Half Day Short Course

EuroAnalysis Geneva 2023

27-31 August 2023 Switzerland

A01. Voltammetric Sensing Devices for In Situ Trace Metal Monitoring in Aquatic Systems

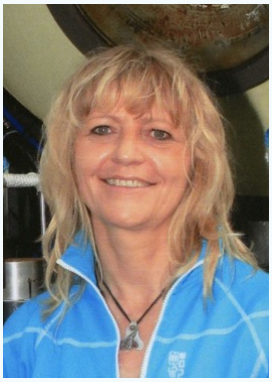
Trace metals in aquatic ecosystems are highly reactive. Their dynamics play critical roles in the functioning of ecosystems, where they may act as essential micronutrients or hazardous chemicals. The relationships between metal sources, exposures and their impact on aquatic ecosystem functioning and human heath are complex. Voltammetric techniques have key features for the development of field deployable sensing tools to deeper understand these relationships. Join us and learn from experts in the field.

1. Trace metals in aquatic systems: sources, behavior, environmental and socio-economic impacts.
2. Criteria and challenging for development of reliable submersible voltammetric sensing devices
3. Voltammetric techniques and innovative antifouling gel-integrated microsensors: principle, metal species selectivity, sensitivity
4. Field applications: metal sources, temporal and spatial behavior, processes influencing metal speciation and bioavailability
5. Demonstration: on-chip sensor preparation, detection of a range of trace metals in natural samples

Details

Instructors	Dr. Mary-Lou Tercier-Waeber Dr. Nicolas Layglon University of Geneva
Date	27 August 2023
Time	13:30–16:30 h
Duration	3 h plus coffee break
Location	CICG Geneva
Fees	130 CHF (delegate) 80 CHF (student)
Included	Coffee break If booking 2 courses: lunch

Instructors



Dr. M.-L. Tercier-Waeber

Mary-Lou Tercier-Waeber is research associate in the group of Prof. Bakker and leads the environmental voltammetry research direction of the group. She is a recognized expert on developing on-chip microsensors, mini/micro integrated analytical systems and submersible probes for direct quantification of specific species/fraction of trace metals and on applying these devices to detect metal sources, track their spatial spreading and temporal behaviors, and study biotic and abiotic processes that influence trace metal speciation and their potential (eco)toxicological impacts. She serves as regulator educator and consultant in these topics at the University of Geneva as well as for national and international research groups, governmental institutes, and the Italian company Idronaut.

Dr. N. Layglon

Nicolas Layglon holds a Ph.D. degree in geochemistry from the University of Toulon, France. He is specialist in trace metal cycling in coastal area. He is an experienced researcher and educator in field sampling and in laboratory analytical techniques (Voltammetry, AAS, ICP-MS, TOC, CHNS, Spectroscopy) applied to the study of metal cycling in coastal area (water, sediment, sediment-water interface. Dr. Layglon is presently PostDoc in the group of Prof. Bakker working in collaboration with Dr. Tercier-Waeber on on-going new voltammetric protocols and their field evaluation, validation and application.