

## ROLAND ZECH

### List of Publications (June 2009)

#### Accepted – submitted:

Zech, R., Smith, J. and Kaplan, M. "Chronologies of the LGM and its Termination in the Andes based on Surface Exposure Dating". In: F. Vimeux, F. Sylvestre and M. Khodri (Eds.). Past climate variability from the Last Glacial Maximum to the Holocene in South America and Surrounding regions. Springer. in press.

Zech, R. "Pleistocene climate changes and glaciation in Nepal and High Asia". In: Miehe, G. "Flora of Nepal", accepted.

May, H., Zech, R., Schellenberger, A., Kull, Ch. and Veit, H. "Quaternary environmental and climate changes in the Central Andes". In: Salfity, J. (Eds.). Cenozoic of the Andes: accepted.

Ilgner, J., Zech, R. and Veit, H. "Scaling matters - exposure age uncertainties from a user's point of view." submitted.

Ilgner, J., Zech, R., Kubik, P.W. and Veit, H. „Glacier and climate reconstruction at Tres Lagunas, NW Argentina, based on 10Be surface exposure dating" submitted.

Zech, M., Andreev, A., Zech, R., Müller, S., Hambach, U., Frechen, M., Zech, W. „Quaternary vegetation changes derived from a permafrost palaeosol sequence in NE-Siberia using alkane biomarker and pollen analyses: contradicting vegetation history versus climate history?" Boreas, submitted.

#### 2009

Zech, R., Zech, M., Kubik, P. W. Krishna, K., and Zech, W. (2009). "Deglaciation and landscape history around Annapurna, Nepal based on 10Be surface exposure dating." Quaternary Science Reviews 28: 1106-1118.

Zech, W., Zech, M., Zech, R., Peinemann, N., Morras, H., Moretti, L., Ogle, N., Kalim, R., Fuchs, M., Schad, P. and Glaser, B. (2009). "Late Quaternary palaeosol records from subtropical (38° S) to tropical (16° S) South America and palaeoclimatic implications." Quaternary International 196: 107-120.

Zech, M., Zech, R., Glaser, B., Morrás, H. and Moretti, L. M. (2009). "Late Quaternary environmental changes in Misiones, subtropical NE Argentina, deduced from multi-proxy geochemical analyses in a palaeosol-sediment sequence." Quaternary International 196: 121-136.

#### 2008

Zech, R., May, J.-H., Kull, C., Ilgner, J., Kubik, P. and Veit, H. (2008). "Timing of the Late Quaternary Glaciation in the Andes from ~15 to 40°S." Journal of Quaternary Science 23: 635-647.

Kull, C., Imhof, S., Grosjean, M., Zech, R. and Veit, H. (2008). "Late Pleistocene glaciation in the Central Andes: Temperature versus humidity control — A case study from the eastern Bolivian Andes (17°S) and regional synthesis." Global and Planetary Change 60: 148-164.

Zech, M., Zech, R., Zech, W., Glaser, B., Brodowski, S. and Amelung, W. (2008). "Characterisation and palaeoclimate of a loess-like permafrost palaeosol sequence in NE Siberia." *Geoderma* 143: 281-295.

May, J.-H., Zech, R. and Veit, H. (2008). "Paleosol-sediment-sequences and their implications for the Late Quaternary landscape evolution along the Andean piedmont (Eastern Bolivia)." *Geomorphology*: 98, 34-54.

## **2007**

Zech, R., Kull, C., Kubik, P. and Veit, H. (2007). "LGM and Late Glacial glacier advances in the Cordillera Real and Cochabamba (Bolivia) deduced from  $^{10}\text{Be}$  surface exposure dating." *Climate of the Past Discussions* 3: 839-869.

Zech, R., Kull, C. and Veit, H. (2007). "Exposure dating of Late Glacial and pre-LGM moraines in the Cordillera Dona Rosa, Northern Chile ( $\sim 31^\circ\text{S}$ )." *Climate of the Past* 3: 1-14.

Zech, M., Zech, R. and Glaser, B. (2007). "A 240,000-year stable carbon and nitrogen isotope record from a loess-like palaeosol sequence in the Tumara Valley, Northeast Siberia." *Chemical Geology* 242: 307-318.

## **2006**

Zech, R. (2006). *Glacier and Climate Reconstruction in the Central Andes based on  $^{10}\text{Be}$  Surface Exposure Dating*. PhD thesis. University of Bern. Institute of Geography. pp. 101.

Zech, R., Kull, C. and Veit, H. (2006). "Late Quaternary glacial history in the Encierro Valley, Northern Chile ( $29^\circ\text{S}$ ), deduced from  $^{10}\text{Be}$  surface exposure dating." *Palaeogeography, Palaeoclimatology, Palaeoecology* 234 (2-4): 277-286.

Zech, R., Kull, C. and Veit, H. (2006). "Expositionsdatierung in den Zentralen Anden: Quartäre Gletscher- und Klimarekonstruktion mittels in-situ  $^{10}\text{Be}$ ." *Geographica Helvetica* 61 (2): 77-90.

Abramowski, U., Bergau, A., Seebach, D., Zech, R., Glaser, B., Sosin, P., Kubik, P. W. and Zech, W. (2006). "Late Pleistocene palaeoglaciations of Central Asia: a new chronology based on  $^{10}\text{Be}$  surface exposure ages of erratic boulders from the Pamir (Tajikistan), Alay and Turkestan Ranges (Kyrgyzstan)." *Quaternary Science Reviews*: 25, 1080-1096.

## **2005 and before**

Zech, R., Glaser, B., Sosin, P., Kubik, P. W. and Zech, W. (2005). "Evidence for long-lasting landform surface instability on hummocky moraines in the Pamir Mountains from surface exposure dating." *Earth and Planetary Science Letters* 237: 453-461.

Zech, R., Abramowski, U., Glaser, B., Sosin, P., Kubik, P. W. and Zech, W. (2005). "Late Quaternary glacial and climate history of the Pamir Mountains derived from cosmogenic  $^{10}\text{Be}$  exposure ages." *Quaternary Research* 64 (2): 212-220.

Zech, R., Abramowski, U., Glaser, B., Sosin, P., Kubik, P. W. and Zech, W. (2005). "Expositionsdatierung mittels kosmogener Nuklide: Ausgewählte Beispiele aus dem Pamir und dem Himalaya." In: *Hochgebirge und ihr Umland*, Hrsg: Eidam, U., Schröder, H. and Winter, S., *Berliner Geographische Arbeiten* 100: 3-8.

Zech, R., Abramowski, U., Glaser, B., Sosin, P., Kubik, P. and Zech, W. (2003). "Potentials and limitations of surface exposure dating using in-situ production of cosmogenic  $^{10}\text{Be}$  in the Pamir." Berliner Paläobiologische Abhandlungen 02: 134-135.

### **Conferences (since 2005):**

#### **2009**

Zech, R., Gao, L., Tazoro, R., Huang, Y., Russell, J., Hemp, A., and Zech, W. (2009). Climate and environmental change in East Africa recorded in a ~80 ka paleosol on Mount Kilimanjaro. ISOCOMPOUND, Potsdam.

#### **2008**

Zech, R., Eisenhut, A., Kubik, P.W., Veit, H. (2008). Glacial chronologies along the Andes (~30-40°S) and the role of the Westerlies, AGU San Francisco.

Ilgner J., Zech R., Kubik P.W. and Veit, H. (2008). Systematic Uncertainties of Glacial Chronologies based on surface exposure dating, AGU San Francisco.

Zech, R., Ilgner, J., Kull, C., Kubik, P.W., Veit, H. (2008). Late quaternary glacial chronologies along the Andes and paleoclimatic implications, 4th Alexander von Humboldt International Conference, Santiago de Chile.

Ilgner J., Zech R., Bächtiger Ch., Kubik P.W. and Veit, H. (2008). The Tres Lagunas in NW Argentina – a potential calibration site for Surface Exposure Dating?, International Conference, Santiago de Chile.

Zech, R., Ilgner, J., Kull C., Kubik P.W., Veit H. (2008). Asynchronous glacial chronologies along the Central Andes (~10-40°S) and paleoclimatic implications, XII Reunión Argentina de Sedimentología, Buenos Aires.

Ilgner J., Zech R., Bächtiger Ch., Kubik P.W. and Veit, H. (2008). Surface exposure dating of moraines and lake sediment analysis at the Tres Lagunas, a potential calibration site in NW-Argentina, XII Reunión Argentina de Sedimentología, Buenos Aires.

Ch. Bächtiger, J. Ilgner, R. Zech and H. Veit (2008). Glacial landscape evolution at the Tres Lagunas, NW-Argentina: a potential calibration site for surface exposure dating, EGU Wien.

Ilgner J., Zech R., Veit H. (2008). Scaling matters – exposure age uncertainties from a user's point of view with examples from the Central Andes, EGU Wien.

Zech, R., Ilgner, J., Kull, C., Kubik, P.W., Veit, H. (2008). Asynchronous/synchronous Late Quaternary glaciation along the Andes, 17. Jahrestreffen des Arbeitskreis Hochgebirge, Passau.

Ilgner J., Zech R., Veit H. (2008). Calculating exposure ages in the tropical Andes – the uncertainties of scaling, 17. Jahrestreffen des Arbeitskreis Hochgebirge, Passau.

## **2007**

Zech, R., Kull, C., Kubik, P. W. and Veit, H. (2007). Insights into past atmospheric circulation from glacial chronologies along the Andes (15-40°S). INQUA, Cairns.

Zech, R., Kull, C., Kubik, P. W. and Veit, H. (2007). Glacial chronologies along the Andes (15-40°S) based on <sup>10</sup>Be Surface Exposure Dating. EGU, Wien.

Zech, R., Kull, C., Kubik, P. W. and Veit, H. (2007). Surface exposure dating of moraines in Bolivia: unrecognized uncertainties and paleoclimatic implications. EGU, Wien.

Eisenhut, A., Zech, R., Kubik, P. W. and Veit, H. (2007). Surface exposure dating on moraines in the Valle Rucachoroi (39°S, Argentina) and on Cerro Fredes Plateau (31°S, Chile). EGU, Wien.

Zech, R., Kull, C. and Veit, H. (2007). Glacial chronologies along the Andes (15-40°S) based on <sup>10</sup>Be Surface Exposure Dating. LAK 20, Kiel.

Zech, R., Kull, C., Kubik, P. W. and Veit, H. (2007). Quaternary climate reconstruction in the Andes using <sup>10</sup>Be Surface Exposure Dating. Swiss Global Change Day, Bern.

## **2006**

Zech, R., Kull, C., Kubik, P. W. and Veit, H. (2006). Asynchronous Glacial Chronologies in the Central Andes (15-40°S) and Paleoclimatic Implications. INQUA workshop: Mountain Glaciation - From Tibet to the World, Xining, China.

Zech, R., Kull, C. and Veit, H. (2006). Exposure dating in the Central Andes: paleoclimatic implications of asynchronous glacial advances. EGU, Wien.

Zech, R., Kull, C. and Veit, H. (2006). Exposure dating in the Central Andes: paleoclimatic implications of asynchronous glacial advances. AGU, San Francisco.

Zech, R., Kull, C. and Veit, H. (2006). Glacier and Climate Reconstruction in the Central Andes based on <sup>10</sup>Be Surface Exposure Dating. Cronus EU Summer School, Harkany, Hungary.

Zech, R., Kull, C. and Veit, H. (2006). Late Quaternary glacial chronologies in the Chilean and Argentinean Andes (30-40°S) based on Surface Exposure Dating. PAGES meeting, Malargue, Mendoza.

Zech, R., Kull, C. and Veit, H. (2006). Gletscher- und Klimarekonstruktion in den Zentralen Anden mittels <sup>10</sup>Be Expositionsdatierung. ARGE, Zerne, Schweiz.

Zech, R., Kull, C. and Veit, H. (2006). Expositionsdatierung in den Zentralen Anden: Asynchrone Gletschervorstöße und paleoklimatische Konsequenzen. AGAQ - Deuqua ArbeitsGruppe Alpen Quartär, Heidelberg.

## **2005**

Zech, R., Kull, C. and Veit, H. (2005). Did the enhanced lateglacial monsoon trigger glacial advances south of the Arid Diagonal? EGU, Wien.

Zech, R., Kull, C. and Veit, H. (2005). Late Quaternary Glacial History in the Encierro Valley, Northern Chile (29°S), deduced from <sup>10</sup>Be Surface Exposure Dating. GSA, Salt Lake City.

Zech, R., Manhart, A., Glaser, B., Solomon, D. and Zech, W. (2005). A High-Resolution Lateglacial Climate Record From Lake Sediments in the Ethiopian Bale Mountains. AGU, San Francisco.

Zech, R., Kull, C. and Veit, H. (2005). Late Quaternary Glacial History in the Encierro Valley, Northern Chile (29°S), deduced from  $^{10}\text{Be}$  Surface Exposure Dating. LAK 19, Potsdam.

Zech, R., Kull, C. and Veit, H. (2005). Late Quaternary Glacial History in the Encierro Valley, Northern Chile (29°S), deduced from  $^{10}\text{Be}$  Surface Exposure Dating. AGAQ - Deuqua ArbeitsGruppe Alpenvorland Quartär, Simbach.

Zech, R. (2005). Expositionsdatierung mittels  $^{10}\text{Be}$  zur Gletscherrekonstruktion in den zentralen Anden. Geographie