Working Group C – Active tectonics at the Alps-Dinarides Transition

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The priority programme SPP2017 – “Mountain Building Process in Four Dimensions (4D-MB)” focuses on imaging the structure of the Alps from the surface down to the mantle. The main aim of research theme 2 of the 2nd SPP 4D-MB call is the distinction between the influences of deep-seated processes (e.g., slab tearing and slab break-off) and surface processes on active tectonics and erosion patterns. Our project cluster focuses on this aim at the transition zone between the Eastern and Southern Alps/Dinarides, the only region of the Alps that is still tectonically active as of today. We integrate five complementary, but independent research projects that compare the present-day seismicity obtained from the AlpArray and SWATH-D temporary seismic networks to research in active tectonics, erosion, structural evolution and geodesy. The findings of each project will be turned into a conceptual model of the deformation processes in the area which will be published in a synthesis paper by the PI´s of the funded projects.

Proposals:

1. Kummerow, Jörn and Cesca, Simone: Constraints on Quaternary processes in the Eastern Alps from a new detailed image of seismicity
2. Metzger, Sabrina: From Uniform to Distributed Faulting – Present-day Kinematics of the Southern and Eastern Alp
3. Grützner, Christoph, Reicherter, Klaus and Ustaszewski, Kamil: Mountainbuilding in the Eastern and Southern Alps - large earthquakes and active faults
4. Ustaszewski, Kamil and Tsukamoto, Sumiko: Identifying fossil fault activity along the eastern Periadriatic Fault system by means of combined luminescence- and ESR-dating of fault gouges (NE Italy, S Austria and N Slovenia)
5. Tsukamoto, Sumiko, Tanner, David C., von Hagke, Christoph, Brandes, Christian: The Last Pulse – dating the youngest deformation in the Alps with ESR thermochronometry (LUNAR)