

Lab tour "ProVIS" - 2nd tour

Thursday 2 November 2023 12:30 (2 hours)

ProVIS Part 1: Imaging Ion-probe Analytics: SIMS prospects in environmental studies (Hryhoriy Stryhanyuk)
Instrumentation and approaches of Secondary Ion Mass Spectrometry (nanoSIMS and ToF-SIMS) for environmental studies with single-cell and subcellular resolution will be introduced during the tour.
Sample preparation and quantitation of cellular metabolic activity in various environmental samples will be explained.

ProVIS Part 2: High-resolution imaging at ProVIS (Matthias Schmidt)
High-resolution microscopes provide insight into the structure of microscopic objects.
At ProVIS the scanning electron- and helium-ion microscopes are embedded in the correlative workflows alongside with microanalytical techniques, such as SIMS.
During the tour the participants will learn about applications in (environmental-)microbiology, the basic principles of the microscopes, sample preparation techniques as well as image registration of correlative microscopy data.
It is planned to give participants the opportunity to operate the scanning electron microscope.

ProVIS Part 3: Next-Generation DOC Analysis with FT-ICR MS (Oliver Lechtenfeld)
At ProVIS, we apply ultra-high resolution mass spectrometry to study organic matter processes at the landscape level and in technical systems. Recently, we have boosted this capacity by adding liquid chromatography and laser desorption/ionization for a direct analysis both of the dissolved and the solid phases.
Participants have the opportunity to see a demonstration of the recent advances of our analytical toolboxes and will have the chance to discuss possible applications for their own research.

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Session Classification: Breakout Session