

# 4<sup>th</sup> World Landslide Forum

**-Landslide Research and Risk Reduction for Advancing the  
Culture of Living with Natural Hazards-**

**Date: 29 May-2 June 2017**

**Venue: Cultural and Congress Centre Ljubljana (Cankarjev dom)  
Ljubljana, Slovenia**

*-Under the honorary patronage of His Excellency Mr. Borut Pahor,  
President of the Republic of Slovenia-*



## **Organizers:**

**International Consortium on Landslides (ICL)**

**Global Promotion Committee of the International Programme on Landslides (IPL)**

**Slovenian Chamber of Engineers (IZS)**

**University of Ljubljana (UL FGG)**

**Geological Survey of Slovenia (GeoZS)**

## **Co-organizers**

**Ministry of the Environment and Spatial Planning of the Republic of Slovenia (MOP)**

**Ministry of the Infrastructure of the Republic of Slovenia (MI)**

**Slovenian National Platform for Disaster Risk Reduction**



## **BACKGROUND**

**The World Landslide Forum (WLF)** is a triennial world conference of scientists, engineers, practitioners and policy makers, aiming at international exchange of knowledge, experiences and latest trends in science and engineering development and with focus on landslide risk governance. The WLF1 was organized in 2008 in Tokyo, Japan, followed in 2011 by the WLF2 in Rome, Italy, and in 2014 by the WLF3 in Beijing, China.

The Fourth Forum is a contribution to the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 which was adopted by the United Nations Member States on 18 March 2015 at the Third UN World Conference on Disaster Risk Reduction (3rd WCDRR) in Sendai City, Miyagi Prefecture, Japan. It is an activity of the UN International Strategy for Disaster Reduction (ISDR).

## **OBJECTIVES**

The WLF4 has an objective to be a worldwide event for discussing how landslide research and landslide risk reduction can contribute to advancing the culture of living with natural hazards. Risk governance in the field of landslide disaster risk reduction and management means to establish an effective bottom-up system incorporating many relevant stakeholders into a risk dialogue, and enhancing risk communication with the aim to build a sustainable system of prevention and disaster relief in the field of landslide disaster risk reduction. The WLF4 will be the first opportunity to evaluate the progress in the implementation of the ISDR-ICL Sendai Partnerships 2015-2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk, officially accepted in 2015 at the 3rd United Nations World Conference on Disaster Risk Reduction in Sendai, Japan.

## **ORGANIZING COMMITTEE**

### **Honorary Chairpersons**

Borut PAHOR (President of the Republic of Slovenia) \*

Irina BOKOVA (Director General of UNESCO)

Robert GLASSER (Special Representative of the United Nations Secretary-General for Disaster Risk Reduction)\*

José GRAZIANO DA SILVA (Director-General of FAO)\*

Petteri TALAAS (Secretary-General of WMO)

David MALONE (Rector of UNU)

Gordon McBEAN (President of ICSU)

Toshimitsu KOMATSU (Vice President of WFEO)

Roland OBERHAENSLI (President of IUGS)

Alik ISMAIL-ZADEH (Secretary-General of IUGG)

Hisayoshi KATO (Director General for Disaster Management, Cabinet Office, Government of Japan)

Kanji MATSUMURO (Director, Office for Disaster Reduction Research, Ministry of Education, Culture, Sports, Science and Technology, Government of Japan)

Fabrizio CURCIO (Head, National Civil Protection Department, Italian Presidency of the Council of Ministers, Government of Italy)

Jadran PERINIC (Director General, National Protection and Research Directorate, Republic of Croatia)

Takashi ONISHI (President of Science Council of Japan) \*

Juichi YAMAGIWA (President of Kyoto University)

Ivan SVETLIK (Rector of University of Ljubljana, Slovenia)

Walter AMMANN (President/CEO, Global Risk Forum Davos)

*(Note: Honorary chairpersons are Leaders of signatory organizations of the ISDR-ICL Sendai Partnerships. \* to be confirmed.)*

### **Chairpersons**

Matjaž MIKOŠ (Chairman, Slovenian National Platform for Disaster Risk Reduction)

Yueping YIN (President, International Consortium on Landslides)

Kyoji SASSA (Executive Director, International Consortium on Landslides)

## GENERAL SCHEDULE OF THE 4th WORLD LANDSLIDE FORUM

	Monday, May 29	Tuesday, May 30	Wednesday, May 31	Thursday, June 1	Friday, June 2	Saturday, June 3
Morning Sessions	ICL related activities	Forum registration	Opening Ceremony	Parallel Sessions	Parallel Sessions	Plenary Session
			Special Lecture	Parallel Sessions	Parallel Sessions	Round Table Discussion
			Lunch	Lunch	Lunch	Lunch
High Level Panel Discussion			Parallel Sessions	Parallel Sessions	Closing Ceremony	
			Parallel Sessions	Parallel Sessions		
Afternoon Sessions			Welcome Reception	Forum Banquet	Parallel Sessions	

Starting  
of Post-Forum  
Field Trips

### PLENARY SESSIONS

#### 30<sup>th</sup> May (Tuesday) 2017

**Opening Session (9:00-9:50)**

Facilitator: Matjaz MIKOS (Forum Chair of WLF4)

Opening Address:

World Landslide Forum-ICL's triennial a mainstream conference  
Yueping YIN, ICL President

Opening Address:

Hosting the Fourth World Landslide Forum in Slovenia  
Miro CERAR, Prime Minister of the Republic of Slovenia\*

Opening Speech:

UNESCO support to the foundation and progress of ICL-IPL Activities  
Irina BOKOVA (Director General of UNESCO)

**Forum Lectures (10:00-12:00) : Understanding of Landslide Disaster Risk**

Subaerial landslide-generated waves: Numerical and laboratory simulations

By Behzad Ataie-Ashtiani (The best thematic issue editor of Landslides in 2014-2016):

Rock fall occurrence and fragmentation (tentative)

By Jordi Corominas (2016 Varnes Medal Recipient, Spain)

Cultural & Natural Heritage at landslide risk (tentative)

By Claudio Margottini (Coordinator of the ICL successful thematic network):

12:00-13:30 Lunch

**High-Level Panel Discussion (13:30-15:45)**

**Strengthening Intergovernmental Network and the International Programme on Landslides (IPL)  
for  
“ISDR-ICL SENDAI PARTNERSHIPS 2015-2025 for global promotion of understanding and reducing  
landslide disaster risk”**

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Objectives

The International Programme on Landslides (IPL) is a programme of the International Consortium on Landslides (ICL). ICL proposed the IPL in a thematic session of the Second World Conference on Disaster Reduction (WCDR) in Kobe, 2005. The activities of IPL were defined in the 2006 Tokyo Action Plan “Strengthening research and learning on landslides and related earth system disasters for global risk preparedness” at the Round Table Discussion held in Tokyo, 2006. IPL was supported by 7 global stakeholders of UNESCO, WMO, FAO, UNISDR, UNU, ICSU and WFE0, and ICL exchanged MoU to promote the Tokyo Action Plan with each of them in 2006.

The activities of IPL include the triennial organization of the World Landslide Forum, the implementation of various IPL Projects, identification of World Centres of Excellence on Landslide Risk Reduction (WCoE), and the publication of the ICL bimonthly journal Landslides. Based on this background, ICL proposed the ISDR-ICL Sendai Partnerships 2015-2025 for global promotion of understanding and reducing landslide disaster risk at the 3rd WCDRR in Sendai, 2015 which was accepted and signed by 17 global and national stakeholders including the governments of Croatia, Italy and Japan.

This high-level panel discussion aims to strengthen networking with governments in landslide-prone countries and governments supporting landslide disaster risk reduction efforts in developing countries. The close cooperation within governments, United Nation Organizations and International NGOs is necessary and effective to implement the ISDR-ICL Sendai Partnerships 2015-2025 and the International Programme on Landslides (IPL) as its infrastructure.

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**Keynote: Sendai Framework for Disaster Risk Reduction 2015-2030**

by Robert Glasser (SRSG for Disaster Risk Reduction) \*

**Chair:** Robert Glasser (Chief of UNISDR)\*

**Moderator:** Kaoru Takara (ICL Treasurer, Director of Disaster Prevention Research Institute, Kyoto University)

- Presentation of ISDR-ICL Sendai Partnerships from UNISDR and ICL
- Panel presentations  
Representatives from 17 signatories of Partnerships and Governments officers from landslide prone countries and Government officers supporting landslide disaster risk reduction efforts in developing countries.
- Discussion for strengthening commitments of different parties
- Conclusion of High-level Panel Discussion

**Panelists** are mainly from 17 signatory organizations

UN organizations of UNISDR, UNESCO, WMO (Xu Tang), UNU (Jakob Rhyner), FAO.

Governments of Japan (Kaoru Saito), Italy, Croatia, Slovenia, EU, and other countries

NGOs of ICSU (Irasema Alcantara-Ayala), WFEO (Toshimitsu Komatsu), IUGS (Roland Oberhänsli), IUGG (Alik Ismail-Zadeh), Science Council of Japan, Global Risk Forum (Walter Ammann)

Individuals: Badaoui Rouhban, Special Advisor to the Assistant Director-General of UNESCO for Natural Sciences. Satoru Nishikawa, Executive Director of Research, JCADR (Japan Center for Area Development Research).

### **15:45-16:00 Break**

### **16:00-17:30 Recognition of ICL and IPL Activities**

- Explanation of World Centers of Excellence (WCoEs), IPL Award for Success by IPL-GPC
- Recognition of WCoEs 2017-2020
- Certificates are awarded from one from Robert Glasser (Chief of UNISDR)\*  
Brief remarks by the head of each Centre and leader.
- Recognition of 2014-2017 IPL Award for Success (2 awards at WLF3)
- Certificates are awarded from one from Robert Glasser (Chief of UNISDR)\*  
Brief remarks by each of the recipients
  
- Explanation of Varnes Medal and Best paper Award by BOR/ICL
- Bestow the 2015 Varnes Medal to the recipient from ICL President.
- Bestow the 2016 Varnes Medal to the recipient from ICL President.  
A short talk by each recipient
- Bestow the 2014 Best Paper Award to the recipient from ICL President.
- Bestow the 2015 Best paper Award to the recipient from ICL President.
- Bestow the 2016 Best paper Award to the recipient (if in time) from ICL President.  
A short talk by each recipient

**Welcome Reception (18:30-20:30)**

## **31 May 2017 (Wednesday)**

Parallel Sessions (9:00-10:30, 11:00-12:15, 14:30-16:00, 16:20-17:30)

**Round Table Discussion on the follow-up of the high-level panel discussion and the implementation planning** will be held at 13:30-17:30 at Club CD as a parallel Session.

Representatives of 17 signatory organizations, ICL-IPL members, and potential new members of the Sendai Partnerships are invited. All participants will examine an action plan/road map/Addendum to the Partnerships to implement and further develop the Sendai Partnerships effectively contributing to SENDAI Framework for Disaster Risk Reduction. In the end of session, signing to the Sendai partnerships by new members may be organized.

## **1st June 2017 (Thursday)**

Parallel Sessions (9:00-10:30, 11:00-12:15, 14:30-16:00, 16:20-17:30)

## 2<sup>nd</sup> June 2017 (Friday)

Parallel Session (9:00-12:30)

Lunch Break 12:30-14:00

### **Round Table Discussion (13:30-17:30)**

Chairs: NOT yet

Panelists: Not Yet

Reviews for five themes by chair persons

Major achievements in WLF4 by panelists from different aspects

Further development toward WLF5 from panelists and floor

### **Closing Session 15:30-16:30**

- Speech by a new President of ICL
- Announcement of the Best student award.
- Announcement of the best photo in each category
- Introduction of new ICL officers
- Certificates to leaders of New IPL Projects
- Certificates to new ICL members (2014-2017)
- Welcome to 5<sup>th</sup> WLF (by Hiroshi Fukuoka, WLF5 Forum Chair)

## **PUBLICATION OF WLF4**

5 volumes of full color books will be published around 2500 pages

### **Theme 1 – Sendai Partnerships 2015-2025 (Coordinator: Kyoji Sassa, Japan)**

ICL proposed “ISDR-ICL Sendai Partnerships 2015–2025 for global promotion of understanding and reducing landslide disaster risk – Tools for Implementing and Monitoring the Post-2015 Framework for Disaster Risk Reduction and the Sustainable Development Goals” to the Third United Nations World Conference on Disaster Risk Reduction (WCDRR) held in Sendai, Japan on 14-18 March 2015. The proposal was formally accepted and sixteen intergovernmental, international and national organizations signed the Sendai Partnerships. These partnerships are the central activities within global landslide community from 2015-2025 contributing to the United Nations International Strategy for Disaster Risk Reduction.

Session 1 – Sendai Partnerships 2015-2025

Session 2 – International Programme on Landslides (IPL)

### Session 3 – Landslides and Society

#### **Theme 2 – Advances in Landslide Science (Coordinator: Binod Tiwari, USA)**

There has been a significant progress in the field of landslide science in recent years. This progress can be attributed to the development of field monitoring and remote sensing technology, development of robust devices for monitoring of landslides as well as field and laboratory testing, availability of highly precision sensors, development of large scale physical modelling facilities, development of high precision and high speed computational infrastructure, 2D to 4D numerical simulation programs, availability of high resolution remote sensing imagery and data processing capabilities, and many other factors. This theme includes the recent advancements made in the research and implementation pertinent to the above mentioned activities in the past couple of years.

Session 1 – Landslide Field Recognition & Identification: remote sensing techniques, field techniques

Session 2 – Landslide Investigation: field investigations, laboratory testing

Session 3 – Landslide Modeling: landslide mechanics and simulation models

Session 4 – Landslide Hazard, Risk Assessment & Prediction: landslide inventories & susceptibility, hazard mapping methods, damage potential

#### **Theme 3 – Advances in Landslide Technology (Coordinator: Željko Arbanas, Croatia)**

This theme includes the states of the art, the best practice techniques and overall experiences on monitoring, prediction and warning of landslides caused by different triggering factors in different parts of the world. Case studies about landslide disasters under different circumstances from all aspects of landslide praxis are also welcome. Well documented considerations, analyses and design descriptions used in landslide, hazard and risk reduction, mitigation and remediation are expected as contributions to this volume.

Session 1 – Landslide Monitoring and Warning: monitoring techniques and technologies, early warning systems

Session 2 – Landslide Disasters and Relief: case studies, emergency measures, first aid, civil protection measures

Session 3 – Landslide Mitigation, Remediation and Stabilization: landslide protection works, landslide stabilization and remediation, landslide non-structural measures

#### **Theme 4 – Diversity of Landslide Forms (Coordinator: Nicola Casagli, Italy)**

Landslide occurrence varies according to different causes such as topographic profile, geology, tectonic history, weathering and erosion history and land use and triggers such as an intense rainfall event, an earthquake, a volcanic eruption, a storm wave, or rapid stream erosion.

Landslides and other types of natural hazards such as floods, droughts, wildfires, tsunamis, and volcanoes can be strongly correlated to the so-called cascade effects.

This WLF4 theme includes recent research achievements related to different landslide types in terms of typology, material and triggering factors. This volume will include also research outcomes made on the relationship between landslides and other natural hazards.

Session 1 – Earthquake-Induced Landslides

Session 2 – Rainfall-Induced Landslides

Session 3 – Rapid Landslides: debris flows, mudflows, rapid debris-slides

Session 4 – Landslides in Rocks and Complex Landslides: rock topples, rock falls, rock slides, complex landslides

Session 5 – Landslides and Other Natural Hazards: floods, droughts, wildfires, tsunamis, volcanoes

### **Theme 5 – Landslides in Different Environments (Coordinator: Vit Vilímek, Czech Republic)**

The main goal of this session is to draw attention to the different variety of landslides with respect to communities, infrastructure and cultural heritage. Landslides in the natural environment will be covered as well, including all forms of aquatic environments. Recent progress in dating techniques has greatly improved the ability to determine the age of various types of landslides. Another challenge is to relate established landslide chronologies to regional paleo-environmental changes (e.g. paleo-seismic events, deglaciation, climatic changes, and human-induced deforestation). We would also like to draw attention to the variety of landslides in the context of different climatic zones, geomorphological and geotechnical settings and triggering factors, in order to gain better knowledge of the possibilities of mitigation and risk management.

Session 1 – Landslide Interactions with the Built Environment

Session 2 – Landslides in Natural Environment

Session 3 – Landslides and Water

Session 4 – Landslides as Environmental Change Proxies: looking at the past

## **SIDE EVENTS OF WLF4**

### **WLF4 Student Session**

Doctoral students are encouraged to present their landslide research in the form of a regular Forum paper. The best student award will be given to the presenting author of the best paper.

### **WLF4 Landslide Photo Contest “Landslides and Mankind”**

Any photo showing the variety of landslide forms and their interaction with human activities, infrastructure and landscape is invited to be submitted to this Photo Contest. Each photo should have also a short explanation, describing the landslide on the photo and giving its location, causes/triggering

factors and consequences. The photos should be submitted to a selected category (maximum 3 to 4). A selection of photos will be published in the Forum proceedings. The best photos in each category will be recognized and awarded by a photo jury. The selected photos will be exhibited in a Photo Exhibition during the WLF4.

### **3rd Regional Symposium on Landslides in the Adriatic-Balkan Region (ReSyLAB 2017)**

After 1st ReSyLAB (Zagreb, 2013) and 2nd ReSyLAB (Belgrade, 2015) this will be the third regional symposium on landslides organised by the ICL Adriatic-Balkan Regional Network.

### **SUBMISSION OF ABSTRACT**

All authors are requested to submit their abstracts (400-500 words) by 15 May 2016 to:

Call FOR ABSTRACT in the WLF4 WEB: <http://www.wlf4.org/>

Directly access to: <http://www.editorialmanager.com/wlfo/default.aspx>

### **SECRETARIAT OF WLF4**

**General Information: WEB OF WLF4 :** <http://www.wlf4.org/>

#### **Contact:**

For abstract/paper submission, scientific and other academic issues

UL FGG – University of Ljubljana, Faculty of Civil and Geodetic Engineering,  
Jamova c. 2, 1000 Ljubljana, Slovenia, e-mail: [secretariat@wlf4.org](mailto:secretariat@wlf4.org)

For registration, accommodation, and visa-related questions

CD - Cultural and Congress Centre Ljubljana, Prešernova cesta 10,  
SI-1000 Ljubljana, Slovenia; e-mail: [registration@cd-cc.si](mailto:registration@cd-cc.si)