

Sommersemester 2010

Gebäude GEO I  
Hörsaal H6

## BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung

**Mittwoch 12.05.2010, 14:15 Uhr, H8**

Anschließend Postkolloquium mit Kaffee und Gebäck im Foyer H8

### Dr. Roland Zech

Brown University, Geological Sciences, USA

### Whither the carbon – a terrestrial perspective on atmospheric CO<sub>2</sub> over glacial-interglacial cycles

Over the past several 100 ka glacial-interglacial cycles, the concentration of atmospheric CO<sub>2</sub> was closely coupled to global temperature, which indicates the importance of CO<sub>2</sub> as a greenhouse gas. The prevailing notion is that the oceans acted as a sink for CO<sub>2</sub> during glacials, and that the position of the southern westerlies played an important role in deep ocean ventilation.

I first present glacial chronologies from the Andes that allow reconstructing the position of the westerlies during the last glacial, and then new results from a permafrost loess-paleosol sequence in NE-Siberia, which show that huge amounts of carbon were sequestered at high northern latitudes during glacials. Together, these findings challenge the prevailing notions concerning the global carbon cycle and indicate that changing permafrost conditions may have controlled atmospheric CO<sub>2</sub> and the rhythm of the ice ages during the Quaternary.

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