



GEOLOGICAL SOCIETY OF SWEDEN 150 YEAR ANNIVERSARY MEETING

Uppsala, August 17-19, 2022

Programme



This volume can be downloaded from
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Welcome

Welcome to the 150 year anniversary of the Geological Society of Sweden!

This anniversary took place in 2021, but due to the travel restrictions and the implementation of social distancing due to the Covid-19 pandemic, all celebration of the occasion was postponed.

We therefore decided to celebrate the anniversary with a jubilee meeting in 2022 instead. Our hope and aim has been to bring together the geoscientific community in Sweden, to have the opportunity to learn more about ongoing research in Swedish geology and to connect and reconnect with colleagues and coworkers.

It is therefore truly a pleasure to see the great interest in this meeting, with participants from academia as well as industry, from both Sweden and abroad.

From the organizing committee and the board of the society we would like to direct our gratitude towards our sponsors for their generosity and to the scientific committee for their professional work.

From me personally, I also send my deepest gratitude to the organizing committee that has been pivotal for the success of this meeting and without whose commitment it would not have been possible at all.

With that I welcome you all to celebrate the first one and a half century with the Geological Society – a mere blink in geological time but quite impressive for a geological society. I sincerely hope that the years to come will be equally successful and that this meeting will be the start of a new tradition of biannual Swedish geological meetings.

My warmest welcome!

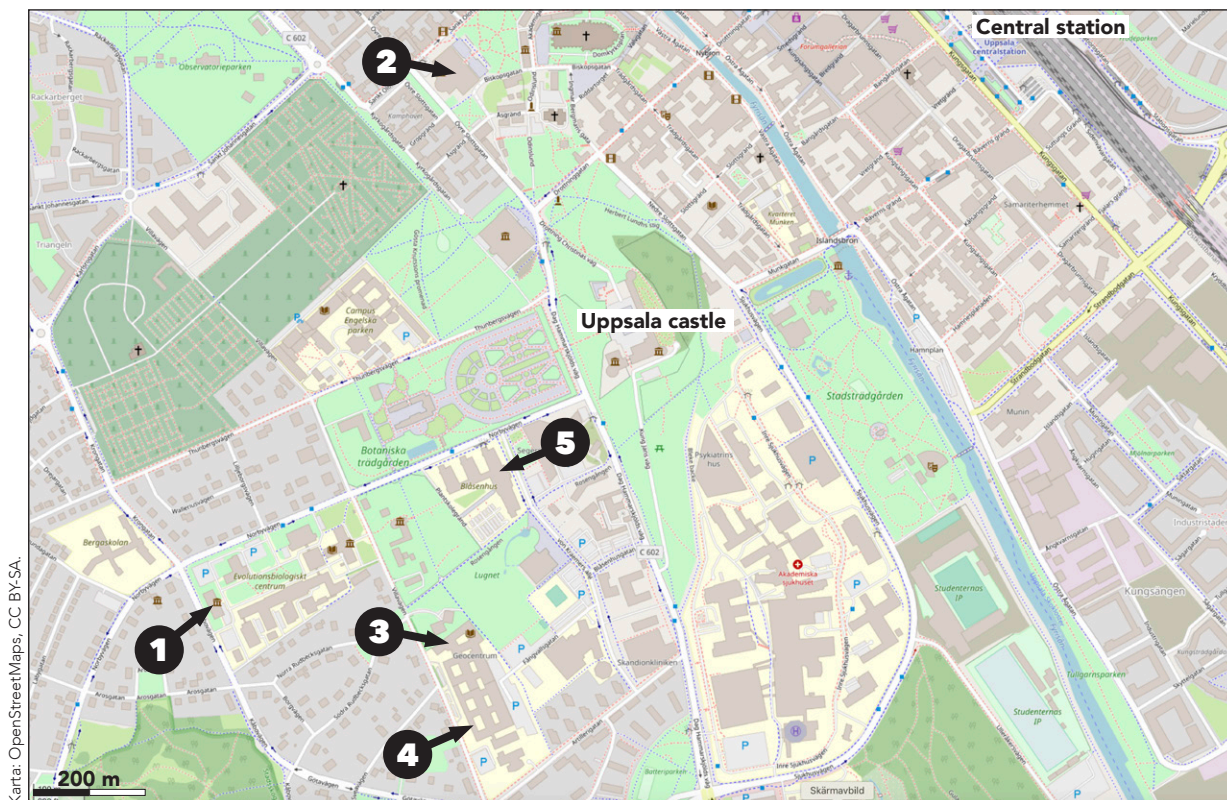


Emma Rehnström

Chairman of the Geological Society of Sweden,
on behalf of the Geological Society of Sweden and the
150 year Anniversary Meeting Organizing Committee

The meeting is a co-arrangement between the Geological Society of Sweden, Geosektionen, Uppsala University and the Geological Survey of Sweden.

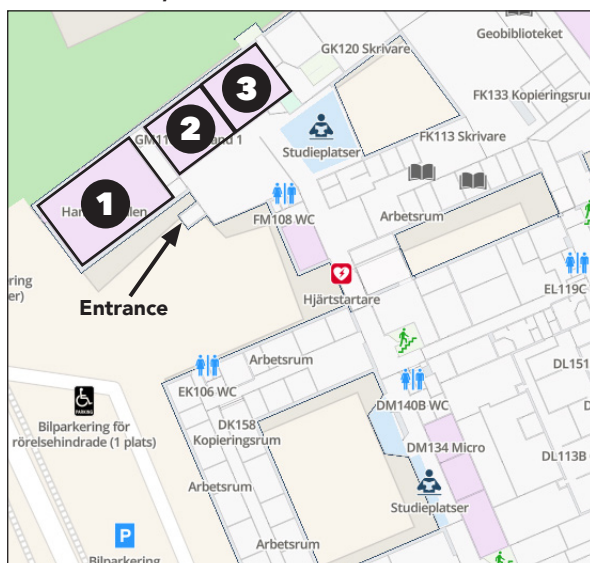
Maps



1. Icebreaker, Evolutionsmuseet
2. Opening ceremony, Main university building
3. Meeting, Geocentrum, Uppsala University

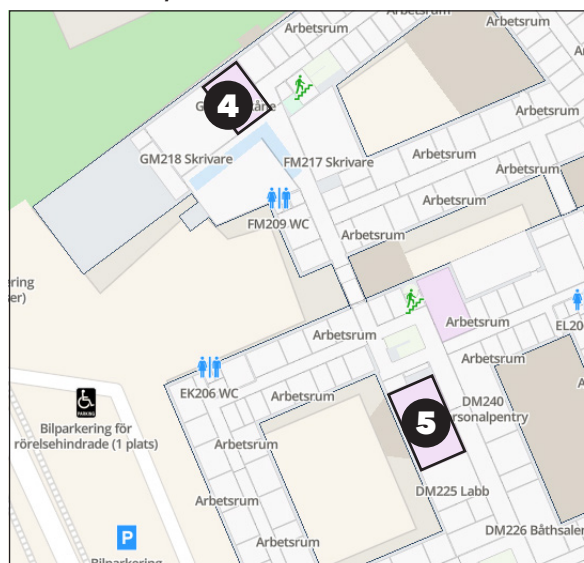
4. Meeting, Geological Survey of Sweden
5. Conference dinner, Feiroz

Geocentrum, 1st floor



1. Hambersalen
2. Norrland I
3. Norrland II

Geocentrum, 2nd floor



4. Skåne
5. Småland

General information

Meeting venue

The meeting takes place at Geocentrum, Uppsala University, and the Geological Survey of Sweden, Villavägen 16 and 18.

Registration

Registration is available during the Icebreaker at Evolutionsmuseet (Wednesday) and before the opening ceremony in the University main building (Thursday).

Name badge

Your name badge allows you admission to the scientific sessions as well as to coffee. It should be worn at all times at the conference venue.

Meeting proceedings

All registered participants will get a USB memory stick with the meeting proceedings in pdf format.

Internet access

Wireless internet access is available at the venue. You can get information at registration.

Coffee

Coffee will be served in the entrance hall of the conference venue. See the programme for times and places. You will need your name badge as a ticket.

Lunches

Packed lunches will be available at Geocentrum.

Icebreaker

Wednesday, August 17, 18.00–21.00, at Evolutionsmuseet, Norbyvägen 26.

Conference dinner

Thursday, August 18, 19.00–21.00 at Restaurant Feiroz, von Kraemers allé 1. Please note that pre-registration is necessary.

Oral presentations

Please make sure that your presentation, in Microsoft Powerpoint format (.ppt or .pptx) is uploaded in the computer allocated to the specific room of your session very well ahead. It is required that all presentations for a morning session or sub-session are uploaded before the session starts in the morning. For afternoon sessions, make sure that your presentation is uploaded during lunchtime, at the latest. There will not be time to upload files during running sessions.

Please note that total time per presentation (ordinary presentations 20 minutes, keynotes and invited speakers 40 minutes) should allow for questions and also includes changing and introducing speakers. The time table will be strictly kept, not least in order to make it possible to switch between different parallel sessions.

Helpers (student volunteers) will be on site at the venue to assist speakers.

Poster presentations

Posters will be displayed at Geocentrum. Poster format is maximum 96 × 137 cm (width × height). A0 format is recommended. Fasteners for posters and a list of poster presentations and their positions will be available in the poster area. Posters should be set up as early as possible on the first conference day (Thursday 18) and removed after the last day. Specific poster sessions (see programme) will run during the late afternoon on Thursday and Friday, but will also be available during lunch and coffee breaks. As an author/presenter, you are kindly requested to be present at your poster during the poster sessions.

Programme

Wednesday 17 August

Evolutionsmuseet, Norbyvägen 26	
18.00–21.00	Registration
18.00–21.00	Ice breaker

Thursday 18 August

Sal 10, University main building				
08.30–09.00	Registration			
09.00–09.15	Opening ceremony: Welcome and practical information			
09.15–09.30	Opening ceremony: Invited speaker			
09.30–10.00	Award ceremony and acceptance speech			
10.00–10.30	Transport			
	UU Hambergsalen	UU Norrland	UU Småland	SGU Hörsal
10.30–10.50	Coffee			
10.50–11.10	GS 1	GS 2	GS 3	TS 4
11.10–11.30	GS 1	GS 2	GS 3	TS 4
11.30–11.50	GS 1	GS 2	GS 3	TS 4
11.50–12.10	GS 1	GS 2	GS 3	TS 4
12.10–13.30	Lunch, Poster session	Funding possibilities	Lunch, Poster session	
13.30–13.50	GS 1	Lunch, Poster session	GS 3	TS 4
13.50–14.10	GS 1	GS 2	GS 3	TS 4
14.10–14.30	GS 1	GS 2	GS 3	TS 4
14.30–14.50	GS 1	GS 2	GS 3	
14.50–15.10	GS 1	GS 2	GS 3	
15.10–15.30	Coffee			
15.30–15.50	GS 1	GS 2	GS 4	
15.50–16.10	GS 1	GS 2	GS 4	
16.10–16.30	GS 1	GS 2	Poster session	
16.30–16.50	GS 1	GS 2	Poster session	
16.50–18.00	Poster session			
19.00–21.00	Symposium dinner Restaurant Feiroz, von Kraemers allé 1			

UU: Uppsala University
SGU: Geological Survey of Sweden

Friday 19 August

	UU Hambergsalen	UU Norrland I	UU Norrland II	UU Småland	UU Skåne	SGU Hörsal
08.30–08.50	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
08.50–09.10	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
09.10–09.30	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
09.30–09.50	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
09.50–10.20	Coffee					
10.20–10.40	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
10.40–11.00	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
11.00–11.20	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
11.20–11.40	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
11.40–12.00	TS 2	TS 5	TS 11	TS 10	TS 12	TS 9
12.00–13.30	Lunch, Poster session					
13.30–13.50	TS 2	TS 5	TS 11	TS 10	TS 8	TS 9
13.50–14.10	TS 2	TS 5	TS 11	TS 10	TS 8	TS 9
14.10–14.30	TS 2	TS 5	TS 7		TS 8	TS 9
14.30–14.50	TS 2	TS 3	TS 7	TS 6	TS 8	TS 9
14.50–15.10	TS 2	TS 3	TS 7	TS 6	TS 8	TS 9
15.10–15.30	Coffee					
15.30–15.50	TS 2	TS 3	TS 7	TS 6	TS 8	
15.50–16.10	TS 2	TS 3	TS 7	TS 6	TS 8	
16.10–16.30	TS 2	TS 1	TS 7	TS 6	TS 8	
16.30–16.50	TS 2	TS 1	TS 7	TS 6	TS 8	
16.50–17.10	TS 2	TS 1	TS 7	TS 6	TS 8	
17.10–17.30	TS 2	TS 1	TS 7	TS 6	TS 8	

General session 1: 3 billion years of geological evolution – the build-up of Sweden

General session 2: Geology and society

General session 3: Geoeducation

General session 4: 150 years anniversary – the evolution of geoscience through time

Thematic session 1: Applied geosciences

Thematic session 2: Economic geology

Thematic session 3: Environmental geosciences

Thematic session 4: Hydrogeology

Thematic session 5: Geochemistry

Thematic session 6: Geochronology and Isotope geology

Thematic session 7: Geophysics

Thematic session 8: Marine geosciences

Thematic session 9: Sedimentology & Palaeontology

Thematic session 10: Petrology & Mineralogy

Thematic session 11: Quaternary geology

Thematic session 12: Structural geology & Tectonics

General Session 1

3 billion years of geological evolution - The build-up of Sweden

Session Chairs:

Åke Johansson (ake.johansson@nrm.se)

Vivi Vajda (vivi.vajda@nrm.se)

Michael Stephens (michael@stephens.se)

Thursday 18 August. Hambergsalen, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Michael Stephens		
10.50–11.10	Luth & Lynch	Tectonic evolution and crustal growth of Sweden at 2.7–1.4 Ga as part of the global supercontinent cycle
11.10–11.30	Jansson & Bauer	Mineral deposits in the Fennoscandian Shield, Sweden, with focus on syn-orogenic 1.9–1.8 Ga ore provinces
11.30–11.50	Johansson	Position of Fennoscandia (Baltica) within Columbia and Rodinia, and models for the intervening break-up and collision
11.50–12.10	Bingen et al.	Geodynamic models for the Sveconorwegian orogeny
12.10–13.30	Lunch	
Chair: Åke Johansson		
13.30–13.50	Wickström	0.9–0.6 Ga break-up of Rodinia and Pannotia resulting in the birth of the ancient Iapetus Ocean and continent Baltica
13.50–14.10	Hammarlund & Hancke	Early animal life and its quest for entering the oxic world
14.10–14.30	Vajda & McLoughlin	Ordovician, Silurian and Devonian on the Baltica shelf – a tale of tropical reefs, land plant expansion and explosive volcanism
14.30–14.50	Majka	Subduction of a Baltica margin followed by Baltica-Laurentia collision as part of the assembly of Pangea
14.50–15.10	McLoughlin & Vajda	Mesozoic of Sweden
15.10–15.30	Coffee	
Chair: Vivi Vajda		
15.30–15.50	Hammarlund	Return to ice ages and the relevance of Quaternary geology in the modern world
15.50–16.10	Filipsson	Marine Baltic records over the later part of the Quaternary – a biological proxy perspective
16.10–16.30	Lund et al.	Glacial rebound and the triggering of large earthquakes
16.30–16.50		Closing discussion

General Session 2

Geology and society

Session Chairs:

Katarina Persson Nilsson (katarina.nilsson@svemin.se)

Erika Ingvald (erika.ingvald@sgu.se)

Pär Weihed (par.weihed@ltu.se)

Thursday 18 August. Norrland, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Katarina Nilsson		
10.50–11.10	Introduction: Weihed et al.	Society and geology, what is the future?
11.10–11.40	Hanghøj (Keynote)	The role of geological survey organisations in the sustainable development of the society
11.40–12.10	Panel discussion	Participants to be confirmed
12.10–13.30	Funding agencies *	Funding possibilities
13.30–13.50	Lunch	

* BeFo, Formas, Naturvårdsverket, Statens geotekniska institut, Sveriges geologiska undersökning, Swedish Mining Innovation, Vetenskapsrådet.

Chair: Erika Ingvald		
13.50–14.10	Andersson et al.	Society stalls without bedrock mapping
14.10–14.30	Crafoord et al.	Is the Swedish onshore bedrock suitable for carbon dioxide sequestration?
14.30–14.50	Ask et al.	Postglacial faults, society and mitigation planning
14.50–15.10	Tondel et al.	Cancer risk assessment related to terrestrial gamma radiation – an example and future predictions using register data in Sweden
15.10–15.30	Coffee	
Chair: Pär Weihed		
15.30–15.50	Goodfellow et al.	Coastal erosion in Skåne: present and future threats
15.50–16.10	Barnett et al.	Arctic Sweden's glacial and emerging post-glacial environments: glacial waters, ecosystems and people
16.10–16.30	Rundgren et al.	The importance of palaeoecology in nature conservation: A study of the establishment of beech forest in Söderåsen National Park
16.30–16.50	Holgersson	The crucial role of groundwater for Swedish watersupply
Posters	Authors	Title
	Arellano et al.	EPOS Sweden: A national contribution to the European Plate Observing System-European Research Infrastructure Consortium
	Hägglund et al.	Need of increased geochemical knowledge on sulphide bearing rock in civil engineering
	Rosberg et al.	Riksriggen: the Swedish research infrastructure for scientific drilling, in-situ testing, project support, and data handling
	Alexandersson et al.	Storm surges in the Swedish Holocene geological record – a key to better risk assessments for coastal flooding

General Session 3

Geoeducation

Session Chairs:

Anders Scherstén (anders.schersten@geol.lu.se)

Magnus Hellqvist (magnus@hellqvist.com)

Emma Rehnström (emma.f.rehnstrom@gmail.com)

Thursday 18 August. Småland, Geocentrum, Uppsala University

Time	Authors	Title
Chair:		
10.50–11.30	Lundmark (Keynote)	Geoscience education for the future, a Norwegian perspective
11.30–11.50	Andersson et al.	Geoscience education and the use of digital (field) tools, testbeds, drones, and modern pedagogics at Luleå University of Technology
11.50–12.10	Barker et al.	What do students learn about stratigraphy through fieldwork?
12.10–13.30	Lunch	
Chair:		
13.30–13.50	Sartz et al.	Metals4U+: Mineral raw materials for a green and digital future
13.50–14.10	Johansson et al.	Engaging future generations in the challenges of the raw materials sector
14.10–14.30	Rehnström & Göransson	Geokids – an outdoor learning activity on geology, cultural heritage and sustainability
14.30–14.50	Schöfisch & Vogel	Rocks, Facades, and Pavements of Uppsala – Interactive Geochase to Enhance the Learning Outcome
14.50–15.10	Wickström	GNIST – creating opportunities using the geological heritage in Sweden and Norway

General Session 4

150 years anniversary – the evolution of geoscience through time

Session Chair:

Jörgen Langhof (Jorgen.langhof@nrm.se)

Thursday 18 August. Småland, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Jörgen Langhof		
15.30–15.50	Hestmark (Keynote)	Ice Ages in Scandinavia – from initial discovery to authorized fact, 1823–1858
15.50–16.10	Holtstam	Speaking of anniversaries: Who was the first modern mineralogist?
Posters	Authors	Title
	Jansson et al.	Geological nomenclature in Sweden

Thematic Session 1

Applied geosciences

Session Chair:

Paul Evins (paul.evins@wsp.com)

Friday 19 August. Norrland I, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Paul Evins		
16.10–16.30	Makowsky & Nyzell	Episyenites in Stockholm – observations from ongoing tunnel projects
16.30–16.50	Jacobsson et al.	Experimental program to study scale effects on mechanical properties of large rock fractures
16.50–17.10	Grigulla et al.	Seismic risk assessment in the post-closure safety analysis of the planned Swedish repository for spent nuclear fuel
17.10–17.30	Evins	Mapping by pictures: simplified rock mass classification for better consistency
Posters	Authors	Title
	Åhrberg & Evins	Preliminary analysis of the regional distribution of sulfide-bearing rock in the Stockholm area
	Andersson & Doulamis	Rock strengths of lithologies from Kiirunavaara from point load tests and correlations with other methods

Thematic Session 2

Economic geology

Session Chairs:

Erik Jonsson (erik.jonsson@sgu.se)

Iain Pitcairn (iain.pitcairn@geo.su.se)

Christina Wanhainen (christina.wanhainen@ltu.se)

Friday 19 August. Hambergssalen, Geocentrum, Uppsala University

Time	Authors	Title
Chairs: Christina Wanhainen, Erik Jonsson, Iain Pitcairn		
08.30–09.10	Eilu (Keynote)	Critical mineral raw material potential in the Nordic countries – relevance for Europe in the 2020s and further
09.10–09.30	Patten et al.	Metal mobilization during the evolution of the Central Lapland Greenstone Belt, Finland: implications for orogenic Au deposits

09.30–09.50	Bauer & Andersson	A continuum between 1.8 Ga IOCG and orogenic gold deposits in northern Sweden?
09.50–10.20 Coffee		
Chair: Iain Pitcairn		
10.20–10.40	Henriksson et al.	Magmatic origin of the Malmberget apatite-iron oxide ore
10.40–11.00	Andersson et al.	A time-constrained structural framework of the Kiruna mining district in northern Sweden
11.00–11.20	Logan et al.	Late-orogenic timing of the Pahtohavare Cu ± Au deposits constrained by a structural framework model
11.20–11.40	Jonsson & Pieslinger	Evidence for metamorphic ore melts in the Palaeoproterozoic Enåsen gold deposit, central Sweden?
11.40–12.00	Tiu et al.	Gold mineralization in the Lappberget deposit, Garpenberg mine, Sweden: towards a geometallurgical approach
12.00–13.30 Lunch		
Chair: Erik Jonsson		
13.30–13.50	Sjöqvist & Manneberg Kozłowski	The Norra Kärr alkaline complex, from mantle melt to mineral deposit
13.50–14.10	Dunst et al.	Mobility of REEs during alkali alteration, Bergslagen Sweden
14.10–14.30	Hilmo et al.	A preliminary comparison of Per Geijer-Kiirunavaara IOA deposits
14.30–14.50	Andersson et al.	Contrasting Na–Ca ± Fe ± K brines explain differences in REE mineral alteration in the Olserum–Djupedal mineralisation, Sweden
14.50–15.10	Aiglsperger et al.	Platinum-group elements exploration in Sweden: new insights by QanTmin
15.10–15.30 Coffee		
Chair: Christina Wanhainen		
15.30–15.50	Jansson et al.	Mass-dependent Zn and Cd isotope fractionation in Swedish base metal sulphide deposits
15.50–16.10	Rincon et al.	Pyrite and sphalerite trace element redistribution during metamorphism of the Rävliiden North VMS deposit, northern Sweden
16.10–16.30	Simán et al.	Fitting Rävliiden North Zn–Pb–Ag–Cu deposit host stratigraphy into regional Skellefte district nomenclature
16.30–16.50	Lynch et al.	Source-to-sink controls on granite-related W–Mo–F mineralization, western Bergslagen
16.50–17.10	Martinsson & Aiglsperger	Character and origin of the graphite deposits in Norrbotten, northern Sweden
17.10–17.30	Lewerentz et al.	Age of Cu–Co-mineralised skarns, Vena mines, Bergslagen: insights from titanite LA-ICP-MS U–Pb geochronology
Posters:	Authors	Title
	Martinsson & Aiglsperger	Potential REE-resources in northern Sweden
	Haag et al.	Mineralization and alteration paragenesis of Fe-oxide-sulfide-REE mineralization in the Bastnäs area, Bergslagen ore district, Sweden
	Veress & Bauer	3D geologic modeling of the Kiruna mining district
	Reginiussen & Jonsson	Niobium-tantalum mineralisation in Sweden: an overview
	Hatton & Pitcairn	Variations in stable C and O isotopes in metacarbonates in Bergslagen; relationships to mineralisation
	Andersson	A synthesis of polymetallic (Cu–Co–Mo–Au...) sulphide, Fe oxide and REE–U mineralisation types in the Västervik region, SE Sweden
	Jonsson et al.	Augen apatites and apatite pegmatites: new observations from the Långblå Fe–P–REE deposit, Bergslagen, Sweden
	Casey & Persson	Investigation of potential secondary raw materials in tailings at Morkultjärnen, Yxsjöberg tungsten mine, Bergslagen, Sweden

Thematic Session 3

Environmental geosciences

Session Chairs:

Lena Alakangas (lena.alakangas@ltu.se)

Karin Eliaeson (Karin.Eliaeson@sgu.se)

Geoffrey Lemdahl (Geoffrey.lemdahl@lnu.se)

Friday 19 August. Locality: Norrland I, Geocentrum, Uppsala University

Time	Authors	Title
Chair:		
14.30–14.50	Andersson	Geochemistry in the Arctic – The legacy of GEOTRACES
14.50–15.10	Zocher et al.	Distribution and sources of natural and anthropogenic rare earth elements in Trondheimsfjord, Norway
15.10–15.30	Coffee	
Chair:		
15.30–15.50	Conrad et al.	The Ce anomaly in hemiboreal headwater streams
15.50–16.10	Hällström & Flodin	Secondary minerals affecting the mobility of critical metals (Be and W) – determined by sequential extraction combined with DXRD and SEM-EDS
Posters:	Authors	Title
	Morin et al.	GIS-modelled estimation of peat volumes and peat carbon stock in Sweden
	Löwemark	Using ion-exchange resin and Itrax XRF Core Scanning to pinpoint heavy metal pollution sources
	Norrin et al.	Investigations on fibre sediments in Sweden
	Öhring et al.	Acid sulfate soil in Sweden – distribution, machine learning maps, and environmental impact in a changing climate

Thematic Session 4

Hydrogeology

Session Chairs:

Roger Herbert (Roger.Herbert@geo.uu.se)

Bo Olofsson (boolof@kth.se)

Thursday 18 August. Locality: Hörsalen, Geological Survey of Sweden

Time	Authors	Title
Chairs: Roger Herbert, Bo Olofsson		
10.50–11.30	Parker (Keynote)	Contaminants as Tracers of Complex Groundwater Flow Systems: Insights from Field Research
11.30–11.50	Fagerlund et al.	In-situ injection of colloidal activated carbon to reduce PFAS spreading in groundwater from a contaminated site
11.50–12.10	Lévy et al.	Understanding the flow path of reagents in groundwater remediation actions, by cross-borehole electrical monitoring
12.10–13.30	Lunch	
Chair: Roger Herbert, Bo Olofsson		
13.30–13.50	Selroos & Follin (Keynote)	Hydrogeological applications within SKB's programme for a spent nuclear fuel repository
13.50–14.10	Earon et al.	Establishing a baseline understanding of the hydrogeology in Forsmark
14.10–14.30	Martin et al.	Geophysical mapping of aquifer properties in infrastructure projects using DCIP and MRS
Posters	Authors	Title
	Godio & Jacobsson	Laboratory low-transmissivity tests on natural rock fracture under varying normal load
	Herbert	Dominating hydrochemical processes in a coastal bedrock aquifer along the Baltic Sea

Thematic Session 5

Geochemistry

Session Chairs:

Anna Ladenberger (anna.ladenberger@sgu.se)

Anna Neubeck (anna.neubeck@geo.uu.se)

Friday 19 August. Locality: Norrland I, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Anna Ladenberger		
08.30–08.50	Loukko-Ruskeeniemi (Keynote)	Geochemical mapping of black shales, with applications for environmental risk assessment and exploration
08.50–09.10	Blomskog	Geochemical signature and environmental implications of waste from burning black shale in Västergötland, Sweden
09.10–09.30	Sarala	Mineral exploration in the glaciated terrain using upper soil and snow geochemistry
09.30–09.50	Tarvainen	Chemical changes and neutralization of acid-generating dredged material
09.50–10.20	Coffee	
Chair: Anna Neubeck		
10.20–10.40	Kylander (Keynote)	Stuck in the muck: Reconstructing paleostorms using geochemical tools in peatlands
10.40–11.00	Zdanowicz	Investigating sources of riverine mercury in the Mackenzie River Basin, Canada, with isotopic (Hg, 14C) and other markers
11.00–11.20	Paulsson	Modelled impact of climate change scenarios on hydrodynamics and water quality of the Rävildmyran pit lake, northern Sweden
11.20–11.40	Bohlin	Nickel isotope fractionation during iron oxide formation
11.40–12.00	Hellevang	To what degree can the spatial distribution of secondary minerals in porous media be determined?
12.00–13.30	Lunch	
Chairs: Anna Ladenberger, Anna Neubeck		
13.30–13.50	Tuyishime	Phosphorus speciation in boreal forest soils
13.50–14.10	Gustafsson	Determination of phosphorus speciation in soil by XANES spectroscopy – strengths, weaknesses and comparison with other methods
14.10–14.30	Huld	Chemical gardens mimic electron paramagnetic resonance (EPR) spectra and morphology of biogenic Mn oxides
Posters	Authors	Title
	Alvarellos et al.	Differences in the mineralogy and geochemical composition of oxidized and waterlogged acid sulphate soils in northern Sweden
	Kaiser et al.	Ah soil horizon geochemistry as a tool to detect buried VMS mineralizations in the Skellefte ore field – the Rävilden pilot survey
	Ladenberger et al.	Geochemical mapping of the historical mining field at Vena, central Sweden
	Morris et al.	The National Till Geochemical Mapping program at SGU: producing a uniform regional scale public data set
	Neubeck et al.	Urease aided precipitation of manganese oxides and carbonates
	Tarvainen et al.	The FOREGS Geochemical Baselines Project – 25 years of European-wide geochemical mapping
	Mendes et al.	Mineralogy and geochemistry of komatiites associated with Cu-Au deposits: an example from the Mundonguara mine in Manica Greenstone Belt, Mozambique

Thematic Session 6

Geochronology and isotope geology

Session Chairs:

Renaud Merle (renaud.merle@geo.uu.se)

Martin Whitehouse (martin.whitehouse@nrm.se)

Friday 19 August. Locality: Småland, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Martin Whitehouse		
14.30–14.50	Johansson	Cleaning up the record – Revised U-Pb zircon ages and new Hf isotope data from southern Sweden
14.50–15.10	Gee et al.	LA-ICP-MS U-Pb geochronology of the COSC-1 drillcore, Åre, Sweden
15.10–15.30	Coffee	
Chair: Renaud Merle, Martin Whitehouse		
15.30–15.50	Lauri et al.	Age and C-O isotopes of the hydrothermal breccias within the Kiruna-Naimakka zone, Norrbotten, Sweden
15.50–16.10	Zack & Karlsson	Extreme initial $87\text{Sr}/86\text{Sr}$ ratios through metamorphic overprinting: an example from Balltorp (western Sweden)
16.10–16.30	Mark et al.	Did the mid-Pleistocene climate transition drive enhanced exhumation in the Karakoram? A detrital provenance perspective
16.30–16.50	Whitehouse et al.	Observation and inference in the interpretation of zircon ages obtained from “>3.9 Ga” gneiss in the Saglek Block, Labrador
16.50–17.10	Petersson et al.	Formation of early Archean Granite-Greenstone Terranes from a globally chondritic mantle
17.10–17.30	Merle et al.	Deciphering the timing and mantle sources of lunar magmatism using Pb-Pb dating and Sr-Nd-Pb isotope systematics
Poster	Authors	Title
	Andersson	Enriched Archean mantle below northern Sweden; Hf isotopic evidence

Thematic Session 7

Geophysics

Session Chairs:

Christopher Juhlin (christopher.juhlin@geo.uu.se)

Thorkild Maack Rasmussen (thorkild.maack.rasmussen@ltu.se)

Lena Persson (lena.persson@sgu.se)

Friday 19 August. Locality: Norrland II, Geocentrum, Uppsala University

Time	Speaker	Title
Chair: Lena Persson		
14.10–14.30	Schiffer et al.	Crustal structure and isostasy in Nordland and Troms, Northern Norway – A controversy?
14.30–14.50	Almqvist et al.	Studies of paleomagnetism and rock magnetism in Sweden: history, state-of-the-art and future
14.50–15.10	Juhlin et al.	Collisional Orogeny in the Scandinavian Caledonides (COSC): Overview of geophysical results from COSC-1 and COSC-2
15.10–15.30	Coffee	
Chair: Chris Juhlin		
15.30–15.50	Juhojuntti et al.	Geophysical exploration in the Per Geijer area, close to Kiruna
15.50–16.10	Rasmussen et al.	Magnetotelluric and geomagnetic activities in Sweden - from space to core
16.10–16.30	Steffen et al.	EuVeM2022: A 3D GNSS velocity field for Europe

16.30–16.50	Steffen et al.	NKG2022GIA – A new, forthcoming product for northern Europe of the Nordic Geodetic Commission
16.50–17.10	Roth et al.	The Swedish National Seismic Network
17.10–17.30	Bastani et al.	A review of developments of electromagnetic methods at SGU
Posters	Authors	Title
	Steffen et al.	BIFROST – A Global Navigation Satellite System project serving Earth sciences since three decades
	Smirnov et al.	DREX project
	Rydman et al.	Comparison of 3D inversions of MT and CSEM-data from Malmberget northern Sweden with a geological model
	Flanders	A Geophysical Survey of Utö

Thematic Session 8

Marine geosciences

Session Chairs:

Martin Jakobsson (martin.jakobsson@geo.su.se)

Lovisa Zillén Snowball (Lovisa.zillen.snowball@sgu.se)

Friday 19 August. Locality: Skåne, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Lovisa Zillén		
13.30–13.50	Andrén et al.	Medieval versus recent environmental conditions in the Baltic Proper, what was different a thousand years ago?
13.50–14.10	Falise et al.	Sensitive drone mapping of methane emissions from anthropogenic fibrous sediments
14.10–14.30	Andrén et al.	Radiocarbon dating of coastal Northwestern Baltic proper Late Holocene sediments – pitfalls and possibilities
14.30–14.50	Chen et al.	Peat as a potential total alkalinity source to the Baltic Sea through submarine groundwater
14.50–15.10	Hsiang	Exploring planktonic foraminifer evolution in response to environmental restructuring across the K-Pg using deep learning
15.10–15.30	Coffee	
Chair: Martin Jakobsson		
15.30–15.50	Reghellin et al.	Paleoceanography of the eastern equatorial Pacific since the late Miocene inferred from bulk sediment properties
15.50–16.10	Razmjooei & O'Regan	Mid-Pleistocene-Holocene calcareous nannofossil taxonomy and biochronology of the central Arctic Ocean sediments
16.10–16.30	Hong et al.	Time scales of offshore freshened groundwater from Norwegian Sea, Barents Sea, and Chukchi Sea
16.30–16.50	Gyllencreautz et al	Sub-bottom profile survey of the Ikka Fjord, South Western Greenland – mapping the “soil” of the ikaite column garden
16.50–17.10	Brüchert et al.	Sediment carbon mineralization in the Ryder and Petermann fjords records increased productivity in northern Greenland fjords
17.10–17.30	Prakash	Response of the ocean circulation and ice shelf basal melt rates at Petermann Fjord to a year-round mobile sea ice cover in the Nares Strait
Posters	Authors	Title
	Jakobsson et al.	North Greenland Earth-Ocean-Ecosystem Observatory (GEOEO)
	Freire et al.	Biogeophysical characterization of the offshore reefs in the Baltic Sea for conservation and management
	Wagner	Marine Geology and Holocene Paleoceanography of the Southern Quark, Baltic Sea
	Browaldh et al.	Diatoms from the late Holocene of the western Chukchi Sea, Arctic Ocean: environmental signals and palaeoceanography

Thematic Session 9

Sedimentology & palaeontology

Session Chairs:

Lars Holmer (lars.holmer@pal.uu.se)

Mikael Calner (mikael.calner@geol.lu.se)

Friday 19 August. Locality: Hörsalen, Geological Survey of Sweden

Time	Authors	Title
Chair: Lars Holmer		
08.30–08.50	Agbaje et al.	Organic macromolecules and Ca-phosphate components in Cambrian small shelly fossils: characterization and diagenesis
08.50–09.10	Budd & Mann	Evolution in real time: when fossils tell you what happened when
09.10–09.30	Claybourn et al.	Recent advances in the Cambrian Series 2 of Antarctica: Palaeontological Systematics and Stratigraphy
09.30–09.50	Holmer et al.	Life habits of Ordovician infaunal lingulids – A Baltic perspective
09.50–10.20	Coffee	
Chair: Graham Budd		
10.20–10.40	Kiel et al.	Seals, whales, and the Cenozoic decline of nautiloid cephalopods
10.40–11.00	Liang et al.	Morphological evolution and ecological exaptation of the “living fossil” lingulid brachiopods across mass extinctions
11.00–11.20	Liu	Applying fossil herbivores ecometrics to reconstruct Neogene ecoregions in East Asia
11.20–11.40	Mörs et al.	Stratigraphy of the Beacon Supergroup in Victoria Land (northern Transantarctic Mountains, East Antarctica)
11.40–12.00	Richoz et al.	The emergence of pelagic calcification in the Upper Triassic and its influence on seawater chemistry
12.00–13.30	Lunch	
Chair: Lars Holmer		
13.30–13.50	Slater et al.	Cryptic imprint fossils of nannoplankton reveal hidden records through intervals of past global warming
13.50–14.10	Streng et al.	Bradoriids from the late early Cambrian of Norway and Sweden
14.10–14.30	Topper et al.	New discoveries of Small Shelly Fossils from the early Cambrian (Stage 4) of the Swedish Caledonides, Lappland
14.30–14.50	Zhang et al.	The lophophore configurations in early Cambrian (Series 2) brachiopods and their phylogenetic implications
14.50–15.10	Slater	Tracking the Ediacaran–Cambrian transition using small carbonaceous fossils (SCFs): a newly emerging record from Baltica
Posters	Authors	Title
	Brakebusch & Richoz	Record of the end-Triassic mass extinction in shallow marine carbonates: the Lorüns section (Austria)
	Gunnarsson et al.	The Hirnantian Stage and the Hirnantian Isotope Carbon Excursion (HICE) in the Gotland (Sweden) subsurface
	Hu et al.	Distinguishing borings and burrows in intraclasts: evidence from the Cambrian (Furongian) of North China
	Liang et al.	Brachiopods from the Latham Shale Lagerstätte (Cambrian Series 2, Stage 4) and Cadiz Formation (Miaolingian, Wuliuan), California
	Löwemark	Early Miocene predator-prey interaction on the SE Eurasian shelf revealed by trace fossils at Yehliu Promontory, Taiwan
	Peng et al.	A new species of the microfossil, Kuqaia, a possible water flea egg from the Jurassic of Sweden
	Shevchuk & Shevchuk	Correlation of Cretaceous deposits along the Dniester river (Ukraine) by palynological and lithological methods
	Song et al.	Fresh look at Early Cambrian Brachiopod shell Micro-structures in sections by Ion-milling
	Liu et al.	The phylogeny and ecological diversification of early Cambrian hyoliths from South China

Thematic Session 10

Petrology & mineralogy

Session Chairs:

Jenny Andersson (jenny.andersson@sgu.se)

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Friday 19 August. Locality: Småland, Geocentrum, Uppsala University

Time	Authors	Title
Chairs: Jenny Andersson, Ulf B. Andersson, Dan Holtstam, Hannes Mattsson		
08.30–08.50	Salin et al.	Palaeo-Mesoproterozoic anorogenic granites in the Baltic Sea region
08.50–09.10	Sundblad & Salin	Major disturbance of the TIB 1 evolution in SE Sweden, caused by the arrival of exotic crust to the SW margin of Baltica at c. 1795 Ma
09.10–09.30	Mattsson	The Alnö alkaline complex: an older, more eroded, Swedish equivalent to the Oldoinyo Lengai volcano?
09.30–09.50	Barker et al.	Records of crustal assimilation in Neoproterozoic metaigneous rocks from Southwest Svalbard
09.50–10.20	Coffee	
Chairs: Jenny Andersson, Ulf B. Andersson, Dan Holtstam, Hannes Mattsson		
10.20–11.00	Smit et al. (Keynote)	Mary, Mary, quite contrary, how does your garnet grow? – lessons from garnet trace-element mapping and Lu-Hf (micro-)chronometry
11.00–11.20	Kooijman et al.	Rutile petrochronology: fundamentals and applications
11.20–11.40	Slupski et al.	Former melt inclusions in garnet from UHP gneisses of the Seve Nappe Complex (Scandinavian Caledonides)
11.40–12.00	Lewerentz	Stability of metamorphic index minerals in ‘magnesium-altered’ volcanic rocks from Bergslagen, Sweden
12.00–13.30	Lunch	
Chairs: Jenny Andersson, Ulf B. Andersson, Dan Holtstam, Hannes Mattsson		
13.30–13.50	Nysten	Preliminary report on a moderately fractionated rare-element pegmatite at Långåsen, Arlanda, Sweden
13.50–14.10	Karlsson & Zack	The mineralogy and geochronology of an arfvedsonite-bearing monzonite at Balltorp in western Sweden
Posters	Authors	Title
	Andersson et al.	Uranium mineralizations in Kiirunavaara, Sweden
	Djuse et al.	Baggalútar from Hvalfjörður (Iceland): Mysterious spheroids of hydrothermally altered basaltic tephra
	Holtstam & Karlsson	An unusual mineral assemblage of Pb silicates
	Klonowska et al.	The saga of the high and ultra-high pressure gneisses of the Seve Nappe Complex in Jämtland, Scandinavian Caledonides
	Mansfeld et al.	Traces of a volcano in southeastern Sweden – geology, geophysics and geochemistry
	Gustafsson & Mattsson	From the mantle to the surface: A petrological travel log recorded by melilitic lapilli in the Sälkärs breccia (Alnö alkaline complex)
	Nysten & Karlsson	Schallerite from Harstigen
	Nysten et al.	Euhedral low-temperature phosphate minerals from the Leveäniemi open cut, Norrbotten county, Sweden
	Skoog et al.	Petrography of arsenic bearing metasupracrustal rocks in the Arlanda area
	Sjöqvist & Mattsson	Alkaline igneous rocks in Sweden: An overview
	Telson et al.	Magma mixing and replenishment beneath Laurence Peninsula, Heard Island

Thematic Session 11

Quaternary geology

Session Chairs:

Mark Johnson (mark@gvc.gu.se)

Ian Snowball (ian.snowball@geo.uu.se)

Friday 19 August. Locality: Norrland II, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Ian Snowball, Mark Johnson		
08.30–08.50	Hättestrand et al.	New insights to the Weichselian interstadial records of northern Sweden based on OSL-dating, pollen records and isotope analysis
08.50–09.10	Peterson Becher et al.	The geomorphological imprint and implications of a 'new' ice margin in central Sweden
09.10–09.30	Räsänen	Revised Middle and Late Pleistocene interglacial and interstadial records in Finland reveal a long palaeoecological record
09.30–09.50	Regnéll et al.	150 years of ice-dammed lake research in the Scandinavian Mountains and the way forward
09.50–10.20	Coffee	
Chair: Mark Johnson, Ian Snowball		
10.20–10.40	Baykal et al.	Ice sheet and North Sea drainage drive dust source variability recorded in late Quaternary loess deposits at Pegwell Bay, SE England
10.40–11.00	Stevens et al.	Loess deposits in central Sweden: age, formation and significance
11.00–11.20	Sjöström et al.	Bogs as archives of atmospheric mineral dust – overview and examples from southern Sweden
11.20–11.40	Silvester et al.	Lake Odensjön – an annually laminated sediment record from southern Sweden
11.40–12.00	Wastegård & Larsson	Late Quaternary tephrochronology of Sweden
12.00–13.30	Lunch	
Chair: Ian Snowball, Mark Johnson		
13.30–13.50	Smith & Öhrling	Reassessing claims of paleo-tsunamis in Sweden
13.50–14.10	Johnson & Öhrling	Geomorphology and sedimentology at the outlet of the final drainage of the Baltic Ice Lake and a conceptual model
Posters	Authors	Title
	Edward et al.	The deglaciation of the Kebnekaise region, Northern Sweden
	Peterson Becher et al.	The glacial landscape of central Jämtland, Sweden; societal and scientific implications of a new map
	Plikk et al.	Shore displacement along the planned high-speed railway Ostlänken, in eastern south-central Sweden
	Snowball et al.	Paleomagnetic inclination shallowing in Late-Glacial sediments recovered from the Baltic Sea Basin
	Steven, et al.	Age and distribution of aeolian sand dunes in Arctic Sweden
	Öhrling	Glacial geomorphology of the Swedish east coast – adding pieces to solve the 'Gävle problem'

Thematic Session 12

Structural geology & tectonics

Session Chairs:

Tobias Bauer (tobias.bauer@ltu.se)

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Stefan Luth (stefan.luth@sgu.se)

Friday 19 August. Locality: Skåne, Geocentrum, Uppsala University

Time	Authors	Title
Chair: Tobias Bauer		
08.30–08.50	Evins	Stockholm's geology: granite taken for gneiss
08.50–09.10	Högdahl et al.	Structures and metamorphism of Fjärdlång and Ornö, SE Stockholm archipelago
09.10–09.30	Andersson et al.	Age and crustal affinity of Precambrian basement nappes and underlying basement in the east central Scandinavian Caledonides
09.30–09.50	Lescoutre et al.	1.47 Ga and 1.27–1.26 Ga dolerite sheets within the basement underneath the east-central Scandinavian Caledonides
09.50–10.20	Coffee	
Chair: Stefan Luth		
10.20–10.40	Mattsson et al.	Melt transport in the Götemar granite pluton
10.40–11.00	Tomek et al.	Centrifuge analogue modelling of transcrustal granite diapirs in the Moldanubian unit of the Variscan Bohemian Massif
11.00–11.20	Koyi & Yu	Extensional faults crossing paths; does a graben always rid on the back of a horst?
11.20–11.40	Steffen & Steffen	The effect of glacially induced stresses on the background stress regime – Insights from numerical models
11.40–12.00	Schöfisch et al.	Strain in analogue models revealed by AMS analyses - Recent discoveries of the Hans-Ramberg-Tectonic Laboratory, Uppsala
Posters	Authors	Title
	Luth & Bergqvist	Structural data from XCT-XRF drill core scanning to constrain geological modelling in the Mavres Petres Zn-Pb mine, Greece
	Rasmussen et al.	The Norrbotten Mega-Fault

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