

## KEY DATES

ABSTRACT SUBMISSION DEADLINE

**August 31, 2013**

ACCEPTANCE (ORAL OR POSTER)

**November 31, 2013**

CONFERENCE INSCRIPTION

**December 31, 2013**

CONFERENCE

**February 6-7, 2014**

SPECIAL PUBLICATION

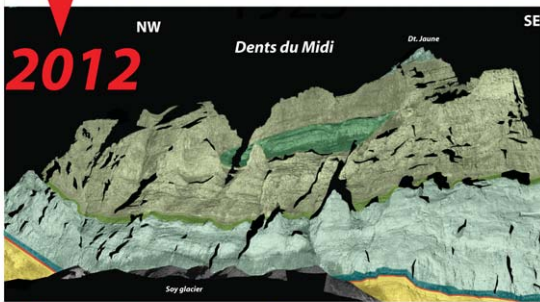
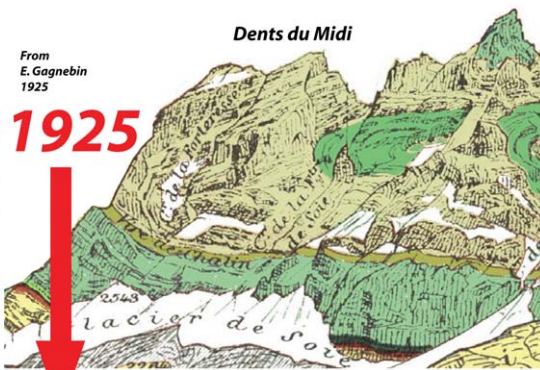
PAPER SUBMISSION

**March 31, 2014**

**VGC-14**

Draw + geology

TLS Point cloud + geology



- Red clays
- White limestone (Urgonien)
- Siliceous brown limestone (Hautevirien)
- Limestone (Valanginien)
- Limestone and shales with Nummulites (Pisabonien)
- Marly limestone (Turonien)
- Marls with dark limestone intercalations (Barremien)

Example of geological mapping evolution in the Dents du Midi (Switzerland): from classical field work to Terrestrial Laser Scanning.

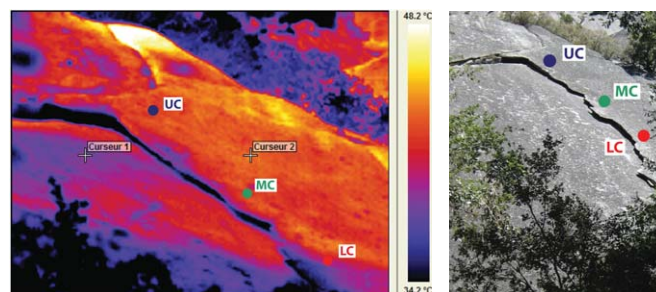
## REGISTRATION

Registration is only possible online, through the conference website ([www.unil.ch/vgc14](http://www.unil.ch/vgc14)). Payment in Euros.

Registration fees include: conference sign up, abstract volume, ice-breaker, coffee breaks, lunches, conference dinner, poster apero.

Students (PhD and Master): **EUROS 150**

Others: **EUROS 250**



Expansion monitoring of rock flake in Yosemite Valley (USA) using infrared camera image and outcrop view with measurements points.

## SHORT COURSE

A full-day short course on **LiDAR techniques applied to structural geology investigations** is proposed the day before the conference (February 5, 2014).

COST: Students: **EUROS 150**

Others: **EUROS 250**

## EXHIBITION AREA

Exhibition booths are available during the conference. Please contact us for more details.

## INFORMATION / CONTACT

<http://www.unil.ch/vgc14>

phone: 0041 21 692 43 79

0041 79 752 35 15



**VERTICAL GEOLOGY CONFERENCE 2014**



TLS acquisition of the Petit Dru West face (France).

*VGC-14 vertical geology: from remote sensing to 3D geological modelling*

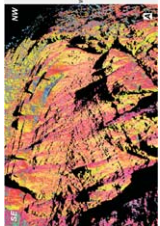
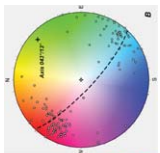
**06 - 07 February 2014**  
**University of Lausanne**

**Switzerland**

(Short course 05 February 2014)

*Unil*

UNIL | Université de Lausanne



VGC-14

## LOCAL COMMITTEE

**Coordinator: Prof. Michel Jaboyedoff**

### Scientific committee

Prof. L. Baumgartner, Prof. J.-L. Epard, Prof. M. Kanevski, Prof. F. Marillier, Prof. Y. Podladchikov, Prof. S. Schmalholz.

Dr. A. Abellan, D. Carrea, Dr. M.-H. Derron, F. Humair, B. Matasci, C. Michoud, Dr. I. Penna.

### Organizing committee

Z. Aye, M. Franz, Dr. P. Horton, S. Hiscox, A. Kouame, C. Longchamp, R. Mastouri, Dr. R. Metzger, M. Nduway, P. Nicolet, B. Rudaz, L. Schreiber, J. Voumard.

## ADVISORY COMMITTEE

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Dr. G. Stock (Yosemite National Park)

Dr. G. Teza (Univ Padova)

Prof. A. Zanchi (Univ Milano Bicocca)

## CONFERENCE OBJECTIVES

The objectives of the VGC-14 conference are: (1) to present and discuss the most recent scientific results and techniques for vertical mapping by remote sensing as input for 3D geo-modeling; (2) to identify related critical issues and promising developments; (3) to provide a forum for information and knowledge exchange between academic, government and practical geoscientists about 3D digital geology.

## MAIN TOPICS

The conference will focus on remote sensing of ground surface and digital processing to support 3D geological modeling and interpretation in various fields of the geosciences (non-exhaustive list):

**Digital geological mapping:** vertical rock walls, remote lithological mapping, examination of sedimentary structures, mineralogical/geochemical mapping.

**Structural geology:** characterization of ductile and brittle deformation structures in outcrops, fracturing pattern recognition and tectonic structures.

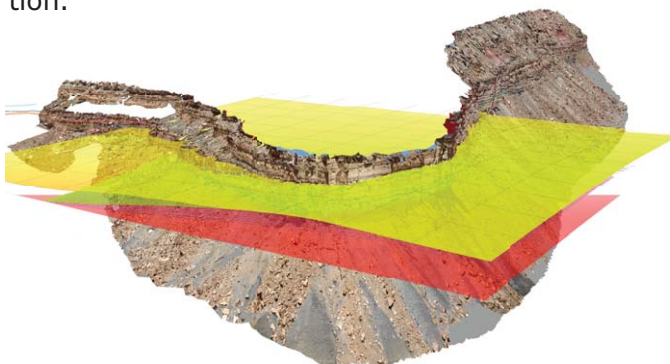
**Natural hazards:** rockfalls, landslides and rock mass quality assessment, characterization of release areas and deposits.

**Reservoir analogues:** characterization and virtual outcrop building.

**Tunneling and mining:** underground imaging, 3D excavation modeling.

**Numerical modeling:** representation of complex 3D geological bodies, simulation based on remote sensing data.

**Innovations:** new sensors, techniques, tools and data, automatic 3D geological features recognition.



Laser scanning data interpretation for reservoir modeling (Buckley, CIPR).

## BACKGROUND

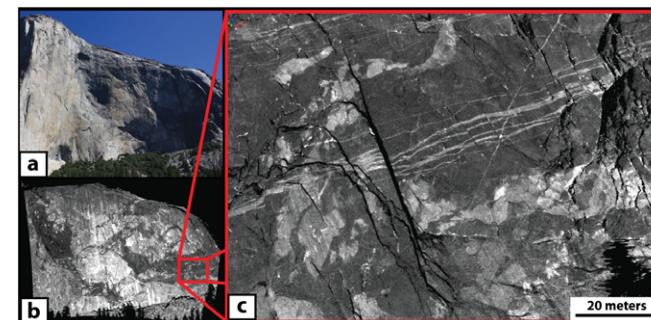
New remote sensing techniques and processing methods make data collection and representation of 3D surfaces easier, especially for steep rock walls. Techniques like laser scanning and spectral imaging provide new types of input for 3D geo-modeling. Modern computing permits the management of large 3D point cloud datasets, modeling of 3D features, shape recognition, change detection, signal analysis, etc. This opens original research topics that were not possible before for structural data analysis, digital mapping, reservoir characterization and geo-modeling. These rapid developments have increasing impacts on both academic and practical geoscience communities.



## ABSTRACTS SUBMISSION

Junior and senior scientists from academia, industry, government agencies are welcome to submit abstracts related to case studies, innovative methods, as well as ongoing research.

**Extended abstracts including figures (2 - 5 pages)** can be submitted on the webpage ([www.unil.ch/vgc14](http://www.unil.ch/vgc14)) in Word or pdf format. Conference proceedings containing all abstracts will be distributed to the participants. A ISI-web referenced publication is planned after the conference.



a) View of the SE face of El Capitan (Yosemite, USA), b) TLS point cloud of the face, c) TLS detailed view of dykes and inclusions. 20 meters