



4th Virtual Geoscience Conference

29 September – 1st October 2021

Wednesday, 29th September 2021

Short courses							
France, UTC+2	LIME	France, UTC+2	Geomodelling	France, UTC+2	CloudCompare	France, UTC+2	Virtuafield
9:00-10:30	V3Geo/LIME presentation	9:00-10:30	Introduction to modelling	9:00-10:30	Introduction to CloudCompare generalities	9:00-9:30	Wellcome
						9:30-10:30	1 st session, La Fare Les Oliviers.
10:30-11:00	Break	10:30-11:00	Break	10:30-11:00	Break	10:30-11:00	Break
11:00-12:30	Overview of LIME functionality	11:00-12:00	SKUA / RINGToolkit demo	11:00-12:30	Advanced processing	11:00-12:00	2 nd session, La Fare Les Oliviers
12:30-13:30	Lunch break	12:00-13:30	Lunch break	12:30-13:30	Lunch break	12:00-14:00	Lunch break
13:30-15:00	Overview of LIME functionality	13:30-15:00	Tutorial on LoopStructural	13:30-15:00	Advanced processing	14:00-15:00	3 rd session, Monte Vettore
		15:00-15:30	Break	15:00-15:30	Break	15:00-15:30	break
		15:30-17:00	Tutorial on LoopStructural	15:30-17:00	Advanced processing	15:30-16:30	4 th session, Monte Vettore



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8:30-8:45	Welcome to VGC 2021
8:45-9:15	Keynote speaker, Lachlan Grose , Monash University, Australia <i>Chairwoman: S. Viseur</i> <i>Automatic Geomodelling using Loop</i>
9:15-10:00	Session #1, Geomodelling methods and Data analysis -Chairman: G. Laurent <i>3D fabric analysis in mining geology</i> <u>Pieter Creus</u> , James Cook University, Australia <i>Active faulting and seismic event recurrences: tools for automatic quantitative analysis from DEM and DOM</i> <u>Sophie Viseur</u> , CEREGE, Aix-Marseille Université <i>Rockfall activity identification by means of Terrestrial Laser Scanner and Machine Learning. Case study at Montserrat Massif (Catalonia, Spain)</i> <u>Laura Blanco</u> , GEOMODELS Research Institute, University of Barcelona, Spain
10:00-10:30	Coffee Break
10:30-12:00	Flash presentations: <i>Automated processing of SfM-MVS in underground mining geology using Agisoft Metashape</i> <u>Pieter Creus</u> <i>Flood risk assessment at the plot scale, from DEM and hydraulic modelling</i> <u>Cécile Baudement</u> <i>High-resolution Digital Outcrop Modelling of terrestrial analogues for education on Planetary Geology.</i> <u>Gwenaël Caravaca</u> <i>Method to Estimate the Initial Landslide failure Surface and Volumes using Grid Points and Spline Curves</i> <u>Gautam Prajapati</u> <i>Multi-disciplinary approach for stability analyses in discontinuous rock masses by means of conventional geosstructural-geomechanical surveys and remote sensing techniques</i> <u>Lidia Loiotine</u> <i>Sonification of very low frequency signals: Listening to seafloor pressure and meteorological time series</i> <u>Pierre Henry</u> <i>Developing Virtual Field Trips using Geocognition Principles</i> <u>Rudy Maart</u> <i>VR2Planets, virtual reality for geosciences and education</i> <u>François Civet</u>



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Followed by PICO BREAKOUT ROOMS	
12:00-13:30	LUNCH BREAK
	<p>Session #2, Acquisition Methods and Applications – Chairman M. Jaboyedoff</p> <p><i>3D modelling of an avalanche experiment using multi-platform remote observations</i> <u>Sean Salazar</u>, Norwegian Geotechnical Institute, Norway</p> <p>13:30-14:15 <i>4D Virtual Outcrops for Natural Hazard Monitoring</i> <u>John Howell</u>, VOG Group, University of Aberdeen, UK.</p> <p><i>Monitoring strategy for movements assessment in a challenging remote area: Case study of Cima del Simano (Ticino, Switzerland)</i> <u>Charlotte Wolff</u>, Institute of Earth Sciences, University of Lausanne, Switzerland</p>
14:15-14:30	short Break
	<p>Session #3, Acquisition Methods and Applications – Chairman R. Kromer</p> <p><i>On the use of low-cost trail cameras for high-resolution monitoring of river bank erosion in cold climates</i> <u>Melanie Elias</u>, Institute of Photogrammetry & Remote Sensing, TU Dresden, Germany</p> <p>14:30-15:15 <i>A DIY Arduino based low-cost and short-range terrestrial laser scanner</i> <u>Cristiano Gigax</u>, Group RISK, ISTE, University of Lausanne, Switzerland</p> <p><i>Direct georeferencing UAV-SfM datasets in high-relief terrain: Practical considerations and assessment along steep inaccessible rock slopes</i> <u>Paul Nesbit</u>, Dept. of Geoscience, University of Calgary, Canada</p>
15:15-15:45	Coffee Break
15:45-16:15	<p>Keynote speaker, Oliver Kreylos, UC Davis, USA -Chairwoman S. Viseur</p> <p><i>Immersive Visualization in the Earth Sciences</i></p>
	<p>Session #4, Virtual field trips, platforms and Education – Chairman J. Borgomano</p> <p><i>Submarine fieldwork with L3 students using the Minerve virtual reality software</i> <u>Jean-Emmanuel Martelat</u>, Université de Lyon, France</p> <p>16:15-17:00 <i>Virtual Field Trips during a Pandemic: lessons learnt and implications for future</i> <u>Jessica Pugsley</u>, Dpt of Geology and Geophysics, University of Aberdeen, UK.</p> <p><i>Virtuafield: a pedagogical VR application for training and evaluating students on field practice</i> <u>Juliette Lamarche</u>, CEREGE, Aix-Marseille Université</p>
17:00-17:30	Coffee Break



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17:30- 18:15	<p>Session #5, Geomodelling methods and Data analysis Chairwoman – S. Viseur</p> <p><i>Assisting the Interpretation of Digital Outcrops with Geometric Surface</i> <u>Christian Kehl</u>, Utrecht University, Dept. Bétasciences, Netherlands</p> <p><i>From the Cloud to the Digital Outcrop Model: Sedimentary Interpretation in the Mosis Suite</i> <u>Lucas Kupssinskü</u>, Vizlab X-Reality and Geoinformatics Lab, Brazil</p> <p><i>Towards the Automated Interpretation of Virtual Outcrops</i> <u>John Wood</u>, VOG Group, University of Aberdeen, UK.</p>
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8:30-9:00	<p>Keynote speaker, Cathy Quantin-Nataf, Université Lyon 1, France. – Chairman: O. Groussin</p> <p><i>The challenges of Martian virtual Geology</i></p>
9:00-9:45	<p>Session #6, Virtual field trips, platforms and Education – Chairwoman M. Métois</p> <p><i>Svalbox: an interactive geoscientific portal for Svalbard</i> <u>Kim Senger</u>, Dpt of Arctic Geology, University Centre in Svalbard, Norway</p> <p><i>The use of 3D virtual objects in geoscience education: The example of the collaborative project of the Société Géologique de France</i> <u>Philippe Goncalves</u>, Université de Bourgogne Franche-Comté, France.</p> <p><i>V3Geo: an online repository supporting virtual geoscience, virtual field trips and geoscience education</i> <u>Simon Buckley</u>, NORCE Norwegian Research Centre, Bergen, Norway.</p>
9:45-10:15	Coffee Break
10:15-10:45	<p>Keynote speaker, Guillaume Caumon, Géoressources, Université de Lorraine, France. – Chairwoman J. Lamarche</p> <p><i>Behind the outcrop: On 3D subsurface modeling and uncertainty management</i></p>
10:45-11:15	<p>Session #7, Geomodelling and Data Analysis, part I – Chairwoman: J. Lamarche</p> <p><i>3D Modelling of fault network in the nucleus of comet 67P: implications for its internal structure and evolution</i> <u>Christophe Matonti</u>, Géoazur, Université Côte d'Azur, France.</p> <p><i>Contribution of drone photogrammetry to 3D outcrop modeling of facies, porosity, and permeability heterogeneities in carbonate reservoirs (Paris Basin, Middle Jurassic)</i> <u>Thomas Hadrien</u>, Université Paris-Saclay, Geops, France.</p>
11:15-11:30	Short break
11:30-12:15	<p>Session #7, Geomodelling and Data Analysis, part II – Chairwoman: J. Lamarche</p> <p><i>InSAR and LiDAR analysis on Large Scale Rock Stability in La Grave, France : Preliminary Result</i> <u>Tiggi Choanji</u>, Institute of Earth Sciences, University of Lausanne, Switzerland.</p> <p><i>Mineralogical and structural characterization of massive sulphide deposits in the Iberian Pyrite Belt using hyperspectral digital outcrops</i> <u>Moritz Kirsch</u>, Helmholtz-Zentrum Dresden-Rossendorf, Germany.</p> <p><i>Scour hole collapse at an offshore wind farm foundation</i> <u>Amelia Couldrey</u>, HR Wallingford, UK.</p>



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12:15- 13:45	LUNCH BREAK
13:45- 14:30	<p>Session #8, Acquisition Methods and Applications – Chairman: S. Buckley</p> <p><i>Numerical Architecture of the Observatory of the Vadose Zone (OZNS)</i> <u>Laurent Gautier</u>, Université d'Orléans, France.</p> <p><i>Comparison of single and multi-camera time-lapse landslide monitoring: A case study from the Siguas Valley in Southern Peru</i> <u>Ryan Kromer</u>, University of Leeds, Leeds, UK.</p> <p><i>Rapid digitization of hard rock tunnels using 360-degree cameras and SfM photogrammetry</i> <u>Mateusz Janiszewski</u>, Dpt of Civil Engineering, Aalto University, Finland.</p>
14:30- 14:45	short Break
14:45- 16:00	<p>Flash presentations: - Chairman P. Léonide</p> <p><i>Using Virtual Reality to replicate “in situ” field work on Mars</i> <u>Gwenaël Caravaca</u></p> <p><i>Virtual fieldwork for undergraduate students in Geosciences: report from educational attempts in University Lyon 1.</i> <u>Marianne Métois</u></p> <p><i>From the Cloud to the Digital Outcrop Model: Sedimentary Interpretation in the Mosis Suite</i> <u>Kupssinskü Lucas</u></p> <p><i>Svalbox: an interactive geoscientific portal for Svalbard</i> <u>Kim Senger</u></p> <p><i>V3Geo: an online repository supporting virtual geoscience, virtual field trips and geoscience education</i> <u>Simon Buckley</u></p> <p><i>Virtuafield: a pedagogical VR application for training and evaluating students on field practice</i> <u>Sophie Viseur</u></p> <p><i>Time-lapse photogrammetry to feed a soil erosion model</i> <u>Anette Eltner</u></p> <p style="text-align: center;">Followed by PICO BREAKOUT ROOMS</p>
16:00- 16:15	short Break



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16:15- 17:15	Beakout rooms, discussion: assessment and challenges? Themes: <ul style="list-style-type: none">• Platforms for sharing outcrops• From outcrop to geomodelling• Digital outcrop models and Education• Acquisition methods
17:15- 17:30	Closure