

LITHOSPHERE 2018 Symposium Programme

Wednesday, Nov 14

09:00- 10:00 Registration at the University of Oulu, Saalasti Auditorium

10:00 - 10:05 Opening: I. Kukkonen

10:05- 12:05 Session 1: Lithosphere structure and evolution from upper crust to asthenosphere

Chair: Ilmo Kukkonen

10:05 - 10:50 **Ulrich Riller [Invited]**

Multi-scale deformation during large impact cratering

10:50 - 11:15 **M. Ivandic, R. Carbonell, R. Roberts and D. Marti**

Towards a pan-European Deep Seismic Sounding (DSS) European database:
Promoting the impact, preservation, and accessibility of the existing wealth of
controlled source seismic data

11:15 - 11:40 **O.M. Muravina, V.N. Glaznev and M.V. Mints**

3D-density model of the Earth crust for central part of the East-European platform

11:40 – 12.05 **T. Kreitsmann, L.J. Pesonen, S. Hietala, J. Lerssi, J. Nenonen and J. Plado**

Summanen, a new meteorite impact structure in Central Finland

12:05 - 13:00 Lunch

13:00-14:15 Session 2: Lithosphere structure and evolution from upper crust to asthenosphere (cont.)

Chair: E. Kozlovskaya

13:00-13:25 **U. Autio, M. Smirnov, M. Cherevatova, T. Korja and T. Bauer**

Analysis of magnetotelluric array data from the central Finnish Lapland – tectonic
implications

13:25 - 13:50 **J. Nevalainen, E. Kozlovskaya and H. Jänkäväära**

EPOS Anthropogenic Hazard: Pyhäsalmi Episode

13:50 - 14:15 **G. Gislason, S. Heinonen, J. Konnunaho, K. Moisio, J. Nevalainen and H. Salmirinne**

KOSE - Koillismaa Seismix Exploration survey: Details and first results

14:15 - 14:45 Coffee/Tea

14:45-16:50 Session 3: Lithosphere evolution, structures and mineral resources

Chair: E. Tanskanen

14:45-15:10 P. Skyttä

Fragmentation of the Archaean crust and its influence on the evolution of the overlying Proterozoic sequences (Northern Finland)

15:10-15:35 S. Reimers, J. Engström and U. Riller

The Kynsikangas shear zone, Southwest Finland: Importance for understanding deformation kinematics and rheology of lower crustal shear zones

15:35- 16:00 S. Heinonen, M. Malinowski, G. Gislason, F. Hlousek, S. Buske and E. Koivisto

COGITO-MIN seismic reflection profiling for mineral exploration in Polvijärvi, Finland

16:00-16:25 E. Koivisto, M. Malinowski, S. Heinonen, C. Cosma, K. Vaittinen, M. Wojdyla, M. Riedel, M. Chamarczuk and the COGITO-MIN Working Group

Seismic mineral exploration at different scales in the Outokumpu Ore District, Eastern Finland

16:25- 16:50 J. Engström, F. Karell and J. KuvaThe relationship between Structural Geology, Anisotropy of Magnetic Susceptibility (AMS) and X-ray Computed Tomography (μ -CT) in high-grade metamorphic rocks in SW Finland**16:50- 17:30 Session 4: Poster introductions**

Chair: K. Nikkilä

5 min talks with five slides max in the auditorium

17:30 – 19:30 Poster viewing and networking with refreshments***Posters*****P01. J. Palosaari, S. Lund, J. Kauppila, O. Eklund, R-M. Latonen, T. Lindfors, J-H. Smått, E. Björnvik, S. Sirkiä, J. Peltonen, S. Raunio, R. Blomqvist, J. Marmo and S. Lukkari**

Identification of Potential Flake Graphite Ores in the Fennoscandian Shield and Utilization of Graphene (FennoFlakes)

P02. J. Kara, J. Manninen, T. Leskelä, P. Skyttä, M. Väisänen, M. Tiainen and H. Leväniemi

Characterisation of the structural evolution and structural control of the gold mineralisations in the Kullaa area, SW Finland

P03. T. Kauti, P. Skyttä and A. Salo

Delineating the network of dolerite dykes within the Archaean Siilinjärvi carbonatite complex

P04. I. Pitkälä, J. Kara, T. Leskelä, P. Skyttä, M. Väisänen, H. Leväniemi, J. Hokka, M. Tiainen, Y. Lahaye

Shear zones and structural analysis of the Loimaa area, SW Finland

P05. J. Woodard

Oxygen isotopes in zircon from Palaeoproterozoic post-collisional carbonatites and lamprophyres in the Fennoscandian Shield

P06. T. Veikkolainen and I.T. Kukkonen

Heat flow and heat production in relation to geoneutrino signal near Pyhäsalmi mine

P07. S. Väkevä, E. Koivisto, G. Hillers, M. Chamarczuk and M. Malinowski:

3C Seismic Interferometry at the Polymetallic Kylylahti Deposit, Outokumpu District, Finland

P08. S. Hietala, J. Plado and L. J. Pesonen

Economical aspect of meteorite impact craters in Fennoscandia and Baltic countries

P09. P. Koskenniemi, J. Kortström, K. Piipponen, M. Uski and T. Vuorinen

Seismic monitoring of a hydraulic fracture stimulation

P10. T. Vehkamäki, M. Väisänen, Y. Lahaye, M. Kurhila and B. Johanson

U-Pb zircon, monazite and xenotime geochronology of cordierite-anthophyllite and felsic volcanic rocks in Orijärvi, southern Finland

Thursday, Nov 15

09:30-12:05 Session 5: Archaean and Proterozoic lithosphere structure and evolution

Chair: S. Heinonen

09:30-09:55 **A. Saukko, K. Nikkilä, O. Eklund and M. Väisänen**

Felsic MASH zone in southernmost Finland

09:55-10:20 **H. Leväniemi, S. Mertanen, M. Melamies, T. Karinen, S. Heinonen and T. Niiranen**

Intensity and Characteristics of Natural Remanent Magnetisation for Magnetic Data Interpretation in Sodankylä, Northern Finland

10:20- 10:50 Coffee/Tea

10:50- 11:15 **S. Väkevä, T. Tiira, T. Janik, T. Veikkolainen, T. Skrzynik, A. Heinonen, K. Komminaho and A. Korja**

Refraction seismic studies along the Kokkola–Kymi transect, Central Fennoscandia

11:15-11:40 **N. Afonin, E. Kozlovskaya, J. Karjalainen, T. Pirttisalo, S. Heinonen, S. Buske**

Retrieving of surface and body waves from ambient seismic noise, recorded during XSodEX experiment

11:40- 12:05 **J. Karjalainen, E. Kozlovskaya, T. Pirttisalo, S. Heinonen, S. Buske**

Ambient noise measurements and HVSR analysis in the XSodEX project

12:05-13:00 Lunch

14:00 -14:00 **Session 6: Visit to the Oulu Mining School Research Centre**

13:30-16:30 **Session 7: Crustal structures and mineral resources**

Chair: D. Whipp

14:00- 14:25 **T. Leskelä, J. Kara, I. Pitkälä, P. Skyttä, M. Väisänen, M. Tiainen, H. Leväniemi, J. Hokka, Y. Lahaye**

Geochronology, geochemistry and structural setting of the Uunimäki gold mineralisation, SW Finland

14:25- 14:45 **M. Holma and P. Kuusiniemi**

Underground muography: The raise of geoparticle physics as a soil, orebody and rock realm imaging method

14:45- 15:05 Coffee/Tea

15:05- 15:30 **J. O. Eisermann and U. Riller**

Reconciling the kinematic importance of the GPS velocity field in the Southern Andes with scaled analogue experiments

15:30-15:55 **P. L. Göllner, J. O. Eisermann and U. Riller**

Strain partitioning along the South American convergent margin between 42°S and 47°S: Insights from lineament analysis

15:55 –16:15 **E.I. Tanskanen**

Magnetic disturbances driven by currents in the solid Earth and ionosphere

16:15-16:40 **H. Jänkäväära**

Preliminary studies of long-period array methods with Northern Finland Seismological Network

Friday, Nov 16

9:30-10:20 Session 8: Neotectonics, geothermal energy

Chair: P. Skyttä

9:30-9:55 **J. Mattila, A. Ojala, T. Ruskeeniemi, J.-P. Palmu, M. Markovaara-Koivisto, N. Nordbäck, R. Sutinen**

On the displacement-length ratios of postglacial faults

9:55-10:20 **M. Markovaara-Koivisto, T. Ruskeeniemi, P. Hänninen and R. Sutinen**

Groundwater monitoring in postglacial faults -effect of atmospheric pressure and tide

10:20- 10:40 Coffee/Tea

- 10:40-11:05 **R. Sutinen and A. Ojala**
Subglacial deformations adjacent to Ristonmännikkö PGF
- 11:05–11:30 **I. Kukkonen**
Geothermal energy from deep bedrock in Finland – Geophysical and geological constraints
- 11:30- 12:00 Time for discussion and team meetings
- 12:00 - 13:00 Lunch**
- 13:00-13:50 Session 9: Short communications**
Chair: F. Karell
- 13:00 – 13:10 **E. Kozlovskaya**
FIN-EPOS Research Infrastructure at the University of Oulu
- 13:10 – 13:20 **J. Järvinen, S. Piippo, S. Silvennoinen, S. Kultti, E. Koivisto**
New digital learning materials for teaching in geosciences
- 13:20 – 13:30 **Kari Strand**
New scientific ocean drilling (IODP) opportunities for polar region geosciences
- 13:30 – 13.40 **Ilmo Kukkonen & DAFNE WG:**
ICDP project proposal Drilling Active Faults in Northern Europe (DAFNE)
- 13:40– 13:50 **E. Kozlovskaya**
INFACT: Innovative, Non-Invasive and Fully Acceptable Exploration Technologies
- 13:50- 14:00 Final discussion and poster award
- 14:00 Closing of symposium**