



## Thermal history, exhumation, uplift, and long-term landscape evolution of the South Atlantic passive continental margin in eastern Argentina

Sebastian Kollenz (1), Ulrich A. Glasmacher (1), Ricardo Pereyra (2,4), Eduardo A. Rosello (3,4)

(1) Institute of Earth Sciences, University of Heidelberg, Heidelberg, Germany (sebastian.kollenz@geow.uni-heidelberg.de; ulrich.a.glasmacher@geow.uni-heidelberg.de), (2) Laboratorio de Geoquimica, Facultad de Ciencias Naturales, Universidad National de Salta, Salta, Argentina (chiqui@unsa.edu.ar), (4) CONICET, Universidad de Buenos Aires, Argentina , (3) Departamento de Ciencias Geológicas, Universidad de Buenos Aires, Buenos Aires, Argentina (rossello@gl.fcen.uba.ar)

The project deals with the longterm landscape evolution of the South Atlantic passive continental margin in eastern Argentina. The eastern Argentina South Atlantic passive continental margin (SAPCM-A) is linked to a very flat topography without any escarpment. The aim is to quantify processes, like uplift-, exhumational and erosional events by using fission-track (FT) data, because the evolutional processes of the basin and the topography are only partly known.

The interpretation of the FT-ages and the thermo-kinematic modeling will lead to new conclusions on this topic and helps to understand the causes and timing of the evolution of the eastern Argentina South Atlantic passive continental margin. The SAPCM-A trends NE-SW and is linked to the SE-NW trending Salado-basin and the also SE-NW-trending Colorado-basin. These two basins are separated by the Tandill and Ventana Hills, which both also trend NE-SW. FT-data, generated from samples from the Tandill and Ventana Hills by using apatite and zircon from the different lithologies will be combined with HeFTy-models, to get new information about the kinematic processes like cooling, exhumation/inversion, uplift rates and erosional events, which have taken place and formed the topography of this region. This area is also a key area to study the influence of Fracture Zones (transform faults, transfer zones) on the evolution of the SAPCM.

Additionally we will work on data generated out of drill sites from the Colorado- and the Salado-basin, to get further information about the evolution and the geological processes of these two basins had to deal with in the past.