

LITHOSPHERE SYMPOSIUM 2024

PELAYO BARRÓN FRANCISCO, ANNA JOHNSON, AND KAISA NIKKILÄ

The thirteenth Lithosphere symposium was held in Otaniemi, Espoo, between the 12th and 14th of November. The biennial meeting has been alternately hosted in Turku, Oulu, Espoo, and Helsinki. This year's symposium was hosted by the Geological Survey of Finland and the National Land Survey of Finland. The event brings together scientists from many disciplines studying the structure, composition and evolution of the lithosphere.

The event organized by the National Lithosphere committee brought together 73 scientists, not only from Finland, but also from multiple other countries like Norway, Sweden, Estonia, Denmark, and Brazil. A total of 25 oral presentations and 14 posters were held.

The opening words were given by Suvi Heinonen (director of the Institute of Seismology), followed by Jarkko Koskinen (deputy director general, National Land Survey of Finland) and Aku Heinonen (research director, Geological Survey of Finland). The scientific talks were divided into 9 sessions covering topics like Fennoscandian crustal development, geophysics research and technology developments, structural geology, raw materials and magmatism. In addition to these, two more research themes with quickly growing interest, geobiosphere and geothermal energy, were given separate sessions for the first time in the meeting's history.

This year's keynote speaker was in the field of geophysics, Alireza Malehmir (Fig. 1). He



Figure 1. Keynote speaker Alireza Malehmir gave his speech at the end of the first day of the symposium. Photo: Kaisa Nikkilä.

Kuva 1. Kutsupuhuja Alireza Malehmir piti puheensa symposiumin ensimmäisen päivän lopuksi. Kuva: Kaisa Nikkilä.

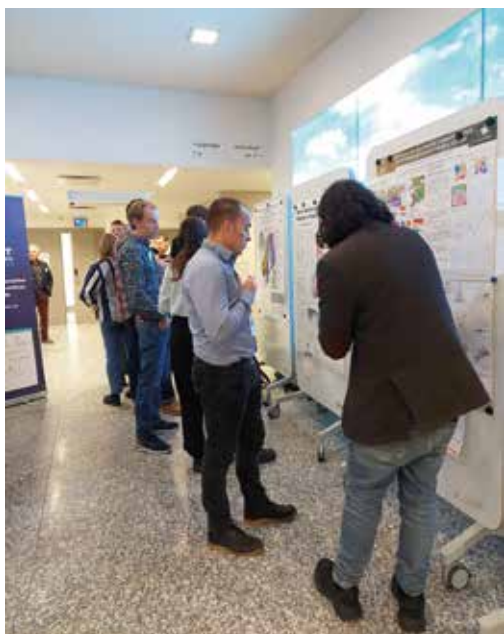


Figure 2. Poster hall where multiple discussions were ongoing. Photo: Kaisa Nikkilä.

Kuva 2. Postereilla käytiin vilkasta keskustelua. Kuva: Kaisa Nikkilä.

is the research director of Smart Exploration Research Center and professor at the University of Uppsala. Professor Alireza's presentation "Imaging impossible in GPS-denied environment: in-mine seismic studies for hardrock exploration" provided insights on how to overcome the lack of GPS signal when doing geophysical measurements in underground facilities. Other invited speakers were Dr. Stefan Luth (Sveriges geologiska undersökning, SGU) and Professor Gregor Hillers (University of Helsinki). Dr. Luth presented a case study on the Enåsen Au-Cu-(Te-Ag) deposit where XCT-XRF drill core scanning was integrated into a new 3D model of the deposit. Professor Hillers spoke about passive seismic imaging with dense arrays. Additionally, the European Plate Observing System (EPOS) presented their progress regarding a European scale data repository.

The authors of the posters had a chance to capture the attention of the public with

a brief presentation of their topic, including the slightly longer one for the new innovation "keynote poster" by S. Luth, J. Köykkä and E. Torgersen. The posters were available throughout the symposium and were conveniently set up at the coffee/tea-break area (Fig. 2). This provided enough time to create discussions in a relaxed environment, and a chance to revisit the topics whenever necessary. This year's poster winner was "Metamorphic insights into the Archean Basement of the Carajás Province and its Affinity with the Karelia and Kola Provinces" by Aline Costa do Nascimento (Fig. 3), who came all the way from Brazil to do a scientific residency at Turku University.

Since many of the attendees knew each other, the overall feeling of the symposium was relaxed and full of familiarity. Everywhere you looked, people were catching up on each other's latest happenings. Nevertheless, everyone was enthusiastic to welcome also new scientists from all levels and backgrounds. In a place full of curious scientists, the eagerness of hearing the latest developments and meeting new people is palpable, and an excellent environment for networking is formed. The encouraging atmosphere, where people wanted to present unfinished work, show passion and offer ideas for future projects, was a good reminder of what scientific research and development could, and should, be.

Interesting conversations started from the first moment of the symposium. Specialists were going in depth about certain topics, but also people with different backgrounds had the chance to get a glimpse of others' subjects. This sparked multiple interdisciplinary discussions and gave perspective on the impact of their work in other areas. That is how new projects and new breakthroughs are achieved in and outside of science. All of this was enhanced by the social activities organized around the symposium, where people had time and space to decompress and meet in a more informal environment.

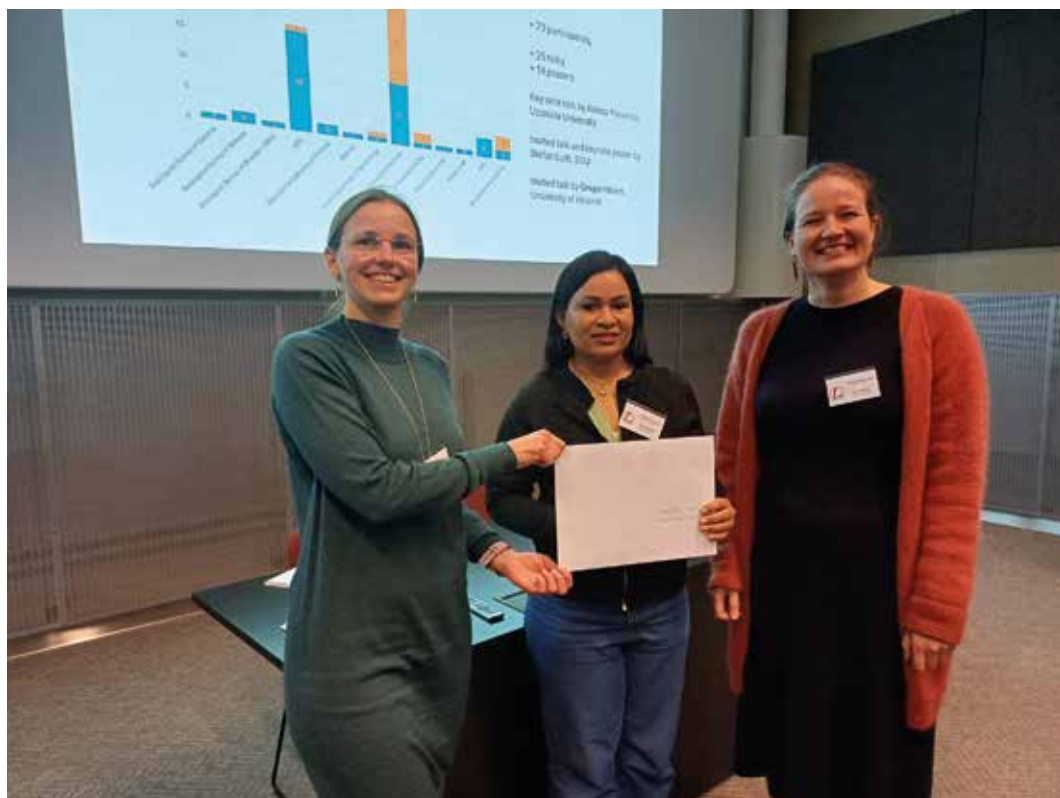


Figure 3. Winner of the best poster Aline Costa do Nascimento (middle) with the members of the Poster award committee Kaisa Nikkilä (left) and Suvi Heinonen (right). Photo: Jochen Kamm.

Kuva 3. Parhaan posterin voittaja Aline Costa do Nascimento (keskellä) yhdessä posteripalkintokomitean jäsenten Kaisa Nikkilän ja Suvi Heinosen kanssa. Kuva: Jochen Kamm.

Participating in events like the Lithosphere symposium can seem difficult and intimidating for first time attendees, however, these events are an essential pillar for the development of geoscientific society and individuals' careers. It is crucial to know what your colleagues are working on, and to let others know what you are doing or would like to do. Scientists at every career stage are warmly welcome to attend, and to ask questions and discuss with people. It is ok to not know, the only requirement for participation is curiosity to know more.

The early career scientists, like two of the authors, felt that attending the Lithosphere symposium can be a transformative experience. Initially, newcomers might feel like beginners, finding it challenging to engage in discussions

with fellow scientists. However, after participating in a couple of symposiums one may start recognizing familiar faces and feel a sense of belonging. It is particularly rewarding to engage in discussions with researchers whose work one has cited. Furthermore, events like the ice-breaker evening are especially valued for their informal and relaxed setting, allowing attendees to connect on a personal level and see the human side behind the polished research work.

Finally, the Lithosphere symposium ended with a reflection on the whole event and a request for feedback from all participants. The future of the symposium and the idea to combine the Lithosphere symposium with Geo-Days was discussed, but many felt Lithosphere should remain separate and based on voting,

it is likely that the symposium will be kept as it is. Representatives from Sweden and Norway emphasized that they don't have a similar meeting, which they saw as a shortcoming. There was also discussion about the length of presentations and abstracts. Extended abstracts were seen as time-consuming, but on the other hand, they help to ensure the quality of the presentations. The longer, 20-minute presentations were also seen as a good thing.

Extended abstracts are published online in <https://www.seismo.helsinki.fi/ilp/lito2024/index.html>.

PELAYO BARRÓN FRANCISCO (MSC)

(pelayo.barronfrancisco@abo.fi)

Geology and Mineralogy,
Faculty of Science and Technology,
Åbo Akademi University

ANNA JOHNSON (MSC)

(anna.johnson@abo.fi)

Geology and Mineralogy,
Faculty of Science and Technology,
Åbo Akademi University

KAISA NIKKILÄ (PHD)

(kaisa.nikkila@abo.fi)

Geology and Mineralogy,
Faculty of Science and Technology,
Åbo Akademi University

Pelayo Barrón Francisco, PhD researcher, attended the Lithosphere meeting for the first time. He has a background in mining but is now working on a PhD in geothermal energy. Focus of the work is on understanding the brittle deformation and mineral alteration processes that control the creation of secondary porosity and high permeability within crystalline rocks in Southern Finland. Anna Johnson, PhD researcher/ doktorand och LITO-deltagare för andra gången. Hon forskar i södra Finlands berggrund med fokus på mafiska mantelderiverade magmor förknippade med extension under den svekofenniska orogenesen. Kaisa Nikkilä on yliopistolehtori, Suomen kansallisen litosfäärikomitean (ILP) varapuheenjohtaja sekä yksi symposiumin järjestäjistä.

Tiivistelmä

Litosfäärisymposiumi 2024

Järjestyksessään 13. litosfäärisymposium pidettiin Otaniemessä, Espoossa 12.–14. marraskuuta. Symposium keskittyy litosfäärin tutkimiseen geologian ja geofysiikan näkökulmasta ja kokoaa yhteen eri alojen tutkijoita, jotka tutkivat litosfäärin rakennetta, koostumusta ja kehitystä. Symposiumiin osallistui yhteensä 73 tutkijaa, tohtoriopiskelijaa ja perustutkinto-opiskelijaa Suomesta, Norjasta, Ruotsista, Virossa, Tanskasta ja Brasiliasta. Ohjelmassa oli 25 suullista esitystä ja 14 posteria, joissa esiteltiin uusimpia tutkimustuloksia pääasiassa Fennoskandian kuoren magmaattisesta, tektonisesta ja hauraasta kehityksestä, mutta myös geofysiikan tutkimusmenetelmien kehityksestä, geotermisestä energiasta, ja geobiosfääristä. Pääpuhujana oli professori Alireza Malehmir Uppsalan yliopistosta ja uutena erikoisuutena myös posterisession pääpuhujana tutkija Stefan Luth Ruotsin geologisesta tutkimuslaitoksesta. Kuten perinteisiin kuuluu, jaettiin myös parhaan opiskelijaposterin palkinto. Tänä vuonna palkittiin Turun yliopiston vieraileva tohtoriopiskelija Aline Costa Do Nascimento Brasiliasta, joka tutkii Carajásin provinssin arkeista kallioperää.

Symposiumin ilmapiiri oli rento ja tuttavallinen, mikä mahdollisti verkostoitumisen ja syvälliset keskustelut niin puheiden jälkeen kuin tauoilla ja ilta-aktiviteeteissa. Erityisesti nuoret tutkijat kokivat symposiumin kannustavana ja helposti lähestyttävänä.

Symposiumin lopuksi keskusteltiin tapahtuman tulevaisuudesta. Vaikka Lito-symposiumin yhdistämistä GeoDays-tapahtuman kanssa on ehdotettu, monet kokivat, että Lito-symposiumille olisi kysyntää erillisenä tapahtumana. Todennäköisesti siis tapaamme samoissa merkeissä taas parin vuoden kuluttua.