International Association on the Genesis of Ore Deposits (IAGOD)

Working Group on Critical Metals (WGCM)

Newsletter January 2021

The Working Group on Critical Metals (formerly known under its predecessor name as WGTT / Working Group on Tin and Tungsten Deposits) has been active within IAGOD since the very beginning and its roots can be tracked back to the Symposium on Post-magmatic Ore Deposition in the early 1960s, shortly before IAGOD was founded. It has actively promoted and coordinated research on the mechanisms that lead to economic concentration of tin and tungsten and accompanying other critical elements (mainly rare metals but also REE, Li, F).

Critical elements are metals and non-metals that are essential for our economic future but whose supply may be uncertain. Their supply may be threatened by geopolitics, geological accessibility, legislation, economic rules or other factors. As the world shifts away from fossil fuels, we will need to produce enormous numbers of wind turbines, solar panels, electric vehicles and batteries. Demand for the materials needed to build them will skyrocket. This includes common industrial metals such as steel and copper, but also uncommon elements such as the lithium and cobalt used in rechargeable batteries, and the rare earth elements used in the powerful magnets required by wind turbines and electric cars.

At the recent IAGOD General Assembly, held online on Dec. 8th 2020, we have implemented a change in leadership for the WGCM after WGCM Chairman (2012-2020) Prof. Jens Andersen moved on to become IAGOD’s next Chief Treasurer, as below.

Yanbo Cheng (serving as new Chairman) is a Forsker (researcher) at the Norges Geologiske Undersøkelse (NGU, the Geological Survey of Norway). His current interests include critical metals, ore geology and genesis, regional metallogeny, petrogenesis of ore-related igneous rocks, fertility of ore-related rocks, and developing new exploration tools.

Reimar Seltmann (continuing as Vice-Chairman) is a Research Leader in petrology and ore deposits at the Natural History Museum (London, UK). He has been active within IAGOD since 1988 when he became the Secretary of WGTT serving under WGTT Chairman Miroslav Stemprö. Reimar is a geologist specialized in granite-related ore deposits and his expertise on the mineralogy and geology of magmatic-hydrothermal systems has allowed him to create generic databases and tools to guide the exploration of mineral deposits, particularly in the former Soviet Union.

Bénédicte Cenki (serving as new Secretary) is A/Prof at Montpellier University (France). She is a metamorphic petrologist and mineralogist. Her expertise allows her to explore i) how mountains build and collapse, and ii) where to find the host minerals of critical metals that are
essential to the development of the green technologies at the core of emerging low-carbon societies.

Our **VISION** is to bridge the principal gaps in our knowledge of the geology, exploration, and exploitation of critical metals by actively contributing to solutions for the circular economy for a carbon-neutral, sustainable, and resilient future.

Our **MISSION** is to bridge the gap and create new synergies between academics, industry, students, and the general public to generate a better understanding for earth processes, which is essential to open new avenues for exploration, enhancing extraction and recovery of critical metals.

Our **AIM** is to inform and coordinate research about the different aspects of research on critical metals, and aid discovery of new resources and advance understanding of extraction.

Our **GOAL** is to raise awareness of the general public about the importance of critical metals for the energy transition, support research on critical metals exploration as well as encourage students and early career researchers to embrace a pluri-disciplinary research and career in this emerging field.

**Action plan for 2020-2024:**

- Sponsor one thematic session for the SGA conference in Rotorua New Zealand 2021.
- Contribute to the organization of the 16th Quadrennial IAGOD Symposium (Dublin 2022).
- Propose short courses, field workshops as well as student training.
- Initiate and participate online/offline discussions on mineralisation of critical metals.
- Engage universities, industries, and governments to target critical metal resources.
- Increase the visibility of WGCM.

Since WGCM is a part of the IAGOD family, we would like to invite all WGCM members to join IAGOD and become IAGOD members. Benefits of IAGOD membership can be found from [http://www.iagod.org/node/16](http://www.iagod.org/node/16).

For any general enquiry or to become an active WGCM member, please contact:

Yanbo Cheng  
Telephone: +47 7390 4217  
Email: yanbo.cheng@ngu.no

Reimar Seltmann  
Telephone: +44 207 942 5042  
Email: r.seltmann@nhm.ac.uk

Bénédicte Cenki  
Telephone: +33 4 67 14 45 68  
Email: benedicte.cenki@umontpellier.fr

Twitter: [@IAGOD_CriticalMetals](https://twitter.com/IAGOD_CriticalMetals) / LinkedIn: [https://www.linkedin.com/groups/4934102/](https://www.linkedin.com/groups/4934102/)
This Newsletter was drafted by Bénédicte Cenki, with contributions from Reimar Seltmann and Yanbo Cheng.