

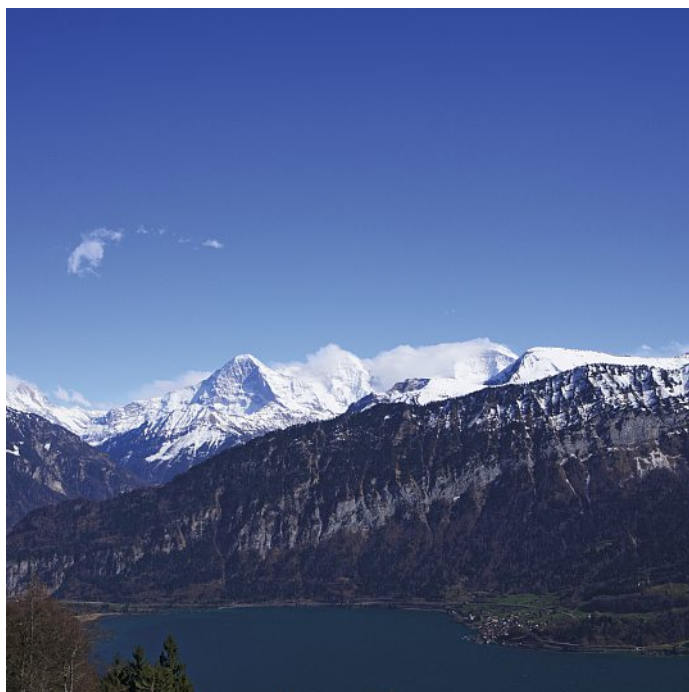
# Conference Report

CHanalysis 2018, Beatenberg, April 12.–13., 2018

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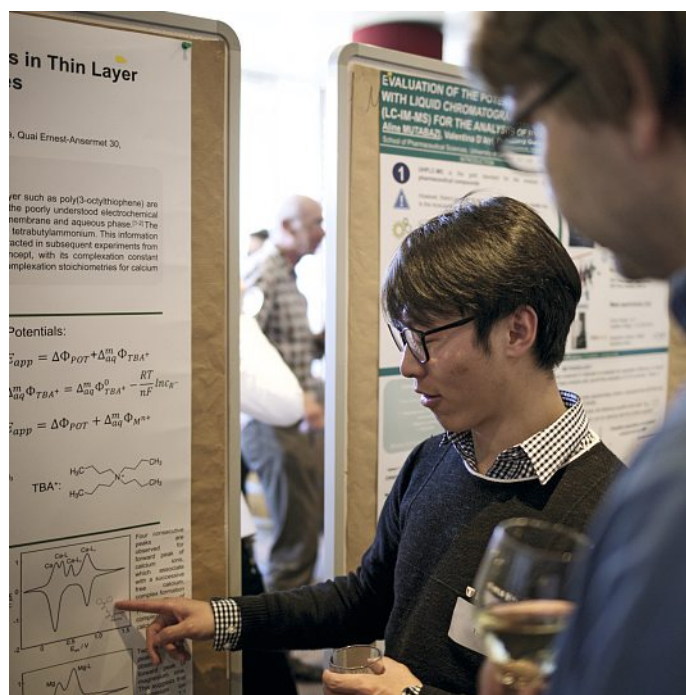
The fourth edition of CHanalysis on Beatenberg was blessed with beautiful weather in outstanding surroundings. The picture shows Eiger, Mönch and Jungfrau (the latter two hidden in the clouds), towering above lake Thun, as seen from Hotel Dorint-Blüemlisalp in Beatenberg.



The goal of the meeting was again to bring together analytical scientists from different fields, and offer them a platform to discuss analytical topics. Four groups from three different ETH departments, two federal research institutes (Eawag, Empa), four groups from the University of Geneva, as well as people representing the Universities of Basel, Bern and Zürich, the FHNW and private industry, reported on their work in 20 talks and 15 posters. The over 50 attendees reflected analytical fields ranging from sensor technology, elemental analysis, organic analysis to microfluidics and molecular toxicology.

The first lecture was given by **Enrico Martinoia** (University Zürich). He presented cases of phytoremediation of heavy metal-contaminated soils. Transgenic poplar with a vacuolar yeast ABC transporter added showed a higher tolerance and much higher uptake of Cd, Zn, As and Pb from mine soils. In another example he showed that transgenic rice was much more tolerant against As contamination, frequently found in groundwater in Asia, and that As accumulated less in the grain. **Eric Bakker** (University Geneva) then presented a closed bipolar membrane electrode setup that directly translates membrane electrode response to an optical readout. He showed a number of examples illustrating the principle. This was then followed by three talks on various types

of sensors (L. Wang and S. Sateanchok, University Geneva; F. Zelder, University Zürich). After the coffee break, presentations dealt with crater depth determination in laser ablation ICP-MS (D. Käser, ETHZ) and accurate nanoparticle sizing with ICP-MS (L. Hendriks, ETHZ). The next two talks were dealing with problems encountered when analyzing chlorinated paraffins (L. Schinkel, Empa, ETHZ) and reactive species in dielectric barrier discharge ionization MS (L. Gyr, ETHZ). The last talk before the poster session then was on phase II enzyme expression in different live stages of zebrafish (A. Tierbach, Eawag, EPFL).



During the poster session that lasted two hours, there was ample time to mingle, discuss science and sample a glass of Chardonnay. A nice buffet dinner, followed by a stay in the Muh Bar topped off the first day.

The Friday sessions were opened by **Bodo Hattendorf** (ETHZ) who presented laser ablation in combination with an ion funnel for elemental imaging, a cost-effective alternative to classical ICP-based techniques. **Renato Zenobi** (ETHZ) then talked about the potential of on-line MS analysis of exhaled breath, which allowed identifying biomarkers for diseases such as obstructive sleep apnea and chronic obstructive pulmonary disease, and monitoring of drug pharmacokinetics.

The following talks then covered instrumental development and application of novel techniques to various research questions: The use of environmental flow field-flow fractionation coupled to ICP-MS to investigate bioavailability of metal-containing contaminants found in the aquatic environment (V. Slaveykova, University Geneva), differential mobility spectrometry to distinguish isobaric compounds (D. Ruskic, University Geneva) and droplet interface bilayers as a model to study drug permeation (M. Ort, ETHZ, University Basel). C. Frege (Empa) then presented a novel high-resolution TOF GC-MS with advanced pre-

concentration system for monitoring halogenated compounds in air and C. Berchtold (FHNW Muttens, University Basel) a microwave plasma torch for direct imaging of formulated pills, bacteria and cells. Three mechanistic studies finalized the conference: an investigation of DNA-binding of metallocenes (R. Eberle, University Bern), of human metabolism during sleep with real-time breath analysis (N. Nowak, ETHZ) and an investigation of photochemical reaction rates of diaryl amine pharmaceuticals using a novel technique based on the kinetic solvent isotope effect (C. Davis, Eawag, ETHZ).

The conference ended with the General Assembly of the Division Analytical Sciences of the Swiss Chemical Society.

### General Assembly of the DAS

The president of the DAS, Marc Suter, informed that the Simon-Widmer Award will be presented to Prof Takehiko Kitamori (University of Toyo, Japan) at the ISC2018 held in Cannes-Mandelieu, France, September 23–27, 2018. He congratulated Veronika Meyer for receiving the IUPAC 2017 Distinguished Women in Chemistry or Chemical Engineering Award. Other activities of the division included writing a retrospective and outlook on the 25-year anniversary of the DAS, which appeared in CHIMIA 2017, 71(12), and (co-)organizing conferences (ICCE 2017, June 18–22; Applica, September 7, 2017; BioTech 2017 September 7–8). The DAS also supported conference visits of eight early stage researchers. One of the key activities of the DAS is the courses offered in chemical analy-

sis. The revenues were exceptionally high in 2017, due to in-company trainings. Furthermore, the DAS owns 0.25% of the journal *Analytical and Bioanalytical Chemistry (ABC)* and has a representative on the international advisory board. Publication of analytical papers in *ABC* is highly recommended.

The president's report was accepted unanimously. The treasurer reported that the division's finances are sound and that it is able to continue supporting the analytical community in Switzerland by organizing scientific events such as the *CHanalysis* and contributing to travel expenses of young scientists. The treasurer's report was accepted unanimously.

Changes on the board of the DAS: Walter Giger has left the board of the DAS. The president thanked him for being active on the board since 1991 and acting as president from 2002 to 2005. Prof. Eric Bakker (Geneva) and Dr. Corinne Jud (Agroscope) have joined the board. The members of the DAS present then reelected M. Suter as president and confirmed the entire board.

Finally, the president informed that the DAS has submitted a proposal to EuCheMS to host Euroanalysis 2023 in Geneva. The DAS also has suggested Thomas Ternes (Koblenz, Germany) for a SCS lectureship.

Finally, Ch. Berchtold advertised the next meeting of the Swiss Metabolomics Society to be held November 14, 2018 at the University Hospital in Bern ([www.swiss-metabolomics.ch](http://www.swiss-metabolomics.ch)).

The General Assembly ended on time at 13h.

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