

NordQuake Training Course 2013 on Analysis of earthquakes *With a focus on hazard, processing and moment tensor inversion*

27-31 May 2013

**Hosted by
Geological Survey of Denmark and Greenland**

The course will focus on the analysis and interpretation of local earthquake data. The main topics will include seismic hazard analysis, signal processing in observational seismology and moment tensor computation using full waveform inversion. Each day will start with presentations related to the current topic by the lecturers or participants. However, other work or topics can also be presented. The participants will mostly work with earthquake data to get hands on experience. The software used in the exercises is based on SEISAN.

There will be three types of sessions: 1) lectures, 2) talks by participants and 3) working sessions. A large proportion of the time will be spent in the working sessions with a content which to a large extent will be decided by the participants. During the working sessions we will probably form groups that work on specific topics using the participant's data.

Venue and Contact phone numbers in Copenhagen:

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NordQuake website: <http://nordquake.net/>

NordQuake is a researcher network funded by:



Talks program

The time for each talk is max 15 minutes including questions.

Monday 27/5:

Kathrin Spieker	Lithospheric Structure in the Atlas Mountains, Morocco
Line Pinna	Local Earthquakes in the Ammasalik Region in Southeast Greenland
Kati Oinonen	Seismic event reports published by the Institute of Seismology, University of Helsinki
Babak Hejrani	Fault plane identification: examples from DC and non-DC sources
Kasper Ljungdahl	Teaching Oil exploration and Reflection Seismology for Undergraduates
Paivi Mantyniemi	On the role of pre-instrumental earthquake data in seismic hazard assessment

Tuesday 28/5:

Paula Koskinen	The potential of fault activation in the present stress field in Finland
Ilma Janutyte	Trouble stations
Niina Hellqvist	Modelling the upper crustal structure along FIRE 2&2A profiles using seismic attribute analysis
Andrea Tesoniero	Surface waveform inversion: a normal mode approach
Christian Schiffer	The Gravitational Stress Field – What can we use it for?
Bin Li	Work parts in my PhD project - at present and in the future
Helene Anja Kraft	TBA
Sigurlaug Hjaltadóttir	Seismicity in Eyjafjallajökull and magma movements

Wednesday 29/5:

Maris Plado	My year in Iceland
Paula Koskinen	The potential of fault activation in the present stress field in Finland
Søren Gregersen	Earthquake claims

Preliminary program

Time	Monday 27	Tuesday 28	Wednesday 29	Thursday 30	Friday 31
09:00-10:30	10:00- Peter: Registration Tour of GEUS Introduction to SEISAN	Mathilde: 2 Talks by participants Earthquake catalogs and statistics 2 Talks by participants	Mathilde: Zonation, ground motion parameters, attenuation 2 Talks by participants	Mathilde: Theory of PSHA, example	Mathilde: Summary, final remarks (uncertainties, site effects, risk assessment, ...)
Coffee Break					
11:00-12:30	Peter: 2 talks by participants Discuss program Practical arrangements Installation of software	Working session Poisson distribution GR relation	Working session Zonation Completeness	Working session SHA (simplified) Crisis	Working session
Lunch Break					Peter: Closing
13:30-15:00	Mathilde: Introduction to seismic hazard assessment	Jens: 2 Talks by participants Introduction to focal mechanisms and moment tensor inversion	Jens: 2 Talks by participants Moment tensor inversion Working session	Jens: Moment tensor inversion Working session	
Coffee Break					
15:30-17:00	Jens: 4 Talks by participants Working session	2 talks by participants Working session	17:00- City Tour – weather dependent	Working session	
Evening			19:00 Dinner (hosted by the NORDQUAKE)		

List of Participants

1. Andrea Tesoniero, University of Copenhagen, Denmark
2. Ásdís Benediktsdóttir, University of Iceland, Iceland
3. Babak Hejrani, University of Aarhus, Denmark
4. Bin Li, University of Bergen, Norway
5. Christian Schiffer, University of Aarhus, Denmark
6. Helene Anja Kraft, University of Copenhagen, Denmark
7. Ilma Janutyte, University of Vilnius and Lithuanian Geological Survey, Lithuania
8. Jeppe Regel, Technical University of Denmark
9. Kasper Ljungdahl, Technical University of Denmark
10. Kathrin Spieker, University of Bergen, Norway
11. Kati Oinonen, University of Helsinki, Finland
12. Line Pinna, University of Copenhagen, Denmark
13. Maris Plado, University of Tartu, Estonia
14. Niina Hellqvist, University of Helsinki, Finland
15. Paivi Mantyniemi, University of Helsinki, Finland
16. Paula Koskinen, University of Helsinki, Finland
17. Sigurlaug Hjaltadóttir, University of Iceland/Icelandic Met. Office, Iceland
18. Mathilde B. Sørensen, University of Bergen, Norway
19. Jens Havskov, University of Bergen, Norway
20. Peter Voss, GEUS, Denmark
21. Søren Gregersen, GEUS, Denmark
22. Tine B. Larsen, GEUS, Denmark
23. Trine Dahl-Jensen, GEUS, Denmark

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