

COLD

and



Fribourg, 19 - 20 November 2010

HOT



extreme climates in space and time

Welcome to Fribourg and to the 8th Swiss Geoscience Meeting 2010

Dear Participants

First and foremost we cordially welcome you to Fribourg, to the University and to its Geoscience Department. Thank you for joining us at the 8th Swiss Geoscience Meeting. The SGM is organised by our Department under the auspices of the Swiss Academy of Sciences. Since its beginning in 2003, it 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 reflects very well the different research activities in our Department: from palaeoecology of the Jurassic and Cretaceous tropical seas to the evolution of glaciers and permafrost today and the recent past: in other words, some of us like it "HOT" and others prefer it "COLD". Hot and cold are adjectives that are very much stressed these days. They are at the core of one of the most daunting problems our society is facing: global warming. Many if not all natural processes and anthropogenic activities are very sensitive to temperature changes. Polar bears have more and more troubles to hunt because of the melting arctic ice and ICE (!) trains come to a halt because the air conditioning (!) could not keep up with the torrent heat in July this year. Beyond the debate of who or what is the culprit for the increase in temperature, our society has to prepare itself to adapt to the changing conditions. Which conditions? This is where we Geoscientists bring ourselves in: we have entire libraries of past climatic conditions and evolutions in our hands, from the coldest to the hottest. Such extreme climates are the topic of Friday's afternoon general session, from "Snowball Earth", one of the coldest chapters of Earth history, to the hot conditions of "Greenhouse Earth" at the Paleocene-Eocene boundary. Among Saturday's general sessions, I would like to pick out the session organized in honour of the 100th birthday of Prof. Augusto Gansser, who opened up to us Geoscientists one of the most fascinating libraries of our Earth's history: the Himalayas. Happy birthday to you!

We hope that the meeting will offer a fruitful platform for discussion and exchange. We will make every effort to ensure that you have a pleasant stay in Fribourg.

On behalf of the organizing committee,
Bernard Grobéty

Host Institution

Department of Geosciences of the University of Fribourg

Patronage

Platform Geosciences of the Swiss Academy of Sciences, SCNAT

Participating societies and organisations

Etablissement cantonal d'assurance des bâtiments, Fribourg (ECAB)
Federal Office of Meteorology and Climatology (MeteoSwiss)
Federal Office of Topography (swisstopo)
Institute of Geology and Hydrogeology (Chyn)
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International Union of Geological Sciences, Swiss Committee (IUGS)
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Mars Society Switzerland
Oeschger Centre for Climate Change Research (Uni Bern)
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Swiss Academic Society for Environmental Research and Ecology (SAGUF)
Swiss Association of Geologists (CHGEOL)
Swiss Commission for Remote Sensing (SCRS)
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Swiss Geological Society (SGG/SGS)
Swiss Geological Survey (swisstopo)
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Swiss Geotechnical Commission (SGTK)
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Swiss Meteorological Society (SGM)
Swiss Palaeontological 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 Petrography (SMPG / SSMP)
Swiss Soil Science Society (SSSS)
Swiss Tectonics Studies Group (Swiss Geological Society)
Swiss Working Group on Geotopes (Platform Geosciences)

For the schedules of committee and society meetings see page 36

Program committee SGM 2010

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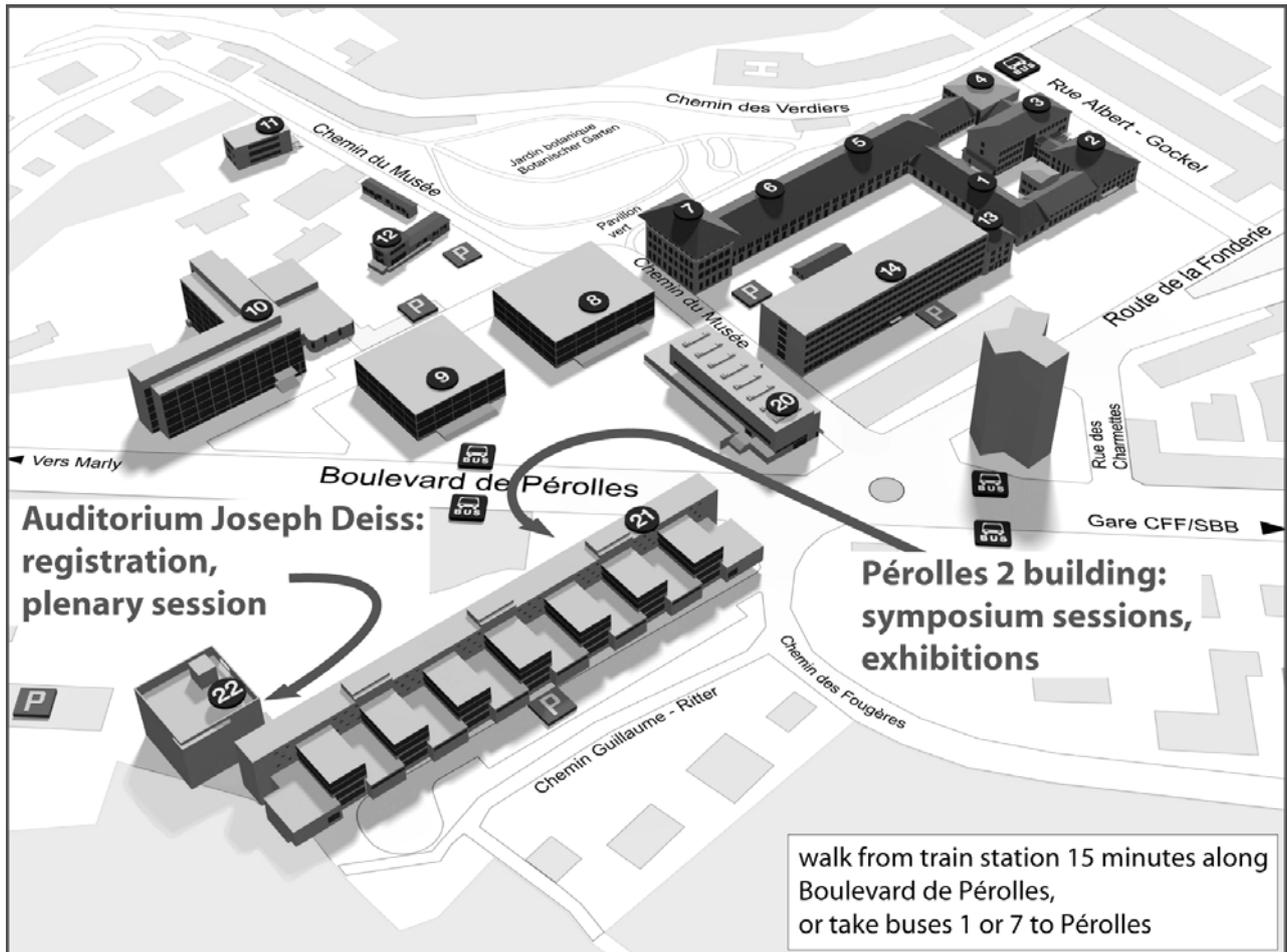
Local committee

Bernard Grobéty (President SGM 2010)
Jean-Pierre Berger
Reynald Delaloye
Olivier Graefe
Christian Hauck
Martin Hoelzle
Jon Mosar
Silvia Spezzaferri
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Exhibitors

BeFri Master
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Madd Technologies
SCNAT Platform Geosciences
Swiss Geotechnical Commission
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Tetraèdre

Location



Abstracts can be downloaded at:
<http://www.geoscience-meeting.scnatweb.ch/sgm2010/>

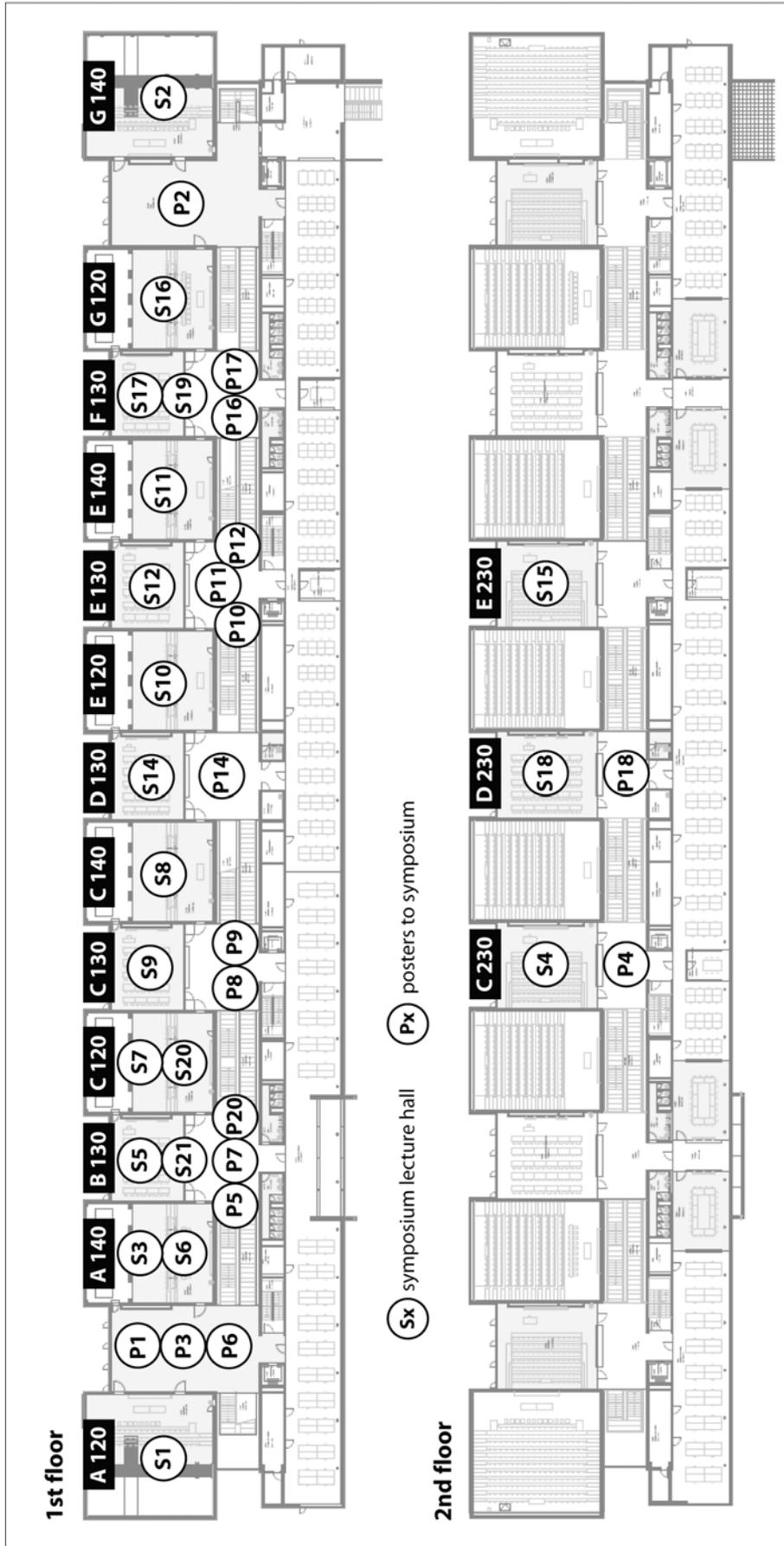
Plenary session, Friday, November 19th

Hot and Cold: Extreme climates in space and time

Pérolles 2, Auditorium Joseph Deiss

13:30 - 13:50	Bernard Grobéty	Opening of the session by the president of the Department of Geosciences of the University of Fribourg
13:50 - 14:30	Paul F. Hoffman Harvard University	The snowball Earth hypothesis and its recent progress (<i>Joint SNC-IUGS & SNC-IUGG Union Lecture</i>)
14:30 - 15:10	James Zachos University of California	Global warming and ocean acidification 55 million years ago: lessons for the future?
15:10 - 15:20	<i>Musical interlude: Swiss Ice Fiddlers</i>	
15:20 - 16:00	Hubertus Fischer University of Bern	Climate studies on ice cores - tepid, warm and piping hot
16:00–16:20	Coffee break	
16:20 - 17:00	John M. Reynolds Reynolds International Ltd	Assessing and managing glacial hazards in a changing climate
17:00 - 17:05	<i>Musical interlude: Swiss Ice Fiddlers</i>	
17:05 - 17:15	Guido Vergauwen	Address by the rector of the University of Fribourg
17:15 - 17:30	Pierre Ecoffey Etablissement cantonal d'assurance des bâtiments	Impact of global change on the insurance business
17:30 - 18:15	Helmut Weissert Helmut Weissert Gilles Borel Daniele Biaggi Michael Dungan	Communications Platform Geosciences Presentation SGM 2011 in Zurich Swiss Geological Society Award CHGEOL Award Paul Niggli Medal
18:15 - ???	<i>Swiss Geoscience Party - food, drinks, and rejoicing</i>	

Lecture halls Pérolles 2



Session 1: Structural geology, tectonics and geodynamics Room A120

Convenors: Neil Mancktelow, Guido Schreurs, Paul Tackley

Chair: Adrian Pfiffner

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|------------|---|--|
| 8:30-8:45 | Ibele T., Matzenauer E.,
Mosar J. | Northern Alpine foreland deformation in western Switzerland: New insights from field and seismic data of the Plateau Molasse |
| 8:45-9:00 | Mosar J., Meier B.,
Sommaruga A., Abednego
M., Eichenberger U., Ibele T,
Matzenauer E., Sprecher Ch.,
Vouillamoz N. | The Fribourg structure and Fribourg zone: an active fault system or the Röstli Graben - geologic evidence! |
| 9:00-9:15 | Matzenauer E., Mosar J. | Thrusting and faulting in the Préalpes Médiannes |
| 9:15-9:30 | Cardello G.L., Mancktelow N. | Neogene oblique normal faults and veins in the Rawil Depression (SW Switzerland) |
| 9:30-9:45 | Egli D., Mancktelow N. | Neogene tectonics of the Mont Blanc area |
| 9:45-10:00 | Norton K.P., Schlunegger F. | Glacially enhanced fluvial erosion and rock uplift in the Swiss Alps |

10:00-11:00 Morning poster session with coffee

Chair: Neil Mancktelow

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|-------------|---|---|
| 11:00-11:15 | Galster F., Epard J.-L.,
Masson H. | The Soja and Luzzzone nappes : discovery of a Briançonnais element below the front of the Adula (NE Ticino, Central Alps) |
| 11:15-11:30 | Scheiber T., Pfiffner O.A.,
Schreurs G. | Strain accumulation during basal accretion – case study Suretta nappe (eastern Switzerland) |
| 11:30-11:45 | von Niederhausern B.,
Manzotti P., Engi M., Rubatto
D., Zucali M., Darling J. | Evidence of Permian HT metamorphism in Austroalpine units of the Internal Western Alps? |
| 11:45-12:00 | Kounov A., Schmid S.M. | Fission-track constraints on the thermotectonic evolution of the Apuseni Mountains (Romania) |

12:00-13:30 Lunch

Chair: Paul Tackley

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|-------------|--|---|
| 13:30-13:45 | Gonzalez L., Pfiffner O.A. | Morphologic evolution of the Central Andes of Peru |
| 13:45-14:00 | Bussien D., Gombojav N.,
Winkler W., von Quadt A. | Preliminary geodynamic reconstruction of the Late Paleozoic-Jurassic Mongol-Okhotsk Belt in NE Mongolia |
| 14:00-14:15 | Kaus B.J.P., Yamato P.,
Mouthereau F., Castelltort S. | Dynamic constraints on crustal-scale rheology from the Zagros Mountains |
| 14:15-14:30 | Frehner M., Exner U.,
Mancktelow N., Grujic D. | The not-so-simple effects of boundary conditions on models of simple shear |
| 14:30-14:45 | Vogt K., Gerya T., Castro A. | Dynamics of crustal growth at active continental margins: numerical modeling |
| 14:45-15:00 | Ruh J.B., Kaus B.J.P., Burg
J.-P. | Accretionary wedge dynamics: A numerical approach |

15:00-16:00 Afternoon poster session with coffee*Chair: Taras Gerya*

16:00-16:15	Keller T., Kaus B.J. P.	Numerical modeling of two-phase flow: Interaction of magmatism with active tectonics
16:15-16:30	Thielmann M., Kaus B.J.P.	Shear heating and subduction initiation
16:30-16:45	Bruijn R.H.C., Mainprice D., Burlini L.	High temperature compaction of hot-pressed Rochester shale powder
16:45-17:00	Tisato N., Madonna C., Boutareaud S., Burg J.-P.	A new instrumentation to measure seismic waves attenuation

**Posters of session 1
between A120 and A140**

1.0	Armann M., Gerya T.	Spontaneous initiation of subduction at passive margins – 3D modelling
1.1	Baitsch Ghirardello B., Gerya T.	Physical controls of intra-oceanic arc extension and trench migration: numerical modelling
1.2	Beltrán-Triviño A., Winkler W., von Quadt A.	Orogenic development of the Northeastern Andes (Colombia) as revealed by detrital zircons -preliminary results
1.3	Beltrán-Triviño A., Winkler W., von Quadt A.	Geodynamics of the Alpine Tethys as traced by detrital zircons (in-situ U/Pb dating and high resolution provenance analysis) - a project layout
1.4	Crameri F., Tackley P., Meilick I., Gerya T., Kaus B., Keller T.	One-sided subduction in self-consistent models of global mantle convection: the importance of a free surface and a weak crustal layer
1.5	Duret T., Kaus B.J.P., Schulmann K., Gapais D.	Lower crust extrusion triggered by indentation: Insight from analogue and numerical modelling
1.6	Dymkova D., Gerya T., Podladchikov Y.	2D Numerical modelling of a porous flow in a deforming viscoplastic matrix with finite differences and marker-in-cell techniques
1.7	Cavargna-Sani M., Epard J.-L., Masson H.	Discovery of fossils in the Adula nappe, new stratigraphic data and tectonic consequences (Central Alps)
1.8	Haertel M., Herwegh M., Pettke T.	Ti in quartz geothermometry in mylonites of the Simplon fault zone. What can we learn?
1.9	Madonna C., Tisato N., Boutareaud S., Burg J.-P.	State of the art of SWAM: Seismic Wave Attenuation Module
1.10	Manzotti P., Robyr M., Zucali M., Engi M.	Tectonic amalgamation and reworking of a sedimentary cover within a polydeformed basement in a subduction-collision zone: an example from the Western Italian Alps
1.11	May D.A., Kaus B.J.P	An optimal, scalable finite element based forward model for gravity computations
1.12	Pleuger J., Mancktelow N.	The Canavese Fault west of Valle d'Ossola
1.13	Précigout J., Hirth G. and Kunze K.	B-type Olivine LPO in the Ronda Peridotite (Spain): Evidence of high-Strength sub-Continental Mantle
1.14	Reverman, R.L., Fellin, M.G., Willett, S.D.	Low-temperature thermochronological constraints on the Miocene exhumation of the Adamello Complex, Southern Alps, Italy

- 1.15** Rolf T., Tackley P. Influence of continents in mantle convection models with self-consistent plate tectonics
- 1.16** Ruiz G., Negro F., Babault J., Frizon de Lamotte D., Stuart F., Stockli D., Foeken J., Sebti S., Saddiqi O., Di Nicola L., Thomsen T. Tectono-thermal evolution of the Atlas system (SW Morocco), insights from low-temperature thermochronology and Raman spectroscopy on carbonaceous material
- 1.17** Schenker F. L., Fellin M. G., Burg J.-P. Structural and cooling history of the Eastern Pelagonian metamorphic core complex (northern Greece)
- 1.18** Schreurs, G., Buitter, S. and the GeoMod2008 Analogue Team Quantitative comparisons of analogue thrust wedge experiments
- 1.19** Sommaruga A., Eichenberger U., Marillier F. Seismic Atlas of the Swiss Molasse Basin: two example transects across the western and the eastern parts
- 1.20** Tackley P., Nakagawa T., Armann M., Keller T., van Heck H. Modelling the thermo-chemical evolution of the interiors of Earth, Venus, Mars, Mercury and super-Earths
- 1.21** Thust A., Heilbronner R., Stünitz H. Dislocation glide in experimentally deformed natural quartz single crystals
- 1.22** Tumarkina E., Misra S., Connolly A.D.J. The effect of deformation on partial melting of metapelitic rock: an experimental study
- 1.23** van Heck H.J., Tackley P.J. Mantle convection, stagnant lids and plate tectonics on super-Earths
- 1.24** Wrobel-Daveau J.C., Ruiz G.H.H., Stuart F.M., Ringenbach J.C., Frizon de Lamotte D. Structural evolution of the Zagros Fold-Thrust-Belt: Insights from the U-Th/He Thermochronometry (Ap. and Zr.)

Session 2: Mineralogy - petrology - geochemistry Room G140

Convenor: Eric Reusser

Chair: Eric Reusser

- 8:30-8:45 Parmigiani A., Huber C., Bachmann O., Chopard B. Reactive multiphase flow at the pore-scale: the melting of a crystalline framework during the injection of buoyant hot volatiles.
- 8:45-9:00 Ortelli M., Moritz R., Voudouris P., Cosca M., Spangenberg J. Tertiary porphyry and epithermal association of the Sapes-Kassiteres District, Eastern Rhodopes, Greece
- 9:00-9:15 Diamond L.W., Tarantola A., Stünitz H. Effects of deviatoric stress on natural fluid inclusions in quartz: an experimental study
- 9:15-9:30 Martin L.H.J., Schmidt M.W., Hametner K., Günther D. Element partitioning between immiscible silicate and carbonatite melts by centrifuge experiments

- 9:30-9:45 Meier M.F., Grobéty B. Fumarolic aerosols from El Chichón volcano, Mexico
- 9:45-10:00 Lambrecht G., Diamond L. W. Fluid boiling and mixing during latest stage orogenic gold mineralization at Brusson, NW Italian Alps

10:00-11:00 Morning poster session with coffee*Chair: Sébastien Pilet*

- 11:00-11:15 Huber C., Bachmann O., Dufek J. Thermo-mechanical reactivation of locked crystal mushes: melting-induced internal fracturation and assimilation processes in magmas
- 11:15-11:30 El Korh A., Schmidt S.Th., Ballèvre M., Bruguier O. U-Pb geochronology of an orthogneiss discovered within the HP-LT metamorphic rocks of the Ile de Groix, Armorican Massif, France
- 11:30-11:45 Skopelitis A., Schaltegger U., Ulianov A., Brack P. The Adamello batholith (Italy): a fossil magma chamber or accumulation of magma pulses?
- 11:45-12:00 Hermann J., Rubatto D. Pre-Alpine metamorphism in the classical Alpine staurolite-garnet schist of Campolungo
- 12:00-12:15 Regis D., Engi M., Rubatto D., Darling J. Complex dynamics in the Sesia Zone subduction system deduced from multiple generations of white mica and allanite: the power of microtextural analysis combined with petrochronology
- 12:15-12:30 Bader T., Franz L., de Capitani C., Ratschbacher L., Hacker B.R., Weise C., Popp M. Tectonometamorphic evolution of the Wudang Complex (central China)

12:30-14:00 Lunch*Chair: Olivier Reubi*

- 14:00-14:15 Vils F., Elliott T., Smith-Duque C.E., Alt J.C., Teagle D. How long does seawater and oceanic crust interact?
- 14:15-14:30 Westermann S., Stein M., Matera V., Fiet N., Adatte T., Föllmi K. B. Palaeoredox change during OAE 1a: new insights from phosphorus and redox-sensitive trace elements
- 14:30-14:45 Khozyem H.M., Adatte T., Tantawy A.A., Spangenberg J.E., Keller G., Föllmi K. Nature and tempo of the PETM (Paleocene-Eocene thermal maximum) events, new insights from the GSSP Dababyia section (Luxor, Egypt).
- 14:45-15:00 Tămaş C.G., Munteanu G., Cauuet B., Mut G. Mining archaeological studies in Eastern Pyrenees, France: Baillestavy iron mining area

15:00-16:00 Afternoon poster session with coffee

Posters of session 2 between G120 and G140

- 2.1** Abidi R., Sslim-Shimi N., Hatira N., Marignac Ch., Gasquet D., Mejri Z. Approche microthermométrique pour la détermination de l'origine hydrothermal de fluide minéralisateur du gisement à Pb-(Zn)-Sr-Ba d'El Aguiba (Tunisie septentrional)
- 2.2** Bauer, K., Vennemann, T., Mulch, A. Reconstruction of Neogene paleoelevation and paleoclimatic conditions of the European Alps and the circum-Alpine region by stable isotope analyses
- 2.3** Cavargna-Sani M., Epard J-L., Bussy F., Ulianov A. Zircon U/Pb dating of the Late Carboniferous Zervreila Orthogneiss, Adula Nappe
- 2.4** Hunziker D., Caddick M., Reusser E., Burg J-P., Müller E. The influence of ferric/ferrous iron ratios in bulk and minerals of blueschists from the Inner Makran (SE Iran) on thermobarometric recalculations
- 2.5** Hürlimann N., Müntener O., Ulmer, P. Subvolcanic mafic to intermediate dike-systems: constraints on post-plutonic activity (S-Adamello, N-Italy)
- 2.6** Katona I., Serneels V. The pigments of the medieval painters in Fribourg: Investigation of a top quality mural painting from the Cordeliers Church in Fribourg
- 2.7** Kayani S. Combustion analysis of a meteorite debris
- 2.8** Kocsis L., Ounis A., Chaabani F., Naili S. M. New isotope data from the Late Cretaceous and Paleogene phosphate beds of the Gafsa Basin, Tunisia
- 2.9** König D., Serneels V. Geochemical and mineralogical examinations of roman crucibles from Autun (France)
- 2.10** Maggetti M., Morin D., Serneels V., Neururer C. Kiln furnitures from the faience manufacture of Granges-le-Bourg (Haute Saône, France): contrasting recipes
- 2.11** Maggetti M., Rosen J., Serneels V., Neururer C. The faience manufacture Le Bois d'Épense (North-eastern France, 18/19th century)
- 2.12** Marolf A.R., Vennemann T.W., Bonzon J. Forensic geology: characterisation of light element stable isotopes in soil samples of the Swiss Plateau
- 2.13** Mattsson H.B., Bosshard S.A., Hetényi G., Almqvist B.S.G., Hirt A.M., Caricchi L., Caddick M. Internal flow structures in columnar jointed basalt from Hrepphólar, Iceland
- 2.14** Monsef R., Emami M.H., Rashidnejad Omran N., Monsef I. Petrogenetic evolution of Neogene volcanism in northern Uromieh-Dokhtar Magmatic Belt: Insights on the origin of post-collision magmatism
- 2.15** Moulas E., Connolly J., Burg J.-P., Kostopoulos D. Refining the granulite-facies metamorphism in the Rhodope metamorphic complex - Greece
- 2.16** Pretet C., Felis T., Samankassou E. Constraining calcium isotope fractionation in corals
- 2.17** Serneels V. Thousand years of massive iron production in the Dogon Country (Mali, West Africa): technology – economy - environment
- 2.18** Soullignac R. Mineralogical techniques and ethnoarchaeology applied to the study of smithing slags in Mali (Africa)
- 2.19** Thierrin-Michael, G. Fossiliferous pottery in Ajoie (NW Switzerland) and adjacent regions from La Tène and Gallo-roman sites: Information on production and distribution through microscopic and chemical analyses

- 2.20** Trittschack, R., Grobéty, B. Insights into the dehydroxylation kinetics of lizardite and chrysotile
- 2.21** Verberne R., Ulmer P., Müntener O. Calculating rheologic properties of magmas from field observations combined with experimental data.
- 2.22** von Allmen K., Böttcher M.E., Samankassou E., Nägler T.F. Barium isotope fractionation in natural barium minerals and precipitation experiments: A first glimpse at the global barium cycle
- 2.23** Wongfun N., Furrer G., Brandl H., Plötze M. Influence of extrinsic weathering factors on mineral dissolution in Damma glacier forefield
- 2.24** Zurfluh F.J., Hofmann B.A., Gnos E., Eggenberger U. Water-soluble salts and temperature variation in meteorites recovered in the hot desert of Oman

Session 3: Himalayan geology: A tribute to Augusto Gansser on his 100th anniversary

Room A140

Convenors: Guido Schreurs, Neil Mancktelow, Ruedi Hännny, Jean-Pierre Burg

Chair: Guido Schreurs

- 14:05-14:20 Burg J.-P. Himalayan Geology: A tribute to Augusto Gansser on his 100th anniversary
- 14:20-14:40 Molnar, P. The upward and outward growth of northeastern Tibet and geodynamic implications
- 14:40-15:00 Grujic D., Warren C. J., Kellett D. A., Wooden J. L. Syn-collisional exhumation of the continental lower crust
- 15:00-16:00 Afternoon poster session with coffee**
- Chair: Jean-Pierre Burg*
- 16:00-16:20 Steck A., Epard, J.L. Structural development of the Tso Moriri ultra high pressure nappe of the Ladakh Himalaya
- 16:20-16:40 Rubatto D., Chakraborty S., Dasgupta S. Protracted melting in the Higher Himalayan Crystalline (Sikkim, India)
- 16:40-17:00 Grasemann B. Fold growth in the Zagros fold-and-thrust belt in Kurdistan (NE-Iraq)

Posters of session 3 between A120 and A140

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| 3.1 Dolati A., Bernoulli D., Burg J.-P., Smit J., Müller C., Spezzaferri S., Sergey S. | Sedimentology and stratigraphy of the Makran accretionary wedge in Iran |
| 3.2 Dolati A., Burg J.-P., Smit J., Bernoulli D. | Structural analysis of central Makran accretionary wedge (SE Iran) |
| 3.3 Dolati A., Seward D., Smit J., Burg J.-P. | Tectonic evolution of Makran accretionary wedge (SE Iran) using low temperature thermochronology and tectono-stratigraphic evidences |
| 3.4 Jalali A., Dolati A., Bernoulli D., Burg J.-P. | Preliminary results of Cretaceous-Eocene sediment analysis of Makran accretionary wedge in SE Iran |
| 3.5 Monsef I., Rahgoshay M. | Compositional variations and geodynamic implications of the Mesozoic island arc magmatism in the Sanandaj-Sirjan arc-basin system |
| 3.6 Rahn M., Wang, H. | Metamorphic and denudation patterns of the Songpan-Garzê flysch in Sichuan Province, China |

Session 4: Palaeontology and palaeobiodiversity Room C230

Convenors: Lionel Cavin, Jean-Pierre Berger

Chair: Christian Klug

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| 9:00-9:20 | De Baets K., Klug C., Korn D. | Early Emsian Ammonoidea: stratigraphy, intraspecific variability, and evolutionary trends |
| 9:20-9:40 | Ware D., Bucher H., Brühwiler T., Goudemand N. | Dienerian (Early Triassic) ammonoid successions of the Tethys: preliminary results from Pakistan and India |
| 9:40-10:00 | Chablais J, Martini R, Onoue T. | Upper Triassic reef biota from southwestern Japan: new data from a Panthalassan seamount |

10:00-11:00 Morning poster session with coffee

Chair: Damien Becker

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|-------------|---|--|
| 11:00-11:20 | Lavoyer T., Berger J.-P. | Stratigraphy and paleogeography of the North- Middle Upper Rhine Graben (N-Middle URG) during the Paleogene. |
| 11:20-11:40 | Mennecart B., Becker D., Berger J.-P. | Swiss <i>Amphitragulus</i> and <i>Dremotherium</i> (Mammalia Ruminantia): state of the art |
| 11:40-12:00 | Scherler, L., Becker, D., Berger, J.-P. | A tooth tale: the <i>Anthracotherium bumbachense</i> (Artiodactyla, Mammalia) from Beuchille (Delémont, Switzerland) |

12:00-14:00 Lunch*Chair: Daniel Marty*

- 14:00-14:20 Klug, C., De Baets, K., Korn, D. Devonian pearls and ammonoid-endoparasite co-evolution
- 14:20-14:40 Pirkenseer C., Steurbaut E., Speijer, R. The evolution of Early Ypresian microfossil assemblages and stable isotopes during a distinct plankton peak in the Corbières (Aude, France) continental margin record

14:40-15:00 Swiss Commission of Palaeontology Prize**15:00-16:00 Afternoon poster session with coffee****Posters of session 4
in front of C230**

- 4.1** Bomou B., Arnaud-Vanneau A., Adatte T. Stratigraphy and ecology of large benthic foraminifera during the Cenomanian-Turonian transition: new insights from the Morelos-Guerrero carbonate platform, southwestern Mexico
- 4.2** Chablais, J., Feldmann R.M., Schweitzer C.E., Martini R., Rigaud S. Triassic decapods: new data from the Arabian shelf of the northern United Arab Emirates
- 4.3** Klug, C., De Baets, K., Monnet, C. Parallel evolution controlled by adaptation and covariation in ammonoid cephalopods
- 4.4** Marty D., Paratte G., Lovis C., Jacquemet M., Meyer C.A. Extraordinary sauropod trackways from the Late Jurassic Béchat Bovais tracksite (Canton Jura, NW Switzerland): implications for sauropod locomotor styles
- 4.5** Ospina-Ostios L.M., Ragusa J., Kindler P. New biostratigraphic data from the Voirons Sandstones (Voirons massif, Haute-Savoie, France): implications for the paleogeographic origin of the Gurnigel Nappe

Session 5: Lithostratigraphic units for the Swiss geological maps: state of the art Room B130

Convenor: Jean-Pierre Berger

Chair: J.-P. Berger

9:00-9:20	Strasser A., Weissert H.	New developments in stratigraphic nomenclature
9:20-9:40	Burkhalter R., Möri A.	Harmonising geological map legends – a challenge for the Swiss stratigraphic community
9:40-10:00	Berger J.-P., Kaelin D., Kempf O.	Swiss Molasse lithostratigraphy
10:00-10:15	All	Discussion
10:15-11:00	Morning poster session with coffee	

Posters of session 5 in front of B130

5.1 Ragusa J., Ospina-Ostios L.M., Kindler P.	Petrography and granulometry of the Gurnigel Flysch from the Voirons and Vouan massifs (Chablais Prealps, Haute-Savoie, France): preliminary results
5.2 Berger J.-P., Kaelin D., Kempf O.	Swiss Molasse Lithostratigraphy

Session 6: Natural hazards and risks in Alpine geology Room A140

Convenors: Marco Schwab, Jon Mosar, Michel Jaboyedoff, Manfred Thüring

Chair: Marco Schwab

9:00-9:15	Broennimann C., Michoud C., Nicolet P., Jongmans D., Baron L., Jaboyedoff M., Tacher L.	The active Pont Bourquin landslide (Les Diablerets, VD): a combined geophysical, hydrogeological and ground-based remote sensing survey
9:15-9:30	Dammeier F., Moore J., Haslinger F., Loew S.	Seismic signal analysis of rockslide events in the Swiss Alps
9:30-9:45	Deubelbeiss Y., Graf C., McArdell B., Bartelt P.	Numerical modeling of debris flows – Case study at Dorfbach, Randa (VS)
9:45-10:00	Wirth S.B., Glur L., Gilli A., Anselmetti F.S.	Reconstruction of the Holocene flood history for assessing the future flood hazard in the Central Alps (FloodAlp project)

10:00-11:00 Morning poster session with coffee*Chair: Jon Mosar*

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| 11:00-11:15 | Rudaz B., Jaboyedoff M. | Historical activity of the Saint-Barthélémy stream (VS) – old data, new look |
| 11:15-11:30 | Faillettaz J., Sornette D.,
Funk M. | Climate warming and stability of hanging glaciers: lessons from the 1895 Altels break-off |
| 11:30-11:45 | Kos A., Schaer P., Signer A.,
Strozzi T., Valenti G., Loew S. | A remote sensing application for hazard analysis at Alp di Roscioro, Canton Tessin |
| 11:45-12:00 | Humair F., Pedrazzini A.,
Jaboyedoff M., Epard J.L.,
Froese C. | Movements characterization along open back crack affecting Turtle Mountain, Alberta, Canada |
| 12:00-12:15 | Bejaoui J., Samaali M.,
Baccouche S., Reguigui N.,
Ben Hamouda M.F., Azzouz Z.,
Trabelsi A., Bouhlel S.,
Boulamia S. | Hazard of naturally occurring radioactive material from Tunisian and Algerian phosphorite |

12:15-14:00 Lunch**Posters of session 6
between A120 and A140**

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| 6.1 | Gischig, V., Moore, J. R., Evans, K.F., Loew, S. | Thermal effects on seasonal variability of deformation rate at the Randa rock slope instability, Valais |
| 6.2 | Glur L., Anselmetti F.L., Gilli A., Kägi R. | Detailed characterisation of thinnest lake sediment deposits using scanning electron microscopy. |
| 6.3 | Moore J.R., Burjanek J., Gischig V., Löw S., Fäh D. | Investigating the seismic response of a large rock slope instability (Randa, VS) |
| 6.4 | Nicolet P., Jaboyedoff M., Gerber C., Giorgis, D. | Representation problems of danger and "risks" maps |

Session 7: Geomorphology Room C120

Convenors: R. Delaloye, G.R. Bezzola, M. Bollschweiler, I. Gärtner-Roer, C. Graf, H. Kienholz, N. Kuhn, E. Reynard

Chair: Reynald Delaloye

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| 8:30 - 8:50 | Bast A., Kneisel, C. | Small-scale permafrost distribution and its influencing parameters in an alpine glacier forefield |
| 8:50 - 9:10 | Salcher B.C., Kober F., Willett, S.D. | Present erosion and landscape evolution in the glacially overprinted Alps |
| 9:10 - 9:30 | Beaud F., Herman F., Champagnac J.-D. | Influence of hydrology on spatial patterns of glacial erosion |
| 9:30 - 9:50 | Molnar P., Densmore A.L., McArdell B.W., Turowski J.M., Burlando P. | Flood-induced changes in the step-pool morphology of a steep mountain stream |
| 9:50 - 10:10 | Champagnac J.-D., Sternai P., Herman F., Guralnik B., Beaud F. | Fracture density as a controlling factor of postglacial fluvial incision rate, Granite Range, Alaska |

10:10-11:10 Morning poster session with coffee

Chair: Emmanuel Reynard

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| 11:10 - 11:30 | Fister W., Iserloh T., Roche M.A., Ries J.B. | Influence of land use and climate change on wind erosion susceptibility in central Aragon (Spain) |
| 11:30 - 11:50 | Schwanghart W., Jarmer T. | Variability of topsoil organic carbon in semi-arid areas at different spatial scales |
| 11:50 - 12:10 | Strähl S.C., Kuhn N.J. | Vegetation border lines and border line ecotones influenced by geomorph dynamic processes. An example of the timber line development since 1920 in the area of Grindelwald (Bernese Oberland) |

12:15 -12:45 SSGm General Assembly

12:45-13:40 Lunch

Chair: Michelle Bollschweiler

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| 13:40 - 14:00 | Champagnac J.-D., Molnar P., Sue C. | Relations among tectonic shortening, climate, and relief creation in mountain ranges |
| 14:00 - 14:20 | Kuhlemann, J., Rahn, M. | Late Miocene to Present landscape evolution in Northern Switzerland |
| 14:20 - 14:40 | Guralnik B., Herman F., Lowick S.E., Preusser F., Rhodes E.J. | Preliminary constraints on the kinetics of OSL thermochronology |

14:40-15:30 Afternoon poster session with coffee

Posters of session 7 in front of B130

- 7.1 Barboux C., Delaloye R. Analysing the pluri-decennial development of a rock glacier crisis using repeated SAR interferometry, terrestrial and airborne optical data
- 7.2 Bast A., Gärtner H., Gärtner-Roer I. If trees have cold feet: Tree-ring analyses of *Larix decidua* Mil. at a sporadic permafrost site in the Swiss Alps
- 7.3 Bennett G., Molnar P., Korup O., McArdell B. Modelling sediment transfer through mountain basins
- 7.4 Bergamaschi, S., Delaloye, R. Year-round changes in snow cover on the east and north faces of Matterhorn
- 7.5 Bernasconi L., Reynard E. Hydropeaking on watercourses: an analysis of the effects on erosion, transport and sedimentation of material in the Moesa and the Morobbia rivers (GR/TI)
- 7.6 Scapozza C., Lambiel C., Abbet D., Delaloye R., Hilbich C. Internal structure and permafrost characteristics of the Lapires talus slopes (Nendaz, Valais)
- 7.7 Sternai P., Herman F., Fox M., Castelltort S. Hypsometric analysis of glacial landscapes and its application to the European Alps
- 7.8 Werren G., Lasri M., Reynard E., Obda K. Flood hazard mapping in two Moroccan watersheds
- 7.9 Zeilinger G., Kober F., Hippe K. Morphometric parameters and denudation rates in the Eastern Cordillera, Bolivia, affected by crustal bending?

Session 8: Quaternary research Room C140

Convenor: Naki Akçar

Chairs: N. Akçar, S. Ivy-Ochs

- 8:30-9:00 Schlüchter C., Burkhalter R. Switzerland at the Last Glacial Maximum (LGM). A new map (2009) by swisstopo 1 : 500 000
- 9:00-9:20 Preusser F., Graf H.R., Keller O., Krayss E., Schlüchter C. Quaternary glaciation history of northern Switzerland
- 9:20-9:40 Dehnert A., Kemna H. A., Anselmetti F. S., Drescher-Schneider R., Graf H. R., Lowick S., Preusser F., Züger A., Furrer H. Erosion and filling of a glacially overdeepened trough in the northern Alpine Foreland as recorded in deep drill core NW09 from Niederweningen, Switzerland
- 9:40-10:00 Stumm D., Fischer U.H., Schnellmann M., Haeberli W. A review on tunnel valleys in northern Europe

10:00-11:00 Morning poster session with coffee

Chairs: F. Preusser, I. Hajdas

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| 11:00-11:20 | Hippe K., Ivy-Ochs S., Kober F., Wieler R., Schlüchter C. | Reconstructing the deglaciation history of the Gotthard Pass area, Central Swiss Alps, using cosmogenic ¹⁰ Be and in-situ ¹⁴ C |
| 11:20-11:40 | Akçar N., Deline P., Ivy-Ochs S., Christl M., Kubik P.W., Schlüchter C. | Surface exposure dating of 1717 AD rock avalanche deposits in the upper Ferret Valley (Italy) with cosmogenic ¹⁰ Be |
| 11:40-12:00 | Colombaroli D., Henne P., Kaltenrieder P., Gobet E., Tinner W. | How did fire, human impact and climate change affect Holocene treeline dynamics in the Alps? A case of study from Gouille Rion (Valais, Switzerland) |

12:00-14:00 Lunch

Chair: L. Braillard

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| 14:00-14:20 | Heiri O., Birks J., Brooks S., Kirilova E., Magyari E., Millet L., Mortensen M.F., Samartin S., Tinner W., Toth M., Veski S. & Lotter A.F. | European climate change at the end of the last glaciation: chironomid-based temperature reconstruction on a continental scale |
| 14:20-14:40 | Larocque-Tobler I., Quinlan R., Müller Stewart M., Grosjean M. | Chironomids as indicators of the past 1000 years of mean July air temperatures: the Sivaplana and Seebergsee records |
| 14:40-15:00 | Göktürk O.M., Fleitmann D., Badertscher S., Cheng H., Edwards L., Fankhauser A., Tüysüz O., Kramers J. | Climate in the southern Black Sea coast during the Holocene: implications from the Sofular Cave record |

15:00-16:00 Afternoon poster session with coffee

Chair: F. Kober

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| 16:00-16:20 | Lombardo U., Canal-Beeby E., Fehr S., Veit H. | Pre-Columbian human adaptation to seasonal inundations in the Llanos de Moxos, Bolivian Amazonia. |
| 16:20-16:40 | Chairi R. | Organic and mineral sedimentary deposits in the evaporators' environments of the Sahel of Tunisia (Mahdia): the Baghdadi swamp and the conjugated sebkha of Gotaia and Eliane |

Posters of session 8 in front of C130

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| 8.1 | Alpou S., Godefroid F., Kindler P. | Origin of Bahamian laminar crusts: new geochronological and petrographic data |
| 8.2 | Deplazes G., Haug G.H., Lückge A., Peterson L.C. | High-resolution sediment colour and geochemical analysis of Dansgaard-Oeschger events (Cariaco Basin, Northern Arabian Sea) |
| 8.3 | Girardclos S., Rachoud-Schneider A.-M., Brutsch N. | Rhone glacier deglaciation in western Lake Geneva: new sismo- and biochronostratigraphy results |
| 8.4 | Haghipour N., Kober F., Burg J-P., Zeilinger G., Ivy-Ochs S., Kubik P., Faridi M. | Incision and deformation recorded by Quaternary fluvial terraces in Makran accretionary wedge, SE-Iran |

- 8.5** Haudenschield E., Akçar N., Yavuz V., Ivy-Ochs S., Alfimov V., Kubik P.W., Schlüchter C. The Kestanol Granite (Western Turkey) and its importance as a building stone: Application of cosmogenic ^{10}Be to an archaeological problem
- 8.6** Kind J., Hirt A., van Raden U. Do magnetic properties reflect climate history in Swiss lakes?
- 8.7** Kremer K., Girardclos S. Giant sub-lacustrine mass movement in Lake Geneva sediment record
- 8.8** Laigre, L., Reynard, E., Arnaud-Fassetta, G., Baron, L., Lambiel, C. Contribution of geoelectrical measurements and shallow drillings for detection of Holocene palaeochannels in the Saillon region (Valais)
- 8.9** Malatesta L., Castellort S., Picotti V., Mantellini S., Hajdas I., Simpson G., Willett S. Holocene climatic variability in Central Asia; a geo-archaeological case study in Samarkand, Uzbekistan
- 8.10** Ott A., Ivy-Ochs S., Bauder A., Akçar N., Schlüchter C. Holocene glacier oscillations at Damma
- 8.11** Plotzki A., Veit H. Holocene landscape evolution of the Llanos de Moxos, NE Bolivia
- 8.12** Reber R., Tikhomirov A.D., Akçar N., Yavuz V., Schlüchter C. Quaternary glacial chronology in Anatolia
- 8.13** Samartin S., Heiri O., Tinner W. Late Glacial and early Holocene climatic changes in the Southern Swiss Alps, reconstructed using subfossil chironomid assemblages
- 8.14** Schlüchter C., Burkhalter R. Switzerland at the Last Glacial Maximum (LGM) A new map (2009) by swisstopo 1 : 500 000
- 8.19** Schmitt J., Seth B., Fischer H. How to derive weathering rates from ice core measurements of atmospheric tetrafluoromethane?
- 8.15** Steinemann S., Hamann Y., Gilli A. Detection of volcanic ash layers by high-resolution XRF core scanning
- 8.16** Tikhomirov D., Alfimov V., Akçar N., Ivy-Ochs S., Schlüchter C. Calibration of ^{36}Cl production rate on ^{39}K in saturated Antarctica samples
- 8.17** van Raden U., Gilli A., Kind J. How does the elemental composition of Swiss lake sediments reflect past climate conditions?
- 8.18** Zech J., Zech R., Kubik P.W., Veit H. Past glaciation in the Central Andes record alteration in the tropical circulation and the Southern Westerlies

Session 9: Trusting on soils in a changing world? Room C130

Convenors: **Samuel Abiven, Pascal Boivin, Elena Havlicek, Roxane Kohler Milleret, Claire Le Bayon**

Chair: S. Abiven

9:20-9:40 Johannes A., Kohler-Milleret R., Boivin P. Evaluation of the effect of root exudates on the structure of two different soils

9:40-10:00 Villacres D., Guiné V., Freyre N., Boivin P. Contribution of earthworms in the maintenance of biobeds

10:00-11:00 Morning poster session with coffee

Chair: S. Abiven

11:00-11:20 Wilcke W., Ruppenthal M., Schwarz M.T., Oelmann Y. Stable H and N isotope approaches to assess soil organic matter turnover and N transformations in ecosystems

11:20-11:40 Hasinger O., Millièrè L., Verrecchia E. P., Cailleau G., Spangenberg J. E. Carbon cycle in a scree slope soil: from organic matter to secondary carbonate (Villiers, Jura Mountains, CH)

11:40-12:00 Martignier L., Verrecchia E. Pleistocene vs Holocene impact on soils: an example from the Jura Mountains

12:00-14:00 Lunch

Chair: S. Abiven

14:00-14:20 Schmidt M. W.I., Torn M. S., Abiven S., Dittmar T., Guggenberger G., Janssens I. A., Kleber M., Kögel-Knabner I., Lehmann J., Manning D. A.C., Nannipieri P., Rasse D. P., Weiner S., Trumbore S. E. Shifting paradigms - soil organic matter turnover in a changing world

14:20-14:40 Bandowe BAM., Wilcke W. Oxygenated polycyclic aromatic hydrocarbons in soil

14:40-15:00 Maestrini B., Singh N., Abiven S., Schmidt M.W.I. BC loss processes in a temperate forest topsoil: a long-term field manipulation experiment

15:00-16:00 Afternoon poster session with coffee

Posters of session 9 in front of C130

9.1 Bigalke, M., Kersten, M., Kobza, J., Weyer, S., Wilcke, W.

Cu and Zn stable isotopes as tracers for sources, transport and biogeochemical transformations of Cu and Zn in polluted soils and sediments

9.2 Blanc N., Hassouna M., Pfeifer H.-R.

Environmental contamination of alpine soils in the Mont-Blanc massif by arsenic

9.3 Burri S., Sturm P., Knohl A., Buchmann N.

Impacts of summer drought on short-term reactions of plant and soil gas exchange of a managed lowland grassland in Switzerland

- 9.4** Hoffmann, U., Kuhn, N. Soil organic carbon in the rocky desert of northern Negev (Israel)
- 9.5** Melis S., Boivin P., Guiné V., Abiven S., Krebs R. Cobaltihexamine and Metson CEC measures on different organic surfaces (biochars and hydrothermal chars)
- 9.6** Pfund S., Guenat C., Le Bayon C., Verrecchia E., Bullinger-Weber G. Emme River (BE) restoration project: how to evaluate its success using soil parameters?
- 9.7** Sadri S., Wilcke W. Initial analysis of a 10-year pH time series of litter leachate in an Ecuadorian catchment
- 9.8** Salomé C., Guenat C., Bullinger-Weber G., Gobat J.-M., Le Bayon R.C. Structure formation in carbonate-rich alluvial soils along an altitudinal gradient: roles of lithogenic characteristics and biological agents
- 9.9** Schwarz M.T., Bischoff S., Krüger L., Michalzik B., Siemens J., Wilcke W. Land-use intensity and biodiversity as controls of element cycling

Session 10: Cryosphere

Room E120, posters in front of E130

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

Chair: Jürg Schweizer

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| 9:15-9:25 | | Opening Poster introduction session |
| 9:25-9:28 | 10.1 Boeckli L., Brenning A., Noetzli J., Gruber S. | An empirically-based permafrost distribution model for the entire Alps |
| 9:28-9:31 | 10.2 Lambiel C., Baron L. | Mapping ground ice distribution in an ice-cored moraine with electrical resistivity tomography, Col des Gentianes, Swiss Alps |
| 9:31-9:34 | 10.3 Scapozza C., Baron L., Lambiel C. | Borehole logging in alpine periglacial talus slopes, Valais Alps, Switzerland |
| 9:34-9:37 | 10.4 Scherler M., Hauck C. | Modelling of permafrost evolution under climate change scenarios |
| 9:37-9:40 | 10.5 Walthard P., Gulley J., Benn D., Martin J., | Using speleological methods to test dye tracing interpretations in glaciology |
| 9:40-9:43 | 10.6 Huss M., Stokvis M., Salzmann N., Hoelzle M. | Towards short-term monitoring of glacier mass balance and snow accumulation distribution |
| 9:43-9:46 | 10.7 Huss M., Machguth H., Jörg P., Zemp M., Salzmann N., Linsbauer A., Hoelzle M. | Re-analysis of mass balance measurements on Findelengletscher 2005-2009 |

9:46-9:49	10.8 Linsbauer A., Paul F., Künzler M., Frey H., Haerberli W.	Formation of new lakes in deglaciating regions of the Swiss Alps
9:49-9:52	10.9 Nath S.K., Huss M.	Glaciological investigations on three glaciers at Les Diablerets, Alpes Vaudoises
9:52-9:55	10.10 Salzmann N., Machguth H.	The Swiss Alpine glacier's response to the "2°C target"
10:00-11:00	Morning poster session with coffee	
	<i>Chair: Jeanette Nötzli</i>	
11:00-11:20	Zenklusen Mutter E., Phillips M.	Active Layer development in Alpine permafrost
11:20-11:40	Schneider S., Hoelzle M.	Investigation of the high variability of mountain permafrost
11:40-12:00	Morard S., Bochud M., Delaloye R.	Rapid changes of the ice mass configuration in the dynamic Diablotins ice cave– Fribourg Prealps, Switzerland
12:00-14:00	Lunch	
	<i>Chair: Andreas Bauder</i>	
14:00-14:20	Keller A., Funk M.	Ice deformation measurement in boreholes on Rhongletscher
14:20-14:40	Gabbi J., Farinotti D., Bauder., A.	Past and future changes and impacts on runoff conditions in the Mauvoisin region
14:40-15:00	Etzelmüller, B., Farbroth, H., Guomundsson, A.	Seven years of permafrost monitoring in Iceland - updated results and geomorphological implications
15:00-15:20	Eugster M.	Snow, ice and permafrost study in Swiss schools: From local student observations to global understanding
15:20-15:50	Coffee break	
	<i>Chair: Martin Hoelzle</i>	
15:50-16:00	SEP Young Scientist Awards	
16:00-16:20	Lüthi M.P., Bauder A., Funk M.	Volume change reconstruction of Swiss glaciers from length change data
16:20-16:40	Huss M.	Present and future contribution of glacier storage change to runoff from macroscale drainage basins in Europe
16:40-17:00	Zech R., Huang Y., Zech M., Tarozo R., Zech W.	Permafrost carbon dynamics controlled atmospheric CO ₂ and Pleistocene climate

Session 11: Meteorology and climatology

Room E140

Convenors: Rolf Philipona, Markus Furger

Chair: Rolf Philipona

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| 9:00-9:15 | Hiller R., Stieger J.,
Neininger B., Buchmann N.,
Eugster W. | Aircraft and ground based CH ₄ measurement
of a high moor in Switzerland |
| 9:15-9:30 | Hurter F., Perler D., Geiger
A. | Monitoring atmospheric water vapor in the
Zermatt region with GNSS |
| 9:30-9:45 | Hächler P. | Schneefrühwarnungen in den Schweizer
Alpen |
| 9:45-10:00 | Willi M., Frei C. | Gridding of daily sunshine duration by
combination of station and satellite data |
| 10:00-10:15 | Calanca P., Philipona R.,
Trebejo I., Alarcón Velazco
C. | Simple approaches to the evaluation of net
radiation and reference evapotranspiration |

10:15-11:00 Morning poster session with coffee

Chair: Markus Furger

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| 11.00-11:15 | Brönnimann, S. | Weather extremes in the past 140 years in a
historical reanalysis data set |
| 11:15-11:30 | Kuhlemann, J., Raible, C.C.,
Luterbacher, J., Schuster C.,
Krumrei, I., Reinecker, J.,
Kubik, P., Westphal, H. | Climate of the Little Ice Age: a Mediterranean-
scale anomaly pattern with LGM similarities |
| 11:30-11:45 | Strauss F., Formayer H.,
Asamer V., Schmid E. | High resolution climate change data for Austria
until 2040 |
| 11:45-12:00 | Sesartic A., Dallafior T.,
Storelvmo T., Lohmann U. | Modelling global emissions of bacteria and
fungal spores acting as ice nuclei |
| 12.00-12:15 | Ediang Okuku Archibong,
Ediang A Archibong | Dynamics of abrupt climatic change over the
climate regions in Nigeria |

12:15-13:15 Lunch

13:15-14:00 Administrative Sitzung der Schweizerischen Gesellschaft für Meteorologie (SGM)

Chair: Rolf Philipona

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| 14:00-14:20 | Neininger B., Schneider B.,
Oldani D. | <u>Invited lecture</u> : Airborne observation of the
Eyjafjallajökull volcanic ash plume over
Switzerland |
| 14:20-14:40 | Bukowiecki N., Zieger P.,
Hüglin C., Weingartner E.,
Baltensperger U. | <u>Invited lecture</u> : Detection of Eyjafjoll volcano
ash at Jungfrauoch, Switzerland |
| 14:40-15:00 | Henne S., Brunner D. | <u>Invited lecture</u> : Simulating the dispersion of
the Eyjafjalla volcanic ash plume over Europe |

15:00-16:00 Afternoon poster session with coffee

Posters of session 11 in front of E130

11.1 Perler D., Geiger G.,
Rothacher M.

Water vapor retrieval with parameterized GPS
tomography: longterm study in Switzerland

11.2 Weibel, B., Röser, I.,
Liniger, M., Appenzeller, C.

NCCR climate related research at MeteoSwiss - the Swiss
climate of today and tomorrow

Session 12: Phenology and seasonality Room E130

Convenors: This Rutishauser, Martine Rebetez, Thomas Herren

Chair: This Rutishauser

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| 9:00-9:20 | Dobbertin, M., Baltensweiler, W., Giuggiola A., Li M.-H., Cherubini, P. | 50 years of needle length measurements on Larch in the Engadin Valley closely reflect spring temperature changes |
| 9:20-9:40 | Clot B., Gehrig R. | Airborne pollen: phenological aspects and observed trends |
| 9:40-10:00 | Egli S., Ayer F., Franc A. | Trends in fruiting phenology of wild forest mushrooms from 1975-2006 in the fungus reserve La Chanéaz (FR) |
| 10:00-10:20 | Rixen C. | Changes in alpine plant phenology under future climate conditions |

10:20-11:00 Morning poster session with coffee

Chair: Martine Rebetez

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| 11:00-11:20 | Rutishauser T.,
Mitinitiantinnen und -
initianten | KPS – eine Kommission für Phänologie und Saisonalität bei der «Plattform Geosciences» |
| 11:20-11:40 | Herren T., Meier N., Rotach M.W., Liniger M.A., Appenzeller C. | The Swiss Spring Index as a novel integral metric for spring phenology |
| 11:40-12:00 | Kottmann D. | A comparison of ground-based phenological observations and NOAA AVHRR NDVI data |
| 12:00-12:20 | Eugster M. | Phenological and seasonal observations in Swiss schools |

12:20-14:00 Lunch

Chair: Thomas Herren

- 14:00-14:20 Basler, D. and Körner, Ch. Spring flush of native forest trees at rising spring temperatures is controlled by photoperiodism and temperature
- 14:20-14:40 Morin X., Chuine I., Bugmann H. Predicting the impact of warming on tree phenology: experimental and modelling results
- 14:40-15:00 Wolf S., Eugster W., Buchmann N. Ecosystem carbon budgets of tropical pasture versus afforestation
- 15:00-16:00 Afternoon poster session with coffee**

Posters of session 12 in front of E130

- 12.1** Bloesch B., Spring J.-L., Viret O., Dubuis P.-H. Climate change and grapevine's vegetative growth development in Western Switzerland
- 12.2** Dobbertin M. Forest phenology and extreme climatic events
- 12.3** Hansmann, J., Loew, S., Evans, K.F. REROD – A mathematical model for reversible rockslope deformations, caused by seasonal variations in the groundwater table, observed in the central Swiss Alps
- 12.4** Rutishauser T., Brügger R., Jeanneret F. Altitude, slope and aspect: Are there local-scale effects in temporal trends in a spatially high-resolved plant phenological network in the Swiss Alps 1971–2000?
- 12.5** Vitasse Y., François C., Delpierre N., Dufrêne E., Kremer A., Chuine I., Delzon S. Assessing the effects of climate change on the phenology of European temperate trees

Session 14: Geoscience and geoinformation - from data acquisition to modelling and visualisation

Room D130

Convenors: Nils Oesterling, Adrian Wiget, Massimiliano Cannata

Chair: Adrian Wiget

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|------------|---|---|
| 9:20-9:40 | North R.P., Livingstone D.M. | Comparison of cubic splines and linear interpolation methods for lake time series analysis |
| 9:40-10:00 | Wannaz C., Fantke P., Rainer F., Jolliet O. | Multi-scale, multimedia modeling to compare local and global life cycle impacts on human health |

10:00-11:00 Morning poster session with coffee

Chair: Massimiliano Cannata

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| 11:00-11:20 | Wu J., Gilliéron P., Merminod B. | An integrated methodology for change detection via terrestrial laserscanning: case study of the landslide in Flamatt |
| 11:20-11:40 | Molinari M., Cannata M., Troung X.L. | WPS application for shallow landslide hazard assessment |
| 11:40-12:00 | Antonovic M., Cannata M. | Authentication and authorization management to ogc services with Geoshield: introducing Web Feature Service protection |

12:00-14:00 Lunch

Chair: Nils Oesterling

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| 14:00-14:20 | Bilgot S., Parriaux A. | GIS-based 3D modelling for landslide hazard assessment: increasing the objectivity of hazard maps. |
| 14:20-14:40 | Jolimet T., Tacher L., Parriaux A., Weidmann M., Giorgis D. | Première étape de la modélisation géologique 3D du canton de Vaud : la feuille de Nyon |
| 14:40-15:00 | Jordan, P. | 3D geological mapping and visualisation as a tool for the analysis of overdeepened valleys |

15:00-16:00 Afternoon poster session with coffee

Chair: Adrian Wiget

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| 16:00-16:20 | Baumberger R., Bossart P. | 3D-Mont Terri-Borehole-Information-System |
| 16:20-16:40 | Burri T., Kündig R., Sinreich M. | The hydrogeological map of Switzerland 1:100'000: from a pure print product of the 1970's to an interactive GIS-tool |
| 16:40-17:00 | Oesterling N., Kühni A. | Geology Portal - enhancing the availability of geological information |

Posters of session 14 in front of D130

- 14.1** Almqvist B.S.G., Zappone A., Bruijn R.H.C., Diamond L.W., Ramseyer K., Burg J.-P. Physical and mechanical characterization of potential reservoir and cap rocks for geological storage of carbon dioxide in Switzerland
- 14.2** Ambrosi C. The landslide inventory of Canton Ticino: statistical analysis and updating issues
- 14.3** Ambrosi C., Bernoulli D., Soma L. Quaternary geologic map of Mendrisiotto (Ticino)
- 14.4** Ambrosi C., Cannata M. MIARIA - adaptive hydrogeological monitoring supporting the Area Integrated Risk Plan
- 14.5** Baruffini, M., Ambrosi, C. A GIS-tool for risk assessment due to natural hazards in mountain regions. An exploratory study on a hypothetical event: the Val Canaria flood

Session 15: Decision oriented modelling of the geosphere Room E230

Convenors: Michael Stauffacher, Hans-Rudolf Egli, Otto Smrekar

Chair: H.-R. Egli, M. Stauffacher

- 11:00-11:10 Stauffacher M., Egli H.-R., Smrekar O. Introduction
- 11:10-11:30 Hauck C., Hoelzle M., Salzmann N. Communication of uncertain cryospheric model results in the view of the public environmental awareness
- 11:30-11:50 Bugmann H. Global Change, goods and services from mountain ecosystems, and stakeholders
- 11:50-12:30 Stauffacher M., Förster, R. Discussion
- 12:30-14:00 Lunch**
- 14:00-14:20 Scheringer M. How free are we in our choices of methods for scientific work in transdisciplinary projects?
- 14:20-14:40 Zinsstag J. Cross-species transmission modelling and economics of zoonotic diseases
- 14:40-15:00 Schneider F. Bridging science and society through transdisciplinary research
- 15:00-15:45 Stauffacher M., Förster, R. Discussion
- 15:45-16:00 Stauffacher M., Egli H.-R., Smrekar O. Outlook, closing of workshop

Session 16: Hydrological and limnological perspectives in times of Global Changes

Room G120

Convenors: Petra Schmocker-Fackel, Beat Oertli, Bruno Schädler

Chair: Bruno Schädler

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| 9:00-9:20 | Balin D., Schulla J., Lambiel C., Scapozza C., Metzger R., Horton P., Reynard E. | Hydrological modelling under present and future scenarios in two alpine catchments |
| 9:20-9:40 | Davin E.L., Seneviratne S.I. | The role of diffuse/direct radiation partitioning in land-atmosphere interactions and terrestrial water cycling |
| 9:40-10:00 | Leuzinger S., Körner, C. | Rainfall distribution is the main driver of runoff under future CO ₂ -concentration in a temperate deciduous forest |
| 10:00-10:20 | Magnusson J., Jonas T., Kobierska F., Farinotti D., Zappa M., Bavay M., Bosshard T. | Climate change effects on snow melt and discharge of a partly glacierized watershed in central Switzerland |

10:20-11:00 Morning poster session with coffee

Chair: Petra Schmocker

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| 11:00-11:20 | Köplin N., Viviroli D., Schädler B., Weingartner R. | Hydrological change in Switzerland: Which catchments are most sensitive? - A comprehensive assessment of climate change impact |
| 11:20-11:40 | Meyer R., Schädler B., Viviroli D., Weingartner R. | Low water in a changing climate |
| 11:40-12:00 | Staudinger M., Seibert J., Stahl K., Lehner I. | Towards uncertainty reduction of low flow modeling using ¹⁸ O as additional information |

12:00-12:45 Lunch

12:45-13:30 General Assembly of the Swiss Society for Hydrology and Limnology

13:30-14:15 Hydrobiology-Limnology Award

Chair: Reinhard Bachofen

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| Pasche N. | Nährstoffkreisläufe und Methanbildung im Lake Kivu (Ruanda-Kongo) |
| Zeder M. | Methodenentwicklung zur automatischen Multiparameter-Analyse einzelner Zellen mittels Fluoreszenzmikroskopie |

Chair: Beat Oertli

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| 14:15-14:35 | Giuliani G., Ray N., Lehmann A. | Modelling global changes impacts on the Black Sea catchment |
| 14:35-14:55 | Doering M., Blaurock M., Robinson C.T. | Landscape transformation of an Alpine floodplain influenced by humans: historical analysis from aerial images |

- 14:55-15:15 Niemann H., Anselmetti F.S., Sinninghe Damsté J. S., Gilli A., Lehmann M. F., Peduzzi R., Peduzzi S., Ravasi D., Sax N., Schubert C. J., Stadnitskaia A., Stötter T., Tonalla M., Wirth S. B. The Holocene sediment record of Lake Cadagno: overview and initial results from a comprehensive paleoenvironmental study

15:15-15:40 Afternoon poster session with coffee

Chair: Beat Oertli

- 15:40-16:00 De Jong R., Kamenik C., Larocque-Tobler I., Grosjean M. Aquatic organisms as indicators of past climate variability
- 16:00-16:20 Rosset V, Oertli B. Freshwater biodiversity under climate warming pressure: identifying the winners and losers in temperate small waterbodies
- 16:20-16:40 Hines J., Gessner M. Life-history plasticity in a detritivore determines ecosystem response to climate warming
- 16:40-17:00 Schilder J., Heiri O., Van Hardenbroek M., Lotter A. Stable nitrogen isotopes in chitinous remains: exploration of a new palaeoenvironmental proxy for past freshwater environments

**Posters of session 16
in front of F130**

- 16.1** Halder J., Decrouy L., Vennemann T. Hydrodynamics of Lake Geneva inferred from stable H- and O-isotope compositions
- 16.2** Kauzlaric M., Rey E. Approaching water stress in the Alps - water management options in the Crans-Montana-Sierre region, Valais (MontanAqua): estimation of available natural water resources
- 16.3** Rey E., Kauzlaric M. Approaching water stress in the Alps – water management options in the Crans-Montana-Sierre region, Valais, (MontanAqua): measuring network and influence of land use and land use changes on water balance

Session 17: Groundwater and climate change

Room F130

Convenors: Marc Schürch, Eduard Hoehn, Pascal Turberg

Chair: Marc Schürch

9:00-9:20	Germann P.	Infiltration depths due to increased rain intensities and durations as a consequence of climate change
9:20-9:40	Figura S., Livingstone D., Hoehn E., Kipfer R.	Climate change and groundwater quality: analysis of historical records
9:40-10:00	Hessenauer M., Flury F.	Evolution, sur plus de 20 ans, de quelques paramètres hydrochimiques des eaux souterraines suivies dans le cadre de l'étude d'impact de l'autoroute la Transjurane (A16, Canton du Jura)

10:00-11:00 Morning poster session with coffee + *Best Poster Award*

Chair: Pascal Turberg

11:00-11:20	Huggenberger P., Butscher C.	Modeling the effects of climate change on the vulnerability of karst groundwater resources
11:20-11:40	Stoll S., Hendricks Franssen Harrie-Jan, Butts M., Kinzelbach W.	Analysis of the impact of climate change on groundwater related hydrological fluxes
11:40-12:00	Tacher L., Turberg P., Breguet A., Parriaux A.	Modeling the sensibility of the alpine and perialpine hydrogeological systems in climate change
12:00-12:20	Chevalier G., Diamond L.W., Leu W.	Potential for deep geological sequestration of CO ₂ in Switzerland: a first appraisal

12:20-14:00 Lunch

Posters of session 17 in front of F130

17.1 Alt-Epping P., Diamond L.W.	Reactive-transport modelling applied to geological sequestration of CO ₂ in Switzerland
17.2 Akinfiyev, N.N., Diamond, L.W.	Thermodynamic model of aqueous CO ₂ -H ₂ O-NaCl solutions from 22 to 100 °C and from 0.1 to 100 Mpa
17.3 Diem S., Schirmer M.	RIBACLIM – Riverbank filtration under climate change scenarios
17.4 Käser D., Perrochet P., Renard P., Schirmer M., Zwahlen F., Hunkeler D.	Influence of groundwater/stream water interactions in sustaining environmental flow and water supply in a changing climate: the case of an Alpine alluvial aquifer, the Upper Emme
17.5 Moeck C., Baillieux A., Schirmer M., Hunkeler D.,	Groundwater shortage due to climate change
17.6 Vögeli Albisser C., Prasuhn V.	Irrigation and groundwater quality in times of climate change

Session 18: Troubling water: modes of socialization of a natural resource

Room D230

Convenors: Olivier Ejderyan, Olivier Graefe

10:00-10:45 Morning poster session with coffee

Chair: O. Ejderyan, O. Graefe

10:45-10:50	Ejderyan O., Graefe O.	Session introduction
10:50-11:05	Schneider F., Rist S., Weingartner R., Herweg K., Liniger HP., Schädler B., Kauzlaric M., Rey E., Graefe O., Hoelzle M., Homewood C., Reynard E., Bonriposi M.	Water scarcity in inner-Alpine regions - options for sustainable water use in the Crans-Montana-Sierre region (Valais)
11:05-11:20	Hemund C., Weingartner R., Jorde K.	Integrated assessment of the small hydropower potential in Switzerland
11:20-11:35	Schweizer R.	Les bisses et leurs modes d'organisation au XXI ^e siècle, un modèle de gestion durable ?
11:35-11:50	Homewood C.	MontanAqua: an assessment of the socio-economic and institutional setting
11:50-12:05	Meyer U.	Water and women in rural Amhara: a 'naturalized' connection reflecting a restricting political agenda in Ethiopia
12:05-12:30		Discussion
12:30-14:00	Lunch	

Poster of session 18 in front of D230

18.1 Schneider F., Rist S., Weingartner R., Herweg K., Liniger HP., Schädler B., Kauzlaric M., Rey E., Graefe O., Hoelzle M., Homewood C., Reynard E., Bonriposi M.	Water scarcity in inner-Alpine regions - options for sustainable water use in the Crans-Montana-Sierre region (Valais)
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Session 19: The global/local in our research Room F130

Convenors: Marina Richter, Patricia Felber

Chair: Patricia Felber

14:00-14:20	Richter M.	Jumping scale: dealing with the local and the global in a transnational research project
14:20-14:40	Backhaus N.	The local and the global in spatial appropriation
14:40-15:00	Kayani S.	Psychosocial effects of natural (cosmic) phenomena: a case study
15:00-15:20	Felber P.	Panel discussion

Session 20: Geotopes and geoparks Room C120

Convenors: Jean-Pierre Berger, Emmanuel Reynard, Pierre-Yves Jeannin, Markus Felber

15:00-15:30 Afternoon poster session with coffee

Chair: J.-P. Berger

15:30-15:50	Martin S. & Ghiraldi L.	Static and dynamic mapping of geosites
15:50-16:10	Perret A., Guyomard A., Coutterand S., Reynard E., Delannoy J.-J.	Glacial heritage of the Chablais area (FR-CH): understanding glacier flows and identifying geosites
16:10-16:30	Regolini-Bissig G., Martin S.	Quality assessment of natural heritage trails
16:30-16:50	Morard S., Staub A., Oggier P.	Geomorphology and geology in the Regional Nature Park (RNP) Pfyn-Finges (Valais): identification, assessment, educational and touristic promotion
16:50-17:10	Groupe de travail "Geotopes d'importance nationale" (coord. J.-P. Berger)	Geotopes of national significance: report 2010

Poster of session 20 in front of B130

20.1 Groupe de travail "Geotopes d'importance nationale" (coord. J.-P. Berger)

Geotopes of national significance: report 2010

Session 21: Mars: water, climate and geology

Room B130

Convenors: Pierre Brisson, François Zwahlen

Chair: Pierre Brisson

11:00-11:05	Zwahlen F.	Introduction
11:05-11:25	Brisson P.	Mars, a remote, now accessible, geologic object
11:25-11:45	Gautsch S.	Atomic force microscopy on Mars
11:45-12:05	Hofmann B, Josset M., Josset J.-L.	The potential of close-up imaging on the surface of Mars

12:05-13:40 Lunch

Chair: Pierre Brisson

13:40-14:00	Golabek G., Keller T., Gerya T., Zhu G., Tackley P., Connolly J.	Core and early crust formation on Mars
14:00-14:20	Frankel C.S.	Putative oceans and hydrothermal activity on Mars
14:20-14:40	Gillmann C., Lognonné P.	Volatiles in the atmosphere of Mars: the effect of volcanism and escape
14:40-15:00	Bibring J.-P.	Mars, water, habitability

15:00-16:00 Coffee break

Chair: Pierre Brisson

16:00-16:20	Josset J.-L.	The ExoMars Rover mission, goals and instruments
16:20-16:40	The Marsdreamers	One or two sequences of Richard Dindo's latest documentary

Administrative meeting on Friday, 19th November

11:15-12:30 IUGG Swiss National Committee meeting **Room F130**

Administrative meetings on Saturday, 20th November

12:15-13:30 IUGS Swiss National Committee meeting **Room C130**

12:15-12:45 Swiss Society for Geomorphology General Assembly **Room C120**

12:30-13:30 Generalversammlung «Erlebnis Geologie» / «Géologie Vivante» / «Avventura Geologia» **Room D130**

12:45-13:30 General Assembly of the Swiss Society for Hydrology and Limnology **Room G120**

13:15-14:00 Administrative Sitzung der Schweizerischen Gesellschaft für Meteorologie (SGM) **Room E140**