Fundamentals of acquisition, processing, interpretation of photogrammetry data sets from outcrops

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To train participants to the basic understanding and skills for:

- Framing goals for 3D acquisition of outcrop analog object
- Designing footprint 3D photogrammetry acquisition of outcrop analog object including ground control points (GCP)
- Executing 3D photogrammetry acquisition using standard camera or drone
- Processing of photos with or without GCP and generation of mesh with RGB textures at different densities
- Interpretation of resulting 3D objects: e.g., stratal surfaces, faults, measured sections, painting of lithofacies, restoring structure
- Publishing and sharing results
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Course content
- Principles and goals of photogrammetry
- Acquisition goals, design and process
- Processing principles and results
- Ground control points: acquisition and recommendation
- Examples and pitfalls
- Practical exercises

Software
- Acquisition software (e.g., PIX4D, DJI GO2)
- Processing software Agisoft Photoscan
- Inspection Software (e.g., CloudCompare, Mesh)
- Interpretation software VRGS (Uni Manchester)