

## PANEL DISCUSSION

# Basic Science and Mathematics for Sustainable Development



Seoul National University, Seoul, Republic of Korea

**21 June 2022**

20:00-21:00 Seoul-time (11:00-12:00 UTC)

Adopted by the UN General Assembly in 2015, the 2030 Agenda for Sustainable Development represents a new way of thinking about how to better link basic science and education with issues such as climatic and environmental change, water and energy security, ocean preservation, disaster risks. It intertwines social, economic, and environmental targets in 17 Sustainable Development Goals (SDGs). Each of the SDGs is divided into several sub-goals.

Basic sciences have an important contribution to make to the implementation of the 2030 Agenda for Sustainable Development. Particularly, IUGG mapped the Union Associations and Commissions to the SDGs to clarify how IUGG could contribute to the achievement of the goals. Particularly, IUGG is involved in promotion of the basic studies in air pollution, climate and environmental issues (e.g., depletion of ozone layer), hazards and risks, renewable energy, the ocean, seas and rivers, and other water issues, which contribute to several SDGs. Also, the Union fosters to education and capacity building, and research and innovation, important parts of the SDGs (Ismail-Zadeh, 2016).

“Applications of technology are easy to recognize. On the other hand, contributions of basic, curiosity-based, sciences are not well appreciated. They are nonetheless at the basis of major technological advances that stimulate innovation, as well as essential for training future professionals and for developing capacity of populations who can take part in decisions that affect their future,” told Michel Spiro, an initiator of the International Year of Basic Sciences for Sustainable Development (IYBSSD2022).

The United Nations General Assembly approved by consensus a resolution that promulgates 2022 as the International Year of Basic Sciences for Sustainable Development. IYBSSD2022 will run in 2022-2023 to focus on the links between basic sciences and SDGs. IYBSSD2022 encourages exchanges between scientists and all categories of stakeholders, whether from grassroots communities or political decisionmakers and international leaders, as well as associations, students and local authorities.

The Panel “Basic Science and Mathematics for Sustainable Development” aims to raise awareness about the IYBSSD2022 enthusiastically supported by the International Science Council (ISC) and several ISC Members including IUGG. Distinguished panelists will discuss how basic science, mathematics, science education and policymaking should be integrated in solving fundamental problems of nature and society and in contributing to solving challenging issues of sustainability. Bringing their broad experience in mathematics, (geo)science, education, national and international scientific cooperation and science promotion, the panelists will highlight the ways of achieving sustainable development goals using basic science and science for society.

## PANELISTS



### **Qiuming Cheng**

Former President, International Association of Mathematical Geosciences; Immediate Past President, International Union of Geological Sciences; Professor, China University of Geosciences, Wuhan, China



### **Motoko Kotani**

President-Elect, International Science Council; Executive Vice President for Research, Tohoku University, Sendai, Japan



### **Michel Spiro**

Chair of the Steering Committee, United Nations International Year of Basic Sciences for Development; President, International Union of Pure and Applied Physics; former President of CERN Council, Switzerland



### **Kathryn Whaler**

President, International Union of Geodesy and Geophysics; former President, Royal Astronomical Society, UK; former President, International Association of Geomagnetism and Aeronomy; Professor, University of Edinburgh, UK



### **Jaejun Yu**

Dean of the College of Natural Sciences and Professor, Seoul National University, Republic of Korea

## MODERATOR



### **Alik Ismail-Zadeh**

Inaugural Secretary, International Science Council; former IUGG Secretary General; Chair of the IUGG Commission on Mathematical Geophysics; Senior Research Fellow, Karlsruhe Institute of Technology, Germany