

NORTHQUAKE 2019

The 3rd International Workshop on

EARTHQUAKES IN NORTH ICELAND

21-24 May, 2019

Fosshotel Húsavík

Ketilsbraut 22, 640 Húsavík, Iceland

Tuesday, 21 May, 2019

21:00 – 22:30 **Registration and icebreaker**

Wednesday, 22 May, 2019

09:00 – 10:00 **Registration and coffee**

10:00 – 10:20 **Introduction to the workshop**

10:20 – 10:40 **Seismicity, faults, and bathymetry of the Tjörnes Fracture Zone**
Páll Einarsson, Bryndís Brandsdóttir, Ásta Rut Hjartardóttir

10:40 – 11:00 **Tectonics of the Eyjafjarðaráll graben**
Bryndís Brandsdóttir

11:00 – 11:20 **Geomorphological evidence for post-glacial displacement on the Húsavík-Flatey fault, observed with drone images**
Rémi Matrau, Sigurjón Jónsson, Daniele Trippanera, Yann Klinger

11:20 – 11:40 **Local earthquake tomography in North Iceland**
Claudia Abril, Ari Tryggvason, Ólafur Gudmundsson, Rebekka Steffen

11:40 – 12:00 **Session wrap-up discussion**

12:00 – 13:00 **Lunch**

13:00 – 13:20	The preceding activity, source, and aftershocks of the 1976 Kópasker earthquake Ragnar Stefánsson, Gunnar B. Guðmundsson
13:20 – 13:40	The Kópasker seismic swarm in Spring 2019 Kristín Jónsdóttir et al.
13:40 – 14:00	Earthquake relocation in the Tjörnes Fracture Zone Claudia Abril, Ólafur Guðmundsson, Ari Tryggvason
14:00 – 14:20	Seismicity and seismic swarms on the Húsavík-Flatey Fault and Grímsey Oblique Rift Luigi Passarelli, Sigurjón Jónsson, Claudia Abril, Ari Tryggvason, Eleonora Rivalta, Martin Hensch, Steinunn S. Jakobsdóttir
14:20 – 14:40	Do large earthquakes in North Iceland usually occur in Winter? Sigurjón Jónsson
14:40 – 15:00	Session wrap-up discussion
15:00 – 15:20	Coffee break
15:20 – 15:40	Spatial distribution of landslides in Iceland in connection with major earthquake in Northern Iceland Jón K. Helgason, Halldór G. Pétursson
15:40 – 16:00	Avalanche- and landslide monitoring at the Icelandic Met Office Harpa Grímsdóttir, Sveinn Brynjólfsson
16:00 – 16:20	Monitoring slope instabilities with Sentinel-1 satellite interferometry Vincent Drouin, Freysteinn Sigmundsson
16:20 – 16:40	Preliminary simulations for tsunami hazard in connection with a major earthquake on the HFF Angel Ruiz-Angulo
16:40 – 17:00	Session wrap-up discussion

Thursday, 23 May, 2019

09:00 – 09:20 **On the scaling of earthquake strong-motion in North Iceland**
Benedikt Halldorsson, Tim Sonnemann, Milad Kowsari, Sahar Rahpeyma, Birgir Hrafnkelsson, Sigurjón Jónsson

09:20 – 09:40 **Sensitivity analysis of seismicity parameters and ground motion models used in PSHA to its input assumptions: A case study of Húsavík, North Iceland.**
Milad Kowsari, Benedikt Halldorsson, Nasrollah Eftekhari, Jónas Þ. Snæbjörnsson, Sigurjón Jónsson

09:40 – 10:00 **Site effect estimation on two Icelandic strong-motion arrays using a Bayesian multi-level model for the spatial distribution of earthquake ground motion amplitudes**
Sahar Rahpeyma, Benedikt Halldorsson, Birgir Hrafnkelsson, Sigurjón Jónsson

10:00 – 10:20 **Microseismic response characteristics of typical gravel fills in Iceland using HVSR and SSR techniques**
Thomas J. Kennedy, Benedikt Halldorsson, Jónas Þ. Snæbjörnsson, Russel A. Green, Sahar Rahpeyma

10:20 – 10:40 **Structural earthquake monitoring and model updating of the Húsavík hospital building**
Jónas Þ. Snæbjörnsson, Sahar Rahpeyma, Benedikt Halldorsson

10:40 – 11:00 **Coffee break**

11:00 – 11:20 **Earthquake source modeling and ground motion simulation in North Iceland**
Tim Sonnemann, Benedikt Halldorsson, Birgir Hrafnkelsson, Sigurjón Jónsson, Jónas Þ. Snæbjörnsson

11:20 – 11:40 **Simulating earthquakes on the Húsavík-Flatey Fault**
Claudia Abril, P. Martin Mai, Sigurjón Jónsson

11:40 – 12:00 **Towards physics-based probabilistic seismic hazard assessment in complex fault networks – the ChEESA project**
Bo Li, Aniko Wirp, Alice-Agnes Gabriel, Michael Bader, Benedikt Halldorsson

12:00 – 12:20 **An overview of the North Anatolian fault zone and 3D crustal structure of Western Turkey by using full waveform tomography**
Yesim Cubuk-Sabuncu

12:20-12:40 **Session wrap-up discussion**

12:40 – 13:40 **Lunch**

13:40 – 14:00	Update on groundwater monitoring at Húsavík and Hafralækur G. Stockmann, A. Skelton, E. Sturkell, R. Kjartansdóttir, H. Siegmund, H. Hjartarson
14:00 – 14:20	Creating a monitoring network for studying hydrological changes in relation to earthquakes. Project status Helga Rakel Guðrúnardóttir, Heiko Woith, Daniel Müller, Rémi Matrau
14:20 – 14:40	An update of GPS measurements in North Iceland Rémi Matrau, Sigurjón Jónsson, Renier Viltres, Benedikt Ófeigsson
14:40 – 15:00	The potential use of seafloor geodesy in North Iceland Halldór Geirsson, Vala Hjörleifsdóttir, Sigurjón Jónsson
15:00 – 15:20	Coffee break
15:20 – 15:40	Pre-earthquake processes and warnings in the Tjörnes Fracture Zone Ragnar Stefánsson
15:40 – 16:00	Seismic monitoring, earthquake modeling and ground motion simulation for early warning and hazard estimates in North Iceland Benedikt Halldorsson
16:00 – 16:20	Húsavík-Flatey fault earthquake exercise and earthquake monitoring in N-Iceland Kristín Jónsdóttir
16:20 – 16:40	Monitoring – Planning – Action! What comes after research and monitoring? Ágúst Gunnar Gylfason, Kristín Jónsdóttir
16:40 – 17:00	Session wrap-up discussion
21:00-23:00	Geosea - geothermal sea baths

Friday, 24 May, 2019

09:00 – 09:10 **Introduction to discussion**

09:10 – 10:10 **Discussion**

10:10 – 10:30 **Coffee break**

10:30 – 11:30 **Discussion, cont.**

12:00 – 13:00 **An open meeting for the general public (in Icelandic)**

13:30 – 17:00 **Excursion to Kelduhverfi, Ásbyrgi, and Tungulending**
