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**The Second World Landslide Forum, Rome, 3–9 October, 2011:  
state of art at May 2011**

**Claudio Margottini\*, Paolo Canuti\*\*, Kyoji Sassa\*\*\***

\* ICL Vice President and Forum Chair

\*\* ICL President

\*\*\* ICL Executive Director

e\_mail: claudio.margottini@isprambiente.it

**Abstract**

The World Landslide Forum (WLF) is a triennial mainstream conference aimed at gathering scientists, stakeholders, policy makers and industry members dealing with the management of landslide risk. The First World Landslide Forum, organized by the International Consortium of Landslides (ICL), UNESCO, WMO, FAO, UNISDR, UNU, UNEP, IBRD, UNDP, ICSU, WFEO, KU and the Japan Landslide Society, was held in 2008 at the United Nations University, Tokyo. The 1<sup>st</sup> WLF adopted the 2008 Tokyo Declaration “Strengthening the International Programme on Landslides with UNISDR”.

The Second World Landslide Forum has the objective to further develop the outcomes of the First Forum in Tokyo 2008 by providing a global cross-cutting information and cooperation platform for all types of organizations representing academia, United Nations organisations, governments, private enterprises and individuals that contribute to landslide research, practice, education and decision making and are willing to strengthen landslide and other related Earth system risk reduction strategies. The emphasis of this forum will be “**Putting Science into Practice**” with special attention given to actual implementation of technology and research in everyday applications and procedures with the direct involvement of researchers, engineers, private enterprises, stakeholders as well as policy and decision makers.

The abstract submission and pre-registration of participants was quite successful with 649 received abstracts and more than 800 participants at May 2011. The full organisation of the event is now in progress taking into consideration the new figure and interest in scientific community and stakeholders.

**Keywords**

World Landslide Forum, technology marketplace, field trip, science, stakeholders, decision makers.

**Background**

Along with earthquakes and floods, landslides constitute one of the more important natural hazards, and in some countries, such as Japan, they are a major cause of natural-hazard deaths. Landslides are perceptible gravitational movements of masses of rock, earth and debris down slopes. Their dynamics depend on the style of movement (mainly falls, slides and flows and, secondarily, topples and spreads) and the materials involved (Cruden & Varnes, 1996). Rapid and slow landslides can be identified, and speed is clearly a major source of danger. Landslide occurrence and reactivation is conditioned by a number of terrain and geo-environmental factors such as rock and soil properties, weathering, jointing and structure, slope morphology, land cover/use, and water flow. Landslides can be triggered by many natural phenomena such as heavy or prolonged rainfall, earthquakes, volcanic eruptions, snow melt and erosion of the base of slopes by rivers or sea waves. They can also be triggered by human activities such as slope excavation and loading, land-use change, blasting vibrations, and water leakage from utilities, or by many combinations of activities and processes.

The Second World Landslide Forum - WLF2 (Margottini et al., 2010) will discuss major impacts of landslides on the environment, including effects on people, their homes and possessions, farms and livestock, industrial establishments and other structures, and lifelines, including submarine ones. Major objective of the forum is to bridge gaps in understanding between scientific researchers, industry, professionals and stakeholders.

The forum is promoted by the International Consortium on Landslides and partners of the International Programme on Landslides (UNESCO, ICSU, WFEQ, WMO, FAO, UNISDR, UNU). The local organization is demanded to the Italian Institute for Environmental research and protection, Dpt. Geological Survey of Italy. are promoting the Second World Landslide Forum in Rome on 3-7 October 2011. Field trips will be organised on 1-2 October and on 8-9 October.

Italy is an ideal place for organising the WLF2, since it has many sites that illustrate millennia of humanity's engineering struggles against landslides. Also, in the last few months, southern Italy has been affected by many landslides killing tens of victims and leaving an impressive amount of damage. Certainly, there is much awareness of the landslide problem and the conference will be an important venue for international exchange of ideas and experiences.

The Second World Landslide Forum, in support of the ISDR Hyogo framework for action, aims to further develop the outcomes of the First Forum in Tokyo 2008 by providing a global cross-cutting information and cooperation platform for all types of organizations representing academia, United Nations organisations, governments, private enterprises and individuals that contribute to landslide research, practice, education and decision making and who are willing to strengthen landslide and other related Earth-system risk reduction strategies. The emphasis of this forum will be "Putting science into practice", with special attention given to implementation of technology and research in policy, applications and procedures through the direct involvement of researchers, engineers, private enterprises, and stakeholders, as well as policy and decision makers.

The Forum will thus consider implementing some key aspects.

- A large participation of exhibitors, fostering interaction between industry and end-users.
- Maximize attendance and interchange between participants.
- Cross-cutting topical sessions, in some cases devoted to specific themes (e.g. interaction of landslides, land-use systems and food security) and encompassing the entire set of operational and scientific issues from risk assessment to risk management.
- Short courses to be organized for the benefit of professionals and consultants, and also by exhibitors (date, location and content still to be defined).

### Forum format and topics

The Forum will host, for five full days, a series of Plenary and Parallel Sessions devoted to high-level interaction and discussion among key world players in landslide risk reduction, including stakeholders and end-users, together with researchers, engineers and industry.

To stimulate knowledge sharing, the Forum will also promote a large interactive exhibition of technologies and services for landslide risk mitigation (technology marketplace).

Topical and thematic sessions envisaged are in the following table.

General themes	Sessions	Conveners
Landslide and global change	<a href="#"><u>L01. Landslide scenarios accounting for the climatic, geomorphological and geotechnical context</u></a>	Luciano Picarelli Vit Vilimek
	<a href="#"><u>L02. Landslides, land-use systems and food security</u></a>	Thomas Hofer
	<a href="#"><u>L03. Wildfires and slope instability</u></a>	Jerome De Graff Susan Cannon Pieter Van Lierop Mario Parise
Advances in landslide mapping and hazard assessment	<a href="#"><u>L04. Landslide inventory and susceptibility and hazard zoning</u></a>	Javier Hervas Gabriel Legorreta Miet Van Den Eeckhaut Alessandro Trigila
	<a href="#"><u>L06. Landslides and extreme weather</u></a>	Hiroshi Fukuoka Gabriele Scarascia Mugnozza
	<a href="#"><u>L29. Rapid landslide runout analysis</u></a>	Claudio Scavia Marina Pirulli
Emerging Technologies in landslide research and practice	<a href="#"><u>L07. Landslide instrumentation and monitoring</u></a>	Rajenda K. Bandari Leonardo Cascini Dario Peduto
	<a href="#"><u>L08. GIS application developments</u></a>	Serafino Angelini Esther Jensen Raffaele De Amicis

	<a href="#"><u>L09. Advances in slope stability modelling</u></a>	Ken Ho Filippo Catani Giulio Iovine Alberto Ledesma
<b>Impact of landslides</b>	<a href="#"><u>L10. Landslides and Socio-economic Impact: Basic Data and Loss Modeling</u></a>	Lynn Highland Dalia Kirschbaum Dave Petley
	<a href="#"><u>L11. Landslides, transportation network and lifelines</u></a>	Jordi Corominas Gian Paolo Giani Tiziana Apuani
	<a href="#"><u>L12. Landslides and reservoirs</u></a>	Alexander Strom Fawu Wang
	<a href="#"><u>L13. Landslide as sediment sources</u></a>	Giovanni Crosta Matjaz Mikos Zieaoddin Shoaie
	<a href="#"><u>L15. Landslides and urban risk reduction</u></a>	Domenico Calcaterra C.F. Lee
	<a href="#"><u>L16. Early warnings and emergency plans</u></a>	Nicola Casagli Yin Yueping
	<a href="#"><u>L17. Advanced technologies for landslide stabilisation</u></a>	Paul Marinos Paolo Tommasi
	<a href="#"><u>L14. Landslides (and legislation), policies, cost benefit analysis and decision makers</u></a>	Raoul Carreno Giuliano Di Baldassarre Tiziana Guida
	<a href="#"><u>L20. Integrated approach to landslide risk mitigation</u></a>	Josè Cepeda Lino Versace
<b>Landslide awareness and preparedness</b>	<a href="#"><u>L21. Landslide education, training and capacity development</u></a>	Dwikorita Karnawati Surya Prakash
<b>Other general themes</b>	<a href="#"><u>L22. Submarine landslides and tsunami</u></a>	Jacques Locat Roger Urgeles Paolo Mazzanti
	<a href="#"><u>L23. Landslides in coastal areas</u></a>	Vincenzo Liguori Crescenzo Violante
	<a href="#"><u>L24. Landslides and cultural heritage</u></a>	Paolo Canuti Yoshinori Iwasaki Daniele Spizzichino
	<a href="#"><u>L25. Seismically induced landslides and seismic landslide hazard analysis</u></a>	Ed Harp Hideaki Marui Luca Guerrieri
	<a href="#"><u>L26. Landslides in cold regions</u></a>	Marten Geertsema Marta Chiarle Wei Shan
	<a href="#"><u>L28. Risk management in a Multi-hazard environment</u></a>	Peter Bobrowsky Salvano Briceno Peter Lyttle Giuseppe Delmonaco

Following is the structure of the WLF2.

October				
Monday 3	Tuesday 4	Wednesday 5	Thursday 6	Friday 7
9.30 - 10.30 Opening ceremony	9.00 - 10.30 6 parallel session	9.00 - 10.30 6 parallel session	9.00 - 10.30 6 parallel session	9.00 - 10.30 6 parallel session
10.30 - 11.00 coffee break and opening marketplace	10.30 - 11.00 coffee break	10.30 - 11.00 coffee break	10.30 - 11.00 coffee break	10.30 - 11.00 coffee break
11.00 - 12.15 High level panel discussion	11.00 - 12.15 6 parallel session	11.00 - 13.00 6 parallel sessions	11.00 - 12.15 6 parallel session	11.00 - 12.15 6 parallel session
12.30 - 13.00 Special lecture	12.30 - 13.00 Special lecture		12.30 - 13.00 Special lecture	12.30 - 13.00 Special lecture
13.00 - 14.30 lunch	13.00 - 14.30 lunch	13.00 - 14.30 lunch	13.00 - 14.30 lunch	13.00 - 14.30 lunch
14.30 - 16.00 6 parallel session	14.30 - 16.00 6 parallel session	9.00 - 18.00 Marketplace Short courses from exhibitors	14.30 - 16.00 6 parallel session	14.30 - 16.00 Round table discussion
16.00 - 16.30 coffee break	16.00 - 16.30 coffee break		16.00 - 16.30 coffee break	16.00 - 16.30 coffee break
16.30 - 18.00 6 parallel session	16.30 - 18.00 6 parallel session		16.30 - 18.00 6 parallel session	16.30 - 18.00 Closing ceremony
10.30 - 18.00 Marketplace	9.00 - 18.00 Marketplace	9.00 - 18.00 Marketplace	9.00 - 18.00 Marketplace	9.00 - 18.00 Marketplace

## Venue

The Second World Landslide Forum will be hosted by the Food and Agriculture Organization (FAO) of the United Nations in the Headquarters building in Rome. After Tokyo 2008, Rome is another exciting venue for the Forum, offering physical evidence of some millennia of interaction between human development and natural environment at the very centre of a country which continues to be highly affected by landslides.

## Technology marketplace

A technology marketplace will be organised within the Forum, with an open and dynamic Technical Exhibition of the most recent technologies, systems and solutions to fight landslide risks at every scale and in every environmental and social context. The Exhibition will be located in a large area at the very centre of the Forum and will be integrated with the Poster and the Coffee Break area, so as to maximise attendance and to create a marketplace space open to every participant. Exhibitor profiles include private companies, research institutes and governmental agencies dealing with

emerging technologies in landslide investigation, landslide risk management, GIS, remote sensing, monitoring systems, and technologies for reduction of landslide risk.

The following figure is giving the preliminary distribution for exhibitors. An “Open Space” is available next to the Atrium that is an outdoors exhibition space for Companies that need large spaces to expose tools and machineries.

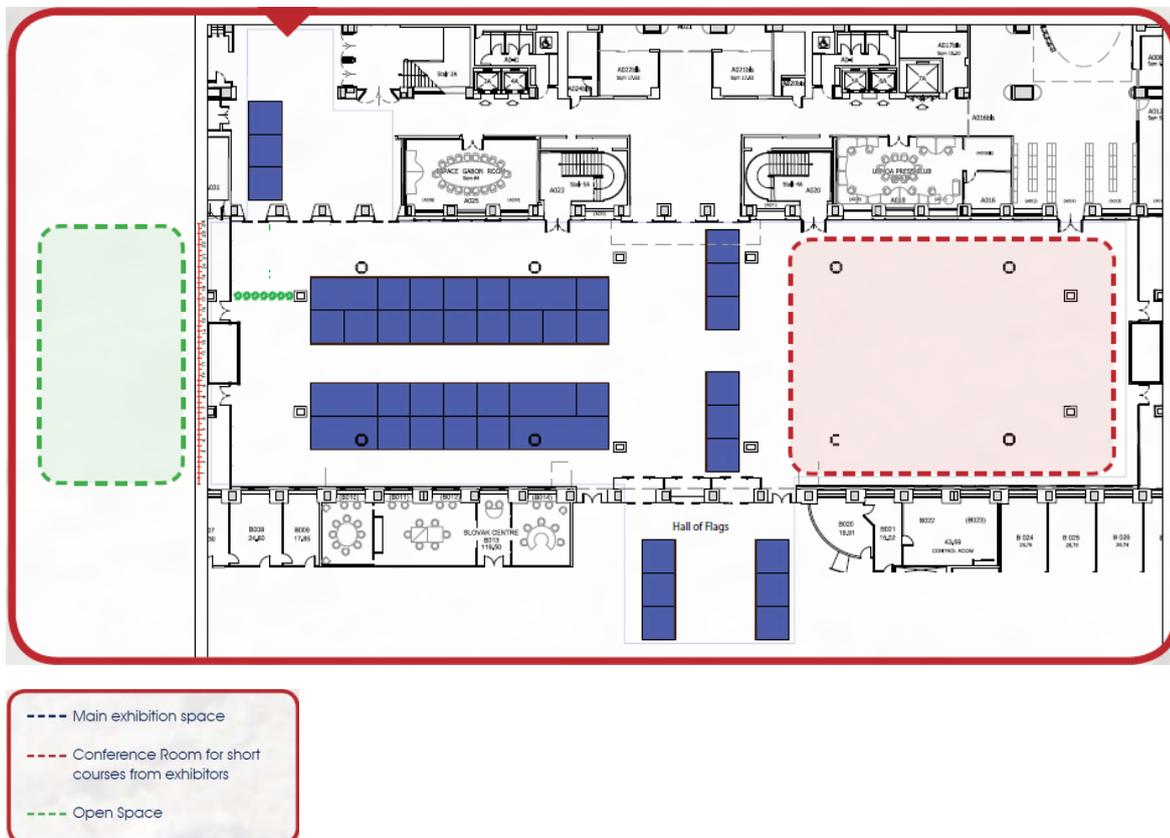


Figure 1 - Marketplace logistics

## Participants

The deadline for abstract submission was 15 March 2011. After this deadline a total number of 649 abstracts were submitted, for the different sessions. The following figure is presenting the distribution of abstracts for the proposed sessions.

Sessions	Submitted abstracts
L01. Landslide scenarios accounting for the climatic, geomorphological and geotechnical context	24
L02. Landslides, land-use systems and food security	12
L03. Wildfires and slope instability	8
L04. Landslide inventory and susceptibility and hazard zoning	114
L06. Landslides and extreme weather	11

L07. Landslide instrumentation and monitoring	89
L08. GIS application developments	20
L09. Advances in slope stability modelling	44
L10. Landslides and Socio-economic Impact: Basic Data and Loss Modeling	11
L11. Landslides, transportation network and lifelines	20
L12. Landslides and reservoirs	31
L13. Landslide as sediment sources	6
L14. Landslides (and legislation), policies, cost benefit analysis and decision makers	11
L15. Landslides and urban risk reduction	30
L16. Early warnings and emergency plans	17
L17. Advanced technologies for landslide stabilisation	13
L20. Integrated approach to landslide risk mitigation	19
L21. Landslide education, training and capacity development	15
L22. Submarine landslides and tsunami	17
L23. Landslides in coastal areas	8
L24. Landslides and cultural heritage	22
L25. Seismically induced landslides and seismic landslide hazard analysis	46
L26. Landslides in cold regions	19
L28. Risk management in a Multi-hazard environment	19
L29. Rapid landslide runout analysis	89

A large participation of experts and stakeholders was also confirmed. In the 15th of March about 700 pre-registered participants were recognized. Their participation is from many part of the world with the Italian contribution solely covering 1/3 of them. The following figure is presenting the distribution of participants in relationship to the different home Countries.

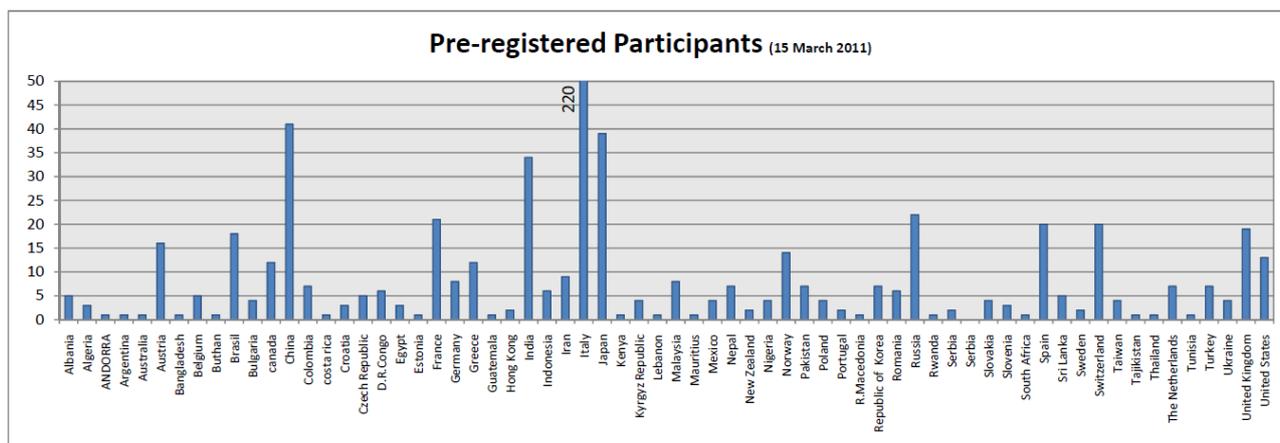


Figure 2 - Pre-registered participants at 15th March 2011.

After 15th March the registration of new participants is increasing at the rate of more than 100 people per month. As an evidence, on 10th May there were 815 pre-registered participants.

As a confirmation of the large interested in the forum it can be mentioned that, in the period 3rd April - 3rd May 2011 we registered 1820 visits at the web site from 75 different Countries, with 10,37 visited pages per visitor, 54,78 % new visits and a total of 18.881 visited pages.



Figure 3 - www.wlf2.org web site visitors per Country in the period 3rd April - 3rd May 2011 (from google.com).

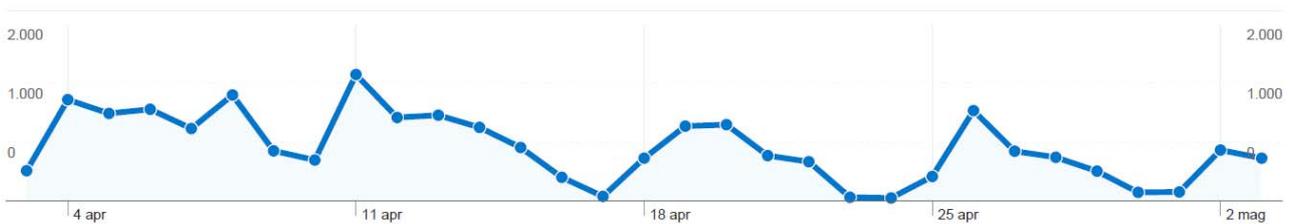
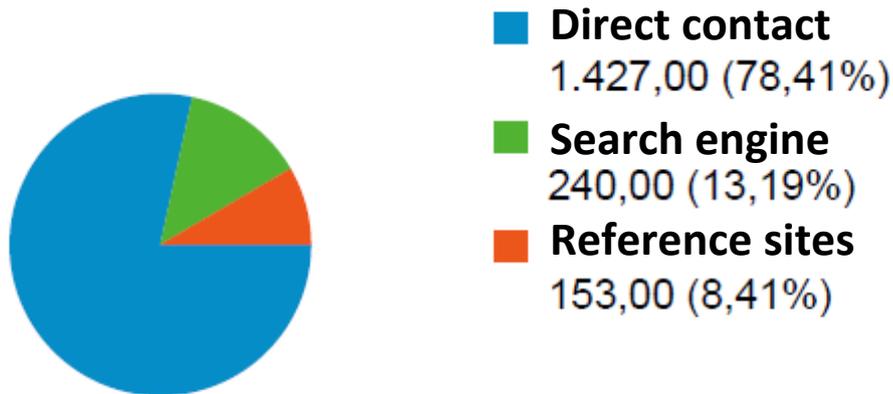


figure 4 - Visited pages per day in the period 3rd April - 3rd May 2011 (from google.com).

From the following figure 5 it is interesting to notice that most of the contacts have been performed by direct contacts, likely inside the community of interested people. Only few of them requested a search through web site search engines, demonstrating the large diffusion of the information world wide.



### Collateral events

Some collateral events have been organised to open the forum to initiatives other than the traditional conference presentation. The following is a list of preliminary organised events.

1. JTC1: Natural Slopes and Landslides. JTC1 is a joint international technical committee on natural slopes and landslides. The committee brings together representatives from the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE); the International Society for Rock Mechanics (ISRM); and the International Association for Engineering Geology and the Environment (IAEG).
2. Short Course GIS and earth science from the EU project Pangeo organised by Eurogeosurvey, the association of the European Geological Surveys.
3. UNESCO-Petra project. The first official presentation of the UNESCO project on the landslide risk reduction of the world heritage site of Petra (Jordan) managed by ISPRA.
4. Marble quarries in Carrara (Italy). A special event for presenting the slope instability problem of the famous marble quarries in Carrara (Italy)
5. Photo exhibition on the most valuable photos reporting landslides in various part of the world.
6. Alpine convention: presentation of the report on Natural Disasters in the Alpine region.
7. IAES - International Academy of Environmental Sciences: the constitution of the European Environmental Criminal Court (EECC) and of the International Environmental Criminal Court (IECC). Case study for outlining the main scientific and juridical reasons on the impact of transfrontier disaster and relationship of national legislations.
8. ICL Board of Representatives

### Field trips

#### Pre forum

The first proposed field trip (North) is scheduled in the days 1st-2nd October 2011 and will visit the Carrara marble quarry, worked since classical Roman times, and its related instability problems. The field trip is integrated with a visit to the UNESCO World Environmental and Cultural Heritage Cinque Terre National Park and its traditional terraces for reducing soil erosion and coastal landslides. This field trip will have a unique global event to announce the Forum and to enhance "empowerment" as culture for reduction the impact of natural disasters. This event will have its major spotlight with the presentation of the first marble piano and a concert from the renown piano player David Bryan from Jon Bon Jovi Group. The concert is offered from the foundation YouLifeEmpowerment.

### Post forum

The second proposed field trip (East) will visit classical sites where man has fought a losing battle with landslides for up to 2500 years at Civita Bagnoregio, Orvieto and Ancona. Departure from Rome is scheduled on 7th evening and back to Rome on 9th, October.

The third field trip (South) will highlight the major problems that occurred during the Sarno mudslide, south of Naples, and the related mitigation works. The field trip is completed with inspection of the cliffed coastal resort area of the Costiera Amalfitana and its associated slope-stability problems. Departure is scheduled on 8th October and return to Rome on 9th.

### **Proceedings**

To enhance cooperation between science organisations and stakeholders, conference information and proceedings will be available in a variety of forms. In particular, the following will be available to all participants:

- A complete set of conference proceedings, containing all accepted papers, available on a web site, on a memory stick and, possibly, as a paper copy;
- A full-color book of keynote and invited speakers' papers and reports by World Centres of Excellence on Landslide Risk Reduction (WCoEs) and IPL projects;
- An exhibitor's book, including descriptions of all presented technologies, software, mitigation techniques and case studies;
- A leaflet with key messages for targeted stakeholders.

### **Who should attend**

Many relevant stakeholders are expected to attend from a wide range of backgrounds and geographic regions:

- International institutions and permanent representations (such as UN)
- Intergovernmental institutions and agencies (such as EU)
- National governments and local administrations
- Civil protection agencies

- Leading industries in new technologies for monitoring, warning, protection, soil/ rock stabilisation and restoration
- Research and academic institutions
- Natural-disaster and environmental NGOs and consumer groups
- Consultancies and professionals
- Insurance and reinsurance companies for natural hazards
- Interested members of the public

## Deadlines

- Submission of draft manuscripts for review (max 6 pages Landslides Journal format): 15 July 2011
- Notification of acceptance of manuscript: 15 July 2011
- Full paper submission and contact author registration: 15 August 2011
- Field trip pre-registration: 30 June 2011
- Notification of field trip confirmation: 15 July 2011
- Field trip registration: 15 August 2011

## Secretariat

ISPRA, Italian Institute for Environmental Protection and Research  
 Dpt. Geological Survey of Italy, Via Curtatone 3, 00185 Roma, Italy.  
 Contact: secretariat@wlf2.org , WEBSITE: www.wlf2.org

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## Authors

Claudio Margottini

ISPRA - Dept. Geological Survey of Italy

Via Curtatone, 3, 00185 Rome – Italy, claudio.margottini@isprambiente.it

Paolo Canuti

Via Codacci, 43, 50023 Impruneta (FI) – Italy, paolo.canuti@gmail.com

Kyoji Sassa

UNITWIN Headquarters Building

Kyoto University Uji Campus, Uji, Kyoto 611-0011 – Japan, sassa@iclhq.org