

Johann Gottfried Raith, Prof., Dr. phil.

Career

- Full Professor of Resource Mineralogy, Montanuniversität Leoben since 1.2. 2011
- Head of Department Applied Geosciences and Geophysics 2011-2019
- Senior Professor („Dozent“), Chair of Mineralogy and Petrology, Montanuniversität Leoben 1997 – 2011
- Interim Head, Chair of Mineralogy and Petrology 1.7.2004 – 31.12.2005
- Assistant Professor, Chair of Mineralogy and Petrology, Montanuniversität Leoben 1.6.1988 – 17.3.1997
- BVFA-Arsenal, Vienna, Hydrogeology and Geophysics Group 1.11.1986 – 31.5.1988

Education

- *Habilitation* in Mineralogy and Petrology, Montanuniversität Leoben; 18.3.1997
- *Doctoral degree* in Earth Sciences; Dr. phil., University of Vienna 27.11. 1986
- University of Vienna, Studies in Earth Sciences 1980-1986
- Montanuniversitaet Leoben, Studies in Mining Geology (2 semesters) 1981
- University of Graz, Studies in Earth Sciences (4 semesters) 1978-1980
- A levels, Bundesgymnasium Leoben, Austria 6.6.1978

Research Scholarships

- Erwin Schrödinger Scholarship (13 months), Austrian Science Fund (FWF), University of Edinburgh, Scotland, UK 1993-1994

Editorial and Reviewer Activity

- from 1988-2016 editorial work for Springer journal "Mineralogy and Petrology"; from 2003-2016 Editor-in-Chief of this journal
- reviewer for several earth sciences journals (Ore Geology Reviews, Mineralium Deposita, Terra Nova, Mineralogy and Petrology etc.)
- reviewer for FFG projects and ICDP project evaluator

Other Functions

- 2019-2023 Member of Scientific Advisory Group (SAG), International Continental Deep Drilling Programme (ICDP); project evaluator
- 1996-2002, 2004-2011 and since January 2017: Board member of Austrian Mineralogical Society (ÖMG); 2010- 2011 President of the society

- 2012-2019 Board member (Fachbeirat) of Geologische Bundesanstalt (GBA), now GeoSphere Austria
- since 2013 Fellow of Society of Economic Geologists

Memberships

Society of Economic Geology (SEG, fellow), Society for Geology Applied to Mineral Deposits (SAG), Austrian Mineralogical Society (ÖMG), German Mineralogical Society (DMG), Naturhistorischer Verein Kärnten, Joanneum Verein

Research Interests

- **Economic Geology:** Studies on the geology, mineralogy and genesis of various types of metallic ore deposits including critical mineral deposits: stratabound and granite-related tungsten deposits; carbonate-hosted Pb-Zn deposits; orogenic gold deposits; porphyry copper and epithermal deposits; rare metal pegmatites; tourmaline and tourmaline rocks; dating of ore deposits; optimisation of exploration techniques.
- **Ore, Environmental and Applied Mineralogy:** Mineralogical characterization of (ore) minerals and phases of man-made origin by applying in-situ mineralogical and chemical analytical techniques; PGE oxides; unusual gold minerals; mineralogy of steel slags; remediation of contaminated waters using zeolites, novel 2D materials, interaction of fluids (H₂, CO₂) with bore hole cement materials
- **Crustal evolution in the Archaean and Proterozoic:** Field-oriented studies combined with petrologic, geochemical and geochronological methods; high-temperature low-pressure crustal metamorphism; deciphering and dating magmatic and metamorphic events in poly-metamorphosed crustal terranes and greenstone belts.

Current Projects

- **MultiMiner:** Multi Source and Multi Scale Earth Observation and Novel Machine Learning for Mineral Exploration and Mine Site Monitoring”, EU Horizon project (2023-2026); Resource Mineralogy is project partner and in charge of mineralogical studies at Hochfilzen deposit; <https://www.multiminer.eu/>
- **MRI project Magnesit** „Magnesite deposits in the Eastern Alps – integrative approaches“, Forschungspartnerschaft Mineralische Rohstoffe, co-operation of GeoSphere Austria and Montanuniversität Leoben (2022-2026)
- **MRI project WAlps** (2020-2024) and **VLG project** „ProMet:W-Au Innovative tools for tungsten and gold exploration in the Eastern Alps“, co-operation of GeoSphere Austria and Montanuniversität Leoben (2024-2026)
- **Doctoral School project** “A fundamentals mineralogical investigation of downhole cements within the context of Underground Hydrogen Storage; PhD programme funded by MUL (2021-2024)

Recent Publications (5 selected)

Altenberger, F., Krause, J., Wintzer, N. E., Iglseder, C., Berndt, J., Bachmann, K., & **Raith, J. G.** (2024). Polyphase stratabound scheelite-ferberite mineralization at Mallnock, Eastern Alps, Austria. *Mineralium Deposita*. doi:10.1007/s00126-024-01250-x

Sammer, T., Kostoglou, N., Ravi, K., & **Raith, J. G.** (2024). Hydrogen induced changes in the phase composition and micro-structure of downhole cements: Fundamental research within the context of underground hydrogen storage. *International Journal of Hydrogen Energy*, 89, 1166-1175. doi:10.1016/j.ijhydene.2024.09.449

Melcher, F., Bertrandsson Erlandsson, V., Gartner, V., Henjes-Kunst, E., **Raith, J.**, Rantitsch, G., . . . Šoster, A. (2023). Carbonate-hosted “Alpine-type“ lead-zinc deposits in the Eastern and Southern Alps – trace element geochemistry and isotopic data of sulphides. In C. Andrew, G. Stanley, & M. Hitzman (Eds.), *Irish-type Deposits around the world* (pp. 443-478). Dublin: Irish Association for Economic Geology.

Raith, J. G., Hutter, F., Altenberger, F., Weibold, J., Auer, C., Krause, J., . . . Neinavaie, H. (2024). Polymetallic tungsten skarn mineralisation related to the Periadriatic intrusion at Lienzer Schlossberg, East Tyrol, Austria. *Austrian Journal of Earth Sciences*, 117(1), 87-112. doi:10.17738/ajes.2024.0007

Zarasvandi, A., Rezaei, M., **Raith, J. G.**, Taheri, M., Asadi, S., & Heidari, M. (2023). Magnetite chemistry of the Sarkuh Porphyry Cu deposit, Urumieh–Dokhtar Magmatic Arc (UDMA), Iran: A record of deviation from the path sulfide mineralization in the porphyry copper systems. *Journal of Geochemical Exploration*, 107213. doi:https://doi.org/10.1016/j.gexplo.2023.107213

For a more complete list of publications and information see

[https://pure.unileoben.ac.at/portal/de/persons/johann-raith\(07dec195-a668-4601-914c-42c3c48f36a7\)/publications.html](https://pure.unileoben.ac.at/portal/de/persons/johann-raith(07dec195-a668-4601-914c-42c3c48f36a7)/publications.html)

<https://www.researchgate.net/profile/Jg-Raith>