



Symposia Program 12th Swiss Geoscience Meeting

Fribourg, 21st – 22nd November 2014

Drilling the Earth

sc|nat 

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

**UNI
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Department of
Geosciences

Welcome to Fribourg and to the 12th Swiss Geoscience Meeting 2014

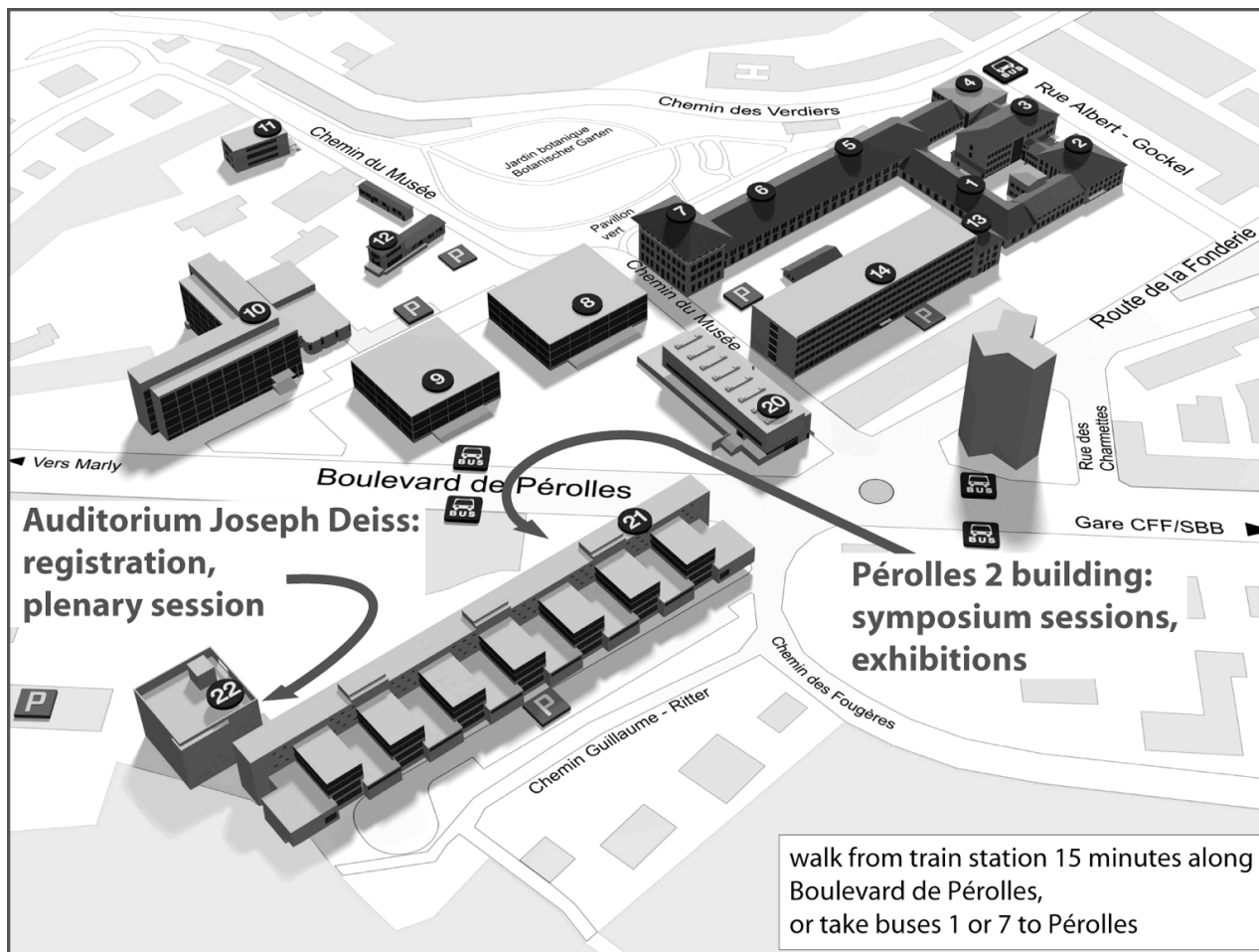
Dear Participants

First and foremost we cordially welcome you to Fribourg, to the University and to the Geoscience Department. Thank you for joining us at the 12th Swiss Geoscience Meeting. The SGM is organised by our Department under the auspices of the Swiss Academy of Sciences. Since the beginning in 2003, the SGM was a success story, with an ever growing number of participants. We are expecting close to 600 persons at this year's meeting and over 300 abstracts have been submitted. We would like to acknowledge the efforts of the session organizers, which resulted in a very attractive meeting program.

The topic for the general session on Friday is devoted to drilling, a very important technology both for geoscience as well as for the (geo)economy. Without drilling, the access to the third dimension for geoscientists is limited and many questions cannot be answered adequately. A prominent role in the scientific exploration of the Earth by drilling played and plays the Integrated Ocean Drilling Program. Prof. Dick Kroon, University of Edinburgh, Chair of the proposal evaluation panel of IODP, will present the past and the future of this successful program. Ice bodies are important water reservoirs and essential climate archives. To bring the information to the surface, drilling is the technique of choice. Prof. Martin Funk, VAW, ETHZ, and Dr. Margit Schwikowski, PSI, will take us to drill sites in the Arctic and in our Alps. Although drilling was from the beginning used for the extraction of fossil fuels and water, in ore exploration or as an important technique in tunneling, it was the deep exploration for geothermal energy and unconventional gas and oil reservoir (fracking) in the last decade, which brought drilling into the limelight and unlocked controversial debates about deep drilling. Dr. Häring (Geo Explorers LTD) will illustrate a geothermal drilling project, which unfortunately found a premature end.

On behalf of the organizing committee,
Bernard Grobéty

Location



Patronage

Platform Geosciences of the Swiss Academy of Sciences, SCNAT

Participating societies and organisations

Federal Office of Topography (swisstopo)
Forum for Climate and Global Change (ProClim-)
International Continental Scientific Drilling Program (ICDP)
International Geosphere-Biosphere Programme, Swiss Committee (IGBP)
International Ocean Discovery Program (IODP)
International Union of Geodesy and Geophysics, Swiss Committee (IUGG)
International Union of Geological Sciences, Swiss Committee (IUGS)
Kommission der Schweizerischen Paläontologischen Abhandlungen (KSPA)
National Research Programme "Sustainable Use of Soil as a Resource" (NRP 68)
Naturhistorisches Museum der Burgergemeinde Bern
Swiss Academic Society for Environmental Research and Ecology (SAGUF)
Swiss Association of Energy Geoscientists (SASEG)
Swiss Association of Geologists (CHGEOL)
Swiss Commission on Atmospheric Chemistry and Physics (ACP)
Swiss Commission for Phenology and Seasonality (CPS)
Swiss Commission for Remote Sensing (SCRS)
Swiss Committee on Polar and High Altitude Research
Swiss Committee for Stratigraphy (Platform Geosciences/SCNAT)
SwissDrilling
Swiss Geodetic Commission (SGC)
Swiss Geography Association (ASG)
Swiss Geological Society (SGG/SGS)
Swiss Geological Survey (swisstopo)
Swiss Geomorphological Society (SGGm/SSGm)
Swiss Geophysical Commission (SGPK)
Swiss Geotechnical Commission (SGTK)
Swiss Geothermal Society (GEOTHERMIE.CH)
Swiss Hydrogeological Society (SGH)
Swiss Hydrological Commission (CHy)
Swiss Paleontological Society (SPG/SPS)
Swiss Snow, Ice and Permafrost Society (SIP)
Swiss Society for Hydrology and Limnology (SGHL / SSSL)
Swiss Society for Quaternary Research (CH-QUAT)
Swiss Society of Mineralogy and Petrology (SMPG / SSMP)
Swiss Soil Science Society (SSSS)
Swiss Tectonics Studies Group (Swiss Geological Society)

For the schedules of committee and society meetings see page 41

Abstracts can be downloaded at:

<http://www.geoscience-meeting.scnatweb.ch/sgm2014>

Program committee SGM 2014

Daniel Ariztegui
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Jon Mosar
Nadine Salzmann
Vincent Serneels (President SGM 2014)
Silvia Spezzaferri

Exhibitors

SCNAT
CHGEOL
Swisstopo
Swiss Geotechnical Commission
MADD Technologies
Thermo Scientific
Birs Hydromet

PLENARY SESSION, Friday November 21st 2014

Drilling the Earth

Pérolles 2, Auditorium Joseph Deiss

13:30 - 13:50	Vincent Serneels	Opening of the symposium by the president of the Department of Geosciences
13:50 - 14:35	Martin Funk VAW, ETHZ	Thermal Drilling on Glaciers: An overview of different projects
14:30 - 15:20	Margit Schwikowski PSI	Into thin ice: Drilling on high-alpine glaciers

15:20–15:40 Coffee break

15:40 - 16:25	Dick Kroon Univ. of Edinburgh, IODP Joint SNC-IUGG & SNC-IUGS Union Lecture	Highlights of past and future IODP drilling
16:25 - 17:10	Markus. O. Häring Geo Explorers Ltd.	Drilling for deep heat mining: lessons learned from Basel
17:10 - 17:30	<i>Ceviche Mixto</i>	<i>Musical Interlude</i>
17:30 - 18:15	Werner Eugster Pierre Dèzes Leander Franz Neil Mancktelow Michael Schnellmann	Communications Platform Geoscience Géologie Vivante – Erlebnis Geologie – Avventura Geologia Presentation SGM 2015 in Basel Swiss Geological Society Award CHGEOL Award

18:15 – 22:00 Swiss Geoscience Party

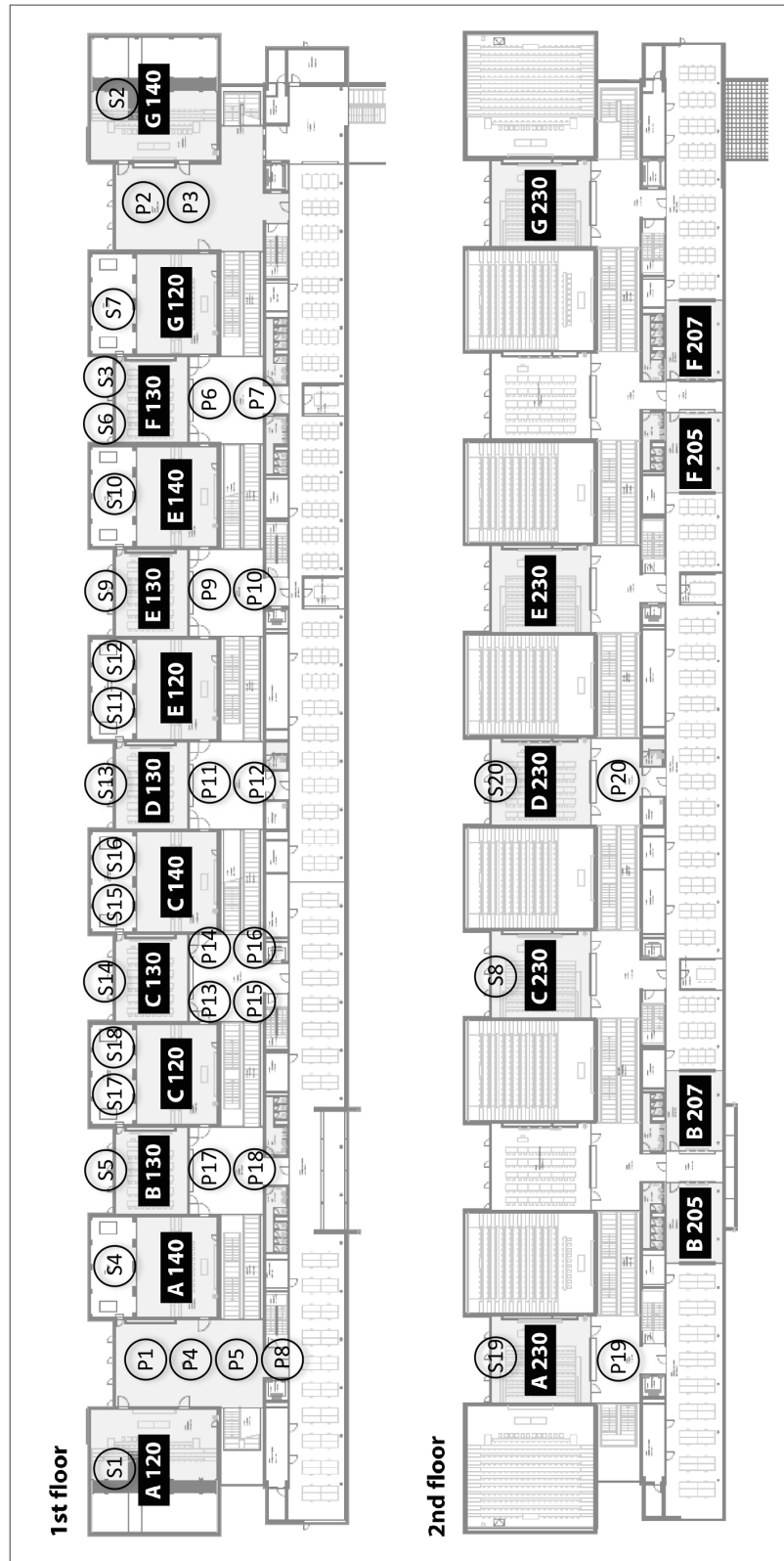
(food, drinks and rejoicing) for registered participants

Symposium Sessions, Saturday, November 22nd

Campus Pérolles 2

1. Structural Geology, Tectonics and Geodynamics Room A110
2. Mineralogy, Petrology, Geochemistry Room G140
3. Magma fluxes and their effect on crustal growth, magma chemistry and dynamics of volcanic eruptions Room F130
4. Palaeontology Room A140
5. Stratigraphy in Switzerland – new data and developments Room B130
6. Geophysics and Rockphysics Room F130
7. Geothermal Energy, CO₂ Sequestration and Shale Gas Room G120
8. IODP and ICDP drilling for scientific research: major achievements from past and current drilling initiatives Room C230
9. Geomorphology Room E130
10. Quaternary environments: landscapes, climate, ecosystems, human activity during the past 2.6 million years Room E140
11. Cryospheric Sciences Room E120
12. Polar Research (see session 11)
13. Freshwater monitoring: from past to present and to future - Measurement and interpretation Room D130
14. National Research Programme NRP 68: Research for improving soil knowledge and for sustainable use of soils Room C130
15. Biogeochemical cycles in a changing environment C140
16. Atmospheric Processes and Interactions with the Biosphere C140
17. Extreme events in phenology and seasonality (see session 18)
18. Earth System Science related Earth Observation C120
19. Geoscience and Geoinformation - From data acquisition to modelling and visualisation Room A230
20. Symposium in Human Geography Room D230

Lecture and poster halls Pérolles 2



Session 1: Structural Geology, Tectonics and Geodynamics Room A120

Convenors: Guido Schreurs, Neil Mancktelow, Paul Tackley

Chair: Guido Schreurs

- 09:00 - 09:15 Cioldi S., Moulas E., Burg J.-P. Geospeedometry in inverted metamorphic gradients of the Nestos thrust zone in central Rhodope (Northern Greece)
- 09:15 - 09:30 Mozafari Amiri N., Tikhomirov D., Sümer Ö., Özkaymak Ç., Uzel B., Ivy-Ochs S., Vockenhuber Ch., Sözbilir H., Akçar N. Recurrence behavior of destructive earthquakes in Western Anatolia, Turkey: Insights from cosmogenic ³⁶Cl dating method
- 09:30 - 09:45 Mohammadi A., Burg J.-B., Ruh J., Von Quadt A., Peytcheva I. New age constraints for the geodynamic evolution of the Sistan Suture Zone, eastern Iran
- 09:45 - 10:00 Dielforder A., Berger A., Herwegh M., Vollstaedt H. A chronology of internal wedge deformation constrained by strontium isotopes of carbonate veins

10:00-11:00 Morning Poster Session with coffee

Chair: Paul Tackley

- 11:00 - 11:15 Liao J., Gerya T., Wang Q. On craton destruction: Insight from 2D thermal-mechanical numerical modeling
- 11:15 - 11:30 Bauville A., Schmalholz S. M. Thin- vs thick-skinned tectonics, nappe formation and shear localization: numerical simulations and applications to the Helvetic Alps and Jura mountains
- 11:30 - 11:45 Peters, M., Veveakis, M., Poulet, T., Regenauer-Lieb, K., Herwegh, M. Numerical bifurcation study of the initiation of folding and necking in elasto-visco-plastic rocks
- 11:45 - 12:00 Zwaan F., Schreurs G. 4D Modeling of Transfer Zones in Continental Rifts

12:00-13:45 Lunch

Chair: Neil Mancktelow

- 13:45 - 14:00 Abednego M., Vouillamoz N., Wust-Bloch H.G., Mosar J. New 3D microseismic tomography model interpretation and principal stress axes analysis in the Fribourg area (swiss western Molasse Basin)
- 14:00 - 14:15 Giuntoli F., Engi M., Manzotti P., Ballèvre M. Internal geometry in the Sesia Zone (Aosta Valley, Italy)
- 14:15 - 14:30 Manzotti P., Ballèvre M., Zucali M., Robyr M., Engi M. The tectonometamorphic evolution of the Sesia – Dent Blanche nappes (internal Western Alps)
- 14:30 - 14:45 Pfiffner, O.A., Deichmann, N. Recent movements in the Alps: geodetic and GPS derived data

14:45 - 15:00 Steck A., Masson H., Robyr M. Tectonics of the Monte Rosa nappe: Tertiary phases of subduction and thrusting in the Pennine Alps

15:00-16:00 Afternoon Poster Session with coffee

Poster Session 1 (between rooms A120 and A140)

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|---------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P 1.1 | Ballèvre M., Manzotti P., Poujol M. | Detrital zircon grains in blueschist-facies meta-conglomerates: implications for the early Permian geomorphology of the future northern margin of the Liguria-Piemonte ocean |
| P 1.2 | Berger, A., Mercolli, I., Herwegh, M., Gnos, M., Wiederkehr, M., Wicki, A., Möri, A. | A new 1:100'000 scaled geological map of the Aar massif |
| P 1.3 | Collignon M., Fernandez N., Kaus B.J.P. | Do surface processes and/or the presence of an initial surface topography affect(s) the fold linkage? And if yes, how? |
| P 1.4 | Duretz T., Schmalholz S. M., Podladchikov Y. Y. | Thermo-mechanical shear localisation: length scale and thermal imprint |
| P 1.5 | Egli D., Mosar J. | Kinematic analyses on multiply reactivated fault systems in the Black Forest – Hegau – Lake Constance region |
| P 1.6 | Fabbri S. C., Anselmetti F. S., Herwegh M., Schlunegger F., Volken S., Möri A. | Neotectonic Activity at the Front of the Alps: Earthquake-induced Geomorphology in the Aare Valley & Lake Thun |
| P 1.7 | Falco T., Mosar J. | Tectonics and Strain partitioning in the Mont Pèlerin Subalpine Molasse |
| P 1.8 | Fischer R., Gerya T. | Early Earth tectonics: A high-resolution 3D numerical modelling approach |
| P 1.9 | Golabek G., Jutzi M., Gerya T., Asphaug E. | Towards coupled giant impact and long term interior evolution models |
| P 1.10 | Hawemann F., Mancktelow N., Wex S., Pennacchioni, G., Camacho, A | High-pressure pseudotachylytes as field evidence for lower crustal seismicity |
| P 1.11 | Heerwagen E., Martini R. | The relationship between the Vizcaíno "composite" Terrane and the "Antimonio Terrane" during the Upper Triassic |
| P 1.12 | Houlié N., Guilhem A. | Shear stress and seismic cycle length of SAF at Parkfield |
| P 1.13 | Jaquet Y., Schmalholz S. | Impact of elasticity on lithospheric shear localization |
| P 1.14 | Lechmann, A.K., Burg, J.-P., Faridi, M. | The Neo-Tethyan subduction zone(s,?) in Azerbaijan, NW Iran: preliminary results |
| P 1.15 | Lohmann, H. | Salt dissolution in the underground of Switzerland, especially in the canton of Fribourg |
| P 1.16 | Magni, S. | The water circulation In the fractured rock: The role of stylolites in the development of karst |

- P 1.17** Mancktelow N., Pennacchioni G., Hawemann F., Wex S., Camacho A. Field constraints on the rheology of quartz in “wet” or “dry” middle to lower continental crust
- P 1.18** Mosar J., Abednego M., Gruber M., Sommaruga A. Tectonics between the Préalpes Klippen and the swiss western Molasse Basin in the Bulle region (Fribourg)
- P 1.19** Moscariello A., Šegvić B. Palaeosoils stacking patterns as a tool for unravelling the subsurface architecture of mud-rich fluvial reservoirs
- P 1.20** Pleuger J., von Quadt A., Gallhofer D., Mancktelow N. LA-ICP/MS U-Pb zircon ages of porphyritic dykes from the Sesia-derived Insubric mylonite belt (Piemonte/Ticino)
- P 1.21** Schenker F. L., Fellin M. G., Burg J.-P. Late Cretaceous-to-Pliocene thermo-tectonic history of Pelagonia (northern Greece) from zircon and apatite fission-track ages
- P 1.22** Schneeberger R., Maeder U., Kober F., Spillmann Th., Waber N., Berger A., Herwegh M. 3D visualization of the structures at the Grimsel Test Site GTS and their link with sampled groundwaters
- P 1.23** Süssenberger A., Schmidt Th S Dating low grade deformation of the Patagonian fold-and-thrust belt in the Torres del Paine area, Chile 51° 30’S: first results
- P 1.24** Tackley P., Lourenco D., Fomin I., Nakagawa T. Influence of melting on the long-term thermo-chemical evolution of Earth's deep mantle
- P 1.25** Valla P.G., Champagnac J.-D., Shuster D.L., Herman F., Fellin M.G., Enkelmann E. Unravelling tectonics and surface processes in exhumation history of South Alaska: insights from the thermochronological record
- P 1.26** von Tscharnier, M., Schmalholz S.M. 3D FEM modelling of fold nappe formation and the Rawil depression in western Switzerland
- P 1.27** Wex S., Mancktelow N., Hawemann F., Camacho A., Pennacchioni G. Interplay between seismic fracturing and aseismic creep during strain localization in the middle crust (Woodroffe Thrust, Central Australia)

Session 2: Mineralogy, Petrology, Geochemistry Room G140

Convenors: Eric Reusser, Sébastien Pilet

Chair: Eric Reusser

- 9:00 - 9:15 Gilgen S. A., Diamond L. W., Mercolli I. Exploring the significance of intense epidosite alteration of volcanic rocks from the Semail ophiolite (Oman) for ancient and modern oceanic hydrothermal systems
- 9:15 - 9:30 Dolder, F., Mäder, U., Jenni, A. Stability of bentonite under high-pH conditions

- 9:30 - 9:45 Saintilan N.J., Spangenberg J.E., Stephens M.B., and Fontboté L. Source and types of extrinsic organic compounds involved in thermochemical sulfate reduction at the Pb-Zn sandstone-hosted Laisvall deposit, Sweden
- 9:45 - 10:00 Casanova V., Kouzmanov K., Audetat A., Ubrig N., Fontbote L. First systematic study of synthetic fluid inclusions in opaque ore minerals: method development
- 10:00 - 10:15 Fekete Sz., Weis P., Driesner T., Heinrich C. A. The physical hydrology of porphyry copper systems: Combining fluid flow modeling with oxygen isotope measurements of quartz by high-resolution SIMS microanalysis

10:15-11:15 Morning Poster Session with coffee

Chair: Martin Robyr

- 11:15 - 11:30 Schlöglová K., Wälle M., Heinrich C.A. Chemical modification of fluid inclusions hosted by non-traditional minerals
- 11:30 - 11:45 Siron G., Baumgartner L., Bouvier A-S., Putlitz B. SIMS analysis of minerals with solid solution
- 11:45 - 12:00 Botter C., Meier M., Weber K., Kandler K., Weinzierl B., Grobéty B. Mineralogical and morphological changes after long-range atmospheric transport: the Eyjafjallajökull volcanic plume
- 12:00 - 12:15 Seitz S., Putlitz P., Baumgartner L., Escrig S., Meibom A. Trace element diffusion in quartz-phenocrysts from a Jurassic meta-rhyolite: constrains from the contact-aureole of the Chaltén Plutonic Complex (Fitz Roy, Patagonia)

12:15-14:00 Lunch

SMPG meeting (12:30-13:30)

Chair: NN

- 13:45 - 14:00 El Korh A., Luais B., Boiron M.C., Deloule E. Ge and Ga mobility in high-pressure metabasites during subduction and exhumation processes
- 14:00 - 14:15 Axelsson E., Mezger K., Villa I., Berndt J. The Kuunga Orogeny in the Eastern Ghats Belt and the implications for the final assembly of Gondwanaland
- 14:15 - 14:30 Bergemann C., Gnos E., Berger A., Whitehouse M., Pettke T., Janots E. Shear zone activity of the Grimsel are (Aar-massif): Th-Pb data in hydrothermal cleft monazite
- 14:30 - 14:45 Bussien Grosjean D., Chazot G., Bollinger C., Vonlanthen P., Guillong M., Bachmann O., Langlade J., Rouget M.-L., Liorzou C. The geochemical content of zircon as a potential tracer for geodynamic context of formation

14:45 - 15:00	Ewing T., D'Abzac F., Chiaradia M., Müntener O., Schaltegger U.	Advances in fingerprinting crustal and mantle inputs to magmatic systems: in situ measurement of Hf isotopes in zircon at high precision and spatial resolution on the UNIGE Neptune Plus
15:00-16:00	Afternoon Poster Session with coffee	
	<i>Chair: Sebastien Pilet</i>	
16:00 - 16:15	Lanari P., Riel N., Engi M.	Micro-mapping of chemical potential gradients: A new shovel to bury the concept of global equilibrium in metamorphic rocks
16:15 - 16:30	Robyr M., Goswami-Banerjee S.	Chemical and textural behaviour of REE accessory phases with increasing metamorphic grade in a well constrained prograde pelitic suite: implications for allanite and monazite petrochronology
16:30 - 16:45	Vrijmoed, J. C., Podladchikov, Y. Y., Moulas, E., Tajcmanova, L.	Heterogeneous phase equilibria in rocks under a pressure gradient
16:45 - 17:00	Burn, M., Lanari, P., Engi, M.	Subduction / exhumation dynamics: Petrochronology in Austroalpine outliers (Western Alps, Italy)

Poster Session 2 (between rooms G120 and G140):

P 2.1	Buchs N., Baumgartner L., Putlitz B., Vennemann, D.	Stable isotope ($\delta^{18}O$ and δD) record of fluid-rock interaction in the Zermatt-Saas Fee ophiolites (Pfulwe – Rimpfischorn): from sea floor to exhumation
P 2.2	Normand R., Schmidt S Th., Sartori M.	Pressure-temperature-time evolution in the high-grade metamorphic basement of the Siviez-Mischabel nappe (Val d'Hérens, Val d'Anniviers)
P 2.3	Picazo S., Müntener O., Manatschal G., Basch V.	Tectono-sedimentary breccias associated with mantle windows in hyper-extended domains (Eastern Swiss Alps): field observations, geochemistry, and consequences for the subduction interface
P 2.4	Xin Z., Vrijmoed J., Tajcmanova L.	Pressure-controlled formation of asymmetric chemical zoning in garnet
P 2.5	Burn, M., Lanari, P., Pettke, T., Engi, M.	Non-matrix-matched standardization in quadrupole LA-ICP-MS: New data reduction for allanite age-dating
P 2.6	Pape J., Mezger K., Grobéty B., Neururer C.	Pushing the spatial limits of electron backscatter diffraction (EBSD) analysis: orientation relationships of zircon exsolutions in UHT-rutile
P 2.7	Manzini M, Siron G., Bouvier A-S., Baumgartner L., Ulmer P., Putlitz B., Vennemann T.	$\delta^{18}O$ measurements of glasses using SIMS: a calibration of Instrumental Mass Fractionation
P 2.8	Naumenko M.O., Bouman C., Mezger K., Nägler T.F., Villa I.M.	Simultaneous measurements of the whole range of Ca isotopes (^{40}Ca - ^{48}Ca) by TIMS

- P 2.9** Corthay, G. ,
Vennemann, T.
Kalinaj, M. Vallance,
J., Fontboté, L. The Quenamari prospect, San Rafael tin district,
southern Peru: geology, mineral assemblages, fluid
inclusion microthermometry, and stable isotopes.
- P 2.10** Harutyunyan M. The hydrothermal sericites of copper- molybdenum
porphyry ore-magmatic systems of the Zangezur ore
district (Southern Armenia, Lesser Caucasus)
- P 2.11** Mihoko Hoshino,
Yasushi Watanabe,
Robert Moritz, Maria
Ovtcharova, Jorge
Spangenberg, Benita
Putlitz Magmatic, hydrothermal and weathering REE
mineralization of the Blockspruit fluorite prospect,
Bushveld granitic complex, South Africa
- P 2.12** Hovakimyan S.,
Tayan R., Moritz R.,
Harutyunyan M.,
Hovhannisyan A. Structural features of the Kajaran ore field and world-
class Mo-Cu-porphyry deposit, Southern Armenia,
Lesser Caucasus
- P 2.13** Schlatter D.M.,
Hughes J.W. The gold potential of South East Greenland: new
insights of the eastern extension of the > 150 km
Nanortalik gold belt
- P 2.14** Bejaoui J., Bouhlel S Les minéralisations à Pb-Zn-F de la province fluorée
tunisienne : cas du Jebel Mecella
- P 2.15** Bejaoui J., Bouhlel S Le district minier à Pb-Zn-Ba du Jebel Hamra-Jebel
Ajered (Tunisie centrale) : Géologie, Minéralogie,
Inclusions Fluides et Isotopes.
- P 2.16** Rottier B.,
Kouzmanov K.,
Casanova V.,
Bendezú R., Cuéllar
D., Fontboté L. First evidence of multiple porphyry events in the Cerro
de Pasco polymetallic district, central Peru
- P 2.17** Tamagnone Cosmelli
E. Petrography and geochemistry of the Cusín and
Cubilche volcanoes (Interandean Valley, Ecuador)
- P 2.18** Šegvić B.,
Süssenberger A.,
Ugarkovic M.,
Moscariello A Mineralogy and cultural heritage – introducing
QEMSCAN® automated technology to the study of
ancient artefacts
- P 2.19** Hunger G., Ventra
D., Veiga G.,
Moscariello A. The Miocene Mariño Formation (Central Argentinian
foreland, Mendoza region): a high-resolution
integrated study of sedimentary and
paleoenvironmental responses to tectonic and climatic
forcing
- P 2.20** Miron G.D., Kulik
D.A., Dmytrieva
S.V., Wagner T. Gemsfits: A Code For Input Parameter Optimization Of
Chemical Thermodynamic Models
- P 2.21** Touzin M., Franz L.,
Wetzel A. Petrographic and sedimentologic examinations of river
gravel from the 'Kleine Wiese' river, Black Forest (D)

Session 3: Magma Fluxes and their Effect on Crustal Growth, Magma Chemistry and Dynamics of Volcanic Eruptions Room F130

Convenors: Olivier Bachmann, Luca Caricchi

Chair: Luca Caricchi

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|---------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:00 - 09:15 | Blass, S. | Risk assessment for tephra dispersal and sedimentation: the example of four Icelandic volcanoes |
| 09:15 - 09:30 | Bagheri, G., Rossi, E., Bonadonna, C. | Aggregation of Volcanic Particles: Physical Constraints Provided by Field and Numerical Investigations |
| 09:30 - 09:45 | Leuthold, J., Blundy, J.D. | Cr-Spinel as an Indicator of Cumulates Partial Melting and Liquid Hybridization |
| 09:45 - 10:00 | Reubi, O., Cooper, L., Dungan, M.D., Bourdon, B. | ²²⁶ Ra- ²³⁰ Th disequilibria in magmas from Llaima and Lonquimay volcanoes, Chile: On the roles and rates of subvolcanic magmatic processes. |

10:00-11:00 Morning Poster Session with coffee

Chair: Olivier Bachmann

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|---------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 11:00 - 11:15 | Tornare E., Bussy F., Pilet S. | Magma differentiation during magma rise in the plumbing system of an ocean island volcano, Fuerteventura, Canary Islands |
| 11:15 - 11:30 | Hauser, A., Bussy, F. | Mechanism for development of fine-scale rhythmic magmatic layering in the centre of an incrementally built complex (Punta Falcone, Sardinia) |
| 11:30 - 11:45 | Rochat L., Pilet S., Abe N. | Garnet Xenocryst In a Petit Spot Lava: Recycling Or Direct Formation In Oceanic Lithosphere? |

12:00-14:00 Lunch

Poster Session 3 (between rooms G120 and G140)

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|--------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| P 3.1 | Bakker R., Lupi M., Frehner M. | Effects of rapid icecap melting on a shallow magma chamber: A multi-disciplinary case study of Snæfellsjökull volcano, Western Iceland |
| P 3.2 | Bellver-Baca M.-T., Chiaradia M., Beate B. | Magmatic and time-scale factors controlling the association of porphyry type-deposits with high Sr/Y magmas |
| P 3.3 | Caricchi, L., Simson, G., Schaltegger, U. | Magma Fluxes and the long-term chemical evolution of magmatic systems |
| P 3.4 | Chabbey B., Rapin T., Pilet S. | Petrological Evolution of Fogo island (Cape-Verde) |
| P 3.5 | Dominguez L., Pioli L., Bonadonna C., Connor C.B. | Dynamics of Volcanic Pulsatory Activity |
| P 3.6 | Guinand A., Caricchi L. | Relationship between magma chemistry and eruptive dynamics at selected eruption of Cotopaxi volcano |

- P 3.7** Hartung E., Caricchi L., Floess D., Wallis S., Harayama S. Melt segregation and assembly of the youngest exposed magma chamber in the world: Takidani Pluton (Japan)
- P 3.8** Hunziker D., Burg J.-P., von Quadt A. Early Cretaceous MORB-type to Late Cretaceous subduction-related magmatism recorded in the geochemical variability of lavas, North Makran Ophiolites, SE Iran
- P 3.9** Régnier A., Caricchi L., Londoño J.-M., Mendez R. Cerro Machin a highly explosive volcano showing signs of unrest
- P 3.10** Ricchi E., Caricchi L., Bindeman I., Wotzlaw J. Duration of Volcanic Unrest Preceding a Super-Eruption
- P 3.11** Schmid R., Franz L., Rahn M., Gautheron C., de Capitani C. Petrography and geochronology of phonolites of the Hegau volcanic field, SW Germany
- P 3.12** Stoppa L., Kutterolf S., Rausch J., Grobéty B. Tephra chronostratigraphy of the Malpaisillo Volcanic Complex (central-western Nicaragua)

Session 4: Palaeontology Room A140

Convenors: Lionel Cavin, Damien Becker, Christian Klug

Mammals

Chair: Torsten Scheyer

- 8.30 - 8.50 Maridet O., Costeur L., Schwarz C., Furió M., van Glabbeek F. M., Hoek Ostende L. W. Comparison of the bony labyrinths of some extant and fossil hedgehogs (Erinaceomorpha, Mammalia): evolutionary and paleoecological implications
- 8.50 - 9.10 Aguirre-Fernández, G., Carrillo-Briceño, J. D., Sánchez, R., Jaramillo, C., Sánchez-Villagra, M. R. Fossil whales and dolphins (Cetacea) from the Miocene of Venezuela and Colombia
- 9.10 - 9.30 Carrillo J. D., Carlini A. A., Jaramillo C., Sánchez-Villagra M. R. New fossil mammals from the northern neotropics (Urumaco, Venezuela, Castilletes, Colombia) and their significance for the new world diversity patterns and the Great American Biotic Interchange
- 9.30 - 9.50 Costeur L., Mennecart B., Rössner G.E., Azanza B. Inner ear in early deer
- 9.50 - 10.10 *Hiard F., Métails G., Goussard F. On the "thumb" of anoplotheriins: a 3D comparative study of the hand of Anoplotherium and Diplobune.

10:10-10:50 Morning Poster Session with coffee

Paleontology and Stratigraphy of the Reuchenette Formation

Chair: Lionel Cavin

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|---------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.50 - 11.10 | Koppka, J. | The oysters (Ostreoidea, Bivalvia) of the Reuchenette Formation (Kimmeridgian, Upper Jurassic) in Northwestern Switzerland |
| 11.10 - 11.30 | *Leuzinger L., Kocsis L., Billon-Bruyat J.-P., Spezzaferri S. | Taxonomy and biogeochemistry of a new chondrichthyan fauna from the Swiss Jura (Kimmeridgian): an unusual isotopic signature for the hybodont shark <i>Asteracanthus</i> |
| 11.30 - 11.50 | Schaefer K., Billon-Bruyat J.-P. | The crocodylian <i>Steneosaurus</i> cf. <i>bouchardi</i> in the Kimmeridgian of Switzerland |
| 11.50 - 12.10 | *Anquetin J. | A new diverse turtle fauna in the late Kimmeridgian of Switzerland |

12:10-14:00 Lunch

Permian-Triassic Boundary and Ammonoids

Chair: Christian Klug

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|---------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 14.00 - 14.20 | *Bagherpour B., Bucher H., Brosse M., Baud A., Frisk Å., Guodun K. | Tectonic control on the deposition of Permian-Triassic boundary microbialites in the Nanpanjiang Basin (South China) |
| 14.20 - 14.40 | Meier M., Bucher H., Ware D. | The diversity and phylogenetic bottleneck of ammonoids across the end-Permian mass extinction |
| 14.40 - 15.00 | *Ware D., Bucher H., Schneebeil-Hermann E. | The Dienerian (Early Triassic) ammonoid diversity crisis: timing and environmental proxies from the northern Indian margin |
| 15.00 - 15.20 | Klug C., Hoffmann R. | The origin of the complexity of ammonoid sutures |

15:20-16:00 Afternoon Poster Session with coffee

Tertiary Stratigraphy and Paleontology

Chair: Damien Becker

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|---------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 16.00 - 16.20 | Pirkenseer C., Rauber G. | The "Cyathula-Bank", a regional stratigraphic unit at the interface between two tectonic and sedimentological provinces. |
| 16.20 - 16.40 | Pérez-Asensio J.N., Samankassou E., Jiménez-Moreno G., Larrasoña J.C., Mata P., Civis J. | Late Miocene-early Pliocene benthic foraminiferal assemblages from the La Matilla core, lower Guadalquivir Basin (SW Spain) |
| 16.40 - 17.00 | Meyer, C. & KSPA | Paleoprize (* = applicants for the prize) |

Poster Session 4 (between rooms A120 and A140)

- P 4.1** Becker, D, Dini, M., Scherler, L. Woolly rhinoceros from the Pleniglacial of Ajoie (Jura Canton, Switzerland): anatomical description and ecological implications
- P 4.2** Minwer-Barakat R., Marigó J., Costeur L. Engesser, B. New primate material from the Middle Eocene Swiss Site Verrerie de Roches
- P 4.3** Marchegiano M., Gliozzi E., Buratti N., Ariztegui D., Cirilli S. Environmental change in central Italy since the Late Pleistocene. The Lake Trasimeno ostracod record.
- P 4.4** Püntener C., Anquetin J., Billon-Bruyat J.-P. A new species of the coastal marine turtle *Thalassemys Rütimeyer 1873* from the Kimmeridgian of the Swiss Jura Mountains
- P 4.5** Savary V., Mennecart B. Testing the EBSD Method on Mammal Enamel

Session 5: Stratigraphy in Switzerland - New Data and Developments Room B130

Convenors: Alain Morard, Reto Burkhalter, Oliver Kempf & Ursula Menkveld-Gfeller

Stratigraphy of Switzerland

Chair: Alain Morard

- 9.00 - 9.30 Jordan P. Gliederung der Trias, des Perms und des Karbons in der Nordschweiz
- 9.30 - 9.50 Reisdorf A. G., Hostettler B., Feist-Burkhardt S., Waltschew A., Bläsi H., Jaeggi D., Deplazes G., Morard A., Menkveld-Gfeller U. Litho-, Bio- and Chronostratigraphy of the Stafflegg Formation, Opalinus-Ton, Passwang Formation and Hauptrogenstein of the Mont Terri Rock Laboratory, Canton Jura, Switzerland.
- 9.50 - 10.10 Wohlwend S. & Weissert H. New insights from the northern Helvetic Seewen Formation (Eastern Switzerland) - Sedimentological and Chemostratigraphical correlation.

10:10-10:50 Morning Poster Session with coffee

Paleontology and Stratigraphy of the Reuchenette Formation.

Chair: Lionel Cavin

- 10.50 - 11.10 Koppka, J. see Session 4 - Paleontology
- 11.10 - 11.30 *Leuzinger L., Kocsis L., Billon-Bruyat J.-P., Spezzaferri S. see Session 4 - Paleontology
- 11.30 - 11.50 Schaefer K., Billon-Bruyat J.-P. see Session 4 - Paleontology

11.50 - 12.10 *Anquetin J. see Session 4 - Paleontology

12:10-14:00 Lunch

**Plenary Meeting
SKS**

Chair: Alain Morard

14.00 - 15.20 SKS Plenumsitzung des Stratigraphischen Komitee der Schweiz

15:20-16:00 Afternoon Poster Session with coffee

**Tertiary
Stratigraphy and
Paleontology**

*Chair: Damien
Becker*

16:00 - 16:20 Pirkenseer C., see Session 4 - Paleontology
Rauber G.

16:20 - 16:40 Pérez-Asensio J.N., see Session 4 - Paleontology
Samankassou E.,
Jiménez-Moreno G.,
Larrasoña J.C.,
Mata P., Civis J.

16:40 - 17:00 Meyer, C. & KSPA see Session 4 - Paleontology

Poster Session 5 (between rooms A120 and A140)

P 5.1 Rauch A., Sartori M. Stratigraphic and structural relationships between ophiolite body and sedimentary cover at Piz Mundin (Lower Engadine Window, GR, CH).

P 5.2 Morard, A. Correlations beyond HARMOS: how, where, why?

**Session 6: Geophysics and Rockphysics
Room F130**

Convenors: Marcel Frehner, Klaus Holliger

*Chairs: Marcel
Frehner & Klaus
Holliger*

14:00 - 14:15 Michlmayr G., Fiber-optic based measurements of acoustic and
Chalari A., Clarke A., microseismic emissions for early warning of rapid mass
Breitenstein D., movements
Wunderli H.,
Lehmann P., Fan L.,
Or D.

14:15 - 14:30 Pellet C., Hilbich C., Quantitative estimation of ice and water content in
Python S., Daengeli mountainous terrains using ERT and RST
S., Hauck C. measurements

- 14:30 - 14:45 Lengyel B., Turberg P., Baumgartner L. Non-destructive 3D characterization of concrete alteration by X-ray micro-CT and correlation with petrographic and geotechnical properties
- 14:45 - 15:00 Madonna C., Pini R. Moving across scales: An Assessment of X-ray CT to quantify reservoir rock properties

15:00-16:00 Afternoon Poster Session with coffee

Poster Session 6 (in front of room F130)

- P 6.1** Bakker R.R., Violay M.E.S., Benson P.M., Vinciguerra S.C. Volcanoes with carbonate basements: Understanding basement deformation and degassing phenomena
- P 6.2** Hauck C., Hilbich C. Applicability of petrophysical relationships to quantify subsurface ice and water contents from geophysical measurements in mountain and polar regions
- P 6.3** Heck M., van Herwijnen A., Schweizer J., Fäh D. Automatic detection of avalanches in seismic data using Hidden Markov Models
- P 6.4** Lupi M., Kenkel J., Fuchs F., Ricci T., Suski B., Miller S.A. Effects of remote earthquakes at the Nirano Mud Volcanic Field: Insights from geophysical studies
- P 6.5** Shih P.-J. R., Frehner M. Laboratory evidence for Krauklis wave resonance in fractures
- P 6.6** Subramaniyan S., Madonna C., Quintal B., Saenger E. H. Seismic attenuation in sandstones
- P 6.7** Violay M., Burg J.-P. Experimental measurements of dilatancy and permeability evolution during triaxial compression of micro-gabbro and implications for hydrothermal circulation at the mid ocean ridge

Session 7: Geothermal Energy, CO₂ Sequestration and Shale Gas

Room G120

Convenors: Lyesse Laloui, Larryn Diamond, Paul Bossart

Chair: Paul Bossart

- 9:00 - 9:35 Gunter Siddiqi (Swiss Federal Office for Energy) Keynote Lecture: Policy aspects of geo-energies in Switzerland
- 9:35 - 9:50 Moscariello A., Chelle-Michou C., Clerc N., Do Couto D., Rusillon E. Regional Research for Geothermal Resources in Western Switzerland.
- 9:50 - 10:05 Scott S., Driesner T., Weis P. Geologic factors controlling the development supercritical fluid resources in geothermal systems
- 10:05 - 10:20 Favero V., Ferrari A., Laloui L. Effect of temperature on the mechanical behaviour of shales

10:20 - 10:35 Wanner C., Peiffer L., Sonnenthal E., Spycher N. Iovenitti J., Kennedy B.M. Reactive transport modeling of the Dixie Valley geothermal area: insights on flow and geothermometry

10:35-11:05 Morning Poster Session with coffee

Chair: Larryn Diamond

11:05 - 11:20 Clerc N., Rusillon E., Moscariello A. Structural and Reservoir Rock Typing Characterisation of the Greater Geneva Basin for Geothermal Resource Assessment

11:20 - 11:35 Thien B., Kosakowski G., Kulik, D. What key factors control the rock alteration in Icelandic hydrothermal systems?

11:35 - 11:50 Miller S.A. Modeling enhanced geothermal systems and the essential nature of large-scale changes in permeability at the onset of slip

11:50 - 12:05 Miskovich I., Basavarajappa M. Peridynamic Formulation of Hydraulic Fracture Propagation and Branching in Shales

12:05 - 12:15 Discussion on the morning sessions

12:15-14:00 Lunch

Chair: Lyesse Laloui

14:00 - 14:15 Nussbaum C., Manceau J.C., Trémosa J., Audigane P., Claret F., Lettry Y., Fierz T., Kikuchi T. 1:1 scale wellbore experiment for a better understanding of well integrity in the context of CO₂ geological storage, Mont Terri underground rock laboratory

14:15 - 14:30 Makhnenko R., Laloui L. Characterization of host and caprock geomechanical properties for safe geological carbon dioxide storage

14:30 - 14:45 Alt-Epping P., Diamond L.W. Fluid-rock reactions arising from CO₂ injection into the U. Muschelkalk aquifer in N-Switzerland – insights from coupled numerical simulations

14:45 - 15:00 Li C., Laloui L. Coupled effects in carbon dioxide injection into a deep aquifer

15:00-15:30 Afternoon Poster Session with coffee

Chair: Lyesse Laloui

15:30 - 15:45 Adams A., Aschwanden L., Ramseyer K., Diamond L. W., Bläsi H. Facies analysis and correlation of the middle Triassic Swiss carbonate ramp: Relation to current aquifer properties of the Upper Muschelkalk

15:45 - 16:00 Hu L., Brauchler R., Alt-Epping P., Tatomir A., Sauter M., Bayer P. Application of time-lapse pressure tomography to characterize CO₂ plume evolution in a deep saline aquifer: a numerical study

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|---------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 16:00 - 16:15 | Vouillamoz N.,
Abednego M., Wust-
Bloch G.-H., Mosar,
J. | Subsurface fault mapping by nanoseismic monitoring in
the Fribourg area (Switzerland) |
| 16:15 - 16:25 | Discussion on the
afternoon session | |
| 16:25 - 16:30 | Concluding remarks | |

Poster Session 7 (in front of room F130)

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|--------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| P 7.1 | Aschwanden L.,
Adams A., Diamond
L.W., Mazurek M.,
Ramseyer K. | Reservoir properties of the Middle- and Upper
Muschelkalk carbonate aquifer at Schlattingen, NE-
Switzerland |
| P 7.2 | Gischig, V., Preisig,
G. | Pros and Cons of Hydraulic Fracturing and Hydraulic
Shearing for Deep Reservoir Stimulation |

Session 8: IODP and ICDP Drilling for Scientific Research: Major Achievements from Past and Current Drilling Initiatives Room C230

Convenors: Anneleen Foubert, Hendrik Vogel, Michael Strasser, Samuel Jaccard

10:00-11:00 Morning Poster Session with coffee

Chair: NN

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|---------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:00 - 11:15 | Rüggeberg A.,
Raddatz J., Flögel
S., Foubert A.,
Liebetrau V.,
Henriet J.-P., Dullo
W.-C. | Cold-water coral reefs along the European continental
margin through the Quaternary |
| 11:15 - 11:30 | Kremer K., Usman
M., Satoguchi Y.,
Nagahashi Y.,
Panieri G., Strasser
M. | Timing of mass transport deposits at site C0018 (IODP
Exp. 333) |
| 11:30 - 11:45 | Moscariello A.,
Camerlenghi A. and
DREAM project | Uncovering a Salt Giant: Umbrella proposal of the
Deep-Sea Record of Mediterranean Messinian Events
(DREAM) multi-phase drilling project |
| 11:45 - 12:00 | Früh-Green G.L.,
Lang S.Q. | Serpentinization and Life: IODP Drilling at the Atlantis
Massif |

12:00-14:00 Lunch

Poster Session 8 (between rooms A120 and A140)

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|--------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| P 8.1 | McCarthy A., & IODP
Expedition 351
shipboard scientists | IODP Exp. 351 Izu-Bonin-Mariana (IBM) Arc: Scientific
Objectives and Lithostratigraphy of Site U1438 |
|--------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|

- P 8.2** Thomas C., Levy E., Grossi V., Neugebauer I., Antler G., Sivan O., Yechieli Y., Gavrieli I., Turchyn AT., Stein M., Brauer A., Ariztegui D. and the DSDDP Scientific Team. Microbial influence on organic proxy in the Dead Sea sediment at the beginning of the Holocene
- P 8.3** De Boever E., Foubert A., Anselmetti F. S., Soete J., DeMott L., Claes H., Özkul M., Virgone A., Swennen R., Fouke B. Drilling modern to ancient continental spring carbonates – Comparison of facies and petrophysics from travertine cores in the Ballik area (Pleistocene, Denizli, Turkey) and Mammoth Hot Springs (Holocene, Yellowstone, USA)

Session 9: Geomorphology Room E130

Convenors: C. Graf, I. Gärtner-Roer, R. Delaloye, M. Keiler, N. Kuhn, C. Scapozza, J. Müller, C. Levy, F. Herman, B. Staub, S. Castelltort

I Slope Processes

*Chair: Reynald
Delaloye*

- 09:00 - 09:15 Kummert M., Braillard L., Delaloye R. Spatial and temporal variability of the sediment transfer processes at the front of the Gugla-Bielzug rock glacier (Mattertal, VS)
- 09:15 - 09:30 Saletti M., Molnar P., Hassan M. A., Zimmermann A. E., Church M. Temporal pattern and memory in sediment transport in a step-pool channel: an experimental study
- 09:30 - 09:45 Molnar P., Leonarduzzi E., Bennett G. On the prediction of daily rainfall thresholds for the triggering of landslides and debris flows
- 09:45 - 10:00 Bast A., Gärtner, H. Eco-engineering in geomorphology: Sustainable prevention of surface erosion and superficial slope failures on hillslopes in alpine environments

10:00-11:00 Morning Poster Session with coffee

II Mass Movement

*Chair: Sébastien
Castelltort*

- 11:00 - 11:15 Hohermuth B., Graf C. Application of debris-flow simulations in practice
- 11:15 - 11:30 Frank F., McArdell B. W., Huggel Ch. The importance of erosion for debris flow runout modeling: examples from the Swiss Alps
- 11:30 - 11:45 Greenwood, P., Kuonen, S., Fister, W., Kuhn, N.J. The possible influence of terracettes on surface hydrology of steep-sloping and subalpine environments

11:45 - 12:00 Kuhn N.J., Kuhn B., Gartmann A. MarsSedEx I and II: Experimental investigation of gravity effects on sedimentation on Mars

12:00-14:00 Lunch

**12:15-13:30 General Assembly of the Swiss Geomorphological Society SGS
(Chair: Christoph Graf)**

**III Tectonics and
Climate**

Chair: K. Kuhn

- 14:00 - 14:15 Litty C., Van Der Beek P., Baudin., M., Mercier J., Robert X., Hardwick E. Tectonic Control on Topographic and Exhumational Segmentation of the Himalaya
- 14:15 - 14:30 Lombardo U. Geomorphological evidence of Holocene neotectonics in Southern Amazonia
- 14:30 - 14:45 Madella A., Delunel R., Schlunegger F., Szidat S. Along-strike changes in landscape architecture condition the mechanical coupling between hanging and subducting plates: An attempt to explain the absence of the Coastal Cordillera in the Andes of Northern Chile
- 14:45 - 15:00 Guerit L., Dominguez S., Castelltort S., Romano C., Henriquet M. Evolution of a drainage network in collisional context - Insights from experimental modeling of the Southern Alps, New Zealand
- 15:00 - 15:15 Rabin M. , Sue C. , Champagnac J.-D. , Valla P. G. , Carry N. , Eichenberger U. , Bichet V., & Mudry J. Neotectonics of a slow orogenic arc inferred from quantitative geomorphology: the Jura Mountains
- 15:15 - 15:30 Grischott R., Kober F., Reitner J., Hippe K., Ivy-Ochs S., Hajdas I., Willett S. Climatic and vegetation control on erosion during the Holocene – a 15 kyr Be-10 denudation rate record

15:30-16:00 Afternoon Poster Session with coffee

Poster Session 9 (in front of room E130)

- P 9.1** Boulicault L., Moscarillo A., Sartori M., Ventra D., Moreau J. Relations between Catchment Lithologies and Shallow Surface Morphologies of Three Alluvial Fans in the Rhône Valley (SW Switzerland).
- P 9.2** Chen C., Castelltort S., Foreman B. Sedimentary record of river response to climate change: example of the Paleocene-Eocene thermal maximum in the South-Pyrenean foreland basin, Spain
- P 9.3** Cogez A., Meynadier L., Allègre C., Limmois D., Herman F., Gaillardet J. Constraints on the role of tectonic and climate on erosion revealed by two time series analysis of marine cores around New Zealand

- P 9.4** Costa A., Molnar P., Lane S.N., Bakker M. Impact of river regulation on potential sediment mobilization
- P 9.5** Cros X., Braillard L., Bochud M., Delaloye R. Using accelerometers for the study of active rock glaciers kinematics and dynamics
- P 9.6** Glover J., Kenner R. Tracking terrestrial rockfalls on a rock glacier headwall at Piz Corvatsch, Switzerland
- P 9.7** Heim L., Gärtner-Roer I., Purves R., Müller J. Analysis and application of terrestrial laser scanning in a periglacial high mountain area, on the example of rock glacier Muragl, Upper Engadin, Switzerland
- P 9.8** Kuhn N.J., Greenwood P., Kuhn B., Boardman J., Foster I., Meadows M. The Great Karoo region of South Africa: A carbon source or sink?
- P 9.9** Kummert M., Barboux C., Delaloye R. Classifying torrential catchments according to the contribution of slope movements in the sediment supply to the channel: a pilot study in the lower Valais (Swiss Alps)
- P 9.10** Mandal SK., Lupker M., Burg J.-P., Haghypour N., Christl M. Low denudation preserves high topography in tectonically quiescent southern Peninsular India
- P 9.11** Ruff A., Vieli A., Gärtner-Roer I., Jörg P.C. Spatio-temporal quantification of geomorphological processes in the recently deglaciated area surrounding the Findelengletscher
- P 9.12** Scapozza C., Ambrosi C. "Via Soreda": a geotouristical trail in the hearth of the Parc Adula project
- P 9.13** Strupler, M., Schwestermann, T., Hilbe, M., Anselmetti, F.S., Strasser, M. A new high-resolution bathymetric map of Lake Zurich
- P 9.14** Jalilian T., Gohroudi Tali M., Darvishi Khatooni J. Distribution of sinkholes And their sensitivity to Falling in praw-bistoon calcareous masses
- P 9.15** Xiao L., Fister W., Greenwood P., Hu Y., Kuhn N.J. Potential fate of eroded SOC after erosion

Session 10: Quaternary Environments: Landscapes, Climate, Ecosystems, Human Activity During the Past 2.6 Million Years

Room E140

Convenors: Irka Hajdas, Susan Ivy Ochs

Chair: Naki Akçar

- 9:00 - 9:20 King G., Herman F., Valla P. Guralnik B. OSL-thermochronology of Na- and K-feldspar from Namche Barwa, Tibet

- 9:20 - 9:40 Litty C., Schunegger F Using grain size downstream variation to reconstruct erosional and sedimentological dynamics in the Pisco valley, western Peru.
- 9:40 - 10:00 Wüthrich L., Lutz S., Zech R., Zech M., Sirocko F. Late Glacial vegetation reconstruction based on leaf waxes from the Gemündener Maar, Germany
- 10:00 - 10:20 Hippe K., Hajdas I., Ivy-Ochs S., Maisch M. Chronology of Middle Würm climate changes in the Swiss Alpine foreland

10:20-11:00 Morning Poster Session with coffee

Chair: Irka Hajdas

- 11:00 - 11:20 Häuselmann A.D., Tabersky D., Günther D., Cheng H., Fleitmann D. Glacier presence petrified in a Swiss high alpine stalagmite
- 11:20 - 11:40 Wegmüller F., Koehler H., Pümpin C., Wuscher P., Sévêque N. Excavations at the Middle Palaeolithic site of Mutzig-Rain (Alsace, France)
- 11:40 - 12:00 Trauerstein M., Preusser F., Lowick S.E., Veit H. Challenges in using luminescence dating to provide age control on Late Quaternary soil development on the central Swiss Plateau

12:00-13:40 Lunch

Chair: Susan Ivy-Ochs

- 13:40 - 14:00 Claude A., Akçar N., Ivy-Ochs S., Schlunegger F., Kubik P., Rahn M., Dehnert A., Schlüchter C. Timing of Early and Middle Pleistocene glaciations in the Alps
- 14:00 - 14:20 Camozzi, O., Stalder, C., Rüggeberg, A., Spezzaferri, S. Response of Cold-Water Corals (CWC) to large-scale paleoceanographic changes in the Western Melilla Mound Field (WMMF) eastern Alboran Sea: evidence from micro- and macrofauna assemblages and stable isotopes
- 14:20 - 14:40 Boulicault L., Sartori M., Moreau J., Corboud P., Moscariello A. Late Holocene lacustrine deposits newly discovered within the Losentse alluvial fan in the central Rhône Valley, SW Switzerland.
- 14:40 - 15:00 Donau F., Grischott R., Kober F., Hajdas, I., Hippe H., Lupker M., Ivy-Ochs S., Christl M., Strasser M. Holocene sediment budget and sediment dynamics of Lake Sils in the Upper Engadin

15:00-16:00 Afternoon Poster Session with coffee

Poster Session 10 (in front of room E130)

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|----------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P 10.1 | Ambrosi C.,
Scapozza C.,
Castelletti C., Soma
L., Dall'Agnolo S. | Stratigraphy of Quaternary Deposits of the
Mendrisiotto (Southern Swiss Alps) |
| P 10.2 | Dubois N., Frédyier
L., Brunner I. | Heavy metal distribution in lake sediments from the
Joux Valley |
| P 10.3 | El Kateb A., Stalder
C., Neururer C.,
Spezzaferri S. | Pollution by phosphogypsum discharge into the Gulf of
Gabes (Tunisia): Preliminary results. |
| P 10.4 | Javad Darvishi
Khatooni., Raziye
Lak | Khuzestan dust source identification with using
Satellite images and Sedimentary Geochemistry |
| P 10.5 | Javad Darvishi
Khatooni., Raziye
Lak., Ali Azhdari | Study Khuzestan dusts pollution with using
Sedimentary Geochemistry |
| P 10.6 | Javad Darvishi
Khatooni., Raziye
Lak., Majid Moeini.,
Ali Azhdari | Dust containment priority in Khuzestan plain, Iran |
| P 10.7 | Lanny V., Schäfer I.
K., Eglinton T. I.,
Zech R. | Long chain n-alkanes and n-carboxylic acids as
molecular proxies for paleovegetation |
| P 10.8 | Lavrieux M., Dubois
N., Schubert C.,
Hofstetter T.,
Eglinton T. | The age of terrestrial biomarkers in lacustrine
sediments as an historical indicator for anthropogenic
soil erosion |
| P 10.9 | Meuriot L., Dubois
N., Molnar P.,
Girardclos S., Wüest
A., Raman L.,
Brunner I. | Recent mass transport deposits in Lake Biel: tracking
their ages, causes and consequences |
| P 10.10 | Rodrigues L.,
Lombardo U., Veit
H. | Understanding Pre-Columbian environmental
adaptations strategies in agriculture: A case study of
raised fields in Exaltación, in the Bolivian lowlands |
| P 10.11 | Roser K., Schoeni
A., Foerster M.,
Röösli M. | Development of an RF-EMF exposure surrogate for
epidemiologic research from modelling, personal
measurements and operator data |
| P 10.12 | Silva T.A., Bakker
M., Costa A.,
Girardclos S., Lane
S.N., Loizeau J.L.,
Molnar P.,
Schlunegger F.,
Stutenbecker L. | Quantifying the impact of anthropogenic activities on
the erosional and sediment budget in the Rhône River
basin– the SEDFATE project. |
| P 10.13 | Sojc, U., Hajdas, I.,
Ivy-Ochs, S., Akçar,
N., Deline, P. | Building high resolution radiocarbon dating
chronologies for the reconstruction of late Holocene
landslide events in the Mont Blanc area, Italy |
| P 10.14 | Vočadlova K., Petr
L., Žáčková K.,
Křížek M. | A record of Late Glacial and Holocene environmental
changes in the Bohemian Forest, Czech Republic: The
history of a central European upland after LGM |

- P 10.15** Wirth S.B., Sessions A.L. The D/H signal of Holocene and modern leaf waxes in the sediments and catchment of a south-Alpine lake
- P 10.16** Zurfluh, R., Kober, F., Ivy-Ochs, S., Hajdas, I., Christl, M. Post-glacial Landscape Evolution of the Upper Haslital Aare between Handegg and Guttannen (Bernese Alps)

Session 11: Cryospheric Sciences

&

Session 12: Polar Research

Room E120

Convenors: J. Alean, A. Bauder, B. Krummenacher, J. Nötzli, C. Lambiel, M. Lüthi, J. Schweizer, M. Schwikowski

*Chair: Martin
Hoelzle*

- 9:00 - 9:20 Caduff R., Wiesmann A., Bühler Y. Quantification and mapping of snow surface dynamics with terrestrial radar interferometry: From avalanche mapping to snow creep measurements
- 9:20 - 9:40 Capelli A., Kapil J. C., Reiweger I., van Herwijnen A., Schweizer J., Or D. Propagation characteristics of acoustic waves in snow under laboratory conditions
- 9:40 - 10:00 Sommer C., Mott R., Lehning M., Haussener S. Variability of snow thickness changes in steep rock faces based on terrestrial laser scanning

10:00-11:00 Morning Poster Session with coffee

*Chair: Matthias
Huss*

- 11:00 - 11:20 Reiweger I., Gaume J., Schweizer J. Failure Criterion for Weak Snow Layers
- 11:20 - 11:40 Stawicki M., Magnusson J., Jonas T. Sensitivity of operational snow melt predictions to different modelling setups
- 11:40 - 12:00 Langhammer L., Dunse T., Langley K., Isaksson E., Hagen J.O. Deriving long-term firn stratigraphy from optical borehole camera measurements on Austfonna, Svalbard
- 12:00 - 12:20 Barandun M., Sold L., Huss M., Azisov E., Salzmann N., Usubaliev R., Hoelzle M. Accumulation rates on Abramov Glacier, Kyrgyz Pamir between 2001 and 2013
- 12:20 - 12:40 Gabbi J., Huss M., Bauder A., Schwikowski M. The impact of Saharan dust events on long-term glacier mass balance in the Alps

12:40-14:00 Lunch*Chair: NN*

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|---------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 14:00 - 14:20 | Boffi G., Wieser A., Binder D., Schöner W. | GNSS-based monitoring of kinematic glacier surface deformation at the A.P. Olsen Ice Cap |
| 14:20 - 14:40 | Comola F., Schaefli B., Rinaldo A., Lehning M. | Flow and Temperature Dynamics in the Hydrologic Response of Alpine Catchments: Travel Time Formulation and Geomorphologic Signatures |
| 14:40 - 15:00 | Bosson JB., Lambiel C. | Current evolution of small glacier systems in alpine permafrost environments in relation with their internal structure |

15:00-15:50 Afternoon Poster Session with coffee*Chair: Margit Schwikowski***15:50-16:00****SEP Young Scientist Award Ceremony**

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|---------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 16:00 - 16:20 | Huss M., Dhulst L., Bauder A. | Ten new long-term glaciological mass balance series for Swiss glaciers |
| 16:20 - 16:40 | Braillard L., Delaloye R., Abbet D., Barboux C., Morard S., Staub B. | Onset and development of destabilization phases of rock glaciers in the Swiss Alps |
| 16:40 - 17:00 | Werder M. A. | Fast ice flow, troughs, overdeepenings and subglacial hydrology |

Poster Session 11 (in front of room D130)**Session I**

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|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| P 11.1 | Becker P. | Ice flow in the Alps during the last glacial maximum, a modeling approach |
| P 11.2 | Capt, M., Bosson, J.-B., Micheletti, N., Lambiel, C. | Multitemporal scale surface changes of small glacier systems in permafrost environments |
| P 11.3 | Fischer M., Huss M., Hoelzle M. | Use of a new long-range terrestrial LiDAR system to monitor the mass balance of very small glaciers |
| P 11.4 | Molina E., Sikos F., Rados M., Chaparro N., Samata J., Montoya N., Jiménez L., Gonzales G., Torres L., Gómes J., Cruz R., Giraldez C., Drenkhan F., Haeberli W., Huggel C., Schauwecker S. | Initiation Of Mass Balance Monitoring At Glacier Suyuparina, Cordillera Vilcanota, Peru |

- P 11.5** Colonia D., Haeberli W., Torres J., Schauwecke S., Cochachin A., Tacsí A., Santiago A. An Inventory Of Possible Future Lakes In The Cordillera Blanca, Peru
- P 11.6** Hoelzle, M., Hauck, C. Long-term energy balance measurements at three different mountain permafrost sites in the Swiss Alps
- P 11.7** Leinss S., Hajnsek I. Swiss glaciers: TanDEM-X time series vs. SwissAlti3D
- P 11.8** Naegeli K., Huss M., Hoelzle, M. Evaluation of automatic weather station data to observe the characteristics and changes in glacier surface albedo
- P 11.9** Salzmann N., Huss M., Machguth H., Sold L., Linsbauer A., Joerg P., Leysinger-Vieli G., Hoelzle M. 10 years of MB measurements on Findelengletscher, VS, Switzerland

Session II

- P 11.10** Crivelli Ph., Horender S., Paterna E., Lehning M. Measuring snow surface topologies and its changes using Microsoft's Kinect
- P 11.11** Haberkorn A., Phillips M., Kenner R., Rhyner H., Hoelzle M. Ground thermal regime and its relation to snow cover in Alpine rock walls
- P 11.12** Jörg-Hess S., Griessinger N., Zappa M. Extended-range probabilistic forecasts of snow water equivalent and runoff in mountainous areas
- P 11.13** Marmy A., Rajczak J., Kotlarski S., Salzmann N., Hauck C. Projections of permafrost evolution in the Swiss Alps coupling climate and soil models
- P 11.14** Nendaz T., Lambiel C. Long term monitoring of the Mont Dolin rock glacier (Swiss Alps)
- P 11.15** Staub B., Hasler A., Delaloye R. Gap filling procedures for ground surface temperature time series of the PERMOS network
- P 11.16** Wicki A., Hauck C., Pellet C., Hilbich C., Kemna A., Weigand M., Wege S. Spatial and temporal variability of soil moisture in permanently frozen ground at Schilthorn (Swiss Alps)
- P 11.17** Schneebeli M., Proksch M., Matzl M., Weissbach S. Antarctic snow stratigraphy - new methods and insights
- P 11.18** Proksch M., Gouttevin I., Langer M., Ebner P., Fierz C., Schneebeli M. Snow microstructure and modelling in support of permafrost science
- P 11.19** Wiese M., Schneebeli M. Imaging of snow algae in natural snow using phase-contrast tomography

- P 11.20** Helfricht K., Lehning, M., Sailer R., Kuhn M. The contribution of locally extreme snow depths to the winter snow cover volume of Alpine glaciers in the Ötztal Alps, Austria
- P 11.21** Sold L., Huss M., Hoelzle M. Towards a better representation of snow accumulation distribution in glacier mass balance models

Session 13: Freshwater Monitoring: From Past to Present and to the Future - Measurement and Interpretation Room D130

Convenors: B. Schädler, M. Doering, T. Jonas, A. Salvetti, M. Sinreich, P. Schmocker-Fackel

Chair: Petra Schmocker-Fackel

- 09:00 - 09:20 Weijs S.V., Brauchli, T., Huwald, H.W. Measuring surface flow velocity with smartphones: potential for citizen observatories
- 09:20 - 09:40 Mutzner R., Weijs S.V, Tarolli P., Calaf M., Oldroyd H.J., Parlange M.B. Study of diurnal streamflow cycles in a high altitude catchment in the Swiss Alps
- 09:40 - 10:00 Etter S., Seibert, J., Vis M., Addor N., Huss M., Finger D. Impacts of climate change on the water availability for the hydropower reservoir Gigerwaldsee using hydrological modeling
- 10:00 - 10:10 Poster-authors Short presentations of the posters in the conference room

10:10-11:00 Morning Poster Session with coffee

Chair: Michael Doering

- 11:00 - 11:20 von Fumetti, S. Long-term monitoring of natural springs in the Röseren valley near Liestal (BL)
- 11:20 - 11:40 Gaudard A., Bouffard D., Wüest A. Long-term monitoring and modelling of Lake Geneva, in the prospect of thermal energy usage
- 11:40 - 12:00 Saadé-Sbeih M., Zwahlen F., Haj Asaad A., Gonzalez R., Jaubert R. Assessing long term changes in the Orontes River basin (Lebanon and Syria): how to deal with variable, incomplete and heterogeneous datasets?

12:00-12:30 Lunch

12:30-13:30 General Assembly of the Swiss Society for Hydrology and Limnology SGHL (Chair: Beat Oertli)

13:30-14:15 Hydrobiology-Limnology Award (Chair: Reinhard Bachofen)

*Chair: Michael
Sinreich*

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|---------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 14:20 - 14:40 | Reinhardt M., Kozel R. | Trenderhebung, Früherkennung und Erfolgskontrolle im Grundwassermonitoring - Konzepte der Nationalen Grundwasserbeobachtung NAQUA |
| 14:40 - 15:00 | Ammann L., Diem S., Poppei J. | Improving the understanding of river-groundwater interactions by analyzing time series of electrical conductivity |
| 15:00 - 15:20 | Surbeck H., Bossy F. | Supersaturation, a phenomenon ignored by most hydrogeologists |

15:20-16:00 Afternoon Poster Session with coffee**Poster Session 13 (in front of room C130)**

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|---------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P 13.1 | Calianno M.,
Reynard E. | Quantifying Alpine water demands: setup for a micro-observatory of irrigation and drinking water supply in the Crans-Montana-Sierre region (Valais, Switzerland) |
| P 13.2 | Gallice A., Schaefli B., Lehning M., Huwald H. | Modeling the monthly mean stream temperature dynamics |

**Session 14: NRP 68: Research for Improving Soil Knowledge and for Sustainable Use of Soils
Room C130**

Convenors: A. Papritz, F. Hagedorn, J. Leifeld

Chair: Jens Leifeld

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| 09:00 - 09:15 | Gómez-Sanz E.,
Jaenicke S.,
Goesmann A., Smits T.H.M., Duffy B. | Metagenomic analysis of long-term land-use effects on soil microbial communities in 600-year Alpine pasture system |
| 09:15 - 09:30 | Krause H-M., Well R., Mäder P., Kappler A., Behrens S., Gattinger A., | Influence of soil management on N ₂ O producing and reducing microbial communities |
| 09:30 - 09:45 | Campos-Herrera R., Jaffuel G., Chiriboga X., Blanco-Perez R., Fesselet M., Mäder P., Mascher F., Turlings TCJ. | Assessment of the Natural Occurrence of Entomopathogenic Nematodes in Swiss Agricultural Soils |
| 09:45 - 10:00 | van der Heijden M.G.A., Schläppi K., Bender F., Verbruggen E., Rillig M., Wagg C., Oehl F., | Restoration of soil functions and improving plant yield with the help of arbuscular mycorrhizal fungi |

10:00-11:00 Morning Poster Session with coffee

*Chair: Andreas
Papritz*

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|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 11:00 - 11:15 | Della Peruta R.,
Gómez Giménez M.,
Keller A. | An integrated Modelling framework to monitor and predict trends of agricultural management (iMSoil). The Land Management Model (LMM). |
| 11:15 - 11:30 | Manalili M., Keller
T., Colombi T., Ruiz
S., Schymanski S.,
Kirchgessner N.,
Reiser R.,
Oberholzer H., Rek
J., Weisskopf P.,
Walter A., Or D. | A Soil Structure Observatory (SSO) to study structural recovery of compacted soil by natural processes |
| 11:30 - 11:45 | Colombi T.,
Kirchgessner N.,
Keller T., Walter A. | Above and below ground indicators for stress induced by compacted soils of small grain cereals and soybean |
| 11:45 - 12:00 | Yildiz A., Graf F.,
Rickli C., Springman
S. M. | Quantification of Vegetation Effects on the Stress-Strain Behaviour of Soil |

12:00-14:00 Lunch

*Chair: Frank
Hagedorn*

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|---------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 14:00 - 14:15 | Bader C., Leifeld J.,
Müller M., Schulin R. | Sustainable management of organic soils in Switzerland – CO ₂ emissions from organic soils under agricultural use |
| 14:15 - 14:30 | Ferré M., Müller A.,
Engel S. | Sustainable management of organic soils in Switzerland – economic and policy analysis |
| 14:30 - 14:45 | Gosheva S., Gimmi
U., Niklaus P.,
Walthert L.,
Hagedorn F. | Are Swiss forest soil carbon stocks resilient to historical land-use? |
| 14:45 - 15:00 | Van der Voort T.S.,
McIntyre C., Zell C.,
Feng X., Hagedorn
F., Schleppi P.,
Eglinton T.I. | Scales of spatial & temporal variability in radiocarbon contents of organic carbon across different regions in Swiss soils |

15:00-16:00 Afternoon Poster Session with coffee**Poster Session 14 (in front of room C130)**

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|---------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| P 14.1 | Gomez Gimenez M.,
Della Peruta R.,
Schaepman ME., De
Jong R. | Remote sensing sources for land cover differentiation of arable land and grassland to improve a Land Management Model |
|---------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

- P 14.2** Papritz A., Baltensweiler A., Carizzoni M., de Jong R., Diek S., Fraefel M., Greiner L., Grêt-Regamey A., Grob U., Keller A., Nussbaum A., Schaepman M., Walthert L., Zimmermann S. NRP68 project PMSoil: Spatial prediction of soil properties and soil function potentials from legacy soil data and environmental covariates
- P 14.3** Diek S., De Jong R., Papritz A., Schaepman M. Exploring the use of imaging spectroscopy in order to derive soil properties for agricultural areas in Zürich Oberland.
- P 14.4** Fraefel M., Baltensweiler A. Multi-Scale Terrain Modelling for Predictive Soil Mapping in Switzerland
- P 14.5** Nussbaum M., Papritz A., Fraefel M., Baltensweiler A. Predictive mapping of soil pH in forests of Zurich by component wise gradient boosting
- P 14.6** Greiner L., Keller A., Zimmermann S., Papritz A. Towards Soil Function Assessment for Switzerland
- P 14.7** Ruiz S. A., Or D., Schymanski S. J. Soil bioturbation by earthworms and plant roots-mechanical and energetic considerations for plastic deformation
- P 14.8** González Domínguez B., Niklaus P., Abiven S. Are Soils Systematically Influenced By Their Soil Ecosystem Properties?
- P 14.9** Feng X., Pannatier E., van der Voort T., Montlucon D., Eglinton T. Exploiting dissolved lignin as sentinels of soil organic matter vulnerability
- P 14.10** Zell C., Van der Voort T., Feng X., Hagedorn F., Scheppi P., Eglinton T. Molecular and radiocarbon sentinels of soil organic matter vulnerability: a project introduction
- P 14.11** Hirte J., Leifeld J., Oberholzer H.R., Abiven S., Mayer J. Long-term management effects on root biomass and carbon rhizodeposition of field grown maize
- P 14.12** Friedli C., Abiven S., Walter A., Hund A. Breeding and drought influence root biomass and rooting depth: lessons learned from the Swiss Era wheats.

Session 15: Biogeochemical Cycles in a Changing Environment

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Session 16: Atmospheric Processes and Interactions with the Biosphere

Room C140

Convenors: Patrick Schleppe, Peter Waldner, Werner Eugster (Session 15) & Christoph Ammann, Urs Neu, Werner Eugster (Session 16)

Biogeochemical Cycles A

Chair: Patrick Schleppe

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|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 09:00 - 09:15 | Jeannin P.-Y.,
Hessenauer M.,
Meury P.-X | Climate change, soil CO ₂ and groundwater mineralization in karst regions |
| 09:15 - 09:30 | Zuijdgeest A.L.,
Baumgartner S.,
Wehrli B. | CO ₂ evasion from tropical wetland higher than previously estimated |
| 09:30 - 09:45 | Blattmann T., Plötze M.,
Wessels M.,
McIntyre C.,
Eglinton T. | Mineral impacts on organic matter cycling |
| 09:45 - 10:00 | Camino-Serrano M.,
Janssens I.,
Luyssaert S., Ciais P.,
Gielen B., Guenet B.,
Vicca S.,
Waldner P., Graf Pannatier E. and others | Spatial and temporal trends of soil solution dissolved organic carbon (DOC) in European forests |
| 10:00 - 10:10 | All poster authors | Short presentation of the posters (see list below), 1-2 slides each |

10:10-11:00 Morning Poster Session with coffee (all posters of sessions 15 and 16, see list below)

Biogeochemical Cycles B

Chair: Peter Waldner

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| 11:00 - 11:15 | Bassin S., Mayer J.,
Oberholzer H.R.,
Volk M., Fuhrer J. | N pools and fate of a stable isotope tracer in subalpine grassland exposed to combined elevated O ₃ and N deposition |
| 11:15 - 11:30 | Schleppe P., Curtaz F.,
Krause K. | Nitrate leaching from a sub-alpine coniferous forest subjected to experimentally increased N deposition for 20 years, and effects of tree girdling and felling |
| 11:30 - 11:45 | Schwarz S., Bigalke M.,
Wilcke, W. | Structural controls of colloidal sulphide formation in flood plain soils |
| 11:45 - 12:00 | Mestrot A., Boch S.,
Burn M., Wilcke W. | Arsenic biovolatilisation in lichens |

12:00-13:45 Lunch**Atmospheric Processes***Chair: Christof Ammann*

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| 13:45 - 14:00 | Harris I., Wunderlin P., Joss A., Emmenegger L., Kipf M., Wolf B., Siegrist H., Mohn J. | Online N ₂ O isotopic measurements for the identification of microbial N ₂ O production pathways |
| 14:00 - 14:15 | Henne S., Brunner D., Oney B., Leuenberger M., Bamberger I., Eugster W. | Validation of Swiss methane emissions by near surface observations and inverse modeling |
| 14:15 - 14:30 | Meyer A., Vernier J.-P., Luo B., Lohmann U., Peter T. | Did the 2011 Nabro eruption affect cirrus optical properties? |
| 14:30 - 14:45 | Arsenovic P., Stenke A., Rozanov E., Peter T. | Solar influence on the future climate |
| 14:45 - 15:10 | ACP Award Winner (tbd) | ACP Award Talk |

15:10-16:00 Afternoon Poster Session with coffee**Poster Session 15 + 16 (in front of room C130)**

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|---------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| P 15.1 | Haghipour N., Eglinton T.I., Montluçon D., Tavagna M.L | How reliable are GDGTs for reconstruction of river basin properties? A preliminary investigation of the Cauvery River system (India)? |
| P 15.2 | Hu Y., Schäfer G., Kuhn N.J. | Carbon quality and potential CO ₂ emissions from Miscanthus fields: Is Miscanthus an ideal bioenergy crop? |
| P 15.3 | Brauchli T., Bigler N., Bahr A., Weijs S. V., Higgins C., Huwald H. | A low-cost sensible heat flux sensor for potential use in wireless sensor networks and citizen observatories |
| P 15.4 | Coulon A., Stenke A., Peter T. | What are the drivers of interannual fluctuations of atmospheric methane concentrations? |
| P 15.5 | Perroud M., Goyette S. | Development and validation of a coupled single column lake - atmospheric model to simulate thermal profiles in Lake Geneva |

Session 17: Extreme events in phenology and seasonality

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Session 18: Earth System Science Related Earth Observation Room C120

Convenors: Stefan Wunderle, Brigitte Buchmann, Alain Geiger

*Chairs: Stefan
Wunderle, Brigitte
Buchmann, Alain
Geiger, This
Ruthishauser,
Martine Rebetz,
Christian Rixen*

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| 09:00 - 09:25 | Edoardo Cremonese | Alpine phenology from sensor networks: new insights from optical and snow depth sensors |
| 09:25 - 09:40 | Schweiger A.K.,
Risch A.C., Schütz
M., Kneubühler M.,
Haller R.,
Schaepman M.E. | Quantitative and qualitative vegetation mapping in alpine grasslands using the imaging spectrometer APEX: A tool to explain animals' foraging sites? |
| 09:40 - 09:55 | Sütterlin M., Schaaf
C. B., Stöckli R.,
Sun Q., Hüsler F.,
Wunderle S. | Towards a European surface albedo climatology |
| 09:55 - 10:10 | see Poster list | Poster introduction (7 x 2min.) |

10:00-11:00 Morning Poster Session with coffee

*Chairs: Stefan
Wunderle, Brigitte
Buchmann, Alain
Geiger, This
Ruthishauser,
Martine Rebetz,
Christian Rixen*

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| 11:00 - 11:15 | Cossu F., Hocke K.,
Martynov A.,
Martius O., Mätzler
C. | Atmospheric water parameters measured by a ground-based microwave radiometer and compared with the WRF model |
| 11:15 - 11:30 | Popp C., Andrews,
B. J., Chance K.,
Cottroll, E. | Satellite detection of volcanic CO ₂ release of the Kasatochi eruption, 7 August 2008 |
| 11:30 - 11:45 | Su Z., Sun B.,
Geiger A.,
Rothacher M. | The potential benefits of Multi-constellation GNSS |
| 11:45 - 12:00 | Naegeli K., Huss M.,
Damm A.,
Schaepman M.,
Hoelzle, M. | Imaging spectroscopy to assess the composition of ice surface materials and their impact on glacier mass balance |

12:00 - 12:15	Braun D.D.M., Damm A., de Jong R., Schaepman M.E.	Imaging spectroscopy based assessment of gross primary production in heterogeneous landscapes
12:15 - 12:30	Christian Rixen, This Rutishauser	Preisverleihung 4. Schweizer Wettbewerb für Phänologie und Saisonalität
12:30-14:00	Lunch	

Poster Session 17 + 18 (in front of room B130)

P 18.1	de Jong R., Damm A., Garonna I., Schaepman M. E.	Changes in vegetation activity and land-surface phenology in Switzerland related to climatologies
P 18.2	Schneider F.D., Leiterer R., Morsdorf F., Schaepman M.E.	Remote sensing of forest ecosystems using airborne laser scanning and imaging spectroscopy
P 18.3	Lieberherr G., Riffler M., Wunderle S.	A European Lake Surface Water Temperature data set derived from NOAA/Metop-AVHRR (1983 – 2013)
P 18.4	Dionisio Calado A., Micheloud S., García Hernandez J., Foehn A., Ornstein P., Claude A.	Operational Snow Cover Mapping and Analysis in the Canton of Valais Based on MODIS Data
P 18.5	Hocke K., and Colleagues from NORS, MACC, NDACC	The Three Roles of the Rapid Data Delivery System of NORS/Copernicus
P 18.6	Wulf H., Joerg P.C., Leiterer R., Schaepman M.E.	New perspectives from Landsat 8 and Sentinel-2: Earth Observation Products
P 18.7	Honegger L., Castelltort S., Clark J., Adatte T., Puigdefàbregas C., Dykstra M., Fildani A.	Climatic signal propagation from source to sink in a Palaeogene sediment routing system, Pyrenean foreland basin, Spain

Session 19: Geoscience and Geoinformation - From Data Acquisition to Modelling and Visualisation

Room A230

Convenors: Nils Oesterling, Adrian Wiget, Massimiliano Cannata

Chair: Adrian Wiget

09:20 - 09:40	Tokarczyk P., Rieckermann J., Blumensaat F., Leitao J.P., Schindler K.	UAV-based mapping of surface imperviousness for water runoff modelling
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09:40 - 10:00	Wegner J.D., Montoya-Zegarra J.A., Schindler K.	Extraction of road networks from aerial photos with minimum cost paths and PN-Potts potentials
10:00-11:00	Morning Poster Session with coffee	
	<i>Chair: Nils Oesterling</i>	
11:00 - 11:20	Neyer F., Limpach P., Gsell T., Geiger A., Beutel J.	Permanent rock glacier monitoring with a stereo pair of optical cameras
11:20 - 11:40	Cannata M., Antonovic M.	SITGAP 2.0 – Comprehensive system for risk management
11:40 - 12:00	Thüring M.	Mobile Phone Apps for Rock Mass Rating in Engineering Geology
12:00-14:00	Lunch	
	<i>Chair: Massimiliano Cannata</i>	
14:00 - 14:20	Brodhag S., Oesterling, N.	The Data Model Borehole Data – A structure for digital one-dimensional subsurface data
14:20 - 14:40	Hoffmann M., Cannata M., Antonovic M.	Novel architecture for a borehole management system
14:40 - 15:00	Zurfluh F., Girardin C., Strasse C., Montani S., Biaggi D.	Work for geologists – use for engineers: An example of handling extensive amount of geological information within a big construction project
15:00-16:00	Afternoon Poster Session with coffee	
	<i>Chair: Nils Oesterling</i>	
16:00 - 16:20	Aubert M., Haeberlin Y., Mohamed I.M., Marguerat P., Zwahlen F., Bünzli M-A., Vogt M-L., Tschopp J., Kraiem A., Tchang T., Ali A., Sénégal O., Bazoun J.	Making information available to stakeholders for improved management of groundwater resources in arid Chad
16:20 - 16:40	Thueller L., Brunner P., Zwahlen Z.	Groundwater vulnerability mapping in forested catchments
16:40 - 17:00	Malard A., Jeannin P-Y., Weber E., Vouillamoz J.	KARSYS: a GIS- and 3D-based approach for the characterization of karst aquifers

Poster Session 19 (in front of room A230)

P 19.1	Avelar S., Hanselmann K., Vasconcelos C.	Data Analysis for Modeling Dissolution of Carbonate Minerals in Hypersaline Lagoon Water
P 19.2	Calpini C., Simpson G., Frischknecht C., Girardclos S.	From data treatment to tsunami hazard assessment in lakes: the challenging case of Lake Geneva
P 19.3	Negro F., Kerrou J.	Regional hydrogeological modelling of the central Jura in the area of Neuchâtel. Part 1 : 3D geological modelling
P 19.4	Kerrou J., Negro F.	Regional hydrogeological modelling of the central Jura in the area of Neuchâtel. Part 2 : 3D groundwater flow and mass transport modelling
P 19.5	Mock S., Allenbach R., Reynolds L., Baumberger R., Herwegh M.	3D structural modelling of the Swiss Molasse Basin in the Canton of Bern
P 19.6	Le Cottonnec A., Ventra D., Moscariello A.	Architecture and property distribution of coal-bearing successions in Late Carboniferous fluvio-deltaic deposits (SE Kentucky, USA)
P 19.7	Yuzugullu O., Erten E., Hajnsek I.	Growth Stage Determination of Rice Fields: EMS Model Search Space Solution

Session 20: Symposium in Human Geography

Room D230

Convenors: Olivier Graefe, Heike Mayer, Martin Müller

Chair: Olivier Graefe

09:00 - 09:30	Weidmann L.	Communal land Reform in Namibia: Traditional authorities renegotiate their positions in land governance
09:30 - 10:00	Meyer U.	Trees, periurban land and local politics in Niger's capital Niamey
10:00 - 10.30	Rao Dhananka S.	Planning their own homes. The capacities of the urban poor as planners and the constraints of public policy.

10:30-11:15 Morning Poster Session with coffee

Chair: Norman Backhaus

11:15 - 11:45	Charrière E., Girardclos S., Fekkak H., Baudouï R.	The role of public and private actors in dumped munitions in Lake Geneva. A history of waste management and policy.
11:45 - 12:15	Danielli G., Lüthi S.	Geotourism: How to govern fundamental Sustainability Transition processes

12:15-13:30 Lunch

Chair: Martin Müller

13:30 - 14:00	Backhaus N.	Malaysian street food: production, contestation, and negotiation of public space
14:00 - 14:30	Militz, E.	The constitutive lack of discourse: national belonging and the desire for Turkey in Azerbaijan
14:30 - 15:00	Cima O.	Memory in the everyday: explorations from post-Soviet land management in Kyrgyzstan
15:00-16:00	Coffee Break	
15:00-18:00	Graefe, O.	Excursion in Fribourg

Poster Session 20 (in front of room 230)

P20.1	Miranda G.M.	Integrated management of water resources in a federal country: the case of Brazil.
P20.2	Rattu P.	Sexuality, reproduction and biopower: a research on LGBTQ procreation and parenting

Meetings of Societies on Saturday, 22th November

12:30-13:30	IUGS Swiss National Committee meeting	Room F207
12:30-13:30	Swiss Society of Mineralogy and Petrography	Room G140
14:00-15:20	Plenary Meeting SKS	Room B130
12:15-13:30	General Assembly of the Swiss Geomorphological Society SGS	Room E130
12:30-13:30	General Assembly of the Swiss Society for Hydrology and Limnology SGHL	Room D130
13:00-14:00	KPS committee meeting	Room F205

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