



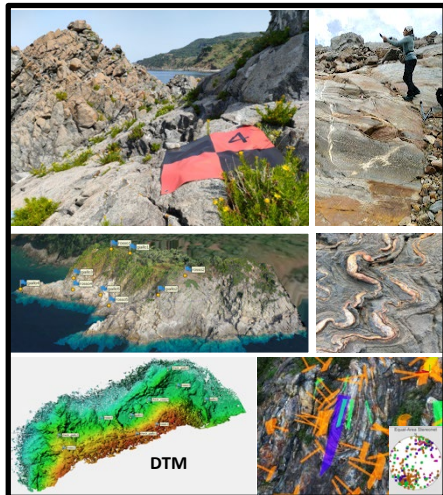
UNIVERSITÀ DEGLI STUDI DI MILANO

Corso di Dottorato in Scienze della Terra



10-13th July 2023 - Short course (5 cfu, 35 hours) – Room XX
Dipartimento di Scienze della Terra “A. Desio”, via Mangiagalli 34, Milano

Digital petro-structural mapping of crystalline basements (CARG - Contents and applications of the Geological Map of Italy) by Eugenio FAZIO



PROGRAM

- Basic principles of petro-structural mapping in crystalline basement areas - Photogrammetry techniques – aerial survey and structure from motion (SfM)
- Digital mapping - ground control points (GCP) - Survey strategies - Aerial mission planner - Acquisition of aerial and field photos; geo-petro-structural dataset.
- Reconstructing 3D models from photos - From sparse point cloud to 3D textured model - Comparison between virtually inferred and field collected data



Eugenio Fazio
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Per informazioni e iscrizione contattare:
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Course description and schedule

Day 1 (Lecture classroom) - 5h

Introduction and aims of the course - Basic principles of petro-structural mapping in crystalline basement areas - Photogrammetry techniques – aerial survey and structure from motion (SfM) - Hardware: UAVs (uncrewed aerial vehicles); android smartphones; tablet with LiDAR sensor -

Days 2-3 (Lecture 5 h + Digital mapping & field survey 20 h) – 25 h

Day 2 part 1 lecture (5h) - Software: Clino, Fieldmove, 3d Scan App; Agisoft Metashape; Geovis3D; Pix4D; Windy; D-flight - Digital mapping with and/or without ground control points (GCP) and GPS station - Survey strategies with sub-horizontal or subvertical surfaces - Aerial mission planner – logistics - weather alert message

Day 2 part2 & Day 3 digital mapping (20h) - Acquisition of aerial and field photos; geo-petro-structural dataset; collection of oriented samples - Exposures yet to be designated (western Alps?)

Day 4 (Exercise classroom) - 5h

Reconstructing 3D models from photos - From sparse point cloud to 3D textured model - Comparison between virtually inferred and field collected data (spatial orientation using by geological compass and/or clino app) - Final discussion and conclusions

