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4 Postdoc Positions in Integrated Thermo- Geo-chronology and Landscape Evolution Modeling

The Earth System Dynamics research group at the University of Tübingen, Germany, announces **4 Postdoctoral positions**, pending final funding approval by the funding agency (BGE). The project investigates the past and future erosion of non-glaciated parts of Germany and the South German Scarplands. The positions will form an integrated team of postdocs combining thermo- and geo-chronological techniques, DEM analysis, and landscape evolution modelling to understand the erosion history over the last ~10 Million years as well as future erosion scenarios. Candidates with interests in one or more of the following 4 positions should apply:

1. **Erosion history of Germany from geo- and thermochronology techniques.** This position focuses on the collection and measurement of different thermochronology and cosmogenic isotope techniques to quantify regional erosion rate variations from millennia to million-year timescales. The preferred candidate will have prior laboratory experience in cosmogenic nuclide and/or thermochronology techniques.
2. **Data-driven landscape evolution modelling across Germany.** This position will use observed denudation rates from cosmogenic nuclides and thermochronology, and an existing landscape evolution inverse model to quantify regional variations in past and near future catchment scale erosion rates. The preferred candidate will have previous Earth science-related numerical modeling and programming experience.
3. **Cuesta retreat modeling based on cosmogenic nuclides and DEM analysis.** This candidate will conduct digital elevation model (DEM) analysis and collect, analyze, and model cosmogenic isotope data from catchments and cuestas across southern Germany. The objective is to quantify Late Pleistocene to present erosion and cuesta retreat rates. The preferred candidate will have experience in prior chemical laboratory, and DEM analysis. Familiarity with modeling and programming in Matlab or Python are also beneficial.
4. **Landscape evolution modeling of past and future topographic and cuesta evolution.** Candidates for this position will apply an existing landscape evolution model and calibrate it for lithologic and geologic variations across southern Germany. The objectives are understanding the last ~10 Myr to future ~1 Myr topographic evolution across the region as constrained by observations from the previous projects. The preferred candidate will have prior programming and Earth science-related numerical modeling experience.

The research team will work together to quantify erosion rates and use them to predict the spatial and temporal evolution of topography. State of the art facilities for thermochronology, cosmogenic isotopes, and high-performance cluster computing are available for the project.

Requirements for applicants are written and spoken fluency in English and completion of a Doctorate/PhD degree prior to appointment. Preference will be given to applicants with previous

experience in one or more of the areas described above. The start date for all positions is in the first quarter of 2022. Appointments are for 2 years from the start of employment. Salaries are competitive and at the German TV-E13 level.

Required application materials must include: a CV, list of prior publications (including DOI links) in peer-review journals, a 1–2-page cover letter containing a statement of prior research experience and interests, and contact information (email address, phone number) for three references familiar with the candidate's research. **Please also indicate which position(s) you are applying for in your cover letter**. Application materials should be sent as a single PDF file and in English. Questions concerning these positions should be directed to Prof. Todd Ehlers at todd.ehlers@uni-tuebingen.de. Additional information about the Earth System Dynamics research group is available at: www.esdynamics.net. ***Applications should be submitted no later than December 31, 2021 to the following email address: esd-application@geo.uni-tuebingen.de.*** Tübingen is a university town and offers a high quality of living and numerous recreational opportunities within southern Germany and neighboring countries.

The University of Tübingen is committed to increasing the proportion of women in research and teaching positions and therefore encourages qualified candidates to apply. Disabled persons will be given preference if equally qualified. Employment takes place via the Central Administration of the University.