

Invitation

to the

37th Nordic Seminar on Detection Seismology

Nesjavellir, Iceland

August 21-23, 2006

You are invited to attend the 37th Nordic Seminar on Detection Seismology. The seminar will be take place in southern Iceland, at Fosshótel Nesbúd, Nesjavellir, starting on Monday, August 21 at 09:00, and ending at about 18:00 on Wednesday, August 23.

August 21 and 22: Sessions

August 23: Excursion

Note: The deadline for abstracts is August 1.

Organizing Committee

Steinunn S. Jakobsdóttir, Icelandic Meteorological Office

Bjarni Bessason, Faculty of Engineering, University of Iceland

Ólafur Gudmundsson, Institute of Earth Sciences, University of Iceland

Bardi Thorkelsson, Icelandic Meteorological Office

Matthew J. Roberts, Icelandic Meteorological Office

Venue and accommodation

The venue of the meeting is Fosshótel Nesbúd at Nesjavellir, a geothermal area and a power plant close to Lake Thingvallavatn. Nesjavellir is located 40 km from Reykjavík and 80 km from Keflavík International Airport. The hotel is an economy tourist-class hotel that offers 30 rooms with shower/WC. Additionally there are 20 rooms with shared facilities (made-up beds or sleeping bag accommodation) but they have already been reserved.

Website: http://www.fosshotel.is/en/hotel/fosshotel_nesbud.html **Do not book** at the website.

The accommodation prices are as follows (breakfast included):

Single room with shower and WC: ISK 8.175 per person per night

Double room with shower and WC: ISK 5.212 per person per night

The trip to Nesjavellir

We recommend that you make your travel arrangements at your earliest convenience. On arrival in Iceland there are two main ways of reaching the seminar venue.

- 1) Take the Flybus from Keflavik International Airport to the Bus Terminal in Reykjavik (50 km). On August 20 in the afternoon when passengers arriving with the flights from the Nordic Countries have reached the Bus Terminal, a bus transport will be offered directly from there to Nesjavellir (40 km).
- 2) Rent a car at Keflavik Airport (or in Reykjavik) and drive to Nesjavellir. The driving takes around one hour from Keflavik Airport but 30-40 minutes from Reykjavik.

Registration

E-mail your registration and booking of a room at Fosshótel Nesbúd to Bardi Thorkelsson - bardi@vedur.is

Please include the following in your registration:

- Title
- First name
- Surname
- Affiliation
- Address
- E-mail
- Webpage (if you have one)

- State if you want to present a paper or not.

Please include the following in your booking of a room at Fosshótel Nesbúd:

- Arriving on (date)

- Departing on (date)
- Single or double room
- If double room – to be shared with:
- Credit card details
 - × Type of card
 - × Card number
 - × Expiry date

There is no registration fee but 1.600 ISK will be added to your hotel bill for coffee, biscuits and cakes which will be provided during the sessions.

Accommodation in Reykjavík

The annual Reykjavík Cultural Night will be held on August 19. If you want to attend it you are highly recommended to book accommodation in Reykjavík as soon as possible because hotels and guesthouses have very few rooms still available for the weekend August 18-20. You are also recommended to reserve a room in Reykjavík on August 23 at your earliest convenience.

Further up-dates will be provided later.

Please address all correspondence to Bardi Thorkeþsson – e-mail: bardi@vedur.is

Between 21 and 23 August 2006, the 37th Nordic Seminar on Detection Seismology will take place at Nesbúð, Nesjavellir. Despite the title, the seminar is open to all topics in seismology and seismic monitoring. The seminar series began 36 years ago as a forum for research on detection seismology and the verification of a future test-ban treaty. Today, the CTBT is a reality and all Nordic countries host IMS stations. Alongside seismic techniques, other types of CTBT monitoring are being implemented, and these approaches will be discussed at future seminars. The seminar series has helped to encourage Nordic collaboration. For instance, Iceland's national seismic network – the SIL system – was initiated in this forum 20 years ago and developed as part of a Nordic enterprise. More recently, the Nordic seismic educational network has arisen from the seminar series. At the seminar dinner on Tuesday 22 August, the fifteenth anniversary of continuous, online operation of the SIL system will be celebrated.

Three keynote lectures will be given at the 2006 seminar: Farrokh Nadim, director of the International Centre for Geohazards in Oslo, will give a talk entitled “Presentation of International Centre for Geohazards (ICG) and discussion on challenges in geohazards-related research”. Ragnar Stefánsson, professor at the University of Akureyri, will talk about “Earthquake prediction research and the June 2000 earthquakes”. Freysteinn Sigmundsson, geophysicist at the Nordic Volcanic Center, Institute of Earth Sciences, University of Iceland, will give a talk about “Fire and ice on shaky grounds: Living with natural hazards in Iceland”.

The consensus from previous seminars is that an annual meeting is desirable, with a program spanning three days, beginning and ending at lunchtime. In Iceland, the tradition is a three-day seminar, with one day devoted to a field trip. At this year's seminar, the field trip will be on Wednesday 23 August – the last day of the seminar – and it will take place in conjunction with participants from the EC project [FORESIGHT](#). At 08:00 GMT on 23 August, participants in the FORESIGHT meeting will travel by bus from Reykjavík to the Nesjavellir geothermal area. At this location, participants from the Nordic Seminar will join the bus at 09:00 GMT. From Nesjavellir, will visit the following sites:

1. Hengill central volcano: earthquake swarms, crustal uplift, and geothermal power
2. Lake Þingvallavatn: plate-boundary tectonics
3. Hestfjall: surface ruptures caused by the Ms 6.6 earthquake in June 2000
4. Þjórsá bridge: engineering strategies for reducing seismic hazards
5. Lunch
6. Hekla region: insights into explosive volcanism from tephra exposures
7. Geysir: hydrothermal interactions

At 17:30 GMT, FORESIGHT members will leave the bus at Hotel Geysir, allowing participants from the Nordic seismology meeting to travel back to Nesjavellir and Reykjavík.

It is advisable to pack snacks and water; some stops may involve up to 20 minutes of hiking, mostly on flat terrain.

Recommended kit:

Hiking boots

Rain- and wind-proof jacket and trousers

A woollen jumper or some other "warm layer"

Hat and gloves

Spare hiking socks

Sun cream

Sunglasses

DAY ONE – MONDAY, AUGUST 21

09:00 Opening address

Steinunn S. Jakobsdóttir

09:05 Keynote lecture

Presentation of International Centre for Geohazards (ICG) and discussion on challenges in geohazards-related research

Farrokh Nadim

09:45 Seismic hazard assessment – engineering seismology

The confidence of earthquake damage scenarios; Examples from the capacity spectrum method

Sergio Molina & Conrad D. Lindholm

Public usage of a website for real-time seismicity in Iceland: Insights into hazard perception

Deanne Bird, Matthew J. Roberts & Dale Dominey-Howes

10:30 – 10:50 Coffee break

10:50 Seismic detection - verification

The mb(Ms) diagram for Iranian earthquakes obtained from the International Monitoring System

Ingvar Nedgård

Data processing and analysis of infrasound signals in Fennoscandia and NW Russia

Tormod Kværna, Johannes Schweitzer, Frode Ringdal & Steven J. Gibbons

Considerations in event detection and location using small-aperture seismic arrays

Steven J. Gibbons, Tormod Kværna & Frode Ringdal

Microseismic monitoring at the unstable rock-slope site at Åknes, Møre og Romsdal, Norway

Michael Roth & Lars H. Blikra

12:15 – 13:30 Lunch break

13:30 Keynote lecture

Earthquake prediction research and the June 2000 earthquakes

Ragnar Stefánsson

14:10 Seismicity – noise studies

Analysis of seismic noise at Icelandic network (SIL) stations

Kristín S. Vogfjörð

Microseismic studies at Hagfors array, Sweden

Leif Persson

Seismicity in Sweden from five years of digital recordings

Reynir Böðvarsson & Björn Lund

Seismological monitoring in Lithuania during the period 1999-2005

Andrius Pačėsa

15:35 Poster session

Strain and stress on the Reykjanes Peninsula

Marie Keiding, Björn Lund, Þóra Árnadóttir & Erik Sturkell

15:40 - 16:00 Coffee break

16:00 Seismicity – noise studies (continued)

Earthquake activity in the Rana region recorded by a local seismic network and a seismic array

Mathilde B. Sørensen, Steven J. Gibbons & Jens Havskov

Increased earthquake activity along the divergent plate boundary near the Askja volcano, Iceland

Heidi Soosalu, Páll Einarsson, Ásta Rut Hjartardóttir, Steinunn S. Jakobsdóttir, Rikke Pedersen, Erik Sturkell & Robert S. White

Increasing seismicity beneath Vatnajökull ice-cap: artifact or reality?

Matthew J. Roberts & Hannah Evans

17:05 End of day one

17:10 Meeting in “The Nordic seismic educational network”

19:00 Dinner

After dinner we can take a walk and/or relax in the hot tub

DAY TWO – TUESDAY, AUGUST 22

08:30 Keynote lecture

Fire and ice on shaky grounds: Living with natural hazards in Iceland

Freysteinn Sigmundsson

09:10 Crustal deformation

EarthScope: Exploring the structure and evolution of North America

Michael Jackson, David Mencin, Gregory E. van der Vink & Christel B. Hennet

High-rate continuous GPS observations in Iceland

Halldór Geirsson & Póra Árnadóttir

Crustal stress anomaly before the M=6.5 17 June 2000 earthquake in South Iceland

Björn Lund, Reynir Böðvarsson & Ragnar Slunga

Monitoring the crustal stress tensor field by microearthquake analysis - new possibilities for earthquake warning algorithms

Ragnar Slunga

10:35 - 10:55 Coffee break

10:55 Crustal structure – modelling

Subsurface faults in southwestern Iceland mapped by relatively located microearthquakes

Sigurlaug Hjaltadóttir, Kristín S. Vogfjörð & Ragnar Slunga

Asymmetric plume-ridge interaction around Iceland: The Kolbeinsey Ridge Iceland seismic experiment

Bryndís Brandsdóttir & Emilie E.E. Hooft

Tomography of Rayleigh wave group velocity in South Greenland from correlation of ambient seismic noise

Peter Voss, Peter Kyhl Knudsen, Ólafur Guðmundsson, Søren Gregersen, Trine Dahl-Jensen, Winfried Hanka and Tine B. Larsen

Lithospheric anisotropy beneath Greenland from SKS splitting

Nur Ucisik, Ólafur Guðmundsson, Winfried Hanka, Trine Dahl-Jensen, Klaus Modegaard and Keith Priestley

12:20 – 13:30 Lunch break

13:30 Crustal structure – modelling (continued)

Crustal investigation of the Danish Basin based on ESTRID-1 seismic data

Alessandro Sandrin, Lars Nielsen and Hans Thybo

A new 3D seismic tomography model reveals the terrane distribution of Svecofennian Orogen

Tellervo Hyvönen, Annakaisa Korja, Timo Tiira, Kari Komminaho and E. Rautioaho

Seismic images of the accretionary Svecofennian Orogen

Annakaisa Korja, Pekka Heikkinen, Timo Tiira, Tellervo Hyvönen and FIRE Working Group

Receiver function analysis of the broad band data of Finnish seismograph network

Jari Kortström, Monika Wilde-Piórko, Timo Tiira and Kari Komminaho

14:55 Special topic

Status of the Lehmann archive

Erik Hjortenberg

15:10 Fifteen years of SIL automatic monitoring

Steinunn S. Jakobsdóttir

15:50 - 16:20 Coffee break

16:20 Discussion on statues for the Nordic Seminar

Introduction by Ólafur Guðmundsson

17:00 End of day two

17:00 Sightseeing at the Nesjavellir geothermal power plant and a reception invited by Reykjavik Energy

19:00 Dinner

DAY THREE – WEDNESDAY, AUGUST 23

09:00 – 19:00 Field trip through the South Iceland Lowland in conjunction with the FORESIGHT meeting. The trip will cover earthquakes, hydrothermal processes, volcanic eruptions, glacial floods etc.

Denmark			
GEUS	Peter Voss, Peter Kyhl Knudsen, Ólafur Guðmundsson, Søren Gregersen, Trine Dahl-Jensen, Winfried Hanka and Tine B. Larsen	Tomography of Rayleigh wave group velocity in South Greenland from correlation of ambient seismic noise	
University of Copenhagen	Alessandro Sandrin, Lars Nielsen and Hans Thybo	Crustal investigation of the Danish Basin based on ESTRID-1 seismic data	
Personal participation	Erik Hjortenberg	Status of the Lehmann archive	
Finland			
University of Helsinki	Tellervo Hyvönen, Annakaisa Korja, Timo Tiira, Kari Komminaho and E. Rautioaho	A new 3D seismic tomography model reveals the terrane distribution of Svecofennian Orogen	
University of Helsinki	Annakaisa Korja, Pekka Heikkinen, Timo Tiira, Tellervo Hyvönen and FIRE Working Group	Seismic images of the accretionary Svecofennian Orogen	
University of Helsinki	Jari Kortström, Monika Wilde-Piörko, Timo Tiira and Kari Komminaho	Receiver function analysis of the broad band data of Finnish seismograph network	
Iceland	-		
University of Akureyri	Ragnar Stefánsson	Earthquake prediction research and the June 2000 earthquakes	Keynote lecture
Icelandic Meteorological Office	Kristín S. Vogfjörð	Analysis of seismic noise at Icelandic network (SIL) stations	
Icelandic Meteorological Office	Sigurlaug Hjaltadóttir, Kristín S. Vogfjörð and Ragnar Slunga	Subsurface faults in southwestern Iceland mapped by relatively located microearthquakes	
Institute of Earth Sciences, University of Iceland	Freysteinn Sigmundsson	Fire and ice on shaky grounds: Living with natural hazards in Iceland	Keynote lecture
Institute of Earth Sciences, University of Iceland	Marie Keiding, Björn Lund, Þóra Árnadóttir and Erik Sturkell	Strain and stress on the Reykjanes Peninsula	
Institute of Earth Sciences, University of Iceland	Nur Ucisik, Ólafur Guðmundsson, Winfried Hanka, Trine Dahl-Jensen, Klaus Modegaard and Keith Priestley	Lithospheric anisotropy beneath Greenland from SKS splitting	
Norway			
International Centre for Geohazards	Farrokh Nadim	Presentation of International Centre for Geohazards (ICG) and discussion on challenges in geohazards-related research	Keynote lecture

NORSAR	Steven J. Gibbons, Tormod Kværna and Frode Ringdal	Considerations in event detection and location using small-aperture seismic arrays
NORSAR	Tormod Kværna, Johannes Schweitzer, Frode Ringdal and Steven J. Gibbons	Data processing and analysis of infrasound signals in Fennoscandia and NW Russia
NORSAR	Sergio Molina and Conrad D. Lindholm	The confidence of earthquake damage scenarios; Examples from the capacity spectrum method
NORSAR	Michael Roth and Lars Harald Blikra	Microseismic monitoring at the unstable rock-slope site at Åknes, Møre og Romsdal, Norway
University of Bergen	Mathilde B. Sørensen, Steven J. Gibbons and Jens Havskov	Earthquake activity in the Rana region recorded by a local seismic network and a seismic array
Sweden		
FOI	Ingvar Nedgård	The mb(Ms) diagram for Iranian earthquakes obtained from the International Monitoring System
FOI	Leif Persson	Microseismic studies at Hagfors array, Sweden
FOI	Ragnar Slunga	Monitoring the crustal stress tensor field by microearthquake analysis - new possibilities for earthquake warning algorithms
Uppsala University	Björn Lund, Reynir Böðvarsson and Ragnar Slunga	Crustal stress anomaly before the M=6.5 17 June 2000 earthquake in South Iceland
Uppsala University	Reynir Böðvarsson	Seismicity in Sweden from five years of digital recordings
Lithuania		
Lithuanian Geological Survey	Andrius Pačesa	Seismological monitoring in Lithuania during the period 1999-2005
Australia		
Macquarie University, Sydney	Deanne Bird, Matthew J. Roberts and Dale Dominey-Howes	Public usage of a website for real-time seismicity in Iceland: Insights into hazard perception

United Kingdom

University of Cambridge

Heidi Soosalu, Páll Einarsson, Ásta
Rut Hjartardóttir, Steinunn S.
Jakobsdóttir, Rikke Pedersen, Erik
Sturkell and Robert S. White

Increased earthquake activity
along the divergent plate
boundary near the Askja
volcano, Iceland