



Fingerprinting techniques in mineral exploration

Online short course, June 14-18, 2021

Organizers: UiT, GTK, GEUS, OMS

PROGRAM

Day 1.

Time (CEST)	Title and speaker
10:30	Welcome word to participants and speakers: Sabina Strmic Palinkas, Yulia Mun (UiT)
10:40	Introduction to EIT RM Academy: EIT RM Academy:
10:50	MinExTarget – innovation project in mineral exploration: Ferenc Molnar (GTK)
11:30	Geology and ore potential of the Fennoscandian Shield: Pasi Eilu (GTK)
12:15	Lunch
13:00	Mapping the mineral potential; the role of the Geological Survey of Norway: <i>Henrik Schiellerup (NGU)</i>
13:30	Mineral systems in Greenland – two examples from globally important deposit types: Stefan Bernstein (GEUS)
14:00	Geology and mineral deposit perspectives in Poland: Adam Piestrzyński, Wladyslaw Zygo (AGH)
14:30	Break
14:45	Introduction to the Student practices in the course
15:00	Discussion
15:15	End of the Day

Day 2.

Time (CEST)	Title and speaker
10:00	Exploration methods, part 1: Sampling and sample preparation: Heavy mineral sampling, concentration and research in glaciated terrains: Hannu Ahola (Palsatech Ltd)
10:45	Exploration methods, part 2: Stream sediments and marine sediments in mineral exploration: Yulia Mun (UiT)
11:30	Mineral exploration in glaciated terrain: Case studies from Finland: Pertti Sarala (GTK)
12:15	Lunch
13:00	Practical work in small groups
14:45	Break
15:00	Application of indicator minerals in mineral exploration in Canada: Beth McClenaghan (GSC)
15:45	Discussion
16:00	End of the working Day
18:00	Online social gathering



Day 3

Time (CEST)	Title and speaker
10:00	Mineral exploration techniques in Australia as an example of deeply weathered and covered terrain: <i>Walid Salama (CSIRO)</i>
10:45	Non- traditional stable isotope and radiogenic isotopes in exploration: Lahaye Yann (GTK)
11:45	Lunch
12:45	Geoanalytical techniques: combining optical microscopy, e-beam, X-ray beam & laser beam-based technologies for a multi-modal, multi-dimensional approach: Alan Butcher (GTK)
13:45	Break
14:00	Fluid, melt and solid inclusions in mineral exploration: Sabina Strmic Palinkas (UiT)
14:45	Practical work in small groups
16:15	End of the Day

Day 4

Time (CEST)	Title and Speaker
09:30	Trace element content of pyrite: a proxy for ore-forming conditions and a potential tool for mineral exploration targeting: Paavo Nikkola (GTK)
10:15	Mineral trace element and isotopic footprints of orogenic gold deposits in Finland: Ferenc Molnar (GTK)
11:15	Break
11:30	Processing and fingerprinting of mineral trace element data by unsupervised machine learning: Sara Raic (GTK)
12:15	Lunch
13:00	Introduction to data analysis techniques and the CODA approach: Peter Filzmoser (Vienna University of Technology)
13:50	Quality assurance and quality control of surface geochemical data: Maarit Middleton (GTK)
14:30	Break
14:40	Practical work in small groups
16:15	End of the Day



Day 5

Time (CEST)	Title and Speaker
09:15	Integration of geochemical databases into the decision-making procedure of mineral exploration targeting: David Cohen (UNSW Sydney)
10:15	Storing geochemical data in databases: David Whitehead (GEUS)
11:00	Break
11:15	Practical work in small groups
12:30	Lunch
13:30	Short presentations of students group works
14:50	Concluding word from organizers
15:00	End of the Short course