



1st announcement

Symposium on Tectonics – Structural Geology – Crystalline Geology
TSK-20, University of Freiburg, March 17-23, 2024
[website: https://tsk20-freiburg.de](https://tsk20-freiburg.de)

You are cordially invited to take part in the 20th TSK conference that will take place at the University of Freiburg, Germany, from March 17-23, 2024.

Purpose and Scope:

Symposia on Structural Geology, Tectonics & Crystalline Geology have been held every two years since 1986 at alternating university locations in the German-speaking world. The international conference TSK serves as the main forum for the exchange of information and networking of activities in the fields of tectonics, structural geology, igneous and metamorphic petrology and related disciplines.

At this TSK meeting we would specifically like to overcome disciplinary boundaries bringing together scientists with different expertise: We would like to stimulate discussions between field workers, experimentalists, and modelers and encourage contributions covering the full range of deformation from slow viscous creep over brittle deformation recorded during seismic events up to ultrafast deformation. The conference should also be a forum for orogen-scale studies that focus on the interaction of active tectonics and landscape formation applying quantitative approaches of geodynamic and rheology modelling with landscape evolution modelling.

Preliminary list of sessions

- ❖ Mountain Building Processes & Alpine Tectonics
- ❖ Microstructures, Deformation Mechanisms & Rheology
- ❖ Experimental Rock Mechanics
- ❖ Seismo-Tectonics & Fluid-Rock Interaction
- ❖ Planetary Tectonics & Impact Cratering
- ❖ Viscous Shear, Seismic Faulting & Shock Deformation
- ❖ Applied Structural Geology
- ❖ Neo-Tectonics & Tectonic Geomorphology
- ❖ Geodynamics & Plate Tectonics
- ❖ Modelling Deformation from the Micro- to the Mega-Scale
- ❖ Metamorphism & Deformation
- ❖ General Tectonics & Regional Studies

Call for Abstracts & Registration

Registration and abstract submissions for oral and poster presentations can be made from November 1st, 2023 through the conference website <https://tsk20-freiburg.de/abstracts/>. Abstracts contain no more than 500 Words (excluding title, authors, and affiliations). The abstract submission closes on January, 7th, 2024. Conference language is English.

Scientific committee of TSK-20

Thomas Kenkmann (Universität Freiburg), Paul Bons (Universität Tübingen), Florian Füsseis (University of Edinburgh), Bernhard Grasemann (Universität Wien), Mark Handy (FU Berlin), Ernst Hauber (DLR Berlin), Marco Herwegk (Universität Bern), Boris Kaus (ETH Zürich), Jonas Kley (Universität Göttingen), Hannah Pomella (Universität Innsbruck), Klaus Reicherter (RWTH Aachen), Ulrich Riller (Universität Hamburg), Matthias Rosenau (GFZ Potsdam), Magdalena Scheck-Wenderoth (GFZ-Potsdam), Michael Stipp (Universität Halle), David Tanner (LIAG Hannover), Claudia Trepmann (LMU München), Kamil Ustazewski (Universität Jena)

Convener and local organization team

Thomas Kenkmann, Heike Ulmer, Michael Poelchau, Filippo Carboni, Sebastian Sturm, Oguzcan Karagoz, Matthias Ebert, Manuela Tombrink, Dagmar Flemming, Gordon Mette (Universität Freiburg)

Program

Sessions will commence on Monday, March 18, and end on Wednesday evening, March 20, 2024. Sessions will begin with invited talks. There will be no parallel sessions.

Keynote speakers

- ❖ **Whitney Behr**, ETH Zürich, Switzerland
To be specified
- ❖ **Mark Handy**, FU Berlin, Germany
A fresh look at mountain-building from the Alpine perspective
- ❖ **Giulio Di Toro**, Padova, Italy
Fault processes and shock deformation during earthquakes
- ❖ **Joyce Schmatz**, Aachen, Germany
Salt rock mechanics in the natural laboratory
- ❖ **Sebastian Wolf**, Bergen, Norway
Quantifying the interaction between surface processes and tectonics during mountain building: the Beaumont number
- ❖ **Georg Dresen**, GFZ-Potsdam, Germany
Fault structure and the run-up to seismic failure-some insights from lab and field tests
- ❖ **Grace Shephard**, Oslo, Norway
Multi-phase, intra-plate rifting and deformable plates of the Northeast Atlantic since the Permian.
- ❖ **Auriol S. P. Rae**, Cambridge, UK
Shock Metamorphism in Quartz: A Tool to Understand the Mechanics of Impact Cratering

Events

Three parallel workshops are offered on March 17, 2024, followed by an icebreaker party. A public lecture is planned for Monday evening, and the conference dinner will take place on Wednesday evening. Three different post-conference excursions to the Black Forest, the Hegau, and the Markgräflerland complete the program.

Public lecture / Öffentlicher Abendvortrag

Onno Oncken, GFZ-Potsdam, Germany
Forschung für eine Erde im Wandel - von Erdbeben, schwarzen Schwänen und planetarer Bewohnbarkeit

Schedule

Sunday, March 17, 2024 *Albertstr. 23-b (Geoscience building)*

Workshop I 9.30 – 18.00

Balanced cross section reconstruction with MOVE (Carboni, Universität Freiburg)

Workshop II 9.30 – 18.00

EBSD application on deformed rocks (Trepmann, LMU München)

Workshop III 9.30 – 18.00

Shock effects in minerals and rocks (Poelchau/Kenkmann, Universität Freiburg)

Icebreaker Party 18:30-22:00 (*Entrance Hall, Geoscience building, Albertstraße 23-B*)

Monday, March 18, 2024 (*Pathology & Anatomy Lecture Hall, Albertstr. 19, 79104 Freiburg*)

08:30-08:45: Opening Ceremony

08:45-12:30: Oral Session & coffee break

12:30-13:15: *Lunch Break (Mensa)*

13:15-18:30: Oral Session & coffee break

19:00-20:00: Öffentlicher Abendvortrag Prof. Dr. Onno Oncken (GFZ-Potsdam)

Tuesday, March 19, 2024 (*Pathology & Anatomy Lecture Hall, Albertstr. 19, 79104 Freiburg*)

08:30-12:30: Oral Session & coffee break

12:30-13:15: *Lunch Break (Mensa)*

13:15-17:30: Oral Session & coffee break

17:30-21:00: Poster Session (*Geology Department, Albertstr. 23b, 79104 Freiburg*)

Optional: Guided tour to the laboratories of Geology and Fraunhofer EMI

Wednesday, March 20, 2024 (*Pathology & Anatomy Lecture Hall, Albertstr. 19, 79104 Freiburg*)

08:30-12:30: Oral Session & coffee break

12:30-13:15: *Lunch Break (FRIAS)*

13:15-17:30: Oral Session & coffee break

17:30-19:00: Poster Session (*Geology Department, Albertstr. 23b, 79104 Freiburg*)

19:30-22:00: Conference Dinner

Thursday, March 21, 2024 *Field trips: Pick-up point: Campus gate Albertstraße*

8:30-18:00: Hegau volcanism: Miocene lithospheric uplift (Geiger, Universität Freiburg)

8:30-18:00: Münstertal + Markgräflerland: Geology and tectonic geomorphology (Kenkmann, Universität Freiburg/Rudmann, LIAG Hannover)

Friday, March 22, 2024

8:30-18:00: Schwarzwald: Variscian orogenic dynamics (Dolejš, Universität Freiburg)

