

SHORT COURSE: Linear river profile inversion for inferring base-level fall history of bedrock rivers.

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Prerequisites: Matlab 2018 or newer and Laptop

The study of landforms is a powerful tool for investigating active tectonics. In recent decades, the study of detachment-limited drainage systems has provided new numerical methods to investigate and define the tectonic history of the Earth's surface. In this course, I will provide an overview of the linear inversion technique of longitudinal river profiles. With this analysis technique, it is possible to reconstruct the history of the base-level fall of a drainage system, getting important numerical data useful for investigating the tectonics and evolution of a study area. The first part of the course will be a 3-hour lecture explaining the theory of the linear inversion technique for bedrock rivers and in what case studies it can be applied. The second part will be a two-hour lecture with exercises. For this course, it is necessary to have basic-medium knowledge of MATLAB programming software and the geomorphological analysis toolbox TopoToolbox.

