UNIVERSITÄT BAYREUTH

Bayceer
Bayreuther Zentrum für Ökologie und Umweltforschung

Wintersemester / ***Winter Term 2015/2016***

Do. /*Thu.* 12 st
Gebäude/*Building*
GEO
Hörsaal/*Lecture hall*
H6

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung
Lecture series in Ecology and Environmental Research

Donnerstag 19.11.2015, 12:00 Uhr, H6

Anschließend Postkolloquium mit Mittagsimbiss im Foyer H6

Dr. Christoph Schmidt

Geomorphology, BayCEER, University of Bayreuth

Of trapped electrons and their relevance in tracing landscape evolution and human history

Both geosciences and archaeology rely on robust chronological markers in environmental archives and excavations to solve their research questions adequately: Ordering events, revealing causal relationships and interregional parallelisation of terrestrial archives require sound age control.
For more than 50 years now, geographers and archaeologists make use of the environmental radioactivity for dating purposes. Its ionising radiation produces free electrons in natural minerals such as quartz and feldspar. These electrons may be stored in electron traps in buried minerals, and released again when they are exposed to heat or sunlight. During this re-setting event, the stored energy is set free and emitted in the form of light – luminescence. The integrated light sum (proportional to the trapped electron concentration) is thus a measure for the time elapsed since the last bleaching or heating event. The ability to record the time of last sunlight exposure or heating above 350 °C makes luminescence dating a unique dating tool for Quaternary sciences, covering an age range from a few 100 to more than 100,000 years.
This talk aims to present the basic principles of luminescence dating, but also demonstrates its abundant fields of applications as well as some examples of what role this technique plays in deciphering landscape evolution and human (pre-)history.

Die Vortragsreihe ist eine interdisziplinäre Plattform zur Information und Diskussion für Studierende, Forschende und Lehrende

Gäste sind herzlich willkommen

The lecture series serves as an inter-disciplinary platform for students, junior and senior scientists.

Guests are cordially invited!

Kurzfassungen und weitere Infos / *Abstracts and further information*:
www.bayceer.uni-bayreuth.de/kolloquium/

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