PROGRAMME
The Fifth World Landslide Forum
Implementing and monitoring the Sendai Landslide Partnerships 2015-2025
-Voluntary contribution to the Sendai Framework 2015-2030 and
the Agenda 2030-Sustainable Development Goals-

Date: 2-6 November 2021, Venue: Kyoto International Conference Center (KICC), Kyoto, Japan

Organizers

International Consortium on Landslides (ICL)

Global Promotion Committee of International Programme on Landslides (IPL-GPC), including:

United Nations Educational, Scientific and Cultural Organization (UNESCO), World Meteorological Organization (WMO), Food and Agriculture Organization (FAO), United Nations Office for Disaster Risk Reduction (UNDRR), United Nations University (UNU), International Science Council (ISC), World Federation of Engineering Organizations (WFEO), International Union of Geological Sciences (IUGS), International Union of Geodesy and Geophysics (IUGG)

Kyoto University (KU), Japan Landslide Society (JLS), Japanese Geotechnical Society (JGS), Japan Society for Natural Disaster Science (JSNDS) and Japan Association for Slope Disaster Management (JASDiM)

Cosponsors

Cabinet Office (Disaster Management Bureau) of Japan, Ministry of Foreign Affairs of Japan (MOFA), Ministry of Education, Culture, Sports, Science and Technology-Japan (MEXT), Ministry of Land Infrastructure, Transport and Tourism (MLIT), Ministry of Agriculture, Forestry and Fisheries (MAFF), Science Council of Japan (SCJ), Japan International Cooperation Agency (JICA), Japan Society of Civil Engineers (JSCE), and Japanese Society of Irrigation, Drainage and Rural Engineering (JSIDRE), Japan Society of Erosion Control Engineering, Japan Society of Engineering Geology.

Supporting Organizations with Finance

Kyoto University, Tokyo Geographical Society, International Union of Geological Sciences (IUGS), Association for Disaster Prevention Research, Kyoto, Japan

AIM

World Landslide Forums have been organized every three years after the first Forum in Tokyo, Japan, in 2008. It is a common platform for scientists, engineers, practitioners and policy makers who are involved in landslide disaster risk reduction to present their latest progress. *The Sendai Landslide Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk* was adopted on 16 March 2015 as a voluntary commitment to the United Nations World Conference on Disaster Risk Reduction, held in Sendai, Japan, in 2015. It is a supporting tool for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030. In order to implement further the Sendai Landslide Partnerships 2015-2025 and pursue and enhance efforts to 2030 and beyond, **the Kyoto 2020 Commitment for global promotion of understanding and reducing landslide disaster risk (KLC2020)** - A Commitment to the Sendai Landslide Partnerships 2015-2025, the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2030 Agenda Sustainable Development Goals, the New Urban Agenda and the Paris Agreement -

was launched by all signatory organizations at the online launching session of KLC2020 on 5 November 2020. The Fifth World Landslide Forum will be the opportunity to achieve a mid-term review of the Sendai Landslide Partnerships 2015-2025, and one-year review and planning of the further development strategy of KLC2020.

ORGANIZING COMMITTEE

Honorary Chairpersons

Audrey Azoulay, Director-General of UNESCO*

Mami Mizutori, Special Representative of the United Nations Secretary-General for Disaster Risk Reduction

Petteri Taalas, Secretary-General of WMO

David Malone, Rector of UNU

Wilkie Mette (Director of the Forestry Division, Food and Agriculture Organization)

Akira Murakami, Executive Vice-President of Kyoto University

Daya Reddy, President of ISC

José M.P. VIEIRA, President-elect of WFEO

John Ludden, President of the International Union of Geological Sciences (IUGS)

Kathy Whaler, President of the International Union of Geodesy and Geophysics (IUGG)

Qunli Han, Executive Director of Integrated Research on Disaster Risk (IRDR)

Walter Ammann, President and CEO of Global Risk Forum GRF Davos, Switzerland

Angelo Borrelli, Head of the National Civil Protection Department, Italian Presidency of the Council of Ministers, Italy

Darko But, Director General of the Administration for Civil Protection and Disaster Relief of the Republic of Slovenia, Slovenia

Akifumi Nakao, Director, International Cooperation Division, Disaster Management Bureau, Cabinet Office, Japan

Hiroaki Tsunakawa, Director for Sabo planning coordination, Ministry of Land Infrastructure, Transport and Tourism, Japan

Chungsik Yoo, President of the International Geosynthetics Society

Rafig Azzam, President of the International Association for Engineering Geology and the Environment

✱ to be confirmed.

Chairpersons

Kyoji Sassa (Professor Emeritus, Kyoto University; Secretary General of ICL)

Peter Bobrowsky (Geological Survey of Canada; Immediate past President of ICL)

Kaoru Takara (Kyoto University, Japan; Executive Director of ICL)

Members

Željko Arbanas (University of Rijeka, Croatia)

Snježana Mihalić Arbanas (University of Zagreb, Croatia)

Nicola Casagli (University of Firenze, Italy)

Fausto Guzzetti (Department of Civil Protection, Italy)

Matjaž Mikoš (University of Ljubljana, Slovenia)

Paola Reichenbach (Research Institute for Geo-Hydrological Protection, National Research Council, Italy)

Shinji Sassa (Port and Airport Research Institute, Japan)

Alexander Strom (Geodynamics Research Center LLC, Russia)

Binod Tiwari (California State University, Fullerton, USA)

Veronica Tofani (University of Firenze, Italy)

Vít Vilímek (Charles University in Prague, Czech Republic)

Fawu Wang (Tongji University, China)

Chairpersons of Local Organizing Committee

    Kaoru Takara (Former President, Japanese Society of Natural Disaster Science)

    Daisuke Higaki (Chair, ICL Committee of the Japan Landslide Society)

    Ikuo Towhata (Former President, Japanese Geotechnical Society)

Secretary Generals

    Ryosuke Uzuoka (Professor, Disaster Prevention Research Institute, Kyoto University)

    Kazuo Konagai (Professor Emeritus, University of Tokyo; Principal researcher of ICL Headquarters)

    Khang Dang (Research Promotion Officer, ICL)

General Schedule of the Fifth World Landslide Forum

Date	Time	Activities
2 Nov. 2021 (Tue)	9:00-18:00	Forum Registration in Reception desk in KICC
	9:00-16:00	21st BOR/ICL, 17th GPC/IPL/General Conference of KLC2020 Signatory organizations in Room (C2) in KICC
	16:00-17:00	20th Anniversary ceremony of ICL in Heianjngu Shrine Hall
	17:30-19:30	20th Anniversary dinner in Heianjngu Shrine Hall
3 Nov. 2021 (Wed)	9:00 – 10:00	Opening addresses: ICL, ICL supporting organizations and host organization (Room A)
	10:10-11:50	High-level Panel Discussion "KLC2020 review and way forward" (Room A). Panelists: Representatives of KLC2020 signatories. Adoption of "Launchng Declaration of the ICL Open Access Book Series for KLC2020" Certificates to the founding KLC2020 official promoters
	12:00-12:20	Group Photo of KLC2020 Signatory organizations (Room A)
	12:00-13:30	Lunch (Sakura)
	13:30-15:30	**Forum lectures/** (Room A) Fausto Guzzetti (Italy): On the prediction of landslides and their consequence Charles NG (Hong Kong, China): Interaction mechanisms between debris flow and multiple barriers **Forum speech**: Dwikorita Karnawati (Indonesia) Intergovernmental round table discussion

	15:45-17:00	**Recognition and Awards Ceremony** (Room A) World Centres of Excellence on Landslide Risk Reduction (WCoEs) 2020-2023 Bestow the Varnes Medals, IPL Award for Success 2017-2021
	9:00-18:00	Exhibition in Booths and Panels (Room B1)
	18:30-21:00	Welcome Reception (Room SAKURA)
4 Nov. 2021 (Thur)	9:00-17:00	Parallel Sessions (8 rooms)
	9:30-12:00	ICL-KLC2020 Intergovernmental round table discussion (Room 510)
	12:00-13:30	Lunch (Sakura)
	9:00-18:00	Exhibition in Booths and Panels
5 Nov. 2021 (Fri)	9:00-17:00	Parallel Sessions (8 rooms)
	9:00-17:00	Special Event of World Tsunami Awareness Day in Room B-2 Special Lectures and Panel Discussion on Landslide-induced Tsunamis
	12:00-13:30	Lunch (Sakura)
	9:00-18:00	Exhibition in Booths and Panels
6 Nov. 2021 (Sat)	9:00-12:00	Parallel Sessions
	12:00-13:30	Lunch (Sakura)
6 Nov. 2021 (Sat)	13:30-15:30	**Forum Lectures and Award Lectures** in Room 510 (5F) Michel Jaboyedoff (Switzerland): Improving the rockfall failure hazard assessment. Brian Collins (U.S.A): Progress and lessons learned from responses to catastrophic landslides Claudio Margottini (Italy) Fukuoka IPL Award lecture Beena Ajmera (USA) Oldrich Hungr Award lecture
	15:30-17:00	**Closing Ceremony** in Room 510 (5F) ➢ Speech by ICL President Nicola Casagli (2021.1.1 - 2023.12.31) ➢ Introduction of new ICL officers by ICL President ➢ Certificates to new ICL members (2017-2021) by ICL President ➢ Acknowledgement to WLF5 supporting organizations with financial support and sponsors by ICL President Welcome to 6th WLF (WLF6 Forum Chair, Nicola Casagli)
7-9 November 2021		Field trip to Urban landslides in Hiroshima, Landslide-induced Tsunami in Unzen volcano, earthquake-induced-landslides in Kumamoto

WLF5 Rooms and Time Allocation for Plenary and Parallel Sessions

Session Rooms	3 Nov. (9:00-12:30)	3 Nov. (13:30-17:00)	4 Nov. (9:00-12:30)	4 Nov. (13:30-17:00)	5 Nov. (9:00-12:30)	5 Nov. (13:30-17:00)	6 Nov. (9:00-12:00)	6 Nov. (13:30-17:00)
Room 1 R-A (2F)	Opening / high-level panel	Forum Lectures and Awards						
Room 2 R-510 (5F)			Intergovernmental RTD		Thematic issue papers / E-posters			Forum Lectures/ Closing Ceremony
Room 3 R-B2 (2F)					World Tsunami Awareness Day Event			
Room 4 R-I (2F)			S1.1	S1.2	S1.3	S1.4	S1.5	
Room 5 R-J (2F)			S2.1	S2.1 S2.2	S2.2	S2.3 S2.4	S2.5	
Room 6 R-K (2F)			S3.1	S3.1 S3.2	S3.4	S3.3	S3.3	
Room 7 R-501 (5F)			S4.1	S4.2	S4.3 S4.4	S4.5		
Room 8 R-509 (5F)			S5.1 S5.2	S5.3	S5.4	S5.5		
Room 9 R-554 (5F)			S6.1 S6.2	S6.3 S6.4	S6.4 S6.5	S6.6 Korean Session		
Room 10 R-555 (5F)			S6. E1	S6. E1 S6. E3	S6. E2	S6. E5	S6. E4	
SAKURA (1F)	12:00-15:00 Lunch and Coffee							
Room B1 (2 F)	Exhibition Booths and Poster Panels							

Plenary sessions

1. **Opening Greetings from ICL, ICL supporting organizations and host organizations**

   (17:00-18:00 PDT 2 November, 1:00-2:00 CET 3 November, 9:00-10:00 JST 3 November)

Chairs: Kyoji Sassa (WLF5 Forum Chair) and

        Qunli Han (Co-Chair of Global Promotion Committee of IPL/Executive Director of Integrated Research on Disaster Risk)

Opening address from the primary organizer
➢ Nicola Casagli (President of the International Consortium on Landslides)

Greetings from United Nations organizations
➢ David Malone (Under-Secretary-General of the United Nations/Rector of the United Nations University)
➢ Mami Mizutori (United Nations Special Representative of the Secretary-General for Disaster Risk Reduction)
➢ Petteri Taalas, Secretary-General of the World Meteorological Organization (WMO)
➢ Wilkie Mette (Director of the Forestry Division, Food and Agriculture Organization)
➢ Representatives from UN organizations within the KLC2020 signatory organizations.

Greetings from scientific organizations
➢ José M.P. Vieira (President(-elect) of the World Federation of Engineering Organizations: WFEO)
➢ Kathryn Whaler (President of the International Union of Geodesy and Geophysics: IUGG)
➢ John Ludden (President International Union of Geological Sciences: IUGS)
➢ Representatives from scientific organizations (ISC) within the KLC2020 signatory organizations.

Welcome messages from host organizations
➢ Hiroaki Tsunakawa, Director for Sabo Planning Coordination, Ministry of Land Infrastructure, Transport and Tourism, Japan
➢ Akira Murakami, Executive Vice-President of Kyoto University

2. **High-level Panel Discussion "Review of KLC2020 and the way forward"**
   (18:00-19:50 PDT 2 November, 2:00-3:50 CET 3 November, 10:00-11:50 JST 3 November)

Opening Greetings from Forum Chairs
➢ Peter Bobrowsky (Geological Survey of Canada, Canada) and Kaoru Takara (Kyoto University, Japan)

Chairs: Matjaž Mikoš (Co-Chair, Global Promotion Committee of IPL / Chair of WLF4, Ljubljana, 2017)
      Kazuo Konagai (Chair of Science Committee of the KLC2020 Secretariat, Kyoto, Japan)
➢ Opening Speeches from chairs

Keynote speech
➢ Kyoji Sassa (Secretary General of KLC2020 Secretariat): Review of KLC2020 and a new Open Access Book Series for KLC2020

Speech from 9 panelists from KLC2020 signatory organizations

ICL supporting organizations:
➢ Paola Albrito (Chief of Branch, Intergovernmental processes, Interagency cooperation and Partnerships, UNDRR)
➢ Soichiro Yasukawa (Programme Specialist on Disaster Risk Reduction, UNESCO)
➢ José M.P. Vieira (President(-elect) of the World Federation of Engineering Organizations: WFEO)
➢ Hiroshi Kitazato (Treasure of IUGS, Tokyo University of Marine Science and Technology, Japan)
➢ John LaBrecque (Chair of IUGG GeoRisk Commission, Center for Space Research, University of Texas Austin, USA.)

ICL full members:
➢ Binod Tiwari (Vice President for America, California State University – Fullerton, USA)
➢ Paola Reichenbach (Director of Research, IRPI, Italian National Research Council, Italy)

- Maneesha Ramesh (Dean, School for Sustainable Development and International Programs, Amrita University, India)

ICL supporter:
- Hiroaki Tauchi (General manager, International Geohazard Management Department, Nippon Koei, Co., Ltd., Tokyo, Japan)

Discussion (panelists and floor)

Concluding remarks
- Sálvano Briceño (First Chairperson of the Global Promotion Committee of IPL (2007-2014), Former Director of UNISDR (2001-2011)

Adoption of the Launching Declaration of the ICL Open Access Book Series for KLC2020 by all participants

11:50-12:00 JST	**Break**
12:00-12:20 JST	**Joint photo of the KLC2020 signatory organizations (Room A)**
12:00-12:30 JST	**Lunch (Room Sakura)**

3. **Forum lectures/Forum speech**
   (21:30-23:30 PDT 2 November, 5:30-7:30 CET 3 November, 13:30-15:30 JST 3 November)

Chairs: Željko Arbanas (Vice President for Europe, University of Rijeka, Croatia) and Veronica Tofani (Vice President for WLF6, University of Florence, Italy)

Forum lectures
- Fausto Guzzetti (General Director of Office III, Department of Civil Protection, Italian Presidency of the Council of Ministers, Italy): On the prediction of landslides and their consequence
- Charles NG (Chair Professor and Dean of Graduate School, Hong Kong University of Science and Technology, China): Interaction mechanisms between debris flow and multiple barriers

Forum Speech

Dwikorita Karnawati (Head of Agency for Meteorology, Climatology, and Geophysics of the Republic of Indonesia): Promotion of intergovernmental network of ICL-KLC2020

4. **Recognition and Awards Ceremony**
   (23:45 PDT 2 Nov. -1:00 PDT 3 Nov. . 7:45-9:45 CET 3 November, 15:45-17:00 JST 3 November)

World Centres of Excellence on Landslide Risk Reduction (WCoEs) 2020-2023

Bestow the Varnes Medals (2017-2021), IPL Awards for Success (2017-2020)

5. **Welcome Reception 18:30-21:00 JST (Room Sakura)**

6 NOVEMBER 2021 (SATURDAY) AT ROOM 510

6. **Forum Lectures and Award Lectures**

Chairs: Vít Vilímek (Vice President for Mission (KLC2020), Charles University, Prague, Czech Republic) and Fawu Wang (Professor, Tongji University, China)

Forum Lectures
- Michel Jaboyedoff (Professor, University of Lausanne, Switzerland): Improving the rockfall failure hazard assessment.
- Brian Collins (Research civil engineer, U.S. Geological Survey, USA): Progress and lessons learned from responses to catastrophic landslides

Award Lectures
- Claudio Margottini (ISPRA - Dpt. Geological Survey of Italy) Fukuoka IPL Award lecture

> ➢ Beena Ajmera (Assistant Professor, North Dakota State University, USA) Oldrich Hungr Award lecture

7. Closing Ceremony

(23:30 PDT 5 Nov. –1:00 PDT 6 Nov., 7:30-9:00 CET 6 November, 15:30-17:00 JST 6 November)

Masters of Ceremonies: Alexander Strom (Chief expert, Geodynamic Research Center LLC., Russia) and Ryosuke Uzuoka (Vice Director, DPRI, Kyoto University, Japan)

➢ Speech by ICL President Nicola Casagli (2021.1.1 - 2023.12.31)
➢ Introduction of new ICL officers by ICL President
➢ Certificates to new ICL members (2017-2021) by ICL President
➢ Acknowledgement to WLF5 financial support organizations and sponsors by Forum chair
Welcome to 6th WLF (WLF6 Forum Chair, Nicola Casagli)

Parallel Sessions

Parallel sessions are organized in 7 rooms (Room 4-Room 10) from 9:00 AM JST of 4 November to 12:00 AM JST on 6 November 2021.Oral presentation mode is one of onsite, online-virtual or pre-recorded mode. The presentation mode and presentation time can be changed until 25 October 2021. The latest programme for the speaker mode, presentation time, and chaipersons of each seesion will be seen in the WLF5 web.

Theme 1 Sendai Landslide Partnerships and Kyoto Landslide Commitment
     Contact: ICL secretariat <secretariat@iclhq.org>

Session 1.1 Sendai Landslide Partnerships, Kyoto Landslide Commitment, and International Programme on Landslides

1	Kyoji Sassa	Japan	Kyoto 2020 Commitment for Global Promotion of Understanding and Reducing Landslide Disaster Risk
2	Peter T. Bobrowsky	Canada	International Consoritum on Landslides (ICL): Proposing and Host Organization of SLP20152025 and KLC2020
3	Matjaž Mikoš	Slovenia	The ICL journal Landslides - 16 years of capacity development for landslide risk reduction
4	Kaoru Takara	Japan	UNITWIN-UNESCO/KU/ICL Programme
5	Qunli Han	China	International Programme on Landslides (IPL): A programme of the ICL for Landslide Disaster Risk Reducrtion
6	Alexander Strom	Russia	Central Asia – rockslides' and rock avalanches' treasury and workbook
7	Biljana Abolmasov	Serbia	Results of recent monitoring activities on landslide Umka, Belgrade, Serbia - IPL 181
8	Matjaž Mikoš	Slovenia	Landslides in Weathered Flysch: From Activation to Deposition (WCoE 2017-2020)
9	Snježana Mihalić Arbanas	Croatia	Report of the Croatian WCoE 2017-2020: From landslide mapping to risk assessment
10	Nicola Casagli	Italy	Advanced technologies for Landslides (WCoE 2017-2020)
11	Vít Vilímek	Czech Republic	Complex geomorphological and engineering geological research of landslides with adverse societal impacts
12	Željko Arbanas	Croatia	Report of the IPL-219, IPL-220 and Croatian WCoE 2017-2020: From landslide investigation to landslide prediction and stabilization
13	Satoru Nishikawa	Japan	Ichi-Nichi-Mae (The Day before the Disaster) Project for Landslide Awareness and Risk Communication

14	Eleftheria Poyiadji	Greece	Landslides in Greece and related legislation: difficulties and potential improvements
15	Surya Parkash	India	Emerging Issues and Innovative Strategies for Landslides Risk Management
16	Bayes Ahmed	UK	The root causes of landslide vulnerability in Bangladesh
17	Shuai ZHANG	China	Hydrated halloysite: the pesky stuff responsible for a cascade of landslides triggered by the 2018 Iburi earthquake, Japan

Session 1.2 Landslide-induced Tsunamis

1	Taro Kakinuma	Japan	Numerical simulation for tsunami generation due to a landslide
2	Federico Di Traglia	Italy	Dealing with mass flow-induced tsunamis at Stromboli volcano: monitoring strategies
3	Kazuki Murata	Japan	Tsunami Disaster caused by the 1923 Great Kanto Earthquake and theImportance of Submarine Landslides
4	Wahyu Widiyanto	Chinese Taipei	Post-event field surveys of 2018 tsunami in Palu Bay and Sunda Strait
5	Tso-Ren Wu	Chinese Taipei	Three-Dimensional Simulation on the Rockslide and Mudslide Generated Tsunamis
6	Junji Miyamoto	Japan	Submarine landslide study in a drum centrifuge

Session 1.3 Landslides at UNESCO designates sites and contribution from WMO, FAO, IRDR

1	Yuki Matsuoka	Japan	Sendai voluntary commitments: landslide stakeholders and the all-of-society approach enhanced by UNDRR
2	Vít Vilímek	Czech Republic	Contribution of the collaborative effort of the Czech WCoE to landslide risk reduction at the Machupicchu, Peru
3	Irina Pavlova	France	Landslides at UNESCO-designated sites
4	Daniele Spizzichino	Italy	Traditional knowledge and local expertise in landslide risk mitigation of world heritages
5	William Frodella	Italy	Assessing landslide hazards in cultural heritage sites of the UNESCO Tentative List: examples from developing countries
6	Rodrigo Alcaíno-Olivares	Canada	Thermo-mechanical cliff stability at tomb KV42 in the Valley of the Kings, Egypt
7	Xu Tang	China	Collaboration in MHEWS through an Integrated Way: The Great Efforts Contributed by Multi-stakeholder Partnership at National, Regional and International Levels
8	Yuka Makino	Italy	Resilient Watershed Management: Landscape Approach to Climate Change and Disaster Risk Reduction
9	Fang Lian	China	Integrating DRR into the conservation and management mechanisms of the internationally designated sites – view of IRDR
10	Giuseppe Esposito	Italy	Landslide hazard and risk assessment for civil protection early response
11	Irasema Alcántara-Ayala	Mexico	Size matters: the impact of small, medium and large landslide disasters
12	Shengnan WU	China	Practices of Public Participation Early Warning System for Geological Hazards in China
13	Stefano Utili	UK	Landslide Geometry and Activity in Villa de la Independencia (Bolivia) Revealed by InSAR and Seismic Noise Measurements

Session 1.4 Education and Capacity Development for Risk Management and Risk Governance

1	Emanuele Intrieri	Italy	Early warning systems in Italy: state-of-the-art and future trends
2	Jan Klimeš	Czech Republic	Community-based landslide risk management in contrasting social environments, cases from the Czech Republic
3	Lee-Ping Shi	Chinese Taipei	Refinement Progresses on Freeway Slope Maintenance after a Huge Landslide Disaster
4	Ricardo J. Garnica-Peña	Mexico	Landslide exposure community-based mapping: a first encounter in a small rural locality of Mexico
5	Elizabeth A. Holcombe	UK	Co-producing data and decision support tools to reduce landslide risk in the humid tropics
6	Mohamad Fazli Sardi	Malaysia	ICT-based landslide disaster simulation drill: Road to achieve 2030 global commitment
7	Sao-Jeng Chao	Chinese Taipei	A Preliminary Work of Safety Potential Analysis Model for Anchors Used on Freeway Slopes
8	Tamara Breuninger	Germany	Initial Experiences of Community Involvement in an Early Warning System in Informal Settlements in Medellín, Colombia
9	Hendy Setiawan	Indonesia	Capacity Building and Community Preparedness towards Landslide Disaster in Pagerharjo Village, Kulon Progo Regency of Yogyakarta, Indonesia
10	Alexandra Urgilez	Netherlands	Characterization and hydrological analysis of the Guarumales deep-seatedlandslide in the tropical Ecuadorian Andes
11	Mateja Jemec Auflic	Slovenia	On the importance of geological data for landslide risk reduction in Slovenia

Session 1.5 SATREPS-Rain-induced Rapid and Long Travelling Landslides

1	Kazuo Konagai	Japan	SATREPS project for Sri Lanka with regard to "Development of early warning technology of Rain-induced Rapid and Long-travelling Landslides"
2	Ryo Onishi	Japan	Technology development of reliable rainfall prediction in mountain regions of Sri Lanka
3	Shiho Asano	Japan	Strategy for monitoring creeping movements of unstable soil masses triggered by heavy rain at pilot sites in tropical forested mountain
4	Ryosuke Uzuoka	Japan	Porewater pressure build-up of slopes subjected to different rainfall conditions by centrifuge modelling
5	Katsuo Sasahara	Japan	Early warning system against rainfall-induced landslide in Sri Lanka
6	Toru Koike	Japan	Strengthening non-structural measures for Landslide Risk Reduction in Sri Lanka – Achievement in Project SABO -
7	Major General Sudantha Ranasinghe	Sri Lanka	Role of Disaster Management Center on Landslide Risk Management

Theme 2 From Mapping to Hazard and Risk Zonation
  Contact:Paola Reichenbach <paola.reichenbach@irpi.cnr.it> and Snježana Mihalić Arbanas
      <snjezana.mihalic@rgn.unizg.hr>

Session 2.1 Landslide recognition and mapping

1	Benjamin B. Mirus	USA	Landslides across the USA: occurrence, susceptibility, and data limitations
2	Toyohiko Miyagi	Japan	Landslide Recognition and Mapping for Slope Disaster Risk Reduction and Management
3	Rafał Sikora	Poland	New Landslide Inventory Map of the Sudetes Mountains (South-Western Poland)
4	Kamila Pawluszek-Filipiak	Poland	Opportunities and challenges of the object-oriented automatic landslide detection from the high resolution Digital Elevation Model
5	Mio Kasai	Japan	Can Repeat LiDAR Surveys Locate Future Massive Landslides?
6	Nguyen Kim Thanh	Vietnam	Developing recognition and simple mapping by UAV/SfM for local resident in mountainous area in Vietnam – A case study in Po Xi Ngai Community, Laocai province
7	Vladimir Greif	Slovakia	Landslide activity classification based on Sentinel-1 satellite radar interferometry data
8	Carlo Tacconi Stefanelli	Italy	Damming predisposition of river networks: a mapping methodology
9	Timotej Verbovšek	Slovenia	Maximum Likelihood Classification method for detection of litho-geomorphological units in the Vipava Valley, SW Slovenia
10	Pham Van Tien	Vietnam	Landslides along Halong-Vandon Expressway in Quang Ninh province, Vietnam
11	Tomislav Popit	Slovenia	Roughness analysis of fossil landslide surfaces in the Vipava Valley, SW Slovenia
12	John Dehls	Norway	Mapping landslides at a nationwide scale using InSAR: the Norwegian Ground Motion Service
13	Txomin Bornaetxea	Spain	The Effective Surveyed Area. Uncertainty reduction in field work based landslide inventories.
14	William Schulz	USA	Use of InSAR at multiple spatial and temporal scales to reveal landsliding mechanisms

Session 2.2 Landslide hazard assessment and zonation – susceptibility modelling

1	Samuele Segoni	Italy	Landslide susceptibility assessment in complex geological settings: sensitivity to geological information and insights on its parameterization
2	Hiroshi Yagi	Japan	Landslide susceptibility mapping by interpretation of aerial photographs, AHP and precise DEM
3	Christian Arnhardt	UK	An expert-based Landslide susceptibility assessment on city scale level with limited data - an example from Kuala Lumpur City
4	Gabriel Legorreta Paulin	Mexico	Landslide susceptibility in two secondary rivers of La Ciénega watershed, Nevado de Toluca volcano, Mexico
5	Sharad Kumar Gupta	India	An Ordinal Scale Weighting Approach for Susceptibility Mapping Around Tehri Dam, Uttarakhand, India
6	Meei-Ling Lin	Chinese Taipei	Potential Analysis of Deep-seated Landslides Caused by Typhoon Morakot Using Slope Unit
7	Lea Tien Tay	Malaysia	Landslide Hazard Mapping of Penang Island Malaysia based on Multilayer Perceptron Approach
8	Zheng Han	China	Landslide Susceptibility Mapping Based on the Deep Belief Network: A Case Study in Sichuan Province, China

9	Jie Dou	Japan	A Comparative study of deep learning and conventional neural network for evaluating landslide susceptibility using landslide initiation zones
10	Domenico Calcaterra	Italy	Landslide susceptibility assessment by ensemble-based Machine Learning models
11	Anika Braun	Germany	Overcoming data scarcity related issues for landslide susceptibility modeling with machine learning
12	Jewgenij Torizin	Germany	Practical accounting for uncertainties in data-driven landslide susceptibility models. Examples from the Lanzhou case study
13	Victor Carvalho Cabral	Brazil	Assessment of shallow landslides susceptibility using SHALSTAB and SINMAP at Serra do Mar, Brazil
14	Biljana Abolmasov	Serbia	Regional slope stability analysis in landslide hazard assessment context, North Macedonia example
15	Shoji Doshida	Japan	Evaluation of secondary landslide susceptibility for the rescue activity using LiDAR UAV data
16	Johnny Alexander Vega	Colombia	Methodology for landslides assessment causing river channel obstructions and the consequent water shortage in rural communities
17	Edier Aristizabal	Colombia	Rainfall-induced shallow landslide susceptibility assessment in mountainous and tropical scarse-data region of the Colombian Andes
18	Shahram Nasiri	Australia	Concerns over reliable earthquake-induced landslide hazard assessment: Developing sophisticated geotechnical databases and 3D landslide inventories
19	Farrokh Nadim	Norway	Theoretical framework for estimating the annual probability of occurrence of landslides
20	Dalia Kirschbaum	USA	Multi-scale landslide hazard assessment using remote sensing data
21	Laurie Kurilla	Italy	Global debris flow susceptibility, current and future impact, based on climate and urbanization trends
22	Paola Reichenbach	Italy	Evaluating the Terrain Susceptibility to Mass Movements
23	Massimiliano Bordoni	Italy	Data-driven Modelling of the Spatio-Temporal Probability of Occurrence of Shallow Landslides with the Integration of Satellite Data
24	Corrado Camera	Italy	Introducing the climate component into landslide susceptibility mapping
25	Greta Bajni	Italy	The role of climatic predictors for non-stationary rockfall susceptibility modelling
26	Mauro Rossi	Italy	Probabilistic modeling of rockfall source areas
27	Marco Loche	Czech Republic	Introducing Land Surface Temperature in Susceptibility Modeling
28	Song Eu	Korea	Dynamic Landslide Hazard Assessment by Matrix Combination of Soil Water Index and Landslide Susceptibility Map

Session 2.3 Landslide hazard assessment and zonation – temporal and size modelling

1	Stefan Steger	Italy	A statistical exploratory analysis of inventoried slide-type movements for South Tyrol (Italy)
2	Gabriel Legorreta Paulin	Mexico	Assessing landslide volume for landform hazard zoning purposes

3	Chris Massey	New Zealand	Empirical relationships to estimate the probability of runout exceedance for various landslide types
4	Rex L Baum	USA	Rapid sensitivity analysis for reducing uncertainty in landslide hazard assessment
5	Kana Nakatani	Japan	Applying debris flow simulation for detailed hazard and risk mapping and for considering effective countermeasures
6	Kaiheng Hu	China	Debris-Flow Peak Discharge Calculation Model Based on Erosion Zoning
7	Takashi Koi	Japan	Rainfall-induced lahar occurrences shortly after eruptions and its initiation processes in Japan
8	Jiaying Li	China	Spatiotemporal Assessment of Geological Hazard Safety along Railway Engineering using a Novel Method: A Case Study of the Sichuan-Tibet Railway, China
9	Mohamed Rouai	Morocco	Slope Stability and Landslide Hazard in Volubilis Archaeological Site (Morocco)
10	Olivier Dewitte	Belgium	Landslide Timing in a Changing Tropical Environment: the North Tanganyika-Kivu Rift region, Africa

Session 2.4 Landslide data and information for disaster mitigation

1	Mohd Farid Abdul Kadir	Malaysia	Risk-informed Land Use Planning for Landslide Disaster Risk Reduction: A Case Study of Cameron Highlands, Pahang, Malaysia
2	Paolo Tarolli	Italy	Landslides in steep-slope agricultural landscapes
3	Matteo Del Soldato	Italy	From satellite images to field survey: a complete scheme of lanslide InSAR monitoring
4	Toyohiko MIYAGI	Japan	Slope disaster risk reduction map as a communication tool for community based DRR in Japan & Vietnam

Session 2.5 Landslide vulnerability of people, communities and the built environment

1	Paola Salvati	Italy	People vulnerability to landslide: risky behaviours and dangerous conditions by gender and age
2	Erica Akemi Goto	USA	Using mixed-methods to understand community vulnerability to debris flows in Montecito, CA
3	Dario Peduto	Italy	Innovation in analysis and forecasting of vulnerability to slow-moving landslides
4	Ricardo Garnica-Peña	Mexico	On the use of UAVs for landslide exposure of households: La Gloria neighbourhood, Teziutlán, Puebla
5	Aditi Singh	India	Site-specific risk assessment of buildings exposed to rock fall in India- A case study
6	Michio Ishigaki	Japan	The Advanced Method for Detecting Geotechnical Risks of Landslide Failures by Surveying Historical Surface Deformation and Underground Water
7	Settimio Ferlisi	Italy	Quantitative analysis of the consequences induced by slow-moving landslides to a road network in southern Italy
8	Kuntala Bhusan	India	Landslide Scenario in North Eastern Region of India and Associated Challenges

Theme 3: Monitoring and Early Warning

Contact: Veronica Tofani <veronica.tofani@unifi.it>

Session 3.1 Landslide monitoring and geophysical surveys

1	Paola Revellino	Italy	Defining kinematic and evolutive features of earth flows using integrated monitoring and low-cost sensors
2	Jan Blahůt	Czech Republic	Monitoring of thermoelastic wave within a rock mass coupling information from IR camera and crack meters: a 24-hour experiment on "Branická skála" Rock in Prague, Czechia
3	David Huntley	Canada	Field testing innovative differential geospatial and photogrammetric monitoring of a slow-moving landslide, south-central British Columbia, Canada
4	Paolo Allasia	Italy	The role of measure of deep-seated displacements in the monitoring networks on large-scale landslide
5	Filip Hartvich	Czech Republic	Multiinstrumental monitoring network Slopenet - new advances
6	Lal Dinpuia	India	Slope Instabilities Analysis and Monitoring of Aizawl Landslide, Mizoram, Northeast India
7	Jongmans Denis	France	Geophysical monitoring of landslides: state-of-the art and recent advances
8	Sebastian Uhlemann	USA	Geophysical monitoring of landslides – A step closer towards predictive understanding?
9	Jim Whiteley	UK	Recent advances in high spatial resolution geophysical monitoring of moisture-induced landslides
10	Hao Luo	China	Characteristic analysis of the Nayong rock avalanche based on the seismic signal
11	Liang Feng	Italy	Rockfall detection and early warning using micro-seismic monitoring
12	Yu Zhuang	China	Electrical resistivity tomography (ERT) based investigation of two landslides in Guizhou, China
13	Kiminori Araiba	Japan	Vibration of Piled Rocks - Which rock can be removed ?

Session 3.2 Remote sensing for landslide risk management

1	Mihai Niculita	Romania	LiDAR and UAV SfM for landslide monitoring
2	Paolo Mazzanti	Italy	Recent developments in photomonitoring
3	Ko-Fei Liu	Chinese Taipei	Debris flow detection with video camera
4	Giulia Tessari	Switzerland	Comparison between PS and SBAS InSAR techniques in monitoring shallow landslides
5	Ying Liu	China	Remote sensing monitoring of landslides along highways
6	Anna Barra	Spain	Sentinel-1 landslides detection: the Granada coast
7	Chaoying Zhao	China	Landslide Dynamic Deformation Monitoring with Sequential Least Squares Based SAR/InSAR techniques
8	D Jean Hutchinson	Canada	Towards managing debris channel risks to infrastructure: Understanding debris processes using remotely sensed data.

Session 3.3 Landslide early warning systems

1	Gaetano Pecoraro	Italy	Definition and first application of a probabilistic warning model for

			rainfall-induced landslides
2	Katerina Kavoura	Greece	Establishment of an integrated landslide early warning and monitoring system in populated areas
3	Nguyen Duc Ha	Vietnam	An Integrated WebGIS System for Shallow Landslide Hazard Early Warning
4	Adrian Wicki	Switzerland	The value of soil wetness measurements for regional landslide Early Warning Systems
5	John Singer	Germany	Technical concepts for an early warning system for rainfall induced landslides in informal settlements
6	Agus Setyo Muntohar	Indonesia	Development of Landslide Early Warning System based on the Satellite-Derived Rainfall Threshold in Indonesia
7	Qiang Xu	China	Presenting Some Successful Cases of Regional Landslides Early Warning Systems in China
8	Klaus-Peter Keilig	Germany	Towards an early warning system for instable slopes in Gorgia The large Tskneti Akhaldaba landslide
9	Lin Wang	Japan	An EWS of landslide and slope failure by MEMS tilting sensor array
10	Piciullo Luca	Norway	Standards for the performance assessment of territorial landslide early warning systems
11	Zongji Yang	China	Application and verification of a multivariate real-time early warning method for rainfall-induced landslides: implication for evolution of landslide-generated debris flows Landslides
12	Michele Calvello	Italy	LandAware: a new international network on Landslide Early Warning Systems
13	Chih-Chung Chung	Chinese Taipei	The Development of TDR-integrated landslide Early Warning System
14	Thom Bogaard	Netherlands	What hydrological information should we include in landslide hazard assessment and Early Warning Systems?
15	Teuku Faisal Fathani	Indonesia	Global standard for multi-hazards early warning system
16	Masashi Sekiguchi	Japan	Need for Information Disclosure of Landslide Early Warning Systems
17	Imaya Ariyarathna	Japan	The time prediction Method of an onset of rainfall induced landslides for early warning

Session 3.4 Forecasting models and time predictions of landslides

1	Maria Teresa Brunetti	Italy	Regional approaches in forecasting rainfall-induced landslides
2	Graziella Devoli	Norway	Seven years of landslide forecasting in Norway – strengths and limitations
3	Hyuck-Jin Park	Republic of Korea	Probabilistic modelling of uncertainties in physically based landslide susceptibility assessment
4	Veronica Tofani	Italy	Characterization of hillslope deposits for physically-based landslide forecasting models
5	Judith Uwihirwe	Netherlands	Landslide precipitation thresholds in Rwanda
6	Nikhil Nedumpallile Vasu	UK	Methodology for developing a preliminary hydrological threshold for rainfall-induced landslides in Kuala Lumpur city, Malaysia
7	Brenda Rosser	New Zealand	Development of a Rainfall-induced Landslide Forecast Tool for New Zealand

8	Naoki Iwata	Japan	Influence of intervals measuring surface displacement on time prediction of slope failure using Fukuzono Method
9	Katsuo Sasahara	Japan	Velocity and acceleration of surface displacement in sandy model slope with various slope conditions
10	Praveen Kumar	India	Comparison of Moving-average, Lazy, and Information Gain Methods for Predicting Weekly Slope-movements: A Case-study in Chamoli, India
11	Antoinette Tordesillas	Australia	New insights into the spatiotemporal precursory failure dynamics of the 2017 Xinmo landslide and its surrounds
12	Martin Krkač	Croatia	A comparative study of random forests and multiple linear regression in the prediction of landslide velocity
13	Adriaan van Natijne	Netherlands	Machine Learning: Potential for Deep-Seated Landslide Nowcasting

Theme 4: Testing, Modeling and Risk Assessment
  Contact: Binod Tiwari <btiwari@fullerton.edu>

Session 4.1 Recent Development in Physical Modeling of Landslides

1	Rolando P Orense	New Zealand	Application of magnetic tracking system in laboratory-scale rock avalanche model tests
2	Yanto	Indonesia	A simple physically-based distributed translational landslide model
3	Nobutaka Hiraoka	Japan	Centrifuge Modelling of Slope Failure due to Groundwater during Excavation
4	Binod Tiwari	USA	Experimental Studies on the Effect of Vegetation Density to Change Underground Seepage Rate and Stability of Slopes
5	Jonathan M Carey	USA	Experimental Studies on the Effect of Vegetation Density to Change Underground Seepage Rate and Stability of Slopes
6	Dongri Song	China	Basal Stresses of Debris Flow in Instrumented Flume
7	Clarence Choi	China	Landslide Growth: Collisions and Contractile Skins
	Anthony Leung	Hong Kong SAR, China	Innovative Use of Thermo-Active Pile Row in Unsaturated Soil Slopes

Session 4.2 Recent Development in Numerical Modeling of Landslides

1	Daniel Pradel	USA	Numerical Modelling for Slope Stabilizations in Modern Geotechnical Practice
2	Hans-Balder Havenith	Belgium	3D landslide models in VR
3	Qiuhua Liang	UK	A coupled discrete element and depth-averaged model for flow-like landslide simulations
4	Martin Mergili	Austria	Advanced methods for simulating complex landslides
5	Laura Longoni	Italy	First test results from the SMART-SED simulation tool basin scale sediment yield model
6	Khang Dang	Japan	Hazard assessment of a rainfall-induced deep-seated landslide in Hakha city, Myanmar
7	Doan Huy Loi	Japan	Landslide hazard zoning based on the integrated simulation model (LS-Rapid)

8	Akihiko Wakai	Japan	Numerical simulation of a creeping landslide case in Japan
9	Takashi Kitazume	Japan	Numerical simulation of debris flows after ash fall at Mt. Fuji
10	Thirapong Pipatpongsa	Japan	On the progression of slope failures using inverse velocity of surface movements in an undercut slope model
11	Mario Martinelli	Netherlands	Rainfall boundary condition in a multiphase Material Point Method
12	Hitoshi Nakase	Japan	Reproduction of Sedimentation State during Rock Slope Failure Using the Simplified DEM Model
13	Matjaž Mikoš	Slovenia	An extreme May 2018 debris flood case study in northern Slovenia: analysis, modelling, and mitigation
14	Chaojun Ouyang	China	Numerical modeling of dynamic process and risk prediction of recent catastrophe landslides
15	Shuji Moriguchi	Japan	Sensitivity Analysis of DEM Parameters in Granular Flow Simulations

Session 4.3 Recent Development in Soil and Rock Testing Techniques, Application and Analysis Methods

1	Binod Tiwari	USA	Recent Developments in the Evaluation and Application of Residual and Fully Softened Shear Strengths for the Stability Analyses of Landslides
2	Deepak Raj Bhat	Japan	Shearing rate effect on residual strength of typical clay soils in ring shear test
3	Sabatino Cuomo	Italy	Simple shear tests for unsaturated soils
4	Beena Ajmera	USA	Simplest Methods of Determining Dynamic Soil Properties for Use in Co-seismic Hazard Analysis
5	Shenghua Cui	China	Liquefaction within Bedding Fault: New Understanding of the Initiation and Movement of Daguangbao Landslide Triggered by the 2008 Wenchuan Earthquake (Ms=8.0)
6	Netra Prakash Bhandary	Japan	Residual-state ring shear creep tests on clayey materials and development of creep failure model
7	Jakub Roháč	Czech Republic	Challenges in Evaluating Shear-Rate Effects in Soils

Session 4.4 Recent Advancements in the Methods of Slope Stability and Deformation Analyses

1	Timur Ersöz	Turkey	Slope Stability Assessment of Weak and Weathered Rocks with BQ System
2	Elizabeth A Holcombe	UK	Soil databases to assist slope stability assessments in the Eastern Caribbean
3	Ran LI	China	Failure mechanism of a flow-like landslide triggered by the 2018 Western Shimane Earthquake
4	Saaduddin	UK	The Mt Gamalama instability level in generating landslide-induced tsunami in Ternate Island, Indonesia
5	Jiawei Xu	Japan	Seepage and deformation of unsaturated slope during post-earthquake rainfall
6	Jan Jerman	Czech Republic	3D analysis of settlement and stability of the open-cast coal mine landfill: Bílina mine case

Session 4.5 Recent Development in Disaster Risk Assessment

1	Limin Zhang	China	Engineering Risk Mitigation for Landslide Hazard Chains: the Baige Landslides on the Jinsha River in 2018
2	Shantanu Sarkar	India	Engineering Geological Investigation and Slope Stability Analysis for Landslide Hazard Assessment in Indian Himalayas
3	Giuseppe Mandrone	Italy	First considerations about post 2017 wildfire erosion response and debris flows in Susa valley (NW Italy)
4	Wahyu Wilopo	Indonesia	Identification of Sliding Surface and Crack Pattern in the Soil Creep, Case Study: Unika Soegijapranata Campus, Semarang, Central Java, Indonesia
5	Tina Peternel	Slovenia	Preliminary result of real-time landslide monitoring in the case of the hinterland of Koroška Bela, NW Slovenia
6	Saskia de Vilder	New Zealand	Quantitative risk analysis of earthquake-induced landslides
7	Clarence E. Choi	Hong Kong SAR, China	Role of Remote Sensing Technology in Landslide Risk Management of Hong Kong
8	Luqi Wang	China	Risk assessment of submerged rock mass in reservoir area
9	Panyabot Kaothon	Republic of Korea	Prediction the Global Factor of Safety in Soil-Nailed Slope by A Simplified Method
10	Keh-Jian Shou	Chinese Taipei	On the Scale Effect of the Catchment Landslide Susceptibility with Consideration of Climate Change
11	Jordi Corominas	Spain	Fragmental rockfalls and the analysis of risk
12	Ratih Indri Hapsari	Indonesia	Satellite Soil Moisture for Estimating Landslide Hazard
13	Holger Pankrath	Germany	Shaking table tests of small scaled slope models

Theme 5: Catastrophic Landslides and Frontiers of Landslide Science
Contact: Vít Vilímek <vit.vilimek@natur.cuni.cz>, Alexander Strom < strom.alexandr@yandex.ru>,
Fawu Wang <wangfw@tongji.edu.cn>

Session 5.1 Landslides and earthquakes

1	Paulus Rahardjo	Indonesia	Study on the Phenomena of Liquefaction Induced Massive Landslides in 28 September 2018 Palu-Donggala Earthquake
2	Daria Shubina	Russia	The Krasnogorsk landslide (Northern Caucasus): its evolution and modern activity
3	Hiroshi Yagi	Japan	Slope deformation of Jure landslide 2014 along Sun Koshi in Lesser Nepal Himalaya and effect of Gorkha earthquake 2015
4	Toshiya Aoki	Japan	Pressure head dynamics on a natural slope in Eastern Iburi struck by the 2018 Hokkaido earthquake
5	Sergio Sepulveda	Chile	New insights on recent and active large rock slides in the Andean paraglacial environments of central Chile
6	Salvatore Martino	Italy	Earthquake-triggered landslides and slope-seismic waves interaction inferring induced displacements

Session 5.2 Landslide dams and outburst floods

1	Tomas Kroczek	Czech Republic	Rockfall/rockslide hazard, lake expansion and dead-ice melting assessment: Lake Imja, Nepal
2	Oleg V. Zerkal	Russia	Formation of the 2018 Bureya landslide, Far East of Russia

3	Regine Morgenstern	New Zealand	Landslide dam hazards: assessing their formation, failure modes, longevity and downstream impacts
4	Chukwuueloka A.U. Okeke	Nigeria	The Sedimentology and Internal Structure of Landslide Dams – Implications for Internal Erosion and Piping Failure: A Review
5	Christian Zangerl	Austria	Investigation, characterisation and monitoring of deep-seated landslides in the surroundings of large dam reservoirs
6	Arash Barjasteh	IRAN	March 2019 flood impact on the stability of Ambal salt ridge in the Gotvand dam reservoir, Southern Iran

Session 5.3 Catastrophic large-scale landslides in mountainous regions

1	Alexand Strom	Russia	Rock avalanches: basic characteristics and classification criteria
2	Jan Burda	Czech Republic	An interdisciplinary assessment of a coal-mining-induced catastrophic landslide (Czech Republic)
3	Gioachino Roberti	Canada	Could glacial retreat-related landslides trigger volcanic eruptions? Insights from Mount Meager, British Columbia
4	Hans-Balder Havenith	Belgium	Structural and dynamic numerical models of rockslides in the Carpathians and the Alps
5	Michele Delchiaro	Italy	Quantitative investigation of a Mass Rock Creep deforming slope through A-Din SAR and geomorphometry
6	Ching-Ying Tsou	Japan	Deformational Features of Deep-Seated Gravitational Slope Deformation of Slate Slopes in the Central Range, Taiwan
7	Kiichiro Kawamura	Japan	Bathymetric Analyses of Submarine Landslides on the Jan Mayen Ridge, Norwegian–Greenland Sea
8	Dirk Kuhn	Germany	Forkastningsfjellet rock slide, Spitsbergen: State of activity in a changing climate
9	Vinod K Sharma	India	Catastrophic landslides in Indian sector of Himalaya
10	Andrée Blais-Stevens	Canada	Landslides that caused fatalities in Canada from 1771-2019
11	Mark E. Reid	USA	Basal Liquefaction from Rapid Landsliding: The 2014 Deadly Oso Landslide (USA)
12	Toshimi Mizuno	Japan	The evaluation of Deep-seated catastrophic landslides (DCLs) on Kii Peninsula 2011 by means of the historical deformation
13	Violchen Sepulveda	Chile	Catastrophic landslide and subsequent tsunamis in North-Patagonian District, Chile
14	Marte Gutierrez	USA	The Massive February 17, 2006, Leyte, Philippines, Rockslide
15	Tomas Panek	Czech Republic	Giant landslides in the foreland of Patagonian Andes: effects of deglaciation and drawdown of glacial lakes

Session 5.4.   Landslides triggered by extreme rainfall and other effects of climate change

1	Ken Ho	China	Enhancing Preparedness against Impact of Climate Change on Slope Safety in Hong Kong
2	Wei Shan	China	Climate Change and Surface Deformation Characteristics in Degradation Area of Permafrost in Lesser Khingan Mountain, China
3	Nejc Bezak	Slovenia	Climate change impact evaluation on the water balance of the Koroška Bela area, NW Slovenia

4	Qiang Zou	China	Characteristics and causes of the debris flow in Shelong Gully, China
5	Kounghoon Nam	China	Extreme rainfall induced landslide susceptibility assessment using Autoencoder combined with Random forest
6	Hongjuan Yang	China	Rainfall-induced landslides and debris flows in Mengdong town, Yunnan province, China
7	Swapna Acharjee	India	Landslide triggered by rainfall and Land use change: A case study of Laptap Landslide, Arunachal Pradesh, India
8	Komatsubara Taku	Japan	Relationships between antecedent rainfall and volume of earthquake-induced € landslides in historical era of Japan
9	Gianvito Scaringi	Czech Republic	Looking for a Temperature Control on Slope Stability
10	Jeffrey A. Coe	USA	Bellwether sites for evaluating changes in landslide frequency and magnitude in cryospheric mountainous terrain

Session 5.5. Frontiers of landslide science

1	Sabatino Cuomo	Italy	Numerical Modelling of Landslide-Structure-Interaction
2	Tazio Strozzi	Switzerland	Accelerating Landslide Hazard at Kandersteg, Swiss Alps; Combining 28 years of satellite InSAR and single campaign terrestrial radar data
3	Ying GUO	China	Identification old landslides in permafrost degradation area in Northeast China by difference distribution of surface trees
4	Paula Hilger	Norway	A landform evolution model for the Mannen area in Romsdal valley, Norway
5	Guglielmo Grechi	Italy	Multimethodological study of non-linear strain effects induced by thermal stresses on jointed rock masses
6	S.O.A.D. Mihira Lakruwan	Japan	Economizing the Soil Nailing Design by Drainage Improvement – Case History at Ginigathhena
7	Sandro Moretti	Italy	Large and small scale multi-sensors remote sensing for landslide characterisation and monitoring
8	Gabriel Legorreta Paulin	Mexico	Modeling landslide volumes: A case study in Whatcom County, Washington, USA
9	Pietro Rimoldi	Italy	Geosynthetic reinforced soil structures for slope stabilization and landslide rehabilitation in Asia
10	Wen-Chieh Cheng	China	Mobility characteristics in loess landslide over erodible bed: insights from sandbox experiments
11	Costanza Morino	France	Different dynamics of permafrost degradation-induced landslides revealed by molards
12	Yoshinori Otani	Japan	Recent Development of the Mechanically Stabilized Earth Walls with Geosynthetic Strap Reinforcements
13	Junichi Koseki	Japan	Japanese case histories on use of geosynthetics in reconstructing failed slopes
14	Mario Valiante	Italy	A spatiotemporal object-oriented data model for landslides (LOOM): some first pilot applications from the Cilento Geopark (Italy)
15	Motohiro Ito	Japan	Emeagency mitigation measures of a dip slope slide with uplifted toe caused by heavy rain in Chichibu, east Japan

16	Reshad Md. Ekram Ali	Bangladesh	Influence of geology and geological structures in triggering landslides: Bangladesh perspective

Theme 6 Specific Topics in Landslide Science and Applications
Contact: Zeljko Arbanas <zeljko.arbanas@gradri.uniri.hr>

Session 6.1 Impact of large ground deformations near seismic faults on critically important civil-infrastructures

1	Kazuo Konagai	Japan	Recent earthquakes that hit areas covered and/or underlain by pyroclastic matters and their impacts on lifelines
2	Alex Tang	Canada	Lessons Learned – Landslide Induced Lifelines Disasters from Past Earthquakes
3	Susumu Nakamura	Japan	Risk Assessment of Structural Damage for Rock Collision due to Earthquake-Induced Landslide
4	Junji KIYONO	Japan	Seismic response of buried pipeline to strong ground motion of strike-slip fault
5	Vishnu Dangol	Nepal	Impact on Infrastructure by 2015 Gorkha Eathquake Induced Landslides
6	Tara Nidhi Bhattarai	Nepal	Reconstruction Strategies for Mw 7.8 Earthquake-induced Landslide-affected Settlements in Nepal
7	Chih-Hsuan Liu	Chinese Taipei	Relationship between Arias intensity and the earthquake-induced displacements of slopes

Session 6.2 Recent Progress in the Landslide Initiating Science

1	Haijun Qiu	China	Controls on landslide size: insights from field survey data
2	Ikuo Towhata	Japan	Geologic and hydrologic investigations on slope failures triggered by extreme rainfall on Izu Oshima Island, Japan
3	Yifei Cui	China	Investigation of internal erosion of wide grading loose soil – a micromechanics-based study
4	Huayong Chen	China	Experimental study on formation and propagation of debris flow triggered by the glacial lake outburst flood
5	Yan Yan	China	Quantitative analysis of landslide processes based on seismic signals - a new method for monitoring and early warning of landslide hazards
6	Amin Askarinejad	Netherlands	Water exfiltration from bedrock: a drastic landslide triggering mechanism

Session 6.3 Earth Observation and Machine Learning

1	Christopher Gomez	Japan	High-resolution point-cloud for Landslides in the 21st Century: from data acquisition to new processing concepts
2	Daniele Giordan	Italy	Automatized dissemination of landslide monitoring bulletins for early warning applications
3	Giulia Bossi	Italy	Detecting change of patterns in landslide displacements using machine learning, an example application
4	Elahe Jamalinia	Netherlands	Predicting rainfall induced slope stability using Random Forest regression and synthetic data

| 5 | Ivan Depina | Norway | Hybrid Analytics of Rainfall Infiltration with Physics-informed Neural Networks |

Session 6.4 General Landslide Studies

1	Tonglu Li	China	Loess Stratigraphy and Loess Landslides in the Chinese Loess Plateau
2	Hermanns Reginald L	Norway	Mapping, hazard and consequence analyses for unstable rock slopes in Norway
3	Martina Böhme	Norway	Landscape formation and large rock slope instabilities in Manndalen, northern Norway
4	Francis Rengers	USA	Landslides after wildfire: initiation, magnitude, and mobility
5	Peng Cui	China	Disaster Risk Assessment of the Silk Road
6	Daisuke Higaki	Japan	Rehabilitation of gully-dominant hill slopes by using low-cost measures-a case study in Nepal
7	Chinthaka Ganepola	Sri Lanka	Site Suitability Analysis for Nature-based Landslide Risk Mitigation
8	Oleg V. Zerkal	Russia	Classification of Cryogenic Landslides and Related Phenomena (by Example of the Territory of Russia)
9	Hiroshi P. Sato	Japan	Relation between horizontal direction of crustal deformation surveyed on the control points and area ratio of the slope failures triggered by the 2016 Kumamoto earthquake (Mj7.3)
10	Weile Li	China	Precursor of large rockslides and its application on landslide early detection
11	Michiyo Nakashima	Japan	Report on a landslide in Kyotango city, Kyoto prefecture
12	Yasunori Katsume	Japan	Three-dimensional shape of mountainous landslide and the ground deformation caused by snow melting - Jin'nosuke-dani landslide, Mount Hakusan,Central Japan
13	Yu Zhao	China	Measuring colloidal forces between clay microparticles with optical tweezers

Session 6.5 The Japanese Geotechnical Society Session

1	Kazuya Yasuhara	Japan	Contribution of geotechnical engineering to climate change and IPCC
2	Motoyuki Suzuki	Japan	Urgent issues and new suggestions for geo-disaster prevention in Japan
3	Tatsuya Ishikawa	Japan	Lessons from recent geo-disasters in Hokkaido under heavy rainfall
4	Noriyuki Yasufuku	Japan	Lessons from recent geo-disasters caused by heavy rainfall in recent years in Kyushu Island, Japan
5	Shima Kawamura	Japan	Lessons from recent geo-disasters in Hokkaido under earthquake
6	Kiyonobu Kasama	Japan	Lessons from recent eqrthquake-induced Geo-disaster in Kyushu
7	Kumiko Fujita	Japan	Starting International Joint Research for Landslide Disaster Risk Reduction: The Use of Japanese Warning Technology Considering the Social Differences in Sri Lanka and Japan
8	Yamashita Yuichi	Japan	Daily education for disaster risk reduction and victim support in disaster

9	YongSu Kim	Japan	A Study For Improving Disaster Prevention Of Community

Session 6.6. Landslide Remediation and Mitigation Studies

1	Stavroula Fotopoulou	Greece	Towards a probabilistic performance-based methodology for the vulnerability assessment of buildings subjected to seismically induced landslides
2	Jose A. Chavez	El Salvador	Slope Behavior Improvement of Partially-Saturated Pyroclastic in Data Scarse Regions
3	Vishnu Dangol	Nepal	Geotechnical Investigation for Landslide Stabilization Works in Narayanghat-Mugling Road, Central Nepal
4	Christophe Balg	Switzerland	Applying over ten years of experience in debris flow barriers to examples in South Africa and India for permanent protection

Korean Session in Theme 6

1	Lee Jin-Ho	Republic of Korea	Development of Engineering Techniques for Exploring Land Creep Susceptible Zones in South Korea
2	Namgyun Kim	Republic of Korea	Stability analysis for cut-slope collapse by earthquake
3	Sangjun IM	Republic of Korea	Quantitative Evaluation of Erosion Control Dam on Sediment Trapping Efficiency with a Simulation Approach

The Japan Landslide Society E-proceedings sessions
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Session 6.E1 International Cooperation in Landslide Disaster/Risk Reduction (Japan)

1	Haruki Ogasa	Japan	JICA's support in sediment disaster risk reduction
2	Kiyoharu Hirota	Japan	Preliminarily report of simple hazard mapping methods for slope stability in Tegucigalpa, Honduras
3	Lidia Elizabeth Torres Bernhard	Honduras	AHP Method Applicated to Landslide Susceptibility Mapping in pilot sites of Tegucigalpa
4	Elias Garcia-Urquia	Honduras	Coupling antecedant rainfall and intensity-duration thresholds for landslide occurrence in Tegucigalpa, Honduras, 2010
5	Takeshi Kuwano	Japan	Slope disaster and countermeasures in Honduras
6	Masanori Tozawa	Japan	Introduction of Preventive Measures in the Road Infrastructure Development in Tajikistan, in cooperation with a JICA technical project
7	Tomoharu Iwasaki	Japan	Technical cooperation project: Landslide adviser for Mauritius
8	Mukteshwar Gobin	Mauritius	Structural and non-structural countermeasures against landslides implemented in Mauritius with the assistance of the Government of Japan
9	Mikihiro MORI	Japan	Risk Estimation and Cost-Benefit Analysis of Road Geohazard Risk Reduction by comprehensive assessment for seismic and non-seismic hazards.
10	Alonso Armado Alfaro	El Salvador	Rockfall and landslides events and its study in Los Chorros Segment of the CA01 route, El Salvador.

11	Tempa Thinley	Bhutan	Landslide disaster management and capacity development for roadside slope risk reduction in Bhutan
12	Hara Takashi	Japan	Rockfall protection on road in Bhutan
13	Naoto Iwasa	Japan	Application on slope stabilization method aimed an environment and landscape conservation
14	Kaoru Nakazato	Japan	Generating Landslide Hazard Map on 2015 Nepal Earthquake and Subsequent Training Activity
15	Daisuke Higaki	Japan	A case study of low-cost measures against landslides by river bank erosion in Nepal
16	Yoji Kasahara	Japan	Road slope disaster countermeasures in Sri Lanka
17	Pucai Yang	Japan	Identification of Debris Flow Hazards in Sri Lanka
18	Hiroshi Ogawa	Japan	Technical transfer for landslide investigation and monitoring at central Asia Kyrgyz Republic

Session 6.E2 Introduction of landslide mitigation measures of Japan

1	Toko Takayama	Japan	Landslide interpretation based on precise visualization method using high resolution geospatial data
2	Wataru Takeshita	Japan	Use of UAV-SfM point cloud for emergency response to landslide disasters
3	Tomoya Hayakawa	Japan	Large landslide dam in Hidakahoronai, Hokkaido
4	Senro Kuraoka	Japan	Development of methods to assess the annual expected loss of earthquake-induced landslides
5	Nobuyuki Shibasaki	Japan	Effect of S-wave velocity structure of the ground on occurrence of strain in landslide-prone slopes during an earthquake: a case study of landslide along the Yamagata-Suifu Line, induced by the 2011 Off the Pacific Coast of Tohoku Earthquake
6	Wataru Sagara	Japan	Relationship between water quality and ground condition in earthquake-induced landslide areas
7	Yoshinori Ito	Japan	Prediction of groundwater level fluctuation in deep-seated landslide area using genetic algorithm
8	Akihiro Miyagi	Japan	Relationship between bamboo rhizome and surface failure
9	Kazunori Hayashi	Japan	Small and simple water drainage drilling method for landslide disaster prevention
10	Yoshitsugu Kimura	Japan	Performance Verification of sediment capture by Flexible Barrier
11	Masayuki Ujihara	Japan	The Geofiber method-protecting slopes with environment-conscious continuous fiber reinforced soil-
12	Hiroaki KOJIMA	Japan	Case studies of installation of measuring instruments on overseas landslide countermeasures and their problems: examples of Sri Lanka and Honduras
13	Yusuke Koyama	Japan	Disaster risk coverage of TV media for citizens
14	Go SATO	Japan	Creating an archive of landslide interpretation using the human eye via an eye-tracking system
15	Lin Wang	Japan	Microseism and Vibration Sensor Array Monitoring System

Session 6.E3 Activities of Landslide-prevention engineers to enhance local capacity for disaster reduction in Japan

1	Noriko Ohnuma	Japan	Process of preparing Community Disaster Management Plan: Case study of communities on Ichinichi‐Mae Project and CDMP that Have Experienced

			Recent Disaster
2	Kiyomi Nakamura	Japan	Extraction of subjects for regional disaster risk reduction by teaching materials simulating evacuation behaviors
3	Shunitsu Fujii	Japan	An easy way to learning rainfall-induced landslides and its prevention using analog modelling
4	Akihiko Tadokoro	Japan	The workshop program of disaster prevention learning for primary school children and junior high school students
5	Kouichi Ikebe	Japan	Approaches and actions for information dissemination and education for disaster resilience in the Chubu Branch of Japan Landslide Society
6	Takemine Yamada	Japan	Collaboration of the City of Yokohama and the JAGE's chartered engineers for geotechnical evaluation consultation with local residents

Session 6.E4 Challenges in international unification of slope disaster prevention technologies

1	Yuuichi Ueno	Japan	International Comparison of the Classification of Soils and Rocks for Determining the Stable Cut Slope Angles
2	Naoto Iwasa	Japan	Technical Terms of Structure for Slope Protection
3	Mitsuya Enokida	Japan	International differences in methods for calculating the deterrent effect of ground anchoring and soil nailing
4	Shiho Asano	Japan	Role of forestry conservation for landslide prevention
5	Kiyoharu Hirota	Japan	Vegetation Methods Based on the Japanese Standard Cut Slope in Bhutan
6	Daisuke Higaki	Japan	Definition of Technical Terms for Landslide Disaster Management

Session 6.E5 Countermeasures conducted by the Japanese government against landslide disasters

1	Masakazu Nagano	Japan	Outline of measures for sediment disaster by Sabo Department of MLIT, Japan
2	Masaru Touhei	Japan	Introduction of Construction Information Modeling / Management in the Yui Landslide Countermeasures
3	Teruyoshi Takahara	Japan	Mitigation works for the Aruse I-3 block landslide in Miyoshi, Tokushima, Japan
4	Yuki Yamana	Japan	Efforts and results of mountain area conservation by Forestry conservancy projects
5	Kojiro Shiraki	Japan	Examples of recent landslide countermeasures by conservancy projects
6	Mayuko Shida	Japan	Agriculture and landslides in Japan
7	Tooru Sato	Japan	National Project for Landslide Prevention in the Takase Area

Thematic issue "Sendai Landslide Partnerships 2015-2025" / "Kyoto Landslide Commitment 2020"

1	Masahiro Shinoda	Japan	Regional landslide susceptibility following the 2016 Kumamoto earthquake using back-calculated geomaterial strength parameters
2	Ting-kai Nian	China	Experimental investigation on the formation process of landslide dams and a criterion of river blockage
3	Ben Leshchinsky	USA	The Hooskanaden Landslide: historic and recent surge behavior of an active earthflow on the Oregon Coast

4	Changdong Li	China	Recent rainfall- and excavation-induced bedding rockslide occurring on 22 October 2018 along the Jian-En expressway, Hubei, China
5	Karel Šilhán	Czech Republic	Dendrogeomorphology of landslides: principles, results and perspectives
6	Guruh Samodra	Indonesia	Characterization of displacement and internal structure of landslides from multitemporal UAV and ERT imaging
7	Sudesh Kumar Wadhawan	India	Causative Factors of Landslides 2019: Case Study in Malappuram and Wayanad Districts of Kerala, India

World Tsunami Awareness Day Special Event
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1	Jia-wen Zhou	China	Numerical simulation of landslide-generated waves during the 11 October 2018 Baige landslide at the Jinsha River
2	Finn Løvholt	Norway	Tsunami uncertainty due to landslide dynamics
3	Do Minh Duc	Vietnam	Analysis and modeling of a landslide-induced tsunami-like wave across the Truong river in Quang 5Nam province, Vietnam
4	Jan Blahůt	Czech Republic	Tsunami from the San Andrés Landslide on El Hierro, Canary Islands: first attempt using simple scenario
5	Ken Ikehara	Japan	The link between upper-slope submarine landslides and mass transport deposits in the hadal
6	Shinji Sassa	Japan	Review of Submarine Landslide-induced Tsunamis: The importance of cascading mechanisms and multi-phased physics
7	Nicola Casagli	Italy	Monitoring and Early Warning of Landslides including Stromboli landslide induced tsunami
8	Kyoji Sassa	Japan	Simulation of Tsunami waves induced by coastal and submarine landslides in Japan
9	Luciano Picarelli	Italy	The impact of climate change on landslide hazard and risk
10	Kazuo Konagai	Japan	Early Warning of rain-induced rapid and long-travelling landslides in Sri Lanka
11	Stephan Grilli	USA	Tsunami generation by Volcanic flank collapse: Case study of Anak Krakatau
12	David Tappin	UK	The continuing underestimated tsunami hazard from submarine landslides
13	Viacheslav Gusiakov	Russia	December 11, 2018 landslide and 90-m icy tsunami in the Buryea water reservoir
14	Dwikorita Karnawati	Indonesia	Innovation in Tsunami Early Warning System in Indonesia
15	Toyohiko Miyagi	Japan	Explanation of submarine landslides distributions around Japanese islands and stereo photo of submarine landslides on the floor
16	Break: Observation of stereo photo of submarine landslides by participants		
17	Panel Discussion: Understanding and reducing disaster risk of landslide-induced Tsunami along with the Kyoto Landslide Commitment 2020		
18	Short talks and comments from panelists and floor		
19	Concluding remarks on World Tsunami Awareness Day Special Event in WLF5		

E-Poster Presentation

1	Andrea Fabiánová	Czech Republic	Dendrogeomorphic dating vs. low-magnitude landsliding
2	Vaclav Skarpich	Czech Republic	Understanding Complex Slope Deformation through Tree-Ring Analyses: Case from the Vsetínské Vrchy Mts (Outer Western Carpathians, Czech Republic)
3	Dominik Krengel	Japan	Avalanching of variously shaped DEM-particles
4	Makoto INOMOTO	Japan	Landslides induced by heavy rains in July 2018 in Shikoku Island, Japan
5	Ching-Fang Lee	Chinese Taipei	Combination of rainfall thresholds and susceptibility maps for early warning purposes for shallow landslides at regional scale in Taiwan
6	Naoki NISHIMURA	Japan	Sediment dynamics monitoring at the Osawa Failure of Mt. Fuji
7	Mihira Lakruwan	Japan	Variation of Performances of Horizontal Drains and Slope Stability with Perforation Arrangement and Envelope Permeability
8	Genya Takenaka	Japan	Shaking table test on decreasing of Factor of safety and softening of saturated pyroclastic fall layer
9	Shinro Abe	Japan	Geological background of landslide occurrence areas in Vietnam
10	Hiroomi Nakazato	Japan	Observation method of pore water pressure at slip surface by recycling of broken borehole inclinometer
11	Tomislav Popit	Slovenia	The landslides on the high altitude Gold Mine of Kumtor
12	Jun Takiguchi	Japan	Features and measurement examples of "pipe inclinometer ", underground displacement measurement technology using gravitational acceleration sensor
13	Ngoc Ha Do	Japan	Research on landslides mechanism in case of heavy rainfall by flume experiment