

5th Virtual Geoscience Conference

Preliminary programme and time schedule

Wednesday 20

9:00	<i>Coffee welcome</i>
10:00	Short Course 1
13:00	<i>Lunch time</i>
14:00	Short Course 2
17:31 (18:07)	Train to Dresden

Thursday 21

8:30	Welcome & Registration
9:00	Invited Keynote 1
9:30	Session 1 (room S89)
11:00	<i>Coffee break</i>
11:30	Session 2 (room S89)
13:00	<i>Lunch time</i>
14:00	Session 3 (room S89)
15:30	<i>Coffee break</i>
16:00	Session 4 (room S89)
17:00	Poster

Friday 22

9:00	Invited Keynote 2
9:30	Session 5 (room S89)
11:00	<i>Coffee + Poster</i>
11:30	Session 6 (room S89)
13:00	<i>Lunch time</i>
14:00	Session 7 (room S89)
15:30	<i>Coffee break</i>
16:00	VGC Discussion

Social events

19:00 | **Ice-breaker**

Snacks & drinks until 22:00h at:

[TU Dresden – Chemistry Institute](#)

19:30 | **Conference Dinner**

Typical Saxonian buffet at:

[Feldschlößchen-Stammhaus](#)

Dresden main train station to Conference site (20')

Freiberg train station to Short Courses site (22')

Short Courses:

Chemnitzer Str. 40, 09599 Freiberg

Conference site / Ice-Breaker:

Chemische Institute (TU Dresden)
Bergstraße 66, 01069 Dresden

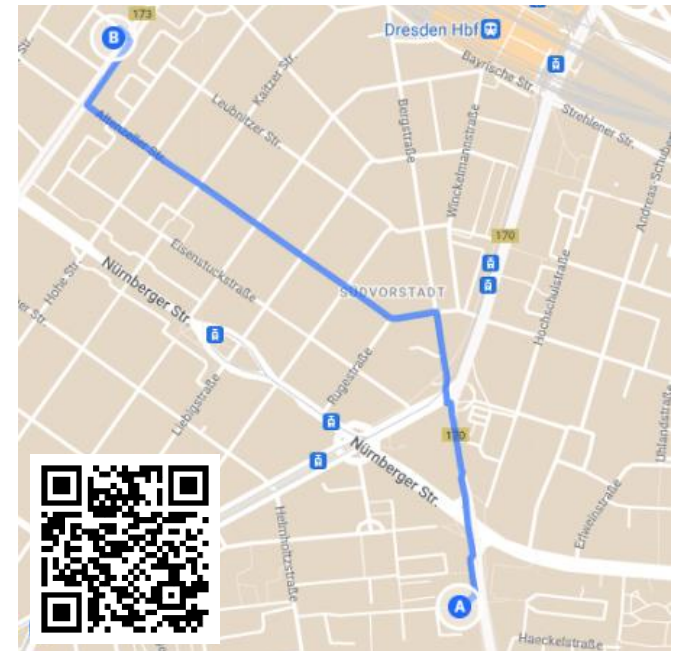
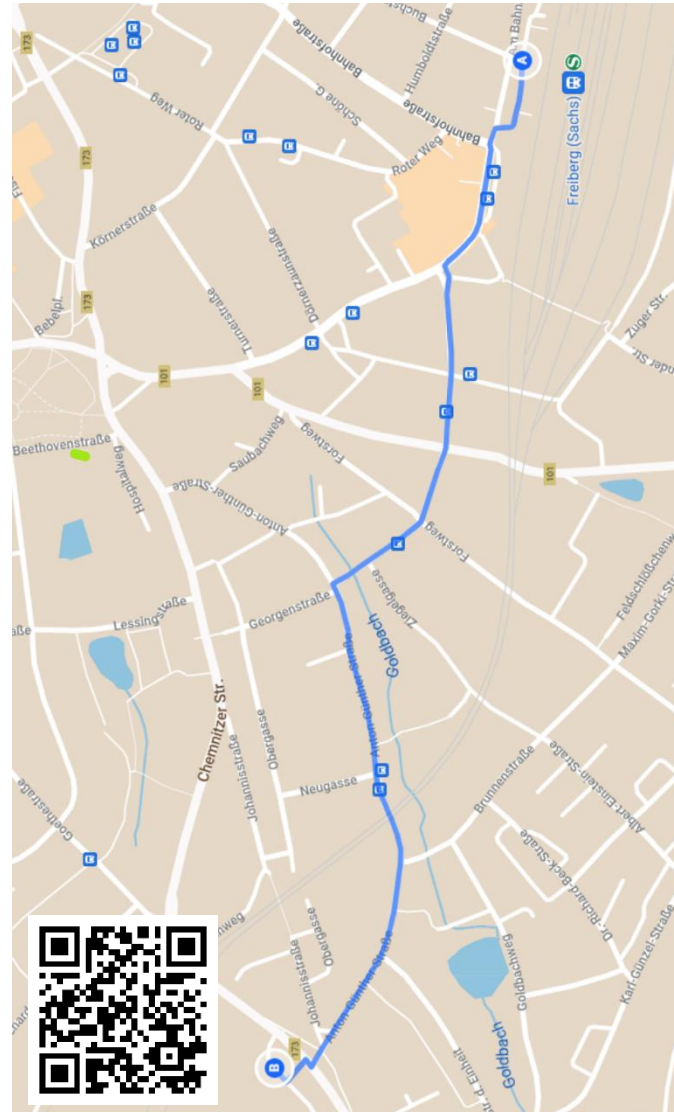
Conference diner:

Feldschlößchen-Stammhaus
Budapester Str. 32, 01069 Dresden

Conference site to Dinner Restaurant (25')



Main entrance is under construction. Use the side entrance from Bergstraße (bus stop Mommsenstraße).





Thursday 21st September (TU Dresden)

8:30	Welcome & Registration	
9:00	Invited Keynote 1	
	3D Point Cloud Processing: Workflows, Geometry & Semantics	Florent Poux
9:25	Session 1 – Point Cloud Processing 3D/4D - Simon Buckley & Anette Eltner	
9:30	Extending geodetic geo-monitoring networks by supervised point cloud matching	Lukas Raffl
9:45	A new open source software to design models for automatic 3D point cloud classification in environmental studies: cLASpy_T	Xavier Pellerin
10:00	Time Series Analysis of 3D/4D Point Clouds within the Open-Source Online Course E-TRAINEE	Katharina Anders
10:15	Testing Theory for Identification of Aeolian Sand Transport Trends in 4D Data from Permanent Laser Scanning	Mieke Kuschnerus
10:30	Assessing dune dynamics from Dutch airborne laser scanning products	Roderik Lindenbergh
10:45	Optimizing colour-schemes for 3D point cloud visualization: the case of classified point clouds, surface normal representations and engineering defect diagnostics	Laure Manceu
11:00	<i>Coffee break</i>	
11:25	Session 2 - Visualisation, communication and teaching - Thomas Dewez & Sam Thiele	
11:30	Virtual geoscience 3D modelling quality: experience from three years of V3Geo	Simon Buckley
11:45	Integrating Drone Data, Photogrammetry, and Virtual Reality Geological Studio Software for Enhanced Outcrop Analysis and Visualization	Tiina Harak
12:00	Using 360° video to create immersive virtual reality teaching materials: A virtual field trip to the Swiss Alps to assess stream water sources	Ian Maddock
12:15	Does time really matter? A comparison between virtual and physical field trips	Jessica Pugsley
12:30	The effectiveness of Virtual Reality Field Trips (VFTs) in Field Geology education	Jan van BeverDonker

12:45	Using VR to make in-person fieldwork in the environmental sciences more inclusive	Des McDougall
13:00	<i>Lunch time</i>	
13:55	Session 3 – Applying Machine Learning in Geosciences – Katharina Anders & Hanne Hendrickx	
14:00	Unlocking the Potential of Historical Aerial Imagery for the Antarctic Peninsula: Automating 3D Reconstruction using Python and MicMac	Felix Dahle
14:15	Advanced Glacier Monitoring with ICEpy4D: A Python Toolkit for Multi-Epoch Analysis using Deep-Learning Photogrammetry	Francesco Ioli
14:30	Deep learning of topographic anomalies for the detection of regions of interest in 3D point clouds	Reuma Arav
14:45	Workflow automation for SfM change-detection, an application to rockfalls	Xabier Blanch
15:00	Machine Learning Approach on Dynamic Interactions between Air Pollutants and Forest Health using Open-access Remote Sensing Data: A Case study of the Białowieża Forest	Luka Mamic
15:15	Automatic boulder detection applied to the Stone Garden (Altai Mountains, Russia): techniques and outcomes	Dimitrii Zastrozhnov
15:30	<i>Coffee break</i>	
15:55	Session 4 – Digital outcrop characterisation and analysis – Marc-Henri Derron & Moritz Kirsch	
16:00	Using outcrop digital models to guide subsurface studies for CO ₂ storage: An example from the Amellago Oolitic Ramp (Morocco) as an analogue for the Paris Basin Dogger Reservoir	Auerelien Bordenave
16:15	Digital outcrop mapping of the Puga geothermal field, Ladakh, India	Sam Thiele
16:30	How high-resolution DOM & VR boost unravelling and modelling of complex fault zones?	Juliette Lamarche
16:45	A new 1:50.000 scale map of the Nuussuaq basin: unveiling the dynamic earth with digital methods	Erik Vest Sørensen
17:00	Poster session (Titles and authors at the end of the document)	

Friday 22nd September (TU Dresden)

9:00	Invited Keynote 2	
	Hyperspectral imaging in the geosciences	Sandra Lorenz
9:25	Session 5 – Airborne and Remote Mapping - Roderik Lindbergh & Anette Eltner	
9:30	A manmade disaster - The vulnerability of managed forests in the disastrous southern summer wildfires 2023 in Chile – A remote sensing approach	Benedikt Hora
9:45	Unlocking the Potential: Bridging the Gap Between Remote Sensing Science and User Uptake in Environmental Applications. An Eastern Austrian Case Study	Anna Iglseder
10:00	Mapping Wildfire Scares – NDVI vs. NBR vs. AFRI	Arnon Karnieli
10:15	Extending QGIS towards collaborative analysis and interpretation of geospatial data	Sebastian Mikolka-Flöry
10:30	Mobile mapping and GeoSLAM for the characterisation and modelling of karst morphologies at the conduit scale	Tanguy Racine
10:45	High-resolution aerial imagery for early detection of climate-induced natural hazards at a mountain range scale	Natalie Barbosa
11:00	<i>Coffee break</i>	
11:25	Session 6 - Recent Developments in Geomorphic Process and Hazard Monitoring - Andreas Mayr & Xabier Blanch	
	From measured radar LOS displacement to real displacement: Case study of Cima del Simano (Switzerland)	Charlotte Wolff
11:45	High Spatial Resolution method for 3D Landslide Monitoring by feature tracking and histogram analyses using point clouds	Kourosh Hosseini
12:00	Multi-method monitoring of a failing rock face, Swiss Alps	Hanne Hendrickx
12:15	Geological Monitoring processes with small laser scanners. Examples in Montserrat, Puigcercós, Croscat volcano (Catalonia, Spain) and analogic models	David Garcia-Selles
12:30	Complexity and precision of topographic change detection in active volcanic craters using close-range airborne imagery and SfM-MVS photogrammetry	Benoît Smets



12:45	Enriching Geohazard Education through Virtual Field Trips using VR and 3D Outcrop Models	Ryan Kromer
13:00	<i>Lunch time</i>	
13:55	Session 7 – Applications in Hydrology and Ecology - Bernhard Höfle & Robert Krüger	
14:00	Revolutionising Natural Flood Management with SCALGO Live, SCIMAP, and Drones	Josie Lynch
14:15	Monitoring streamflow with drones	Ida Westerberg
14:30	UAV- and handheld-hyperspectral imaging for Sphagnum discrimination and vegetation modelling	Franziska Wolff
14:45	Mapping Pb/Zn-stressed plant communities: challenges of centimetre- to millimetre-scale UAV sensing for training deep-learning schemes	Thomas Dewez
15:00	An index representing geomorphological disturbance for Alpine plants based on airborne laser scan data	Andreas Mayr
15:15	<i>Coffee break</i>	
16:00	VGC Discussion	

Poster contributions (Thursday 21 - 17:00)

Num	Poster title	First author
1	Virtual field trips for teaching rock mechanics and tunnelling – summary of 4 years of experiences in the Metaverse	Luis Jorda
2	Advancing Geology Education through Immersive Virtual Reality Training Modules	Jian Yang
3	Integrating Rapid Geomodeling with Mixed-Reality for Enhanced Geoscientific Applications	Miguel de la Varga
4	Towards an automated workflow for assessing effects of forest disturbance on land surface temperature in low mountain ranges of Central Germany using GEE and the Landsat archive	Simon Grieger
5	UAV LiDAR-based tree detection and structural parameter estimation with a focus on the treeline ecotone	Alex Šřollerů
6	SfM method for underground corridors modelling – Kletno mine example	Marcin Olkowicz
7	Workflow of unmanned aerial vehicle (UAV) application to railways geotechnical asset management	Oriol Pedraza
8	Sensing Mountains – Learning about the Observation of Environmental Processes in a Changing World	Andreas Mayr
9	Comparing the in situ and SfM methods for brittle tectonics analysis – a case study of the Strzegom-Sobótka granite massif	Bartłomiej Grochmal
10	Structural analysis in the quarries and outcrops of the Moravo-Silesian fold and thrust belt: a case study using photogrammetry methods	Mariusz Fiałkiewicz
11	Semi-automatic discontinuity detection using density in point cloud data	Antonin Chalé
12	Integration of remote sensing techniques for slopes monitoring	María Amparo Núñez-Andrés
13	Cliff overhang mapping on 3D point clouds with Cloud Compare	Thomas Dewez
14	Updating of Rockfall inventory in the Montserrat massif (Spain): attributes in Point clouds for hazard assessment using Machine Learning techniques	David Garcia-Selles
15	Quantifying slope movements: Tree trunk tracking using long-range stationary 4D laser scanning point clouds	Ronald Tabernig



16	Using Machine Learning to filter Pointclouds from artificial rainfall simulations	Oliver Grothum
17	Processing large amounts of time-lapse imagery for geomorphic research: an AI-based approach	Hanne Hendrickx
18	Automated Ground Control Point Identification using Deep Learning Techniques	Xabier Blanch
19	Surface elevation monitoring in northern Tunisia using multi-temporal photogrammetric imagery	Imen Brini
20	Assesment of Soil Degradation: Water Erosion under Systematic UAV Supervision	Tomas Laburda
21	Improving Soil Infiltration Assessment with Deep Learning for Water Segmentation Applied to Time-Lapse Imagery	Mikesch Bluemlein
22	Investigating the interrelations between of rainfall characteristics and gully erosion processes	Fentahun Bezie
23	Generating ensembles of karst conduit surfaces of varying roughness and complexity with Gaussian random fields	Celia Trunz
24	Improving the resolution of mineralogical maps through the use of ANN with hyperspectral datasets of different resolution	Yehor Surkov
25	Integration of surface hyperspectral and subsurface electromagnetic data for mineral exploration of mine waste deposits	Moritz Kirsch
26	Digitalising Svalbard with Svalbox: towards a baseline survey of one of the world's fastest warming places	Kim Senger
27	Creative and Funny Use of Unmanned Aerial Systems and Mobile Devices in Hydraulic: A Project-Based Learning Approach	Matjaz Nekrep Perc
28	Water level estimation comparison: UAV vs satellite altimetric data	Grzegorz Walusiak
29	Multi-drone experimental campaign for shallow river bathymetry	Matylda Witek
30	Exploring the potential of UAV for plant biodiversity monitoring in farmland	Robert Krüger
31	Demonstrating the OPTRAM soil moisture model over pasture areas in drylands	Arnon Karnieli