



**EO4GEO training: Fast disaster response –
satellite technologies for surface displacement monitoring
July 12th – 14th, 2021**

Croatia was in year 2020 hit by two devastating earthquakes. First one hit town of Zagreb on March 22nd with a magnitude of 5.5 on Richter scale, and second one on December 29th hit the area of Banija (epicentre near town of Petrinja) with the magnitude of 6.2 on Richter scale. Both earthquakes resulted in severe damages and human losses. Already after Zagreb earthquake a great need for spatial interpretation of the event and its aftermath has been recognized. Therefore, after the earthquake in Petrinja, a quick reaction of geodetic experts followed, using modern satellite and geoinformation (GI) technologies to provide information on the aftermath of the earthquake.

Based on recent experience training has been prepared to share gained experience facing devastating earthquakes which are presenting real threat in many parts of our world and demonstrate usage of EO , GNSS and GIS technology for fast response in case of such disasters.

Training is organized during three days from 09:00 – 12:00 CET daily and theoretical and practical lectures will be given by prof. Željko Bačić, assist. Prof. Danijel Šugar and researcher Marijan Grgić PhD from University of Zagreb, Faculty of Geodesy. Training is covering following topics:

- Introduction, explaining necessity of providing ground displacement information in fast response to the catastrophe and describing technologies which can be used.
- Introduction and basics of InSAR technology: Earth observation systems in support to disaster management, Copernicus program, Sentinel 1 data types and access, satellite interferometry. Hands on InSAR data and processing tool.
- Processing of InSAR data for land displacement monitoring (Guides and steps through Sentinel-1 data processing for place and time, automatization of the processes and interferogram computations). Analysis, interpretation, and visualization of the results
- GNSS (systems, current status, permanent networks, reference systems), methodology (GNSS receivers, error sources). GNSS observation methods, positioning methods,

capability. Observation data sources, spatial and temporal frame, observation data types and structure.

- Data processing (online) tool(s). Results analysis, visualization and interpretation of results; comparison of results gathered with other techniques (e.g. InSAR).
- Quality assurance in computation and interpretation process and information dissemination activities. Risks. Conclusion.

Training duration is 12 hours, and its content is equivalent to 1 ECTS. It is organized online via Zoom and limited to 100 participants. Therefore, registration is required on this link:

<https://zoom.us/j/95343346145?pwd=WDBwZy9pNVlIMzQ3eHJZUEV0bDlDQT09>