



DMG-Short Course/“Doktorandenkurs“, March 16-19, 2026

Short course in SEM-based automated Mineralogy

Fundamentals and Applications in Geosciences

Automated mineralogy is an emerging field and has a wide range of applications in research and applied material and geosciences. It is based on scanning electron microscopy (SEM) image analysis coupled with energy dispersive X-ray spectroscopy (EDS). This analysis method includes analytical systems such as the Mineral Liberation Analyzer (MLA), the QEMSCAN (Quantitative Evaluation of Minerals by Scanning Electron Microscopy) and the TESCAN Integrated Mineral Analyzer (TIMA). The mineralogy as well as textural characteristics (e.g. grain-size distributions) of samples can be quantitatively assessed. The automatization enables a high sample throughput and the generation of ‘big data’ that allow for statistically robust interpretation.

From **March 16 to 19, 2026**, Laura Stutenbecker (Univ. Münster), Sabine Gilbricht (TU Bergakademie Freiberg), Bradley Guy, Joachim Krause (Helmholtz-Institute Freiberg for Resource Technology) and Kai Bachmann (ERZLABOR Advanced Solutions GmbH) will lead the short course “SEM-based automated mineralogy” at the Institute for Mineralogy of the TU Bergakademie Freiberg, Germany. The course will teach the basic principles of automated mineralogy and some hands-on exercises will highlight its applications in metamorphic, magmatic and sedimentary petrology as well as ore geology. The course will be held in English and is open to all interested students at the PhD or M.Sc. Level. If you are interested, please visit <https://tinyurl.com/rdt28eem> for more information.

Location: Institute of Mineralogy, TU-Bergakademie Freiberg, Germany

Costs: 50 € per Person

Target audience: M.Sc. and PhD students, others upon request

Format: Classroom lectures, exercises, lab visit

Contents: Principles of SEM/EDS techniques, introduction to SEM-based automated mineralogy, available instrumentation and software, lab visits, data processing, examples from ore geology, magmatic, metamorphic and sedimentary petrology

The application form should be completed and sent via email by the 16th of January, 2026 to:

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Information and application form:

