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\* Two PhD positions within DFG-funded Emmy Noether Young Research Group "Elastic and Structural Properties of Geomaterials at Extreme Conditions (GeoMaX)" AT BGI BAYREUTH.

\_AVAILABLE POSITIONS:\_ 2 PhD positions for 3 years

\_TIME FRAME:\_ Positions are available from April 2014 or later. Review of applications will begin immediately and continue until positions are filled.

\_REQUIREMENTS:\_ Completed study of geosciences, materials sciences or experimental physics. Good oral and written skills in English language. The ability to work independently and a strong motivation to conduct basic research.

\_HIGHLIGHTS:\_ The PhD students will carry out forefront research and contribute to the success of a small and dynamic young research group. The students will work in a highly international and interdisciplinary environment. They will gain experience in experimental research at extreme conditions of pressure and temperature using a variety of techniques, both at laboratory facilities at BGI Bayreuth, but also at Synchrotron facilities. The students will also have the opportunity to gain experience in the communication of scientific research to the public.

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\_PROJECT SUMMARY:\_ The project aims at determining the single-crystal elastic properties of minerals of the Earth's transition zone and lower mantle. The experimental measurements will be performed at relevant conditions of pressure and temperature using Brillouin spectroscopy and (synchrotron-) x-ray diffraction. The resulting data will be applied to the interpretation of seismic models and observations. The novel data set will allow for substantially improving our understanding of the Earth's deep interior, including its chemical and mineralogical composition, its temperature distribution, and its dynamics and evolution. The envisaged technical developments will be applicable to several other scientific disciplines. More Information about the project and the group's research can be found at (still under construction) [www.depict-group.org/projects/geomax](http://www.depict-group.org/projects/geomax) [1]

\_INSTITUTE:\_ The research group is part of the Bayerisches Geoinstitut BGI at the University of Bayreuth, which is equipped with state-of-the-art experimental facilities and offers a unique scientific infrastructure for experimental research at high pressures and high temperatures. More information about BGI can be found at <http://www.bgi.uni-bayreuth.de/> [2]. The planned experiments also involve extensive use of synchrotron facilities, mostly PETRA III at DESY in Hamburg.

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\_APPLICATION:\_ Applications should consist of a Curriculum Vitae, contact information of two potential referees and a short letter (1-2 pages) outlining the applicant's scientific interests and motivation to work on a PhD thesis in experimental research at extreme conditions. Applications should be sent as a single pdf-file to [GEOMAX@DEPICT-GROUP.ORG](mailto:GEOMAX@DEPICT-GROUP.ORG).

You are welcome to contact Hauke Marquardt ([hama@gfz-potsdam.de](mailto:hama@gfz-potsdam.de)) for further questions about the positions.

The University of Bayreuth is an equal opportunity employer.

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Dr. Hauke Marquardt

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