

Science and the SDGs: the role of academies

IAP Triennial Conference 2019

DRAFT 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.

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Objective: Our generous host, KAST (Professor Min Koo Han) and convenor, IAP (Professor ter Meulen) will welcome all participants to the conference, set out the broad objectives for the next two days and introduce the guest moderators, Professor Ryan Song and Dr Ed Gerstner.

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| 9:00-9:15 | Opening Ceremony | Professor Min Koo Han , President KAST Professor Volker ter Meulen and Professor Liu Depei , Co-Presidents IAP Representative of Korean government (TBC) |
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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, 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?

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| 9:15-9:45 | KEYNOTE: The UN Sustainable Development Goals: the changing paradigm of science required to meet them and the imperative for the global science community to support them [working title] | Professor Jacqueline McGlade , Professor of Resilience and Sustainable Development, University College London and Former UNEP Chief Scientist |
| 9:45-10:00 | Progress on implementation of the SDGs to-date | Jeffrey Sachs (v/c) Sustainable Development Solutions Network (SDSN) (tbc). |
| 10:00-10:15 | Taking stock of STI-for-the-SDGs: a critical analysis | Dr Bill 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 (Seryeon) 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?

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| 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 Mahindapla , President, National Academy of Sciences, Sri Lanka HRH Princess Sumaya , President, Royal Scientific Society, Jordan Prof. Hye-Yeong Chun , KAST |
| | EASAC: a regional case study | Professor Thierry Courvoisier/C. Diehl (TBC) EASAC |
| | Engaging with the SDGs: a Global Young Academy perspective | Professor Yoko Shimpuku , Kyoto University |
| | Discussion | |
| 13.00-14.00 | LUNCH | |

SESSION 3: OPPORTUNITIES FOR ENGAGEMENT IN THE UN SYSTEM

Moderators: Professor Ryan (Seryeon) 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?

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| 14.00-14.20 | Engaging with international science assessment programmes (TBC) | Professor Changmo Sung , Past Member, Technology Executive Committee, UNFCCC |
| 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 | Supporting the Technology Facilitation Mechanism and the S&T Community Major Group | Dr Heide Hackmann , CEO, International Science Council |
| 15.00-15.30 | Discussion | |
| 15.30-16.00 | TEA BREAK | |

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

Moderators: Professor Ryan (Seryeon) 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?
- 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?

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| 16.00-16.20 | How can academies continue to be relevant in a fast-changing world? | Professor Rajae El Aouad , Working Group member, IAP SDGs 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 | Preparing for IAP's next strategic plan: a roadmap to 2030? | Dr Teresa Stoepler and Dr Peter McGrath , IAP Executive Directors |
| 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 Dr Ed Gerstner

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

Note: in this case study, existing knowledge is relatively well-understood but both technological *and* social (or behavioural) 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:

- 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?

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| 9.00-9.10 | Introduction | Professor Mohamed Hassan President, Sudanese National Academy of Sciences |
| 9.10-9.25 | European Academies Science Advisory Council (EASAC) | Dr Robin Fears , Director, Biosciences Programme, EASAC |
| 9.25-9.40 | Network of African Science Academies (NASAC) | Professor Sheryl Hendriks , Institute for Food, Nutrition and Well-being, University of Pretoria |
| 9.40-9.55 | Association of Academies & Societies of Science in Asia (AASSA) | Professor Paul Moughan , Riddet Institute, Massey University |
| 9.55-10.10 | | Professor Hyun Jin Park , KAST |
| 10.10-10.25 | InterAmerican Network of Academies of Science (IANAS) | Professor Jeremy McNeil , Co-chair, IANAS |
| 10.25-11.00 | COFFEE BREAK | |
| 11.00-11.15 | FNSA: a global synthesis | Dr Robin Fears , FNSA Project Director |
| 11.15-12.00 | Discussion | |
| 12.00-13.30 | LUNCH | |

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

Moderators: Professor Peggy Hamburg (Foreign Secretary, US National Academy of Medicine) and Dr. Ed Gerstner

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,

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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:

- 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?

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| 13.30-13.40 | Opening presentation | Professor O. K. Baek , Electronics & Telecommunications Research Institutes |
| 13.40-13.55 | AI and Smart Cities | Dr. Jeonming Seong , McKinsey & Company |
| 13.55-14.10 | AI and Health | Dr. Ann Aerts , Novartis Foundation |
| 14.10-14.25 | AI and Poverty | Professor Bitange Ndemo , University of Nairobi (TBC) |
| 14.25-15.00 | Discussion | |
| 15.00-15.30 | COFFEE BREAK | |
| CONCLUDING SESSION: DISCUSSION PANEL: FUTURE CHALLENGES FOR ACADEMIES IN A CHANGING WORLD Moderator: Dr Ed Gerstner and [tbc] Objective 6: to agree a set of actions that academies can implement in their own national and regional contexts. Format: drawing on highlights from the past two days, a moderated panel discussion followed by open discussion with all conference participants. Panel members representing each previous session: Questions to consider: <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? | | |
| 17.00 | CONFERENCE CLOSING CEREMONY | |