

Science and the SDGs: the role of academies

IAP Triennial Conference 2019

ANNOTATED AGENDA

Objectives of conference:

1. to understand the role of science in supporting the UN's Sustainable Development Goals (SDGs), the imperative for the global science community to support them, and the transformation in science required to realize them;
2. to look at how national science academies are supporting the implementation of the SDGs, what they can learn from this process and from each other;
3. to explore opportunities for engagement in the UN system;
4. to consider how academies can respond to increasing demands and expectations placed on the science community;
5. to explore two thematic case studies as learning tools for engaging with the SDGs;
6. to agree a set of actions that academies can implement in their own national and regional contexts.

9 APRIL 2019

Objective: Our moderators, Professor Ryan Song and Dr Ed Gerstner, will introduce themselves, and our generous host, KAST (Professor Min-Koo Han) and convenors, IAP (Professors Volker ter Meulen and Depei Liu), who will then welcome all participants to the conference and set out the broad objectives for the next two days.

9:00-9:15	Opening Ceremony	Professor Min-Koo Han , President, KAST Professor Volker ter Meulen and Professor Depei Liu , Co-Presidents IAP
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SESSION 1: PUTTING SCIENCE AND THE SDGS IN PERSPECTIVE

Moderators: Professor Ryan (Seryeon) Song, Kyung Hee University and Dr. Ed Gerstner (Director of Journal Policy and Strategy, Springer Nature)

Objective 1: to understand the role of science in supporting the UN's Sustainable Development Goals (SDGs), the imperative for the global science community to support them, and the transformation in science required to realize them.

Format: a keynote and three speakers, followed by Q&A and open discussion with all conference participants.

Questions for all participants to consider:

- How must science respond to the changing nature of global challenges and to policymaking that is fit-for-purpose to address to them?
- What does reported progress on the SDGs tell us about challenges, capacities, complexities and priorities, and how these compare geographically?
- Do we have reliable ways of measuring the impact of science on finding solutions to meet the SDGs?
- How can the academies uniquely contribute to the global science community effort to support the SDGs?
- What have the academies learned from the IAP project focusing on the SDGs?

9:15-10:00	KEYNOTE: How can the global science community meet the challenge of the Sustainable Development Goals?	Professor Jacquie McGlade , Professor of Resilience and Sustainable Development, University College London, and Former UNEP Chief Scientist
10:00-10:15	Harnessing STI for the SDGs	Dr. E. William Colglazier , Editor-in-Chief of Science & Diplomacy
10:15-10:30	The IAP project "Improving scientific input to global policymaking"	Professor Eva Alisic , IAP Project Co-Chair, the IAP SDGs project
10:30-11:00	Discussion	
11:00-11:30	COFFEE BREAK & PHOTOGRAPH	

SESSION 2: THE ROLE OF ACADEMIES IN SUPPORTING THE SDGS: WHAT CAN WE LEARN FROM EACH OTHER?

Moderators: Professor Ryan Song and Dr Ed Gerstner

Objective 2: to explore how national science academies are supporting the implementation of the SDGs, what they can learn from this process and from each other.

Format: 5-minute reflections, followed by moderated panel discussion, Q&A and open discussion with all conference participants, including from other academies who have interesting examples to share.

Academy representatives ("case studies") each to address:

- How their academy is engaging with the SDGs;
- How this was initiated;
- How they are engaging their membership;
- The anticipated (potential) impact of this engagement;
- What their academy is learning.

Questions for all participants to consider:

- What are the key challenges, opportunities and lessons learned from current engagement on the SDGs?
- What are the necessary requirements for academy engagement (nationally and regionally)?
- Could any of these examples apply to other academy contexts, or do they spark other ideas for ways of engaging? If not, what is preventing this?
- How can communication and collaboration between basic scientists, applied scientists, engineers, social scientists, policy makers and business be improved?

11.30-13.00	National case studies in the Americas	Professor Roberto Williams , President, National Academy of Exact, Physical and Natural Sciences, Argentina Professor Luiz Davidovich , President, Brazilian Academy of Sciences
	National case studies in Africa	Professor Himla Soodyall , Executive Officer, Academy of Science of South Africa (ASSAf)
	National case studies in Asia	Professor Ranjith Mahindapala , President, National Academy of Sciences, Sri Lanka Professor Hye-Yeong Chun , KAST
	EASAC and the Sustainable Development Goals	Professor Thierry Courvoisier
	Engaging with the SDGs: a Global Young Academy perspective	Professor Yoko Shimpuku , Associate Professor, Kyoto University, Japan
	Discussion	
13.00-14.00	LUNCH	

SESSION 3: OPPORTUNITIES FOR ENGAGEMENT IN THE UN SYSTEM

Moderators: Professor Ryan Song and Dr. Ed Gerstner

Objective 3: to explore opportunities for engagement in the UN system.

Format: three speakers, followed by Q&A and open discussion with all conference participants.

Questions for all participants to consider:

- How can the academies best support existing processes/mechanisms for applying science to the SDGs?
- Where are the most fruitful entry points in the UN system for the academies to engage optimally?
- What/where are the challenges and opportunities for engaging in these processes?

14.00-14.20	The collaboration of the Korean academies with UNFCCC to support the implementation of SDG5 and SDG13	Dr. Changmo Sung , Visiting Professor, Korea University
14.20-14.40	Working with UN Regional Commissions	Dr. Katinka Weinberger , Chief, Environment and Development Policy, UN Economic and Social Commission for Asia and the Pacific (UNESCAP)
14.40-15.00	Pathways to policy: Science in and for the UN	Dr. Heide Hackmann , CEO, International Science Council
15.00-15.30	Discussion	
15.30-16.00	COFFEE BREAK	

SESSION 4: HOW CAN ACADEMIES BETTER RESPOND TO THESE OPPORTUNITIES?

Moderators: Professor Ryan Song and Dr. Ed Gerstner

Objective 4: to consider how academies can respond to increasing demands and expectations placed on the science community.

Format: three speakers, followed by Q&A and open discussion with the floor.

Additional reference material: Merit-based academies in the 21st century: a think piece.

Questions for all participants to consider:

- How should academies respond to new and increasing demands and expectations of the science community?
- Are academies as fit-for-purpose as they could be? If not, what needs to change?
- What can senior and young academies and their members learn from each other?

<ul style="list-style-type: none"> How will academies go about prioritising the objectives set out in the new IAP Strategic Plan? Which objectives speak most loudly to members? Is there a role for the academies to facilitate collaboration between basic scientists, applied scientists, engineers, social scientists, practitioners, policy makers, entrepreneurs and other civic stakeholders? 		
16.00-16.20	How can academies continue to be relevant in a fast-changing world?	Dr. Tracey Elliott , Project Director, IAP Research Carnegie Project
16.20-16.40	The philosophy and practice of the young academies	Professor Tolu Oni , Co-Chair, Global Young Academy
16.40-17.00	IAP's strategic plan: an inter-academy road map to 2030?	Dr. Teresa Stoepler , Executive Director, IAP for Research, and Dr. Peter McGrath , Coordinator IAP
17.00-17.30	Discussion	
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SESSION 5: THEMATIC CASE STUDY 1: IAP FOOD & NUTRITION SECURITY & AGRICULTURE (FNSA)

Moderators: Professor Mohamed Hassan (President, Sudanese National Academy of Sciences) and D.r Ed Gerstner

Objective 5(a): to discuss key conclusions from IAP's FNSA interregional project and to explore as a learning tool for engaging with the SDGs.

Note: in this case study, both technological *and* social (or behavioral) solutions are needed to inform policy.

Format: four speakers, followed by Q&A and open discussion with the floor.

Questions for all participants to consider:

- What do you view as the strongest messages for SDGs from this project? What is still controversial for FNSA? What FNSA knowledge gaps need to be filled?
- Where has the FNSA project received particular attention, and how has this been effected (evidence of impact)?
- To what extent and how can academies account for, and help influence, technological and/or social change?
- What lessons can be learned from the FNSA project – globally, regionally and nationally – in terms of content and design, perhaps especially in terms of interdependencies/ interactions between SDGs?
- What criteria should be applied for any next IAP interregional project?

9.00-9.10	Introduction	Professor Mohamed Hassan President, Sudanese National Academy of Sciences
9.10-9.30	Food and Nutrition Security and Agriculture report	Dr. Robin Fears , Director, Biosciences Programme, EASAC
9.30-9.50	Network of African Science Academies (NASAC)	Professor Sheryl Hendriks , Institute for Food, Nutrition and Well-being, University of Pretoria
9.50-10.10	Food and Nutrition Security and Agriculture: Perspectives from Asia	Professor Paul J. Moughan , Distinguished Professor, Massey University
10.10-10.40	COFFEE BREAK	
10.40-11.00	Food Security Prospective and Strategic Plan for Korea	Professor Hyun Jin Park , Dept. of Biotechnology, School of Life Sciences & Biotechnology, Korea University
11.00-11.20	Food and Nutrition Security and Agriculture: the IANAS report	Professor Jeremy McNeil , Co-chair, IANAS
11.20-12.00	Discussion	
12.00-13.15	LUNCH	

SESSION 6: THEMATIC CASE STUDY 2: ARTIFICIAL INTELLIGENCE (AI)

Moderators: Professor Peggy Hamburg (Foreign Secretary, US National Academy of Medicine) and Professor Ryan Song

Objective 5(b): The development of AI represents a seminal event in human history, but much about it remains poorly understood and how its transformative potential will be applied remains to be determined. This session will examine opportunities to drive innovation and application in ways that will improve lives and support the SDGs in several key areas, while recognizing concerns about what this evolving technology may mean for the future of jobs, ethics and privacy, worsening inequality and other perceived threats.

Format: four speakers, followed by Q&A and open discussion with all conference participants.

Questions for all participants to consider:

<ul style="list-style-type: none"> • How can academies help support safe, trusted development of AI technologies, that maximize opportunities for beneficial applications and reduce likelihood of threats and misapplication? • How can we better ensure equitable access to the benefits of these evolving capabilities? • Can/should academies work with key stakeholders like policymakers, the public, industry and the media to enhance understanding and drive sound, data-driven policies and programs? • How can the academies help identify important opportunities to apply AI approaches to achieve a broad set of the SDGs? 		
13.15-13.35	Cognitive AI and Incremental Machine Learning	Professor O.K. Baek , Research Fellow & Head, Federal Research Agency of Korea, ETRI
13.35-13.55	Smart Cities: digital solutions for a more livable future	Dr. Jeongmin Seong , McKinsey & Company
13.55-14.15	The promise of AI: transforming health systems from reactive to predictive, preventative and high performing	Dr. Ann Aerts , Head, Novartis Foundation
14.15-14.40	Discussion	
SPECIAL THEME: Moderator Dr Ed Gerstner		
14.40-15.00	The World Health Organisation (WHO) and science	Dr. Vasee Moorthy , Coordinator, Research, Ethics, Knowledge Uptake, WHO
15.00-15.30	COFFEE BREAK	
<p>CONCLUDING SESSION: DISCUSSION PANEL: RESPONDING TO CHALLENGES FOR ACADEMIES IN A CHANGING WORLD Moderator: Dr. Ed Gerstner and Professor Ryan Song <u>Objective 6:</u> to agree a set of actions that academies can implement in their own national and regional contexts. <u>Format:</u> drawing on highlights from the past two days, a moderated panel discussion followed by open discussion with all conference participants. <u>Panel members representing each previous session:</u> <u>Questions to consider:</u></p> <ul style="list-style-type: none"> • How can academies keep up with the pace of social, political and technological change, and maximize opportunities available to them? • Might academies need to adapt or repurpose themselves in order to remain vital, relevant organizations in the 21st century? • What are the most promising actions academies can take, nationally and within their respective IAP regional networks, to better engage with the SDGs to 2030? • What are the key take home messages for participating academies, as a result of this conference? 		
<p>Panellists: Professor Volker ter Meulen, IAP President Professor Jacqueline McGlade, University College London (UK) Dr. Heide Hackmann, International Science Council Professor Tolu Oni, Global Young Academy Professor Bruce Alberts, University of California, San Francisco Professor Luiz Davidovich, Brazilian Academy of Science</p>		
17.00	CONFERENCE CLOSING CEREMONY	