

Report of Online Symposium on Research of New Aspects of Geohazards and Challenges of Social Implementation

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Online symposium on Research of New Aspects of Geohazards and Challenges of Social Implementation was held on 26th May 2021, moderated by the author. The organizer was the IUGS Subcommittee of the Science Council of Japan. The IUGS Task Group on Geohazards and the Japan Geoscience Union were co-organizers. The Tokyo Geographical Society, the Japan Society of Engineering Geology, the Japan Landslide Society, the International Tsunami Disaster Prevention Society, the Society of Exploration Geophysicists of Japan, the Remote Sensing Society, and the Society for Study of Submarine Geological Risks were supporters.

Due to the influence of Corona crisis, the symposium was completely distributed on the Internet. The co-organizers and sponsored organizations promoted this symposium and were able to attract a large audience. On the day of the event, overseas and domestic speakers gave lectures remotely, and 534 people (including 228 from overseas) participated via YouTube. It was extraordinary that there was only one moderator in the auditorium with a capacity of 300 people.

Geohazards such as earthquakes, tsunamis, landslides, and debris flows have occurred frequently all over the world in recent years. Those engaged in geohazards science are required not only to study science but also to accurately and promptly disseminate the results to society.

This symposium introduces the latest research on tsunamis, submarine geological risks, large-scale geohazards that have occurred in various countries around the world, and conveys to the world our efforts toward social implementation of the results.



Geohazard Symposium



on Research of New Aspects of Geohazards and Challenges of Social Implementation

26 May (Wed.) 2021, 13 : 00 ~ 18 : 10

Coordinator: *Yasukuni Okubo* (Chair of IUGS Task Group on Geohazards)

Background of the symposium

13 : 00 *Hiroshi Kitazato* (Science Council of Japan, Waseda University)

Part I: Marine Geohazards Risk (Convener: Kiichiro Kawamura)

13 : 10 *Toshikazu Ebisuzaki* (International Tsunami Disaster Prevention Society)

Earthquake, submarine landslides, tsunamis

13 : 30 *Joshu Mountjoy* (Marine Geologist, NIWA, New Zealand)

Marine geohazards in New Zealand

13 : 50 *Yuichiro Tanioka* (Prof., Hokkaido University)

Tsunami modeling by marine landslides and reduction of disasters

14 : 10 *Kiichiro Kawamura* (Associate Professor, Yamaguchi University)

Marine landslides and tsunami: Review

Part II: Guideline of post-tsunami survey (Convener: Kazuhisa Goto)

14 : 30 *Nalin Ratnayake* (University of Moratuwa, Sri Lanka)

Post-tsunami field survey - Case study at Sri Lanka

14 : 50 *Yuichi Nishimura* (Associate Professor, Hokkaido University)

Urgent research on the impact of tsunami on the coastal geology: experiences and challenges of international research

15 : 10 *Daisuke Sugawara* (Associate Professor, Tohoku University)

Significance of fundamental datasets for tsunami numerical Modeling

15 : 30 *Kazuhisa Goto* (Prof., University of Tokyo)

Preparedness of a manual for tsunami deposit research

Part III: Large-scale Geohazards and Social Implementation (Convener: Shusaku Yamazaki)

15 : 50 *Passakorn Pananont* (Kasesart University, Thailand)

Seismicity and Potential Seismic Hazard of Thailand

16 : 10 *Toshiyuki Kurahashi* (Senior Researcher of Public Works Research Institute)

Recent geohazards on mountain slope in Hokkaido

16 : 30 *Tomohiro Nishimura* (Kokusai Kogyo Co.,LTD)

Heavy rain and landslides in western Japan

16 : 50 *Jose Pacheco* (Director of Research Institute for Volcanology and Risk Assessment)

Geohazards on the Azores archipelago

17 : 10 *Shusaku Yamazaki* (Public Works Research Institute)

Geohazards on mountain slope at 2018 Hokkaido Eastern Iwuri earthquake

17 : 30 Panel Discussion: Social implementation goals for geohazards

Kazuhisa Goto · Shusaku Yamazaki · Kiichiro Kawamura · Yasukuni Okubo

Concluding remarks

18 : 00 *John Ludden* (President of IUGS)

Organizers: Science Council of Japan

Co-Organizers: IUGS Task Group on Geohazards, Japan Geoscience Union

Supporters: Tokyo Geographical Society, Japan Society of Engineering Geology, The Japan Landslide Society, International Tsunami Disaster Prevention Society, The Society of Exploration Geophysicists of Japan, The Remote Sensing Society, The Society for Study of Submarine Geological Risks (SSSGR)

Admission fee: FREE

Presentation: Online presentation and question and answer by Chat

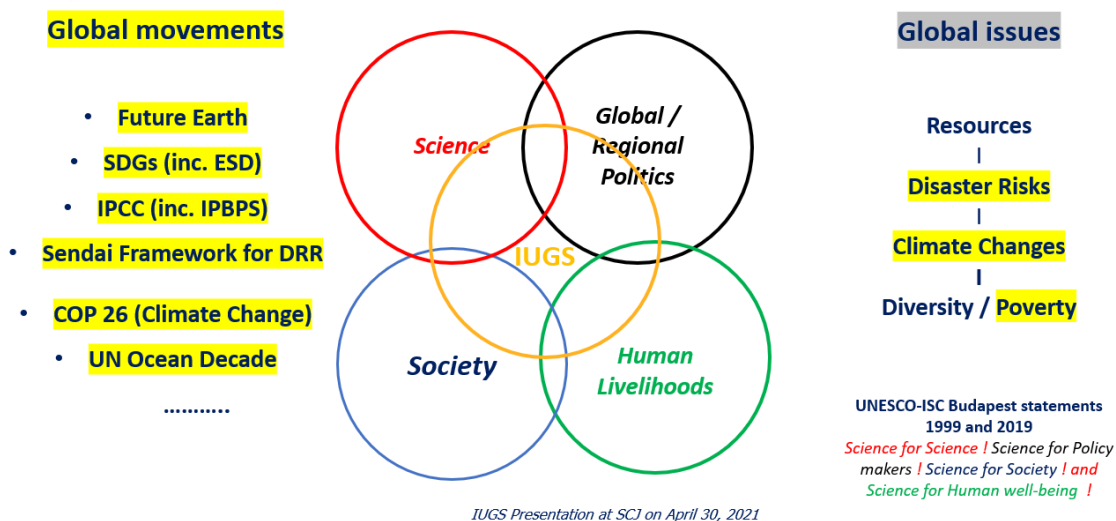
Language: English or Japanese

How to participate : Application form is available at the official site of the Science Council of Japan

At the beginning, Professor Hiroshi Kitazato explained the purpose of the symposium, and the goal of the Sendai Framework for Disaster Risk Reduction, which was issued at the 3rd UN Disaster Risk Reduction Conference. He pointed out that it is required to understand geological disasters, international cooperation, research on disaster-resilient urban development, and warning systems, and that promoting standardization of data and survey methods will be the key to "building an international network".



Strategic map for IUGS



Strategic map for IUGS

In the session of submarine geological risks convened by Dr. Kiichiro Kawamura, submarine geohazards and modeling of tsunami by submarine landslides were reviewed. Development of offshore wind power generation progresses worldwide, while we need to care for submarine geohazards especially in convergence active margins. The session contributes to guidelines of submarine geological risks for advancing sustainable development of oceans.

In the session of guideline of post-tsunami survey convened by Prof. Kazuhisa Goto, impacts of tsunamis, post-tsunami field survey and tsunami numerical modeling were reviewed. After them, a manual for tsunami deposit research is presented. The session contributes to guidelines for post-tsunami field survey conducted mainly by the public administration officers.

In the session of large-scale geohazards convened by Dr. Shusaku Yamazaki,

earthquake hazards, geohazards on mountain slope, landslides triggered by heavy rain and the warning system in the Azores were reviewed. The session discussed how geoscience can contribute to the mitigation of geohazards.

Panel discussions followed three sessions.

Finally, IUGS President John Ludden gave a closing remark that he hopes for international expansion including cooperation with the promotion committee on disaster risk reduction established in the International Science Council and GeoUnion.



Video talk by Prof. Ludden.

We were able to accept various questions in Japanese and English from the audience via chat. This is an advantage of Internet delivery. However, on the other hand, the discussion did not develop because the two-way discussion between the speaker and the large audience was not possible. In the future, a hybrid system with Internet distribution and audience participation is desired.

Acknowledgement: the Tokyo Geographical Society provided a financial support. I would like to show my greatest appreciation to the Society.