

LITHOSPHERE 2016 Symposium Programme

Wednesday, Nov 9

09:00- 10:00 Registration at the Geological Survey of Finland, Espoo, Sederholm Auditorium

10:00 - 10:05 Opening: Ilmo Kukkonen

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

Chair: Ilmo Kukkonen

10:05 - 10:50 **Gillian R. Foulger [Invited]**

Plates vs. Plumes: Lithosphere vs. Asthenosphere

10:50 - 11:15 **A. Korja, M. Uski, B. Lund, S. Grigull, M. Nironen and K. Högdahl**

Intraplate Seismicity in Central Fennoscandia

11:15 - 11:40 **A.I. Slabunov, S.A. Svetov, V.S. Kulikov and A.K. Polin**

A new geological map of the SE Fennoscandian Shield as a tool for the Early Precambrian Crustal Evolution study (exemplified by the Archean)

11:40 – 12:05 **O. Eklund and D. Lindberg**

Formation of ultramafic rocks in the middle crust by partial melting of amphibolites

12:05 - 13:00 Lunch

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

Chair: O. Eklund

13:00-13:25 **H. Huhma**

Isotope results from Utsjoki-Inari area

13:25-13:50 **R. Lahtinen, M. Sayab and S.T. Johnston**

Inari orocline – progressive or secondary orocline

13:50 – 14:15 **U. Autio, M. Smirnov, T. Korja and M. Cherevatova**

Magnetotelluric measurements centred on the Central Lapland Granitoid Complex

14:15 - 14:45 Coffee/Tea

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

Chair: R. Lahtinen

14:45-15:10 I. Kukkonen and L. Lauri

Mesoproterozoic rapakivi granite magmatism in the Fennoscandian shield and adjacent areas: Role of crustal radiogenic heating

15:10-15:35 O.T. Rämö, J.P. Calzia, V.T. McLemore and P. Heikkilä

Mid-Proterozoic evolution of southern Laurentian lithosphere; crustal domains and potassic/ultrapotassic magmatic suites in Mojavia and Mazatzal provinces

15:35- 16:00 S.T. Turunen, A.V. Luttinen and J.S. Heinonen

Defining mantle sources of large igneous provinces: insight from pristine picrites in Karoo LIP, Luenha River, Mozambique

16:00-16:25 A. Malehmir, A. Tryggvason, C. Wijns, E. Koivisto, T. Lindqvist, P. Skyttä and M. Montonen

Why 3D seismic data are an asset for both exploration and mine planning? Example of Kevitsa Ni-Cu-PGE, Finland

16:25- 16:50 K. Komminaho, E. Koivisto, P. J. Heikkinen, H. Tuomi, N. Junno and I. Kukkonen

Seismic full waveform modelling of Outokumpu-type ore and processing considerations

16:50- 17:30 Session 4: Poster introductions

Chair: R. Lahtinen

2 min talks with two slides in the auditorium

17:30 – 19:30 Poster viewing and networking with refreshments***Posters*****P01. A.J. Aalto, P.J. Heikkinen, A. Heinonen, A. Korja, and S. Väkevä**

OpenFIRE – enhancing the accessibility of the Finnish Reflection Experiment data products

P02. G. Gislason, S. Heinonen, M. Malinowski, E. Koivisto, L. Sito, P. Targosz, M. Wojdyla, J. Juurela, S. Juurela, T. Törmälehto and K. Vaittinen

COGITO-MIN seismic reflection profiling in Polvijärvi: Insight into the first results

P03. J. Kara, M. Väisänen, Y. Lahaye and H. O'Brien

Post-kinematic mafic dykes in southern part of Central Svecofennia, Finland

P04. I. Kukkonen, E. Koivisto and D. Whipp

Helsinki University Kumpula Campus Drill Hole Project

P05. M. Lehtinen, M. Väisänen, J. Kara, H. O'Brien and M. Lehtonen

A shoshonitic dyke in Lohja, southern Finland

P06. H. Leväniemi, R. Lahtinen, S. Mertanen and H. Säävuori

Natural Remanent Magnetisation of Selected Rock Samples from the Finnish Bedrock: Implications for Structural Modelling of Magnetic Data

P07. T. Luhta, S. Mertanen, E. Koivisto, S. Heinonen, T. Törmälehto and I. Kukkonen

The seismic signature of the Kylylahti deposit: Initial results from new petrophysical measurements

P08. J. Moreau, T. Kohout and K. Wünnemann

Shock wave propagation in heterogeneous targets (ordinary chondrites) and in numerical setup of shock recovery experiments

P09. J. Nevalainen, O. Usoltseva and E. Kozlovskaya

Applying double-difference technique to relocate induced microseismic events in Pyhäsalmi mine, Pyhäjärvi

P010. K. Nikkilä

Effect of crustal scale shear zones to the crustal deformation during extension

P011. K. Penttilä, I. Kukkonen, J.S. Heinonen, M. Räisänen and R. Valtonen

Logging and lithology of the Kumpula Campus drill hole

P012. K. Piipponen

Modelling an Enhanced Geothermal System doublet in crystalline rock

P013. M. Räisänen, I. Kukkonen, J.S. Heinonen, R. Valtonen, K. Penttilä

Geochemical characteristics of the Kumpula campus area: drill core and outcrop data

P014. T. Valjus, M. Markovaara-Koivisto and T. Tarvainen

Aijala mine tailings area as an example of a source of secondary raw minerals

P015. R. Valtonen, I. Kukkonen, J.S. Heinonen, M. Räisänen and K. Penttilä

Kumpula campus drill hole: Fracture mapping and 3D-modeling

P016. V. Virtanen and E. Heilimo: Two geochemically A-type intrusions in Central Finland Granitoid Complex: evidence of coeval mafic and felsic magmatism

Thursday, Nov 10

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

Chair: A. Luttinen

09:30-09:55 J.M. Salminen, R. Klein, T. Veikkolainen, L.J. Pesonen and S. Mertanen

Mesoproterozoic Nuna supercontinent and the geomagnetic field in light of recent paleomagnetic and geochronological data from diabase dykes of Finland

09:55-10:20 H. Silvennoinen and E. Kozlovskaya

Comparison of the upper mantle structures beneath northern and southern Finland based on the teleseismic tomography results of POLENET/LAPNET and SVEKALAPKO seismic arrays

10:20- 10:50 Coffee/Tea

10:50- 11:15 E. Suikkanen and O.T. Rämö

Metasomatic alkali-feldspar syenites within the Suomenniemi rapakivi granite complex, SE Finland

11:15-11:40 P. Mikkola, K. Mönkäre, M. Ahven and H. Huhma

Supracrustal rocks from the SE border of the Central Finland Granitoid Complex, something new or business as usual?

11:40- 12:05 A. Raja-Halli and H. Virtanen

Geodynamical research with superconducting gravimeters at the Metsähovi Geodetic Research Station

12:05-13:30 Lunch and poster viewing

13:30-16:30 Session 5: Crustal structures and mineral resources

Chair: I. Kukkonen

13:30- 13:55 Emilia Koivisto, Michal Malinowski, Suvi Heinonen, Calin Cosma, Nicoleta Enescu, Sanna Juurela, Jari Juurela, Teemu Törmälehto, Katri Vaittinen and Marek Wojdyla

New tools for deep mineral exploration: Insights from the field work stage of the COGITO-MIN project

13:55- 14:20 N. Junno, E. Koivisto, I. Kukkonen, A. Malehmir and C. Wijns

Data mining to discover the causes of internal reflectivity within the Ni-Cu-PGE-bearing Kevitsa intrusion

14:20- 14:50 Coffee/Tea

14:50- 15:15 S. Heinonen, H. Leväniemi, P. Sorjonen-Ward, A. Kontinen and S. Aatos

Integrated Interpretation of Geophysical Data for Deep Exploration in the Kylylahti Cu-Mining Area, Eastern Finland

15:15-15:40 S. Buntin, A. Malehmir, M. Malinowski, K. Högdahl, C. Juhlin, H. Thybo and S. Buske

Seismic reprocessing of the BABEL lines for improved interpretation of the whole crust – preliminary results

15:40 –16:30 Pekka Heikkinen [Invited]

Seismic lithosphere studies in Finland: glorious past, challenging future

16:30

National Lithosphere Committee

Honouring Pekka Heikkinen for his work in lithospheric research

Friday, Nov 11

9:30-10:20 Session 7: Archaean and Proterozoic lithosphere evolution (cont.)

Chair: E. Kozlovskaya

9:30-9:55 E. Heilimo, P. Mikkola, Y. Lahaye and H. Huhma

New evidence for crustal growth: field and geochemical data from plutonic rocks in SE corner of the Central Finland Granitoid Complex

9:55-10:20 J.S. Heinonen, W.A. Bohrsen, A.V. Luttinen, F. Molnár, M.W. Schmidt, F.J. Spera and T. Wagner

Start of project PALIN – Partial melting processes in the contact zones of layered intrusions

10:20- 10:50 Coffee/Tea

10:50 – 14:10 Session 8: Neotectonics, recent seismicity, short communications

Chair: Suvi Heinonen

10:50-11:15 T. Kohout and ASPECT team

Exploration of asteroids using small satellites – case study ASPECT

11:15- 11:40 J. Mattila, A. Ojala, R. Sutinen, J-P. Palmu and T. Ruskeenieni

Digging deeper with LiDAR: vertical slip profiles of post-glacial faults

11:40-12:05 N. Afonin, E. Kozlovskaya, I. Kukkonen and DAFNE/FINLAND Working Group

Structure of Suasselkä Postglacial Fault in northern Finland obtained by analysis of local events and ambient seismic noise

12:05- 13:05 Lunch

13:05- 13:30 T. Elminen, H. Zwingmann and A. Kaakinen

Neoproterozoic faulting and sedimentation documented in a railway tunnel, Vantaa, southern Finland

13:30- 13:55 T. Veikkolainen, I.T. Kukkonen and T. Tiira

Applying seismic cutoff depth in thermal modelling of the Fennoscandian Shield

13:55- 14:10 A. Korja, T.A. Vuorinen and FIN-EPOS

FIN-EPOS – Finnish national initiative of the European Plate Observing System

14:10-14:45 Final discussion and poster award

Closing of symposium