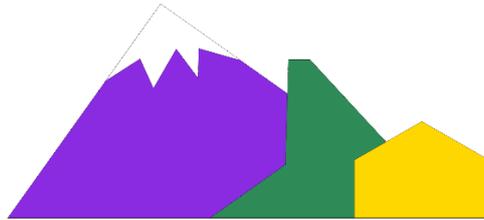


ASSOCIATION OF CHARTERED
ENGINEERS IN ICELAND

International Symposium on Mitigation Measures against Snow Avalanches and other Rapid Gravity Mass Flows



Snow 2019 - Iceland

Co-sponsored by:

Icelandic Avalanche and Landslide Fund
Icelandic Road and Coastal Administration
Landsvirkjun (National Power Company of Iceland)
University of Iceland
Icelandic Association of Local Authorities
Government Construction Contracting Agency (FSR)
Iceland Glaciological Society
International Glaciological Society (IGS)

First Circular

June 2018

The Association of Chartered Engineers in Iceland will hold an International Symposium on Mitigation Measures against Snow Avalanches and Other Rapid Gravity Mass Flows in Siglufjörður, north Iceland, from April 3rd to April 5th, 2019.

THEME

Rapid gravity mass flows pose a threat to settlements and infrastructure and limit the use of land on all continents of the world. In mountainous regions, these natural hazards include snow avalanches, slush- and debris flows, rockfall and landslides. People in modern societies are becoming more concerned with safety, and authorities strive to ensure the safety of settlements, traffic lines and society in general with hazard zoning, planning of settlements, and construction and management of protection measures. Due to high safety demands, the design of permanent protection measures has become more demanding and expensive than before and the question is sometime raised in which

situations temporary measures or relocation of settlements should also be considered to improve safety.

The symposium seeks to bring together scientists, engineers, architects and representatives of local and central authorities to discuss the state of the art of mitigation measures against snow avalanches and other rapid gravity mass flows and the challenges that lie ahead in the management of those natural hazards.

TOPICS

The following list of topics defines the focus of this upcoming symposium under four general headlines.

1. RISK MANAGEMENT

- Hazard zoning/risk management in relation to mitigation measures
- Land use planning
- Hazard management in ski areas
- Hazard management for roads, power lines and other infrastructure

2. PLANNING, DESIGN, CONSTRUCTION AND MANAGEMENT OF PROTECTION MEASURES

- Dynamic design principles/criteria for protection measures in the run-out zone such as earthen catching/deflecting dams
- Design and planning of mitigation measures in the release area such as snow supporting structures or snow drift measures
- Management and maintenance of protection measures
- Effects of climate changes on design and planning of mitigation measures
- Hydrological design of protection measures in the run-out zone

3. OBSERVATIONS AND SIMULATIONS OF AVALANCHES

- Field measurements of snow avalanches
- Observations of natural snow avalanches interacting with obstacles
- Laboratory experiments on the interaction of rapid gravity flows and obstacles
- Numerical modelling in the design of protection measures

4. SOCIETY AND ENVIRONMENT

- Landscape architecture of protection measures
- Legal issues regarding mitigation measures (e.g. rest risk, overload cases, responsibility for maintenance/management and lack thereof)
- Removal/relocation of buildings/infrastructure
- Communication between authorities and inhabitants
- Impact of mitigation measures on the local society (feeling of safety, understanding of rest risk)

PROGRAMME

A mixture of oral and poster sessions, interlaced with free time, forms the general framework of the symposium, which is intended to facilitate exchange of scientific information between participants in an informal manner. Additional activities include an icebreaker, a symposium banquet along with excursions to specifically selected sites near Siglufjörður.

ABSTRACT AND PAPER PUBLICATION

Participants intending to present at the symposium are required to submit an abstract or an extended abstract in due time. The extended abstracts will be published in the Symposium Proceedings.

Participants are encouraged to submit manuscripts based on their presentations at the symposium to the journal Cold Regions Science and Technology (www.journals.elsevier.com/cold-regions-science-

and-technology). Submissions to the journal will not be contingent on presentation at the symposium, and material presented at the symposium is not necessarily affirmed as being suitable for consideration for the journal.

SYMPOSIUM ORGANIZATION

VFI (The Association of Chartered Engineers in Iceland)

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VENUE

The symposium will be held in Siglufjörður, north Iceland. Siglufjörður is at the northern tip of the Troll Peninsula (Tröllaskagi), surrounded on three sides by the N-Atlantic Ocean. The location is ideal for a symposium about avalanche mitigation measures. Siglufjörður and the surrounding rural area has a long history of avalanches and avalanche catastrophes and the area offers great opportunities for a symposium field excursion. An extensive programme for the construction of avalanche protection measurements for the town has been ongoing for more than two decades. We have reserved accommodation at different price ranges. The symposium will take place at the newly built Sigló Hótel, built into the fisherman's marina in Siglufjörður. Local attractions include the Herring Museum, heli skiing, the local skiing area in Skarðsdalur and the Folk Music Center.

SYMPOSIUM EXCURSIONS

There will be a symposium field excursion on April 5th to specifically selected sites in the Troll peninsula near Siglufjörður. For those who are interested, a ski mountaineering tour will be arranged on April 6th to some interesting mountain sites between Siglufjörður and Ólafsfjörður, with guides familiar with skiing and hiking in Tröllaskagi. A more detailed plan for the excursions will be given in the Second Circular.

ACCOMMODATION

Details will be given in the Second Circular.

FURTHER INFORMATION

If you wish to attend the symposium, please register your interest online at <http://www.snow2019.is>.

The Second Circular will give further information about accommodation, the programme, additional activities, preparation of abstracts and final papers. All information regarding this symposium will be updated on the conference website <http://www.snow2019.is>.

IMPORTANT DATES

International Symposium on Mitigation Measures against Snow Avalanches and other Rapid Gravity Mass Flows

- Abstract submission deadline: 31st October 2018
- Notification of abstract acceptance: 15th November 2018
- Early registration deadline: 15th December 2018
- Extended abstract submission deadline: 31st January 2019
- Venue hotel booking deadline: 15th February 2019
- Deadline for full refund: 1st March 2019
- Late registration deadline: 15th March 2019
- Deadline for partial refund: 15th March 2019
- Welcome and icebreaker: 2nd April 2019
- Symposium starts: 3rd April 2019
- Symposium tour: 5th April 2019
- Ski mountaineering tour: 6th April 2019

Some examples of Protection Measures in Iceland



Figure 1. Catching- and deflecting dam at Brún below Bjölfur mountain, Seyðisfjörður, east Iceland.



Figure 2. Catching- and deflecting dam below Tröllagil gully in Neskaupstaður, east Iceland.



Figure 3. A catching dam and mounds above town of Bolungarvík, north west Iceland.



Figure 4. A deflecting dam below Búðargil gully, Bíldudalur, west Iceland.



Figure 5. Catching- and deflecting dams in Siglufjörður, north Iceland.



Figure 6. A deflecting dam and mounds in Seljaland area in Ísafjörður, north west Iceland.



Figure 7. Supporting structures in Hafnarhryna above Siglufjörður.

The venue



Figure 8. Hotel Sigló in Siglufjörður.



Figure 9. Siglufjörður.