

# *Curriculum Vitae*

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***Date and place of birth:*** 2. Feb. 1978 in Offenbach a.M., Germany

***Marital Status:*** Married, 3 kids (\*2010 - Linus, \*2012 - Levin & Mattis)

## ***Research focus:***

I am interested in understanding the dynamics of orogenic evolution (e.g. Andes, Alps, and recently the Qinling Mts., China). My current field of expertise is in low-T thermochronology (fission track and (U-Th)/He). The applied methods allow quantifying exhumation and denudation rates, leading to a better understanding of the mechanisms driving mountain building and sedimentary basin development. I also use structural geology and high-T geochronology data in multidisciplinary studies as well as results from detrital thermochronology in order to unravel the dynamics of sedimentary basins.

## ***Studies***

### ***Diploma studies***

- 10/1998 - 03/2004      Diploma studies of Geology / Paleontology at the Universities Frankfurt a.M., Germany and Dunedin, New Zealand
- 03/2004                  Diploma in Geology / Paleontology  
Thesis: „Tektonometamorphe Entwicklung der „mittel- und oberostalpinen“ Gesteinsserien im Bereich Lantschnig – Rotapfel – Kleingradenegg (ÖK 185 Straßburg / Kärnten – Österreich)“ (Supervisor Prof. Dr. G. Kleinschmidt)

### ***Ph.D. studies***

- 11/2004 - 04/2005      Research assistant (wissenschaftliche Angestellte) at the Albert-Ludwigs-University Freiburg, Germany (project management for a graduate school and application for PhD scholarship)
- 05/2005 - 12/2008      PhD studies at the Albert-Ludwigs-University Freiburg  
Thesis: „Tracking the provenance – Assessing sedimentary pathways and upper plate dynamics at the Chilean continental margin (29°-47°S)“

as part of the TIPTEQ-PROJECT (from The Incoming Plate to mega-Thrust Earthquake processes) (Supervisors: Prof. Dr. J.H. Behrmann and Prof. Dr. M. Rahn)

12/2008 PhD in Geology at the Albert-Ludwigs-University Freiburg (thesis with *magna cum laude* - *summa cum laude*, final exam *summa cum laude*)

### ***Postdoc***

12/2008-10/2009 Research assistant at the Paris Lodron-University of Salzburg, Austria

11/2009 - 10/2014 Postdoc at the University of Salzburg within the FWF project “*Late-stage orogenic evolution: How to link surface motion with distinct deep lithospheric processes (ALDi-Adria)*” (part-time since 11/2012)

06/2010 - 02/2011 Parental leave (first son Linus)

12/2011 - 10/2012 Parental leave (twins Levin & Mattis)

### ***Scholarships & Prizes***

01/2001 - 03/2004 Scholarship from the German National Academic Foundation (Studienstiftung des deutschen Volkes)

05/2005 - 05/2008 PhD Scholarship from the German National Academic Foundation (Studienstiftung des deutschen Volkes)

10/2009 Carl-Theodor-Kromer-Preis for PhD thesis

### ***Teaching experience***

#### *University of Freiburg, Germany:*

Mapping courses (Pic St. Loup, France in 2007 & 2008)

Introduction to field geology (2008)

#### *University of Salzburg, Austria:*

Mapping course (Sausalpe, Austria in 2011)

Methods of Historical Geology (Lecture & lab work, 2013/14)

Introduction into the history of the Earth (Lecture & lab work, 2014, again in 2015)

### ***Others***

1998 - 2007 Instructor for the DAV (German Mountaineering Club)

2000 - 2004 Museum guide at the Senckenberg Natural History Museum, Frankfurt

2008 - 2010 Participation in UNIGIS professional (GIS training course leading to the degree “Akademischer Geoinformatiker”)

## Publication list Bianca Heberer

### *Publications in peer-reviewed journals:*

- Bartel, E.M., Neubauer, F., **Heberer, B.**, Genser, J. (2014): A low-temperature ductile shear zone: The gypsum-dominated western extension of the brittle Fella-Sava fault, Southern Alps. *Journal of Structural Geology*, 69, 18–31.
- Heberer, B.**, Anzenbacher, T., Neubauer, F., Genser, J., Dong, Y.; Dunkl, I. (2014): Polyphase exhumation in the Western Qinling Mountains, China: Rapid Early Cretaceous cooling along a lithospheric-scale tear fault and pulsed Cenozoic uplift. *Tectonophysics*, 617, 31-43.
- Heberer, B.**, Behrmann, J.H., Rahn, M. (2011): Source-to-sink relationships along the South-Central Chilean margin: evidence from detrital apatite fission-track analysis. *Basin Research*, 23, 551-570.
- Dong, Y.P., Genser, J., Neubauer, F., Zhang, G.W., Liu, X.M., Yang, Z., **Heberer, B.** (2011): U-Pb and  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronological constraints on the exhumation history of the North Qinling terrane, China. *Gondwana Research* 19, 881-893.
- Heberer, B.**, Roeser, G., Behrmann, J.H., Rahn, M., Kopf, A. (2010): Young sediments from the Southern Chile Trench: a record of active margin magmatism, tectonics, and paleoseismicity. *Journal of the Geological Society of London*, 167, 539-553.
- Kleinschmidt, G., **Heberer, B.**, and Läufer, A.L. (2008): Pre-Alpine sector-zoned garnets in the southeastern Alps. *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften*, 159, 565-573.

### *In print:*

- Bartel, E.M., Neubauer, F., Genser, J., **Heberer, B.**: States of paleostress north and south of the Periadriatic fault: Comparison of the Drau Range and the Friuli Southalpine wedge.

### *Submitted:*

- Bartel, E.M., Neubauer, F., **Heberer, B.**: Structural evolution of the western Drau Range, Eastern Alps: a dextral precursor of the Periadriatic fault? *Submitted to Tectonophysics*.
- Heberer, B.**, Neubauer, F, Dunkl, I., Genser, J.: Exhumation history of the Periadriatic fault - linkage to the Tauern metamorphic core complex.

### *Conference contributions (talks given by 1<sup>st</sup> author unless indicated):*

- Heberer, B.**, Neubauer, F, Dunkl, I., Genser, J. (2014): Late Cenozoic enhanced exhumation along the eastern Periadriatic fault and its linkage to the Tauern window. PANGEO 2014. 15-17 September, Graz (Austria). (*Talk*)
- Robl, J.C., **Heberer, B.**, Neubauer, F. (2014): Morphological expressions of active tectonics at the transition from the Southern Alps to the foreland basin. PANGEO 2014. 15-17 September, Graz (Austria). (*Poster*)
- Heberer, B.**, Neubauer, F, Dunkl, I., Genser, J. (2014): Late Cenozoic enhanced exhumation along the eastern Periadriatic fault and its linkage to the Tauern window, Eastern Alps. 14th International Conference on Thermochronology, 8-12 September, 2014, Chamonix (France). (*Poster*)

**Heberer, B.**, Neubauer, F., Dunkl, I., Genser, J. (2014): Exhumation history of the Periadriatic fault – linkage to the Tauern metamorphic core complex. European Geoscience Meeting, Vienna, 2014. (*Talk*)

**Heberer, B.**, Neubauer, F., Dunkl, I., Genser, J. & Borojević Šošarić, S. (2013): Oligocene and Neogene tectonic processes in the southeastern Alps and northwestern Dinarides: constraints from new (U-Th-Sm)/He apatite ages. – In Schuster, R. (Ed.): 11th Workshop on Alpine Geological Studies and 7th European Symposium on Fossil Algae, Abstracts & Field Guides, 7th-14th september 2013, Schladming, Austria. – *Berichte der Geologischen Bundesanstalt*, 99, 10, Vienna. (*Talk*)

**Heberer, B.**, Anzenbacher, T., Neubauer, F., Genser, J., Dong, Y., Dunkl, I. (2014): Polyphase exhumation in the Western Qinling Mountains, China: Rapid Early Cretaceous cooling and pulsed Cenozoic uplift. HKT-ISTP 2013, 22-24 August 2013, Tübingen. (*Talk*)

Han, G., Neubauer, F., Dunkl, I., Liu, Y., **Heberer, B.**, Genser, J., Liang, C. & Zhang, L. (2012): Coupling the latest exhumation of the Da Xing'an Mts. and deposition of the Songliao basin in NE China: Constraints from apatite (U-Th)/He dating. PANGEO 2012, 15-20 September 2012, Salzburg. Abstract volume, p. 57. (*Talk*)

Wagner, R., Neubauer, F., Genser, J., **Heberer, B.** (2012): Tectonic coupling of the eastern Southern Alps and northwestern Dinarides with the Adriatic microplate. PANGEO 2012, 15-20 September 2012, Salzburg. Abstract volume, p. 140. (*Talk*)

Bartel, E.M., Neubauer, F., Genser, J., **Heberer, B.** (2012): Strukturelle Analyse des Drauzugs und der Südalpen, ein Vergleich nördlich und südlich der Periadriatischen Störung. PANGEO 2012, 15-20 September 2012, Salzburg. Abstract volume, p. 20. (*Talk*)

Neubauer, F., Liu, J.X., Bernroider, M., Dunkl, I., **Heberer, B.**, Dong, Y. (2012): The Oligocene Reifnitz tonalite (Austria): implications for Oligocene-Neogene tectonics of southeastern Alps. PANGEO 2012, 15-20 September 2012, Salzburg. Abstract volume, p. 105. (*Talk*)

Rahn, M., Dehnert, A., Wang, H., Enkelmann, E., **Heberer, B.** (2012): Low-T thermochronology of the northeastern Tibetan Plateau: Compilation of existing data and preliminary conclusions. 13th International Conference on Thermochronology, 24-28 August, 2012, Guilin (China), Abstract volume, 68-69. (*Poster*)

Bartel, E.M., Neubauer, F., **Heberer, B.**, Genser, J. (2012): Structural similarities and differences north and south of the Periadriatic fault with examples of the Drau Range and Friuli. European Geoscience Meeting, Vienna, 2012, Geophysical Research Abstracts 14, 2012. (*Poster*).

Neubauer, F., **Heberer, B.** (2012): Structural evolution of an extrusional wedge: Constraints from a forgotten fault system in the Eastern Alps. Geomunich 2011 Fragile Earth, Geological Processes from Global to Local Scales, Associated Hazards & Resources : Munich, Germany, September 4-7, 2011 ; 100th Annual Meeting of Geologische Vereinigung ; 163rd Annual Meeting of Deutsche Gesellschaft für Geowissenschaften. (*Talk*)

Bartel, E.M., Neubauer, F., **Heberer, B.**, (2012): Structural evolution of the Western Drau Range, Eastern Alps: a dextral precursor of the Periadriatic fault? Geomunich 2011 Fragile Earth, Geological Processes from Global to Local Scales, Associated Hazards & Resources : Munich, Germany, September 4-7, 2011 ; 100th Annual Meeting of Geologische Vereinigung ; 163rd Annual Meeting of Deutsche Gesellschaft für Geowissenschaften. (*Poster*)

**Heberer, B.**, Neubauer, F., Bartel, E.M., Genser, J., Wagner, R. (2012): On the edge of a plate: The Northern Adriatic microplate and its interaction with the Eastern Alps and Dinarides. Geomunich 2011 Fragile Earth, Geological Processes from Global to Local Scales, Associated Hazards & Resources : Munich, Germany, September 4-7, 2011 ; 100th Annual Meeting of

Geologische Vereinigung ; 163rd Annual Meeting of Deutsche Gesellschaft für Geowissenschaften. (*Poster*)

**Heberer, B.**, Rahn, M., Behrmann, J.H., (2010): How well does the sink mirror the source at an active margin? An example from the Chilean trench. 12<sup>th</sup> International Conference on Thermochronology, Glasgow. (*Talk given by M. Rahn*)

**Heberer, B.**, Neubauer, F. (2010): Linking orogen and peripheral foreland basin: conceptual model and application to the Southalpine-Dinaric (Friuli) orocline. European Geoscience Meeting, Vienna, 2010, Geophysical Research Abstracts 12, 2009. (*Poster*)

Yunpeng Dong, Johann Genser, Franz Neubauer, Xiaoming Liu, Zhao Yang, Guowei Zhang, and **Bianca Heberer** (2010): Paleozoic exhumation history of the North Qinling terrane, China. European Geoscience Meeting, Vienna, 2010, Geophysical Research Abstracts 12, 2009. (*Poster*)

**Heberer, B.**, Behrmann, J.H., Rahn, M. (2009): Erosion, transport and deposition along the South-Central Chilean margin: the detrital apatite fission track perspective. European Geoscience Meeting, Vienna, 2009, Geophysical Research Abstracts 11, 2009. (*Talk*)

Neubauer, F., **Heberer, B.** (2009): Late-stage orogenic processes: How to link surface motion with distinct lithospheric processes. European Geoscience Meeting, Vienna, 2009, Geophysical Research Abstracts 11, 2009. (*Poster*)

**Heberer, B.**, Behrmann, J.H., Rahn, M. (2009): From sink to source - Inferring onland geodynamics and sedimentary pathways from the marine and estuarine record - A detrital apatite fission track study from the Chile continental margin (29-47°S). 21st Colloquium on Latin American Earth Sciences, Göttingen, Germany. (*Poster*)

**Heberer, B.**, Behrmann, J.H., Rahn, M. (2008): Tracking the provenance - Assessing sedimentary pathways and upper plate dynamics at the South Central Chile margin. 4th Alexander von Humboldt International Conference - The Andes: Challenge for Geosciences, Santiago de Chile. (*Poster*)

Behrmann, J.H., **Heberer, B.**, Roeser, G.; Rahn, M.; Kopf, A. (2008): Young sediments from the Southern Chile Trench: a record of active margin magmatism, tectonics, and paleoseismicity. 4th Alexander von Humboldt International Conference - The Andes: Challenge for Geosciences, Santiago de Chile. (*Talk*)

**Heberer, B.**, Rahn, M., Behrmann, J.H. (2008): Tracking the provenance - Assessing sedimentary pathways and upper plate dynamics at the South Central Chile margin. European Geoscience Meeting, Vienna, 2008, Geophysical Research Abstracts 10, 2008. (*Poster*)

Roeser, G., **Heberer, B.**, Behrmann, J.H., Rahn, M., Kopf, A. (2007): Sedimentology, petrography and provenance of modern Southern Chile Trench sediments (36° - 47°S). European Geoscience Meeting, Vienna, 2007, Geophysical Research Abstracts 9, 2007. (*Poster*)

**Heberer, B.**, Rahn, M., Behrmann, J.H. (2007): Can apatite fission track ages from modern trench sands reflect the dynamics of the upper plate? Preliminary results from the Southern Chile Trench. European Geoscience Meeting, Vienna, 2007, Geophysical Research Abstracts 9, 2007. (*Poster*)

Roeser, G., **Heberer, B.**, Behrmann, J.H., Rahn, M., Kopf, A. (2007): Sedimentology, petrography and provenance of modern Southern Chile Trench sediments (36° - 47°S). 20th Colloquium on Latin American Earth Sciences, Kiel, Germany. (*Poster*)

**Heberer, B.**, Rahn, M., Behrmann, J.H. (2007): Can apatite fission track ages from modern trench sands reflect the dynamics of the upper plate? Preliminary results from the Southern Chile Trench. 20th Colloquium on Latin American Earth Sciences, Kiel, Germany. (*Poster*)

**Heberer, B.,** Rahn, M., Behrmann, J.H. (2006): Reaction of an upper plate to varying subduction regimes - concept and initial results from the Southern Chile Trench. Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften **49**, European Conference on Thermochronology, Bremen, Germany (edited by Ventura, B. & Lisker, F.), 147-149. (*Poster*)

**Heberer, B.,** Rahn, M., Behrmann, J.H. (2005): How to decipher upper plate denudation by looking at fission tracks from the lower plate sediments - a concept for a study of the Southern Chile Trench. GEOTECHNOLOGIEN Science Report **5** (edited by Rudloff, A. & Stroink, L.), , 34-38, Koordinationsbüro Geotechnologien, Potsdam. (*Talk*)