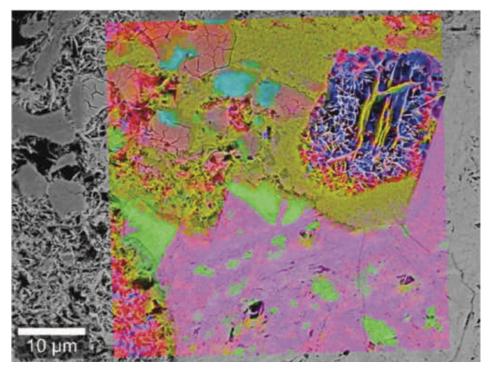


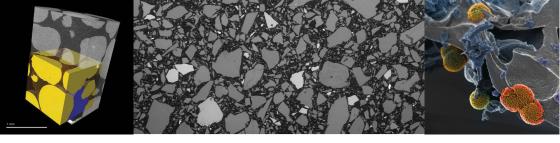


## Scientific Workshop New Dimensions in Geoscience



# 20 March 2019 SICHH, Fribourg

Development in Microscopy and Analytical Technology Invited Talks and Hands-on Sessions



#### Invitation

Dear Ladies and Gentleman

Zeiss and Witec develop technologies that allow for geoscientists to transform the way we look at the universe. The processes that govern the formation and evolution of the world around us are imprinted in the mineralogy, structure and texture at the very smallest scales.

Most of the time, however, these traces of creation remain inaccessible. Industry, researchers, and students can unlock these processes, understand them, and convey them to the world through the use of microstructural analysis. One of the biggest challenges we face when discussing such studies is the hugely cross disciplinary nature of the research into new techniques which could be applied to microstructural geoscience research. Interesting work comes from fields as wide as new developments in X-ray physics, machine learning technologies and big data automation, as well as spanning geological disciplines as broad as space science, igneous / metamorphic petrology, paleontology, petroleum geoscience & ore body research.

In this workshop we would aim to synthesize these recent scientific and technological advances and present them in a way that is accessible to both undergraduate and graduate students, as well as research and teaching faculty. This would be coupled with a hands on session where you have the ability to interact with some of the technology.

The workshop is funded by Zeiss, Witec and their Swiss representative Gloor Instruments and we invite you to apply until latest March 1st 2019 by clicking on the shown links.

It would be a pleasure to us to meet you in Fribourg on March 20th 2019.

Kind regards

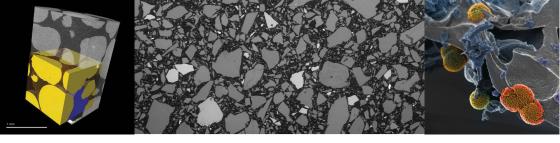
Christoph Mareischen

Gloor Instruments AG









### Programm

08:30 - 09:00	Registration and coffee
09:00 - 09:20 09:20 - 09:40 09:40 - 10:00 10:00 - 10:25	Welcome and introduction - Gloor Instruments, C. Mareischen ZEISS and the Geosciences - Zeiss, M. Andrew Witec and the Geosciences - Witec, J. Toporski Invited Talk, Université de Fribourg, Prof. B. Grobety,
10:25 - 11:00	Coffee Break
11:00 - 11:30 11:30 - 11:50 11:50 - 12:10	Contextual Trace Element Geochemistry – Zeiss, M. Andrew Focus on X-Ray Microscopy - Gloor Instruments, I. Jerjen Catholdoluminescence in Geoscience - Delmic
12:10 - 13:00	<i>Standing lunch, open lab</i> (system demo): GeminiSEM 300, Oxford AZTec EDS, Witec Alpha300, Axioobserver, Nanosurf AFM
13:00 - 13:30 13:30 - 14:00 14:00 - 14:30 14:30 - 14:50	Integrated Raman / Electron Microscopy (RISE) - Witec, J. Toporski Invited Talk, University of Bern, Prof. A. Berger Computer Vision and machine learning in the Geosciences: integrating modalities, scales an technologies – Zeiss, M. Andrew EBSD in Geosciences, Application examples - TBD
14:50 - 15:00	Summary and final words - Gloor Instruments, C. Mareischen
15:00 - 16.30	Coffee and practical session, (30-45 min tour SICHH for interes- ted parties), visit the lab and bring your samples and questions









#### **Registration:**

Meeting Place:

SICHH SA Passage du Cardinal 13B CH – 1700 Fribourg www.sichh.ch

Link to the Registration: (The participation is free)





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