

Marko Vrabec

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Research

My main field of research is Structural Geology and Tectonics. I am primarily interested in Cenozoic to Recent tectonics of the Alpine-Dinaric orogen. Through national and international collaboration I employ various research methods such as kinematic and dynamic analysis of fault-slip data, microstructural work, paleomagnetism of rocks and sediments, tectonic geomorphology, geophysical surveying, and GPS geodesy. I enjoy fieldwork which is my primary method of data acquisition, and consider it an essential ingredient of structural research. I am doing 3D computer modeling of geological structures since student years, for which I use specialized software like Paradigm Gocad and MVE Move, and photogrammetric reconstructions. Occasionally I also do consulting work in structural geology for commercial clients. I believe that communicating geology and science to the general public is important. I have so far participated in several popular-science programmes produced by RTV Slovenia.

Teaching

BSc Level Geology:

- Introduction to Geology
- Structural Geology & Tectonics
- Geological Mapping

MSc Level Geology and Geophysics:

- Tectonics
- Dynamics of the Alpine orogenic system
- Geomodeling
- Active tectonics

PhD Level:

- Tectonic structures and processes

Visits at other institutions

- 1998 PhD course at UNIS, Svalbard (Norway)
- 1998-99 PhD courses at ELTE University, Budapest (Hungary)
- Jan-Feb 2004 visiting researcher at University of Miami, RSMAS Geodesy Lab (USA)
- Jul-Sep 2013 visiting researcher at OGS institute, Trieste (Italy)

- Jun 2014 CEEPUS visiting lecturer at ELTE University, Budapest (Hungary)
- Jul 2015 invited lecturer at Friedrich-Schiller-Universität Jena, Germany

Supervised PhD theses

- 2008 Jure Žalohar, Cosserat strain and stress analysis of heterogeneous fault systems with the Gauss method
- 2008 Vanja Kastelic, Seismotectonic study of Ravne fault and 1998 and 2004 Upper Posočje earthquakes (in collaboration and with co-mentorship of prof. Andrej Gosar and prof. Dickson Cunningham)
- 2013 Petra Jamšek Rupnik, Geomorphological evidence of active tectonics in the Ljubljana Basin (in collaboration with Geological Survey of Slovenia and with co-mentorship of dr. Lucilla Benedetti)
- 2015 Lea Žibret, Kinematic and paleostress evolution of the NW-SE trending "Dinaric" faults in the northwestern External Dinarides