop-up cinemas at major international forums, such as the EuroScience Open Forum in Leiden, the Ethnografilm Festival in Paris and the World Science Forum in Cape Town, in partnership with ISC Member, the Organization for Women in Science for the Developing World.



Throughout 2022 and 14 months after its launch, the hub proved immensely successful. ‘Unlocking Science’ outperformed the industry average for audience engagement and delivered some of the highest metrics of BBC StoryWorks, with over 83 million impressions on the BBC website. The ISC’s film related to the COVID-19 flagship report, *‘The ‘clocks’ COVID-19 set ticking’*, alone generated 1 million impressions and close to 300,000 engagements on social media. The four-part podcast series ‘Unlocking Science’ produced as part of the project, had close to 13,000 listeners.

The quality of engagement was also particularly striking, as visitors lingered longer, viewing more than they typically do on other BBC webpages. When assessing the impact of such campaigns, one industry measurement is the ‘click-through rate’ – the percentage of viewers who see the story and click through to engage. The ISC had a click-through rate three times the average number of link clicks. This data indicates that the science-engaged audience, typical of the ISC base, were drawn to the format. It also underlines science and technology as one of the fastest-growing themes in terms of audience appetite, leading to considerations for a renewal of the experience with other major media outlets. Beyond the successful partnership with BBC StoryWorks, through this project the ISC and its Members gained access to additional key partners in the sphere of the public value of science, such as the Wikimedia Foundation, the Robert Bosch Stiftung, Google, the Network for the Public Communication of Science and Technology and the UNESCO Chair in Science Communication as a Public Good.

‘TALK BACK BETTER’ WEBINAR SERIES

In the last few years, the ISC membership has become increasingly worried about challenges to trust in science. While global polls suggest that in most countries trust in science has increased among the public, there are still reasons to worry. Harassment of scientists has increased, and there have been several high-profile examples throughout the COVID-19 pandemic of political representatives dismissing scientific expertise.

In 2022, the Public Value of Science programme convened five webinars. The ‘Talk Back Better’ series was delivered from May to June with the objective of using a mix of discursive analysis and practical tips to help research organizations explore capacities to enable better communication. The key takeaways for the ISC from the series included the notion that digital platforms could be allies in the fight against misinformation and disinformation, and that research institutions need to be designed to better encourage trust. It was also found that climate change communication has grown more sophisticated in responding to the needs of science in getting its message across to segmented audiences, something that the ISC will take forward in its future discussion with the UN Under Secretary-General for Global Communications, Melissa Fleming.

Critically, the Programme on the Public Value of Science and its group of experts will provide counsel to the ISC for future projects relating to trust in science. A fully-fledged workstream on trust in science will be launched in 2023.

Freedom and Responsibility in Science

The Council's Committee for Freedom and Responsibility in Science (CFRS) is the custodian of the Principle of Freedom and Responsibility in Science, which is enshrined in Article 7 of the ISC Statutes. The committee works at the intersections between science and human rights to uphold and protect the freedoms that scientists should enjoy, and the responsibilities they carry, while engaging in scientific practice.

In 2022, the Committee responded to freedom and responsibility cases in Iran, Afghanistan, Turkey, Greece, Ukraine, Sudan, Fiji, China, Japan, Australia, USA and Nicaragua, and is currently monitoring a portfolio of 30 cases in total. 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 New Zealand government has actively supported the CFRS since 2016. This support continues with the Ministry of Business, Innovation and Employment supporting the CFRS via CFRS Special Advisor Gustav Kessel, based at the Royal Society of New Zealand Te Apārangi. In the context of the persistent impacts of the COVID-19 pandemic and increasing geopolitical tensions, the Council's work on freedom and responsibility in science expanded on the theme of 'science in times of crisis'. The ISC launched the Science in Exile Declaration in collaboration with the World Academy of Sciences, the InterAcademy Partnership in April, and the well-received podcast series, 'Science in Times of Crisis' in December.

The war in Ukraine brought attention to the global implications and consequences of wholesale attacks on higher education and science systems. It also highlighted the need for the science sector to play an active role during times of crisis to better prepare, protect, respond and rebuild, with a need for on-going coordination of programmes, policies and advocacy. Only a few days into the war, the ISC published a condemning statement and undertook to publish statements, offers of assistance and resources from science organizations worldwide. In March, the ISC was invited at a ministerial meeting of European Union governments to discuss the appropriate response by the science sector, and the issue of potential sanctions against Russian scientific institutions and scientists. In June, the ISC along with the European Federation of Academies of Sciences and Humanities (ALLEA), Kristiania University College, and #ScienceForUkraine, co-hosted the 'Conference on the Ukraine Crisis: Responses from the European Higher Education and Research Sectors'. The conference brought together more than 150 stakeholders from across Europe, and generated a report with key recommendations to support academics, researchers, students and higher education and science systems affected by conflict.

As the profile of the Committee for Freedom and Responsibility in Science's portfolio has risen, the ISC is increasingly called upon to provide expert comment on global issues relating to the free and responsible pursuit of science. In 2022, this included moderating a National Academies of Sciences' Committee for Human Rights webcast on 'Censorship and the Right to Information during the Pandemic', holding a thematic session

‘The ISC promotes and safeguards the free and responsible practice of science and argues for the symbiotic relationship of these two principles. In 2022 we experienced an increase in threats in this regard. The COVID-19 pandemic showed that certain publics had mistrusted both experts and government officials when it came to science finding solutions to the acute issues of the pandemic, sometimes with life-threatening consequences. As witnessed in Afghanistan and Ukraine, the world experienced an uptick in attacks on scientists and whole science systems. Responsibility issues are as important but often harder for scientists to approach. The challenges of new forms of communication and generative Artificial Intelligence, for example, offer new opportunities to advance science while at the same time posing complex challenges to scientific research. CFRS has a standing mandate to advocate for the free and responsible practice of science and to respond appropriately if either freedom or responsibility is violated.’



Anne Husebekk, ISC Vice-President for Freedom and Responsibility in Science





at the World Science Forum on ‘Intersections between Social Justice and the Free and Responsible Conduct of Science’, and collaboration with UNESCO on the ‘*UNESCO Scientific Freedom Report: African Perspectives on Scientific Freedom: Insights from Policy and Practice in Six Countries*’.

While podcasts have been particularly effective at growing its audience, the Committee has also been heavily committed to strengthening the impact and visibility of its activities through regular social media engagement and increased contributions to the ISC website through news announcements and blog pieces. Most prominently, these have focused on: expert commentary on the relationship between social justice and science; expert reactions to the ban on women from tertiary education by the Taliban; a statement of continued support in the long-standing case of Greek statistician, Andreas Georgiou; an interview on racial discrimination and equal access in geospatial science; an interview with CFRS member Joyce Nyoni on the state of HIV/AIDS research in Africa, and a piece on censorship during the COVID-19 pandemic.

The New Zealand government has actively supported the CFRS since 2016. This support was generously renewed in 2020 for a five-year period, with the Ministry of Business, Innovation and Employment supporting the CFRS via Special Advisor Gustav Kessel based at Royal Society Te Apārangi and via Dr Roger Ridley, Director Expert Advice and Practice, Royal Society Te Apārangi.



UKRAINE CONFERENCE REPORT

In August 2022, following the Ukraine conference, the Council released a report covering the full breadth of the discussions held, including important lessons on how to support the science sector in Ukraine, and putting forward high-level policy recommendations for mid- to long-term support. Addressing a wide range of stakeholders, including governments, multilateral organizations, international science

organizations and systems, the report provided suggested pathways towards the reconstruction and strengthening of Ukraine's higher education and research sector post-conflict.

The recommendations focussed on seven key principles:

- The **Responsibility** to support the right to education and science;
- **International Solidarity** to support war-affected scientists, researchers and students;
- Adopting the UNESCO Recommendation on **Open Science**;
- **Inclusion** as a priority in the design of support programmes and opportunities;
- Scientific **Mobility** through global mechanisms and coordination that prevent the loss of knowledge and potential held by war-affected scientists, researchers and students;

- **Flexibility** in support and funding programmes to recognize the evolving needs of war-affected scientists, researchers and students and to allow for both remote and in-person participation;
- **Predictability** in the phases of preparedness, response and rebuilding in the face of conflict, through cooperation in the development of sustainable frameworks by all stakeholders.

Throughout the year, the ISC-ALLEA co-led Ukraine Science Stakeholders' Group continued to meet monthly to share information on protection and support initiatives for the Ukrainian scientific community. The ISC involved STM – the international association of science publishers – in this group. That participation led to the decision by Research4Life, an STM programme providing open access to scientists in low-income countries, to provide complete and free open access to Ukrainian scientists. In July, Research4Life members agreed to apply this policy in future to every country with massive displacement of its scientific community caused by war. The success of the June 2022 conference generated interest from other stakeholders, including in Brussels at the 'United Europe: Widening Research and Innovation (R&I) Cooperation in Times of War' conference, which featured ISC's Mathieu Denis as a keynote speaker.



FUTURE OF SCIENTIFIC PUBLISHING

During 2022 the project transitioned from analysis to action, necessitating a comprehensive overview. Through the scientific publication process in the modern era, a network that transmits ideas, information, and new opportunities through its nodes has given rise to knowledge-driven societies. Digital technologies have now transformed global scientific communication, paving the way for a new era of open science. Recognizing the critical role of this communication network, the Future of Publishing Steering Group's goal at the inception of this project was to assess the efficacy of contemporary scientific publishing. On the back of the Steering Group's first report, "Opening the Record of Science (2021)" the Steering Group outlined eight essential principles that scientific publications should uphold to support the needs of modern science and meet the challenges in the current system. These challenges were most striking in information flow to and from its nodes low- and middle-income countries due to the cost-prohibitive nature of such publishing systems. Subsequent analyses by the ISC then focused on business models and market structure and research integrity.

Building on its research, the Steering Group then explored the potential of preprints to improve publication systems and functionality, releasing its report, *The Normalization of Preprints*, in March 2022. Throughout the year, the ISC actively consulted with the scientific community, organizing meetings and presentations across various regions and producing a monthly Open Science Roundup, with news of developments and blogs by those engaged in the issue.

With the many challenges also came success, including the US government mandating copyright retention for federally funded research.

'SCIENCE IN TIMES OF CRISIS' PODCAST

Geopolitical tensions and the effects of global crises on populations are escalating. The impact of these issues on world science systems is extremely disruptive. To explore this issue, the CFRS produced a five-episode podcast series on what crises and geopolitical instability mean for science and scientists, which aired throughout December 2022. Offering a comprehensive analysis of the complex relationship between geopolitics and science, the series explored what lessons we can learn from the past, how science is impacted by crises in the present, and what solutions we can implement to ensure greater resilience in the future.

With the aim of generating constructive dialogue and highlighting the importance of the topic among the wider science community, each episode saw two experts provide thought-provoking insights on: i) science during the Cold War and Apartheid in South Africa; ii) global pandemics and Brazil's tumultuous science-policy nexus, focusing on climate change and deforestation; iii) science in the Arctic and in space being disrupted by conflict; iv) the implications on science systems in Iraq after multiple crises and conflict; and v) the realities of science diplomacy, especially for 'Track Two' diplomatic organizations such as the ISC.

'We also have to consider that in some cases, such as Ukraine, when all the infrastructure is destroyed because of war, scientists cannot proceed with their work, and we are saddened by the problems our colleagues are facing.'

Piero Benvenuti, *International Astronomy Union*, on the loss of collaboration on space research due to the Ukraine war in the Episode 3, 'The Fallout of Conflict: The Arctic and Outer Space'



'I think classical traditional diplomacy indeed is failing because it could not grasp the profoundness of the challenges that we are confronting today, the unprecedented risks, be it with the COVID-19 or the vaccines, be it also with climate change.'

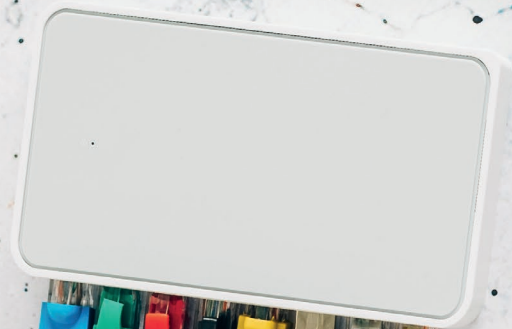
Irina Bokova, *ISC Patron*, Episode 5, 'Preventing Crisis: Science Diplomacy and Track Two Organizations'



AFFILIATED BODIES

The Council is proud of the work that the ISC co-sponsored affiliate bodies achieve, with several working together to fill knowledge gaps for science and society. Their initiatives and programmes, alongside other international organizations, including agencies from the UN system, focus on areas of international research that are of interest to ISC Members. These collaborative programmes on specific themes provide a platform that convenes scientists across disciplines on international science initiatives and to offer policy advice. This transdisciplinary and collaborative approach allows issues to be considered from the broadest possible science perspectives, while minimizing overlap at the global scale.

ISC's affiliated bodies range from thematic organizations to data and information initiatives and monitoring and observation programmes. We highlight some of their major achievements and impacts from 2022 in the following pages.



Thematic Organizations

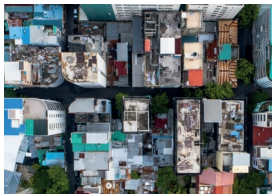


COMMITTEE ON SPACE RESEARCH

In July 2022, the Committee on Space Research (COSPAR) held its first in-person (44th) Scientific Assembly since the pandemic. Held in Athens, the event gathered close to 3,000 participants.

Capacity-building workshops also resumed in

Morocco on space oceanography, and in Chile on planetary sciences data analysis. Both workshops were oversubscribed, showing the critical need for capacity building for early-career scientists. During 2022, the committee proudly launched its inclusiveness, diversity, equity and accessibility (IDEA) policy after appointing an IDEA coordination officer and related panel. Finally, a new Committee on Industry Relations, grouping 18 aerospace companies world-wide, large and small, submitted its first strategic and development plan, aimed at identifying new sources of revenues for COSPAR and increase the synergies between science and space industries.



GLOBAL RESEARCH PROGRAMME ON INEQUALITY

In 2022, the Global Research Programme on Inequality (GRIP) carried out three collaborative research projects exploring dimensions of inequalities. The interdisciplinary inequities

stream, the ‘Speculative Urban Futures’ project, focused on possible urban futures and inequalities, concentrating particularly on multispecies relations in cities and new forms of urban agency in relation to migration. From the political inequalities stream, the ‘Protests and New Forms of Citizenship’ project addressed the recent and ongoing protests and revolutionary movements that challenge political inequalities, and examined the ways citizenship is being

re-negotiated in politically volatile contexts. In the experimental ‘Imaging Inequality’ project, GRIP collaborated with visual artists to represent different dimensions of inequality in specific contexts. GRIP also continued to examine these inequalities in all forms and dimensions through an ongoing mini-series, the podcast ‘Unequal Worlds’, and contributions at numerous academic events.



FUTURE EARTH

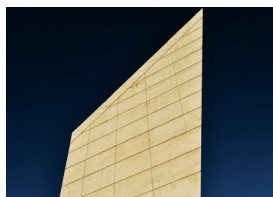
One of the main achievements for Future Earth in 2022 was the launch of 10 New Insights in Climate Science 2022, at COP27 alongside the UNFCCC Executive Secretary. These insights were the result of a collaboration with the World

Climate Research Programme (WCRP), also co-sponsored by the ISC and the Earth League.

Future Earth signed a statement from more than 3,000 biodiversity scientists from 125 countries calling on member state signatories to the UN Biodiversity Conference not to abandon the 2030 deadline for the COP15 negotiations.

Four of Future Earth’s Asian hubs organized the Asia Spotlight Event at the Sustainability Research & Innovation Congress in Pretoria, South Africa, for global sustainability experts from more than 100 countries. Additional high-level representation included participation in the UN Stockholm +50’s letter to the world, alongside the ISC and the Stockholm Environment Institute.

Finally, the Future Earth collaboration with the ISC on the Coalition for Digital Environmental Sustainability programme led to the launch of the ‘Action Plan for a Sustainable Planet in the Digital Age’ report, meant to inform the setting of priorities for the Global Digital Compact outlined in the UN Secretary-General’s report, ‘Our Common Agenda.’



THE INTERNATIONAL NETWORK FOR GOVERNMENTAL SCIENCE ADVICE

The COVID-19 pandemic prompted extensive reflection on science advice. In 2022, INGSA's main achievements have been in continuing to disseminate across its regional network

of chapters the skills, capacities and best practices arising from the pandemic. These chapters, in Latin America and the Caribbean, Asia and Africa, are increasingly recognized in their regions and lead the local development of mechanisms for feeding evidence into policy.

This work has prompted high-profile collaborations with congresses in Latin America, science ministers and academies in Southeast Asia, and a project with the US National Academies of Sciences, Engineering and Medicine on zoonotic spillover in Asia, among others. The African chapter participated in the ISC's Global Knowledge Dialogue held in conjunction with the World Science Forum in December 2022, providing additional inputs to the assembled delegates and the ISC Governing Board on the future of a voice for global science in Africa.

INGSA's focus continued to raise the issue of context-sensitive, yet globally connected, capacity of science advice in all parts of the world, advancing its vision that the most robust knowledge should be provided to the right people at the right time, informing policies that benefit citizens and the common good.



INTEGRATED RESEARCH ON DISASTER RISK

2022 has been an important year of transition for Integrated Research on Disaster Risk (IRDR). A collaborative global research framework

involving the ISC, the UNDRR and the IRDR has been promoted actively through IRDR-supported conferences. The most notable events include: the 7th Session of the Global Platform for Disaster Risk Reduction – the main global forum to assess and discuss progress on the implementation of the Sendai Framework; the 2022 Asia Pacific Science and Technology Conference for Disaster Risk Reduction, the International Conference on the Multi-hazard Early Warning Systems and the 2nd Global Meeting of the Regional Science and Technology Advisory Groups. The IRDR's new concept and strategy for a ten-year Phase II have been established through in-depth consultation between the co-sponsors, donor and host. This second phase of the IRDR is forecast to end in 2031, following the span of the Sendai Framework and other related UN 2030 agreements.



SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

In May 2022, the Scientific Committee on Antarctic Research (SCAR) launched the 'Antarctic Climate Change and the Environment' report during the Antarctic Treaty Consultative

Meeting in Berlin. The report demonstrates that the Antarctic ice sheets are melting, the continent's climate is changing, and the Southern Ocean is warming, becoming more acidic and losing oxygen.

'As part of the global ecosystem, human survival and societal prosperity are directly connected to the global climate. Now that we are exposed to rapid climate change, efforts to find the causes, predictions and mitigation measures of the change become the most urgent tasks facing humans. Climate change and its impact on ecosystem are the fastest and most remarkable in the Arctic, Antarctic and the Southern Ocean, and the change is closely interacting with the Earth's climate system. Therefore,

efforts to protect polar ecosystems and provide science-based evidence and knowledge to the public through research on polar changes are highly important and valuable.'

Yeadong Kim, SCAR President



SCIENTIFIC COMMITTEE ON OCEANIC RESEARCH

The Scientific Committee on Oceanic Research (SCOR) continued to shape modern oceanography by planning and coordinating large-scale ocean research projects and

establishing working groups involving thousands of scientists from all continents. SCOR's large research projects provided knowledge on critical issues affecting the health of the ocean including, marine biogeochemical cycles of trace elements, ocean sustainability in the context of global change, biogeochemical-physical interactions between the ocean and atmosphere, and ocean soundscapes and the effects of sound on marine organisms. In addition to these four thematic programmes, SCOR also launched and coordinated a regional programme on the Indian Ocean processes and how they affect the earth system and human population in the region.

SCOR also supported infrastructural activities related to ocean carbon and ocean acidification, harmful algal blooms, the effects of multi stressors on the marine biota, the coordination of observations in the Southern Ocean, and the relationships between temperature and salinity of seawater.

By the end of 2022, there were around 20 active SCOR international working groups developing and standardizing novel experimental designs, tools and databases, to understand a variety of physical, chemical,

biogeochemical and biological processes associated with ocean research. These projects and working groups have produced thousands of scientific papers, of which the SCOR community directly published almost 1,000. SCOR also promotes and supports networking and training activities across all ocean science disciplines.



SCIENTIFIC COMMITTEE ON SOLAR-TERRESTRIAL PHYSICS

In 2022, the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) strongly promoted scientific and capacity-building activities gathering participants from more than

70 countries to build connections and promote collaboration. Amongst these activities, SCOSTEP provided support enabling 20 scholars to visit host universities and institutions, along with conducting five international schools and providing six online lectures.

Additionally, SCOSTEP organized five international conferences focused on the Predictability of the variable Solar-Terrestrial Coupling project, as well as an active online seminar series and five awards for database development to improve information access. Finally, a scientific comic book series has been translated into more than a dozen languages and is available on the SCOSTEP website.



URBAN HEALTH AND WELLBEING PROGRAMME

The Urban Health and Wellbeing Programme (UHWB), a multidisciplinary science programme hosted by the Institute of Urban Environment's Chinese Academy of Sciences, has developed a systems approach for improving health and wellbeing in cities and engaging with urban communities in the process of creating and transferring knowledge.

In 2022, the UHWB continued to explore new approaches to studying the health of urban populations. The programme also released a series of policy briefs, published in various scientific journals, offering valuable recommendations to support decision-makers. Other activities included the release of a series of podcasts showcasing UHWB-associated experts from international organizations, urban planning and governance thought leaders and urban health scientists sharing their knowledge, insights and outlook on collaborating and implementing an inter- and trans-disciplinary science agenda for cities', peoples' and planetary health.

During July, the UHWB launched its inaugural summer school, from 25 to 30 July, co-organized by the Institute for Ecological Civilization, the Chinese Academy of Sciences and ANSO – the Alliance of International Science Organizations. The summer school's theme asked students to connect the two concepts of urban health and ecological civilization to address the question on 'which role can urban and rural civilizations alike play in safeguarding the health of people, cities and the environment?'

The UHWB also said goodbye to long-time director, Franz W. Gatzweiler, who took on a new role at the United Nations University Institute in Macau.

Yupeng Liu from the Institute of Urban Environment was appointed as an Interim Director for the programme until May 2024.



WORLD CLIMATE RESEARCH PROGRAMME

The work of the WCRP's Core Projects and Lighthouse Activities resulted in several significant outputs and publications in 2022, including new high-end estimates of sea-level rise projections in 2100 and 2300. The Lighthouse Activities, launched in 2021, are designed to provide ambitious and transdisciplinary results that rapidly advance cutting-edge science and technologies.

The WCRP also contributed to the launch of 10 New Insights in Climate Science 2022 (see previous section on Future Earth). And three new WCRP Task Teams were set up to initialize new foci on climate intervention, on linking carbon, energy and water cycles, and on an international Global Precipitation Experiment.

Additionally, significant progress was made towards WCRP's focus on bridging science and society. The Regional Information for Society Core Project developed its first science plan, and the 'My Climate Risk' Lighthouse Activity established eight regional hubs, ensuring a 'bottom-up' approach to regional climate risk. Training and support of early-career scientists continued to be a priority, and preparations for the WCRP Open Science Conference, to take place in Rwanda in 2023, was a major focus of the year.

Data and Information



COMMITTEE ON DATA

In June 2022, the Committee on Data (CODATA) coordinated the launch of the WorldFAIR project, funded by the European Commission. Coordinated by CODATA, with the Research Data Alliance association as a major partner, the WorldFAIR project concentrated its efforts on a set of eleven case studies to advance implementation of the FAIR (findable, accessible, interoperable, reusable) data principles, in particular those for interoperability. The goal is to develop a set of recommendations and a framework for FAIR assessment in a set of disciplines, or cross-disciplinary research areas. Each case study will develop an interoperability framework, recommendations and/or a FAIR implementation from the physical, social, agricultural and environmental sciences and the cultural heritage sector.

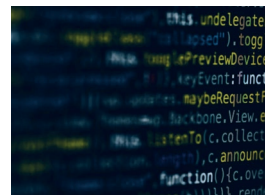
Led by CODATA, a synthesis has been supporting each case study, understanding their requirements through the completion of FAIR implementation profiles. In turn, these insights will be incorporated into the development of a Cross-Domain Interoperability Framework and more domain-sensitive recommendations for FAIR assessment and benchmarks. Building on work carried out since 2017, WorldFAIR is now a central contribution to the ISC's Action Plan 2022–2024 in the areas of 'Making Data Work for Global Grand Challenges' and 'Open Science'.



SCIENTIFIC COMMITTEE ON FREQUENCY ALLOCATIONS FOR RADIO ASTRONOMY AND SPACE SCIENCE

In 2022, the Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF) prepared for the March

2023 International Telecommunications Union Radiocommunication Sector (ITU-R) Conference Preparatory Meeting in Geneva, Switzerland, and the November–December 2023 ITU-R Radio Assembly and World Radiocommunication Conference meetings in Dubai, United Arab Emirates, where the ITU-R Radio Regulations will be revised. IUCAF continued to work with the ITU-R to incorporate protection of radio astronomy in the treaty text of the Radio Regulations. In all, IUCAF submitted 16 documents to ITU-R working parties.



WORLD DATA SYSTEM INTERNATIONAL TECHNOLOGY OFFICE

In 2022, the World Data System International Technology Office (WDS-ITO) launched the POLDER Federated Search (PFS) tool. This tool was created to unify and simplify data

discovery for polar scientists. This federated catalogue is characterized by harmonizing 'dialects' of metadata standards from different organizations, and bridges the gap between data holdings in the Arctic and Antarctic polar research communities. The PFS site was developed by the WDS-ITO in support of the Polar Data Discovery Enhancement Research working group of the Arctic Data Committee, the Standing Committee on Antarctic Data Management (SCADM), and Southern Ocean Observing System (SOOS). SCADM and SOOS are both a part of SCAR. The WDS-ITO is currently working with UNESCO's International Oceanographic Data and

Information Exchange Office to allow the PFS back-end database to accept direct semantic queries from Ocean InfoHub. A full list of repositories that contribute data to the portal can be viewed online, and an article describing the portal is under review by the *Polar Data Journal*.

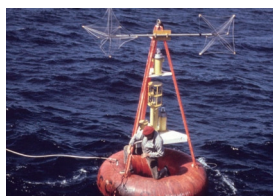
■ Monitoring and Observations



GLOBAL CLIMATE OBSERVING SYSTEM

In 2022, the Global Climate Observing System (GCOS) published its implementation plan, which was presented at COP27. During this critical Conference of Parties, the GCOS also advocated for a high-level statement on

systematic observations in the Sharm el-Sheikh Implementation Plan (Chapter VII). The plan contained 31 recommendations for action, with an exhaustive set of concrete activities, major implementers bodies and methods to assess progress. Together with the updated list of requirements for essential climate variables, the plan will encourage improvements to the global climate observing system.



GLOBAL OCEAN OBSERVING SYSTEM

In 2022, the Global Ocean Observing System (GOOS) made clear advances, taking advantage of several big opportunities to advocate for ocean observing in global conversations.

One of the most influential events was Earth

Information Day - a UNFCCC-organized event at COP27, which was attended by hundreds of negotiators and featured clear messages from UNESCO and other agencies on the need to systematically monitor the

climate. For the first time, the ocean was clearly identified as a gap in the climate conversation, supported by GOOS's work.

Ocean observing was also the topic of the DOALOS-led Informal Consultation Process on Ocean Issues, held in June. GOOS and partner agencies once again conveyed a strong message, highlighting the importance of ocean observations to nations' economies, sustainable development, ability to adapt to climate change, and resilience of coastal communities.

Finally, significant progress was made in developing the Essential Ocean Variables and Best Practices, advancing the three GOOS Ocean Decade programmes and creating a space for potentially transformative collaborations with the private sector through a series of Dialogues with Industry.

FINANCIAL REPORT

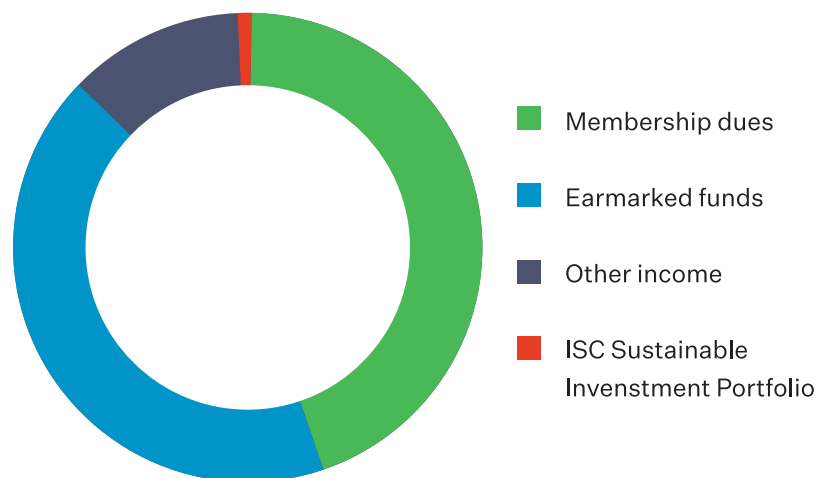
The independent annual audit of the 2022 ISC financial statements was successfully concluded in March 2023, with no remarks by the auditor. With the return of the possibility to meet in person after the COVID-19 pandemic, expenditure on all domains of activity picked up in 2022, with the result that expenditure exceeded income by 99,283 EUR for the year. This was an intended and healthy result, in line with advice from the ISC auditors to reduce the accumulated funds to reflect the ISC's status as a non-profit organization.

Membership dues and returns on the ISC sustainable investment portfolio were lower than expected in 2022, largely as a result of the war in Ukraine. 'Other income', large in 2022, includes canceling provisions on arrears in dues and returning unspent funds after the closure of the Regional Office in Africa.

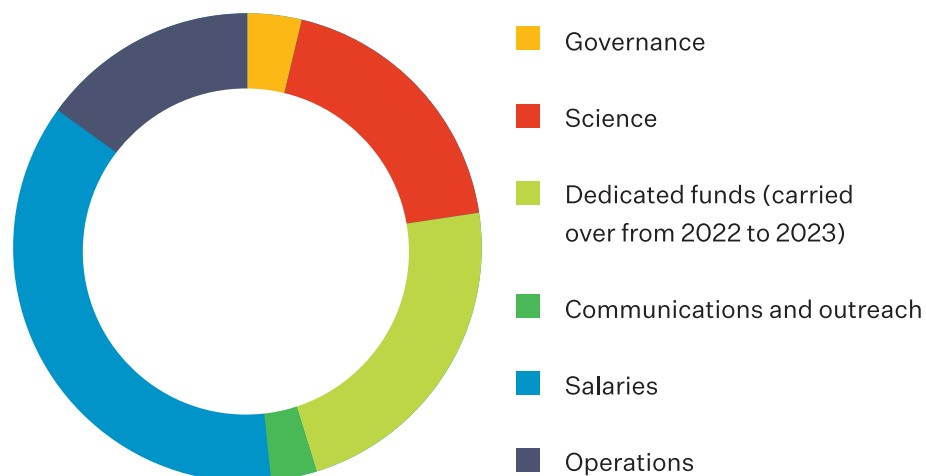
Statement of income and expenditure 2022

Income	Euros
Membership dues	2,754,936
Earmarked funds (grants)	2,573,270
Other income	762,534
Sustainable Investment Portfolio	33,713
Total income	6,124,453
<hr/>	
Expenditure	Euros
Governance activities	234,084
Science activities	1,170,569
Earmarked funds (carried over from 2022 to 2023)	1,422,445
Communications and outreach activities	182,182
Operations & support	932,099
Personnel	2,282,357
Total expenditure	6,223,735
<hr/>	
Excess of expenditure over income	- 99,283

ISC INCOME 2022



ISC EXPENDITURE 2022



Balance Sheet 2022

Assets	Euros
Bank and cash balances	3,241,613
Marketable securities	2,385,793
Others assets	105,001
Fixed assets	63,935
Total assets	5,796,342

Liabilities	Euros
External funds allocated	1,422,444
Sundry creditors & accruals	718,823
Provision / Retirement	204,128
Total liabilities	2,345,395

Reserves	Euros
Mandatory reserve	1,500,000
General fund / Retained earnings	2,050,230
Total reserves	3,550,230

Net Result 2022	- 99,283
Total reserves 1 Jan 2023	3,450,947

ANNEXES

■ Presentation of the ISC Secretariat

LEADERSHIP



Salvatore Aricò
CEO



Mathieu Denis
Senior Director, Centre for Science
Futures



Alison Meston
Director, Communications



Sarah Moore
Director, Operations

SCIENCE



Katsia Paulavets
Senior Science Officer



Megha Sud
Science Officer

The Centre for Science Futures



Dureen Samandar Eweis
Science Officer

Freedom and Responsibility in Science



Vivi Stavrou
CFRS Executive Secretary / Senior
Science Officer



Gustav Kessel
Special Advisor to the Committee
on Freedom and Responsibility in
Science

Global Science Policy Unit



Anne-Sophie Stevance
Senior Science Officer



Anthony "Bud" Rock
Senior Advisor



Anda Popovici
Science Officer



James Waddell
Science & Communications Officer

COMMUNICATIONS AND MEMBERSHIP OUTREACH



Zhenya Tsoy

Senior Communications Officer / Digital Lead



Léa Nacache

Communications Officer



James Waddell

Science & Communications Officer



Anne Thieme

Membership Liaison Officer



Gabriela Ivan

Membership Development Officer



Lizzie Sayer

Senior Communications Officer (former staff member)

OPERATIONS



Natacha de Marchi

Senior Financial Officer



Alexandra Guennec

Senior Officer Human Resources



Miia Ylöstalo-Joubert

Senior Administrative Officer and PA to the CEO



Mayette Geronimo

Financial Officer



Yun-Kang Ahn

IT Officer



Jane Guillier

Administrative Officer



Eric Leparmentier

General Services

■ Governing Board

ISC GOVERNING BOARD OFFICERS



Peter Gluckman (Medicine)

President

Member of the Subcommittee for Finance and Operations



Motoko Kotani (Mathematics)

President-elect

Chair of the Subcommittee for Science

Member of the Subcommittee for Finance and Operations



Sawako Shirahase (Sociology)

Vice-President for Finance

Chair of the Subcommittee for Finance and Operations



Anne Husebekk (Medicine)

Vice-President for Freedom and Responsibility in Science

Chair of the Subcommittee for Freedom and Responsibility in Science



Salim Abdool Karim (Medicine)

Vice-President for Outreach and Engagement

Chair of the Subcommittee for Outreach and Engagement

ISC GOVERNING BOARD ORDINARY MEMBERS



Karina Batthyány (Sociology)

Member of the Subcommittee for Science



Françoise Baylis (Bioethics, philosophy)

Member of the Subcommittee for Freedom and Responsibility in Science



Geoffrey Boulton (Geology)

Member of the Subcommittee for Science



Melody Burkins (Geology, ecosystem studies)

Member of the Subcommittee for Freedom and Responsibility in Science



Mei-Hung Chiu (Chemistry, science education)

Member of the Sub-Committee for Outreach and Engagement



Pamela Matson

(Environmental science)

Member of the Subcommittee for Science



Helena Nader (Biomedical sciences)

Member of the Subcommittee for Science



Walter Oyawa (Civil engineering)

Member of the Sub-Committee for Outreach and Engagement



Maria Paradiso (Geography)

Member of the Sub-Committee for Outreach and Engagement



Martin Visbeck

(Oceanography)

Member of the Subcommittee for Science

■ Composition of the ISC Standing Committees

STANDING COMMITTEE FOR FINANCE

NAME	AFFILIATION	COUNTRY
Sawako Shirahase (Chair)	ISC Vice-President for Finance; University of Tokyo	Japan
Peter Gluckman	ISC President; Kōi Tū: The Centre for Informed Futures at the University of Auckland	New Zealand
Salvatore Aricò	ISC CEO	France
Jisoon Lee	Seoul National University	Republic of Korea
Isabel Varela-Nieto	Spanish National Research Council (CSIC)	Spain

STANDING COMMITTEE FOR FREEDOM AND RESPONSIBILITY IN SCIENCE

NAME	AFFILIATION	COUNTRY
Anne Husebekk (Chair)	Vice-President for Freedom and Responsibility in Science; Arctic University of Norway	Norway
Françoise Baylis (Vice-chair)	ISC Governing Board; Dalhousie University	Canada
Melody Burkins	ISC Governing Board; Dartmouth College	USA
Saths Cooper	Pan-African Psychology Union	South Africa
Robert French	Retired Chief Justice; University of Western Australia	Australia
GONG Ke	Nankai University	China
Robin Grimes	Imperial College London; Royal Society	UK
Karly Kehoe	Saint Mary's University	Canada
Staffan Lindberg	University of Gothenburg	Sweden
Roy MacLeod	Emeritus, University of Sydney	Australia
Joyce Nyoni	University of Dar es Salaam	Tanzania
Sayaka Oki	University of Tokyo	Japan
Krushil Watane	Massey University	New Zealand

STANDING COMMITTEE FOR OUTREACH AND ENGAGEMENT

NAME	AFFILIATION	COUNTRY
Salim Abdool Karim (Chair)	Vice-President for Outreach and Engagement; Centre for the AIDS Programme of Research in South Africa (CAPRISA)	South Africa
Mei-Hung Chiu (Vice-chair)	ISC Governing Board; National Taiwan Normal University	Chinese Taipei
Walter Oyawa	ISC Governing Board; National Commission for Science, Technology & Innovation (NACOSTI)	Kenya
Maria Paradiso	ISC Governing Board; University of Naples Federico II	Italy
John Hildebrand	Emeritus, University of Arizona; US National Academy of Sciences	USA
María Estelí Jarquín	Universidad de Costa Rica	Costa Rica
Naim Akhtar Khan	National Institute for Health and Medical Research (INSERM)	France
Jahnavi Phalkey	Science Gallery Bengaluru	India
Magdalena Stoeva	International Organization for Medical Physics	Bulgaria

STANDING COMMITTEE FOR SCIENCE PLANNING

NAME	AFFILIATION	COUNTRY
Motoko Kotani (Chair)	ISC Vice-President for Science and Society; Tohoku University	Japan
Karina Batthyany (Vice-chair)	ISC Governing Board; Latin American Council of Social Sciences; University of the Republic, Uruguay	Uruguay
Geoffrey Boulton	ISC Governing Board; Emeritus, University of Edinburgh	UK
Pamela Matson	ISC Governing Board; Stanford University	USA
Helena Nader	ISC Governing Board; Federal University of São Paulo (UNIFESP)	Brazil
Martin Visbeck	ISC Governing Board; GEOMAR Helmholtz Centre for Ocean Research Kiel; Kiel University	Germany
Eva Alisic	University of Melbourne	Australia
Dieter Armbruster	Emeritus, Arizona State University	Germany/US
Alan Bernstein	Canadian Institute for Advanced Research	Canada
Naoko Ishii	University of Tokyo	Japan
Asma Ismail	Academy of Sciences Malaysia	Malaysia
Lluis Mir	Emeritus, Centre National de la Recherche Scientifique	France
Sandra Mitchell	University of Pittsburgh	US
Barend Mons	ISC Committee on Data (CODATA); Leiden University	Netherlands
Adebayo Olukoshi	Formerly CODESRIA and International IDEA	Nigeria
Ekrem Tatoglu	Ibn Haldun University	Turkey
Waceke Wanjohi	Kenyatta University	Kenya
Yongguan Zhu	Chinese Academy of Sciences	China

■ List of members in 2022

At the end of 2022, the ISC had 43 Full Members in Category 1 (international scientific Unions and Associations), 141 Full Members in Category 2 (academies of sciences, research councils or analogous not-for-profit scientific bodies representing a broad spectrum of scientific fields or disciplines in a country, region, territory or globally) and 40 Members in Category 3 (Affiliated Members).

- Africa, African Academy of Sciences (AAS)
- Albania, Academy of Sciences (ASA)
- Angola, Foundation of Science and Development
- Arab Council for the Social Sciences (ACSS)
- Argentina, National Scientific and Technological Research Council (CONICET)
- Armenia, National Academy of Sciences of the Republic of Armenia (NAS RA)
- Association of Academies and Societies of Sciences in Asia (AASSA)
- Association of Asian Social Science Research Councils (AASSREC)
- Association of Science and Technology Centers (ASTC)
- Australia, Academy of the Social Sciences in Australia (ASSA)
- Australia, Australian Academy of Science
- Austria, Austrian Academy of Sciences (ÖAW)
- Azerbaijan, Azerbaijan National Academy of Sciences (ANAS)
- Bangladesh, Bangladesh Academy of Sciences (BAS)
- Barcelona Science and Technology Diplomacy Hub (SciTech DiploHub)
- Belarus, National Academy of Sciences (NASB)
- Belgium, Royal Academies for Science and the Arts of Belgium (RASAB)
- Benin, National Academy of Sciences, Arts and Letters (ANSALB)
- Bolivia, National Academy of Sciences of Bolivia (ANCB)
- Bosnia & Herzegovina, Academy of Sciences and Arts of Bosnia and Herzegovina (ANUBiH)
- Bosnia & Herzegovina, Academy of Sciences and Arts of the Republic of Srpska (ANURS)
- Botswana, Ministry of Tertiary Education, Research, Science and Technology
- Brazil, Brazilian Academy of Sciences (ABC)
- Brazil, National Association of Graduate Studies and Research in Social Sciences (ANPOCS)
- Bulgaria, Bulgarian Academy of Sciences (BAS)
- Burkina Faso, National Center for Scientific and Technological Research (CNRST)
- Cameroon, Cameroon Academy of Sciences (CAS)
- Canada, National Research Council of Canada (NRC)
- Caribbean, Caribbean Academy of Sciences (CAS)
- Chile, Chilean Academy of Sciences
- China, Academy of Sciences located in Taipei
- China, Association for Science and Technology (CAST)
- China, Chinese Academy of Social Sciences (CASS)
- Colombia, Colombian Academy of Exact, Physical and Natural Sciences (ACCEFYN)
- Costa Rica, National Academy of Sciences (ANC)
- Côte d’Ivoire, Academy of Sciences, Arts, African Cultures and Diasporas (ASCAD)
- Council for the Development of Social Science Research in Africa (CODESRIA)
- Consortium of Humanities Centers and Institutes (CHCI)
- Cuba, Academy of Sciences

- Czech Republic, Czech Academy of Sciences
- Democratic Republic of Congo, Congolese Academy of Sciences (ACCOS)
- Denmark, Royal Danish Academy of Sciences and Letters
- Dominican Republic, Academy of Sciences of the Dominican Republic
- Egypt, Academy of Scientific Research and Technology (ASRT)
- El Salvador, Viceministerio de Ciencia y Tecnología de El Salvador
- Estonia, Estonian Academy of Sciences
- Eswatini, National Research Council
- European Association of Development and Training Institutes (EADI)
- European Consortium for Political Research (ECPR)
- Facultad Latinoamericana de Ciencias Sociales (FLACSO)
- Finland, Council of Finnish Academies
- France, Académie des Sciences
- Georgia, Georgian Academy of Science
- Germany, Deutsche Forschungsgemeinschaft (DFG)
- Ghana, Ghana Academy of Arts & Sciences (GAAS)
- Global Young Academy (GYA)
- Greece, Academy of Athens
- Guatemala, Academia de Ciencias Médicas, Físicas y Naturales
- Honduras, National Academy of Sciences of Honduras
- Hungary, Eötvös Loránd Research Network (ELKH)
- Hungary, Hungarian Academy of Sciences (MTA)
- India, Indian Council of Social Science Research (ICSSR)
- India, Indian National Science Academy (INSA)
- Indonesia, National Research and Innovation Agency Badan Riset dan Inovasi Nasional (BRIN)
- Institute for Global Environmental Strategies (IGES)
- International Arctic Science Committee (IASC)
- International Arctic Social Sciences Association (IASSA)
- International Association of Applied Psychology (IAAP)
- International Association of Legal Science (IALS)
- International Astronomical Union (IAU)
- International Cartographic Association (ICA)
- International Commission for Acoustics (ICA)
- International Commission for Optics (ICO)
- International Commission on Illumination (CIE)
- International Consortium of Research Staff Associations (ICoRSA)
- International Council for Industrial and Applied Mathematics (ICIAM)
- International Council for Laboratory Animal Science (ICLAS)
- International Council for Scientific and Technical Information (ICSTI)
- International Economic Association (IEA)
- International Federation for Information Processing (IFIP)
- International Federation of Data Organizations for Social Science (IFDO)
- International Federation of Library Associations and Institutions (IFLA)
- International Federation of Societies for Microscopy (IFSM)
- International Federation of Surveyors (FIG)
- International Foundation for Science (IFS) International Geographical Union (IGU)
- International Institute for Applied System Analysis (IIASA)
- International Mathematical Union (IMU)
- International Network for Advancing Science and Policy (INASP)
- International Peace Research Association (IPRA)
- International Political Science Association (IPSA)
- International Society for Digital Earth (ISDE)
- International Society for Ecological Economics (ISEE)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- International Society for Porous Media (InterPore)

- International Sociological Association (ISA)
- International Statistical Institute (ISI)
- International Studies Association (ISA)
- International Union for History and Philosophy of Science and Technology (IUHPST)
- International Union for Physical and Engineering Sciences in Medicine (IUPESM)
- International Union for Pure and Applied Biophysics (IUPAB)
- International Union for Quaternary Research (INQUA)
- International Union for the Scientific Study of Population (IUSSP)
- International Union for Vacuum Science, Technique and Applications (IUVSTA)
- International Union of Academies (UAI)
- International Union of Basic and Clinical Pharmacology (IUPHAR)
- International Union of Biochemistry and Molecular Biology (IUBMB)
- International Union of Biological Sciences (IUBS)
- International Union of Crystallography (IUCr)
- International Union of Food Science and Technology (IUFoST)
- International Union of Forest Research Organizations (IUFRO)
- International Union of Geodesy and Geophysics (IUGG)
- International Union of Geological Sciences (IUGS)
- International Union of Immunological Societies (IUIS)
- International Union of Materials Research Societies (IUMRS)
- International Union of Microbiological Societies (IUMS)
- International Union of Nutritional Sciences (IUNS)
- International Union of Physiological Sciences (IUPS)
- International Union of Psychological Science (IUPsyS)
- International Union of Pure and Applied Chemistry (IUPAC)
- International Union of Pure and Applied Physics (IUPAP)
- International Union of Radio Science (URSI)
- International Union of Soil Sciences (IUSS)
- International Union of Speleology (UIS)
- International Union of Theoretical and Applied Mechanics (IUTAM)
- International Union of Toxicology (IUTOX) International Water Association (IWA)
- Iran, Islamic Rep. of, University of Tehran
- Iraq, Ministry of Science and Technology
- Ireland, Royal Irish Academy
- Islamic World Academy of Sciences (IAS)
- Israel, Israel Academy of Sciences and Humanities
- Italy, Consiglio Nazionale delle Ricerche (CNR)
- Jamaica, Scientific Research Council (SRC)
- Japan, Science Council of Japan (SCJ)
- Jordan, Royal Scientific Society (RSS)
- Kazakhstan, National Academy of Sciences of the Republic of Kazakhstan (NAS RK)
- Kenya, Kenya National Academy of Sciences (KNAS)
- Kenya, National Commission for Science, Technology and Innovation (NACOSTI)
- Korea, Democratic People’s Republic of, State Academy of Sciences
- Korea, Republic of, Korean Academy of Science and Technology (KAST)
- Korea, Republic of, Korean Social Science Research Council (KOSSREC)
- Korea, Republic of, National Academy of Sciences of the Republic of Korea
- Lao PDR, Lao National Science Council
- Latin American Council of Social Sciences (CLACSO)
- Latvia, Latvian Academy of Sciences

- Lebanon, National Council for Scientific Research (CNRS-L)
- Lesotho, Department of Science and Technology
- Lithuania, Lithuanian Academy of Sciences
- Luxembourg, Fonds National de la Recherche (FNR)
- Madagascar, Ministère de l’Enseignement Supérieur et de la Recherche Scientifique
- Malawi, National Commission for Science and Technology
- Malaysia, Academy of Sciences Malaysia
- Marie Curie Alumni Association (MCAA)
- Mauritius, Mauritius Academy of Science (MAST)
- Mexico, Academia Mexicana de Ciencias
- Mexico, Consejo Mexicano de Ciencias Sociales (COMECOSO)
- Moldova, Academy of Sciences of Moldova
- Monaco, Centre Scientifique de Monaco
- Mongolia, Mongolian Academy of Sciences
- Montenegro, Montenegrin Academy of Sciences and Arts
- Morocco, Hassan II Academy of Sciences and Technology
- Mozambique, Scientific Research Association of Mozambique (AICIMO)
- Namibia, National Commission on Research, Science and Technology (NCRST)
- Nepal, Nepal Academy of Science and Technology (NAST)
- Netherlands, Koninklijke Nederlandse Akademie van Wetenschappen (KNAW)
- New Zealand, Royal Society Te Apārangi
- Nigeria, Nigerian Academy of Science
- North Macedonia, Macedonian Academy of Sciences and Arts
- Norway, Norwegian Academy of Sciences and Letters
- Norway, University of Bergen (UiB)
- Oman, Ministry of Higher Education, Research and Innovation
- Organization for Social Science Research in Eastern and Southern Africa (OSSREA)
- Organization for Women in Science for the Developing World (OWSD)
- Pacific Science Association (PSA)
- Pakistan, Pakistan Association for the Advancement of Science (PAAS)
- Panama, Universidad de Panama (UP)
- Peru, Academia Nacional de Ciencias (ANC)
- Philippines, National Research Council of the Philippines (NRCP)
- Philippines, Philippine Social Science Council (PSSC)
- Poland, Polish Academy of Sciences
- Portugal, Academia das Ciencias de Lisboa
- Romania, Academia Româna
- Russian Federation, Russian Academy of Sciences (RAS)
- Rwanda, Kigali Institute of Science and Technology (KIST)
- Saudi Arabia, King Abdulaziz City for Science and Technology (KACST)
- Scientific Committee of Problems of the Environment (SCOPE)
- Senegal, Senegal Academy of Science and Technology (ANSTS)
- Serbia, Serbian Academy of Sciences and Arts
- Seychelles, Seychelles National Parks Authority
- Singapore, Singapore National Academy of Science (SNAS)
- Slovak Republic, Slovak Academy of Sciences (SAS)
- Slovenia, Slovenian Academy of Sciences and Arts (SASA)
- Social Science Research Council (SSRC)
- Society for Social Studies of Science (4S)
- Society for the Advancement of Science in Africa (SASA)
- Somalia, Somali Natural Resource Research Center (SONRREC)
- South Africa, Human Sciences Research Council of South Africa (HSRC)
- South Africa, National Research Foundation (NRF)
- Spain, Ministry for Science and Innovation (MCIN)

- Sri Lanka, National Science Foundation (NSF)
- Sudan, National Centre for Research (NCR)
- Sweden, Royal Swedish Academy of Sciences
- Switzerland, Swiss Academy of Humanities and Social Sciences
- Switzerland, Swiss Academy of Sciences (SCNAT)
- Tajikistan, National Academy of Sciences of Tajikistan (NAST)
- Tanzania, Tanzania Commission for Science and Technology
- Thailand, National Research Council of Thailand
- The University of the South Pacific (USP)
- The World Academy of Sciences (TWAS)
- Togo, Chancellerie des Universités du Togo
- Transnational Institute (TNI) Tunisia
- Turkey, Science Academy – Bilim Akademisi
- Turkey, Turkish Academy of Sciences (TÜBA)
- Uganda, Uganda National Council for Science and Technology (UNCST)
- Ukraine, National Academy of Sciences (NAS)
- United Kingdom, The British Academy
- United Kingdom, The Royal Society
- United States, National Academy of Sciences (NAS)
- Université Tunis El Manar
- University of the Arctic (UArctic)
- Uruguay, Comisión Consejo Nacional de Innovación Ciencia y Tecnología (CONICYT)
- Uzbekistan, Academy of Sciences of the Republic of Uzbekistan
- Vatican City State, Pontifical Academy of Sciences
- Venezuela, Fondo Nacional de Ciencia, Tecnología e Innovación (FONACIT)
- Vietnam, Vietnam Union of Science and Technology Associations

(VUSTA)

- World Anthropological Union (WAU)
- World Association for Public Opinion Research (WAPOR)
- Zambia, Zambia Academy of Sciences (ZaAS)
- Zimbabwe, Research Council of Zimbabwe (RCZ)

■ List of publications in 2022

Twelve different publication publications were launched in 2022, with diverse themes reflecting s were launched in 2022, with diverse themes that reflect the complex risks facing societies today.

- Allen, K. Denis, M. Gluckman, P. Quirion, R. 2022. *Principles and Structures of Science Advice: An outline*. Paris, International Science Council.
- Drury, L. 2022. *The normalization of preprints*. Paris, International Science Council.
- International Science Council. 2022. *Briefing Note on Systemic Risk*. Paris, International Science Council.
- International Science Council. 2022. *Conference on the Ukraine Crisis: Responses from the European higher education and research sectors*. Paris, France, International Science Council.
- International Science Council. 2022. *Introductory Brochure*. Paris, France, International Science Council.
- International Science Council, 2022. *Unprecedented & Unfinished: COVID-19 and Implications for National and Global Policy*. Paris, France, International Science Council.
- International Science Council. 2022. *Policy Brief: Closing the gap*

between science and practice at local levels to accelerate disaster risk reduction. Paris, France, International Science Council.

- International Science Council. 2022. *Policy Brief: Harnessing data to accelerate the transition from disaster response to recovery.* Paris, France, International Science Council.
- International Science Council. 2022. *Policy Brief: Using UNDRR/ISC Hazard Information Profiles to manage risk and implement the Sendai Framework for Disaster Risk Reduction.* Paris, France, International Science Council.
- Scientific and Technological Community Major Group. 2022. *Position paper for the 2022 High-level Political Forum: Building back better from the coronavirus disease (COVID-19) while advancing the full implementation of the 2030 Agenda for Sustainable Development.* Paris, France, International Science Council.

■ Glossary

CBD – Convention on Biological Diversity

CEO – Chief Executive Officer

CFRS – Committee for Freedom and Responsibility in Science

CODATA - Committee on Data

COSPAR - Committee on Space Research

DRR – Disaster Risk Reduction

ESOF – Euro Science Open Forum

GB – Governing Board

GCOS – Global Climate Observing System

GKD – Global Knowledge Dialogue

GSDR – Global Sustainable Development Report

HLPF – Political Forum

IDEA – Inclusiveness, Diversity, Equity and Accessibility

INGSA – International Network for Governmental Science Advice

IRDR – Integrated Research on Disaster Risk

ISC – International Science Council

ISSC – International Social Science Council

IUBS – International Union of Biological Sciences

LIRA – Leading Integrated Research for Agenda

MoU – Memorandum of Understanding

PFS – POLDER Federated Search

RFP-AP – Regional Focal Point for Asia and the Pacific

RFP-LAC – Regional Focal Point for Latin America and the Caribbean

SCADM – Standing Committee on Antarctic Data Management

SCAR – Scientific Committee on Antarctic Research

SCOR – Scientific Committee on Oceanic Research

SDGs – Sustainable Development Goals

SOOS – Southern Ocean Observing System

STI – Science Technology and Innovation

STM – Scientific, Technical and Medical

TAG – Technical Advisory Group

UN – United Nations

UNDESA – United Nations Department of Economic and Social Affairs

UNDP – United Nations Development Programme

UNDRR – United Nations Office for Disaster Risk Reduction

UNEP – United Nations Environment Programme

UNESCO – United Nations Educational, Scientific and Cultural Organization

UNFCCC - United Nations Framework Convention on Climate Change

WCRP – World Climate Research Programme

WHO – World Health Organization

■ Photo credits

Front cover: “Starlings shaping a giant bird” by Daniel Biber © Daniel Biber/ www.danielbiber.com

Page 8: Dr Salvatore Aricò - Salim Abdool Karim, ISC Vice-President for Outreach and Engagement - Delegates at the International Science Council’s Global Knowledge Dialogue at the Cape Town International Conference Centre as part of the World Science Forum 2022.
Image: Matthew Jordaan / International Science Council

Page 10: “Maize root” by Dr. Keith Wheeler / Science Photo Library. Light micrograph of a section through the root of a maize plant (*Zea mays*) showing a vascular cylinder.

Page 14: Meeting in the UN Assembly Hall during the UN 2023 Water Conference, Headquarters of the United Nations in New York, USA.
Image: James Waddell / International Science Council.

Page 17: Image by UN Ukraine via Flickr.

Page 18: Dr. Tedros Adhanom Ghebreyesus, Director-General of WHO, and Sir Peter Gluckman, ISC President. Image by World Health Organization

Page 19: A general view shows Serbian military personal setting up beds inside a hall at the Belgrade Fair to accommodate people suffering from mild symptoms of the coronavirus disease (COVID-19) on March 24, 2020. Image: Vladimir Zivojinovic / AFP

Page 20 – 21: People wearing boots at St. Mark’s Square, Venezia, Italy.
Image by Jonathan Ford via Unsplash.

Page 22: Image by Roberto Nickson via Unsplash.

Page 23: New York skyline. Image by Julien Maculan via Unsplash.

Page 26: Delegates in attendance at the International Science Council’s Global Knowledge Dialogue at the Cape Town International Conference Centre as part of the World Science Forum 2022. Image by Matthew Jordaan / International Science Council

Page 30: Renée van Kessel Hagesteijn with ISC Communications Director, Alison Meston, during the EuroScience Forum. Image by the International Science Council.

Page 32 – 33:

Dr Monika Kamkuemah at the International Science Council’s Global Knowledge Dialogue.

Sir Peter Gluckman - Delegates at the International Science Council’s Global Knowledge Dialogue.

Gabriela Ramos, Assistant Director-General for Social and Human Sciences, UNESCO, at the SCIENCE FOR HUMAN DIGNITY - WHAT ROLE FOR SCIENCE IN FIGHTING POVERTY, UNEMPLOYMENT, INEQUALITY AND EXCLUSION session at the Cape Town International Conference Centre as part of the World Science Forum 2022.

Delegates in attendance at the International Science Council’s Global Knowledge Dialogue.

Kevin Govender at Cape Town International Conference Centre as part of the World Science Forum 2022.

Elizabeth Bandason, Senior Lecturer in Entomology, Lilongwe University of Agriculture, at the GETTING WOMEN INTO ACADEMIES AND SCIENTIFIC LEADERSHIP: MENTORING WORKS session.

All images by Matthew Jordaan / International Science Council at the Cape Town International Conference Centre as part of the World Science Forum 2022.

Page 35: Maria Ivanova and Martin Visbeck, ISC Fellows at the launch of the ISC Fellowship in Paris. Image by International Science Council.

Page 36: Calligrapher at work during the ISC Fellowship launch in Paris. Image by James Waddell / International Science Council.

Page 39: Image by Brett Zeck via Unsplash.

Page 40: Image by Carmel Arquelau via Unsplash,

Page 42: Image by Sonika Agarwal via Unsplash.

Page 43: Image by Beks via Unsplash

Page 44: Image by J. Balla Photography via Unsplash.

Page 48: Photo taken during the 2019 LIRA 2030 Annual Research Programme that took place in Dakar, Senegal, from 24-28 March 2019. Image by International Science Council.

Page 50: Photo taken during the 2019 LIRA 2030 Annual Research Programme that took place in Dakar, Senegal, from 24-28 March 2019. Image by International Science Council.

Page 53: Mosaic of pictures taken at the Transformations to Sustainability final programme meeting, 15-17 November 2022. Images by International Science Council.

Page 54: Canoe boat trip on Sandoval Lake, Tambopata National Reserve, Amazon Jungle of Peru, South America. Image by Matthew via Adobe Stock.

Page 56: Astrostays established at the Phyang Monastery in Ladakh, India by OAD's implementation partner, the Global Himalayan Expedition. Image by Office of Astronomy for Development (OAD).

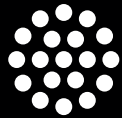
Page 60: Image by kili wei via Unsplash.

Page 62: Image by Derek Thomson via Unsplash.

Page 64: Image by Nareeta Martin via Unsplash.

Disclaimer: Thank you for taking the time to read our annual report. As an organization, we are committed to minimizing our impact on the environment and usually only produce digital documents. However, we wanted to celebrate our in-person reunion with this annual report. To reduce our impact, we have made every effort to produce this report using sustainable materials. The paper used in this report is made from sustainable paper certified by the Programme for the Endorsement of Forest (PEFC). PEFC certification ensures that the paper comes from responsibly and locally managed forests that provide environmental, social, and economic benefits.





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