First announcement
15th Swiss Geoscience Meeting

Davos, 17th – 18th November 2017

Moving Boundaries

SLF

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Swiss Academy of Sciences
Akademie der Naturwissenschaften
Accademia di scienze naturali
Académie des sciences naturelles

WSL

15th SWISS GEOSCIENCE MEETING 2017 DAVOS

The WSL-Institute for Snow and Avalanche Research SLF and the Platform Geosciences of the Swiss Academy of Sciences, SCNAT cordially invite you to participate in the 15th Swiss Geoscience Meeting to be held on 17th and 18th November 2017 in Davos.

Friday 17th,

The theme of the 15th SGM Plenary Session is "**Moving Boundaries**". Boundaries in Geoscience research are among the most prominent hot topics – and by understanding how those boundaries move we learn about the shaping of our planet, but also about how the future might look like as the climate changes. Moreover, the boundaries in science are moving and the way we work and publish is changing. The boundaries may not fully disappear as data and research open up, but future challenges call for cooperation among research communities, which implicitly requires open exchange. Open science looks like the bright future, but as individual researchers we also face obstacles and overcoming those is not always straightforward.

Our four keynote speakers will focus on this year's theme "Moving boundaries" and take us on a journey covering a wide range of geoscientific topics and scales.

Maurine Montagnat (University of Grenoble) will introduce us to a fitting subject for Davos: the microstructure of ice. As crystals grow and deform– a classical moving boundary problem – they capture information about their environment. A deep ice core extracted from a polar ice sheet contains information about small scale deformation and microstructure evolution processes, and, in the meantime, informs us about large scale flow processes surrounding it.

With **Susanne Buiter** (Geological Survey of Norway) we will change temporal and spatial scales, as she will focus on the geodynamic evolution of continental plate boundaries through the plate tectonic cycle. By following plate boundaries through phases of oceanic subduction, continental collision and continental breakup, she analyses how structural and thermal inheritance from one phase can control deformation in subsequent phases.

In the mountains surrounding Davos climate change is already occurring and will further change boundaries. **Annette Menzel** (Technical University of Munich) will focus on ecosystem boundaries and how they move as the climate changes. As the snow and tree lines move uphill, many other changes happen to the flora and fauna, in particular in the mountains – the third pole – where expected changes are as prominent as in the polar regions.

The symposium will conclude with a presentation by **Helen Glaves** (British Geological Survey) on open (data) science – a development we all welcome but often see as a burden not a benefit. She will discuss current drivers and approaches, and through several use cases, illustrate 'the good, the bad and the ugly' of open data in Geoscience.

Saturday 18th,

A series of 17 scientific symposia will cover the wide spectrum of current fundamental and applied research in geosciences and environmental sciences, encompassing the lithosphere, the hydrosphere, the cryosphere, the biosphere, the atmosphere and the anthroposphere.

The SGM also provides the ideal environment to foster informal contacts and discussions among scientists, in particular during the Swiss Geoscience Party on Friday evening but also at the poster sessions in the main hall of the venue on Saturday. Two poster sessions are scheduled with the authors will be present for active discussion and feedback.

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CONTRIBUTIONS:
Deadline for abstract submission is Wednesday August 31st, 2017.
Depending on the number and subject of abstracts submitted, proposed sessions may be merged or new ones created. Abstracts will be initially assigned to the session indicated by the authors at the time of abstract submission. Abstracts should be submitted electronically following the instructions on the SGM2017 website: https://geoscience-meeting.ch/sgm2017.

REGISTRATION:
Deadline for registration is Friday October 20th, 2017.
Registration should be done electronically following the instructions on the SGM2017 website.
Registration fee is SFr. 55.- (SFr. 35.- for students /PhD students).
An extra SFr 20.- will be charged for the Geoscience Party (SFr 15.- for students).
Onsite registrations will be charged an extra CHF 20.-

SYMPOSIA at SGM 2017:
We kindly invite you to submit abstracts for oral presentations or posters addressing the following subjects:

1. Structural Geology, Tectonics and Geodynamics
2. Mineralogy, Petrology, Geochemistry
3. Palaeontology
4. Stratigraphy
5. Shale-Gas, CO_2 Storage and Deep Geothermal Energy
6. Progress in assessment of hazards and risks in mountain regions
7. Geomorphology
8. Quaternary environments: landscapes, climate, ecosystems, human activity during the past 2.6 million years
9. Cryospheric Sciences
10. Hydrology, Limnology and Hydrogeology
11. Environmental Biogeochemistry of Trace Elements
12. Atmospheric Processes and Interactions with the Biosphere
13. Aerosols and clouds in a changing world
14. Remote Sensing of the Spheres
15. High alpine remote sensing
16. Geoscience and Geoinformation – From data acquisition to modelling and visualisation

Detailed information on this venue can be found on:
https://geoscience-meeting.ch/sgm2017

Looking forward to seeing you in Davos !
The SGM 2017 Organizing Committee

The "Magic Boundary"

The large picture Shows the Glarus thrust fault and the Martinsloch at the Tschingelhoren (at the boundary between the Cantons of Glarus and Graubünden). This Geological-tectonic structure of scientific and historical significance can be clearly observed as a more or less straight horizontal line through the steep cliffs of the Tschingelhoren. The Martinsloch is a rock hole of cultural, historical and astronomical significance.

At the Tschingelhoren, the line formed by the Glarus thrust fault marks the boundary between dark-colored Permian Verrucano rocks (250 ma) overthrusted over light-colored Late-Jurassic limestones ("Quinten-Kalk" 150 ma) with slivers of flysch ("Sardona flysch" 50 ma). In other regions along the Glarus thrust fault, the Verrucano rocks are even resting directly over the much younger Sardona flysch.

This superposition of older rocks over much younger rocks is the result of the moving boundaries between the European and African tectonic plates some 20-25 mio years ago. Because of the collision between these two plates, the Verucano rocks were "pushed" northwards along the Glarus thrust fault over a distance of more than 35 kilometer to rest in their actual final position.

The legendary Martinsloch ("Martin's hole") is the result of preferential erosion along two zones of geological weakness. Twice a year, for two days in spring and in autumn, the sun shines through the Martinsloch and illuminates the Church of Elm in the Valley below.

Photo credit: Pierre Dèzes