

Call for Proposals

No. 49

24 July 2017

Priority Programme “Building a Habitable Earth” (SPP 1833)

In 2014, the Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) established the Priority Programme “Building a Habitable Earth” (SPP 1833). The programme is designed to run for six years. The present call invites proposals for the second three-year funding period.

This Priority Programme is an Earth Science-based coordinated research programme that addresses the still open question how Earth became the only known habitable rocky planet covered by oceans and an oxygenated atmosphere. Most likely, a unique combination of processes during Earth’s early evolution was necessary to make Earth habitable, but these processes and their interplay are still poorly constrained. This programme focusses on the crucial time-span when Earth became habitable, but before life itself blossomed. The core approach is to use the terrestrial and extraterrestrial rock record to reconstruct key parameters and processes that set the stage on which life subsequently formed and evolved. New research avenues recently emerged from the increased availability of pristine old terrestrial and extraterrestrial sample materials, the development of novel analytical techniques and of experimental and computational approaches that all allow investigating early planetary and geological processes in unprecedented detail.

Central to the programme is the chemical inventory and evolution of the different reservoirs in the Earth and its asteroidal building blocks, the chemical differentiation of Earth into a metal core, silicate mantle, differentiated crust, hydrosphere and atmosphere, as well as the complex interactions and feedback loops of these reservoirs with the evolving biosphere that successfully made Earth a life sustaining environment.

The three key topics central to the Priority Programme are:

- the compositions and sources of Earth’s building materials and the growth of the Earth,
- the Earth’s early internal processing into crust, mantle, and core, and the early evolution of these reservoirs,
- the early evolution of Earth’s ocean-atmosphere-biosphere system from the first atmosphere until the great oxidation event.

Proposals are welcome that employ Earth Science-based approaches to study the early geological history of the Earth, with an emphasis on using observations from geological samples of Archean to Early Proterozoic age and from extraterrestrial samples related to Earth’s formation. These two groups of samples provide the only vestige of Earth’s early evolution. In addition, joint proposals

are invited that combine direct observations on geological and extraterrestrial samples with experimental studies and computational approaches. Inherently model-based proposals will not be considered. The Priority Programme explicitly invites contributions from Earth Science disciplines such as geology, geodynamics, geochemistry, petrology, planetology, cosmochemistry, geobiology and geophysics. Proposals need to cover approaches, where direct observations from the geological record or from extraterrestrial samples are made or where models or experiments complement such observations. In the current period, an emphasis of the Priority Programme will be on research that combines different approaches on selected sets of geological and extraterrestrial samples and on synergistic research that combines different datasets from such samples. Hence, the focus of this programme does not include astrobiological studies, pure modelling approaches, early Earth analogues such as exoplanets, comparative planetary studies, theoretical models unrelated to the geological record, or astronomical observations.

Proposals must be written in English and submitted to the DFG by **15 November 2017**. The anticipated start date of projects should be fall 2018. Please note that proposals can only be submitted via elan, the DFG's electronic proposal processing system. Please include a title page with your name, your address, and the title of your project in your application. If you would like to submit a proposal for a new project within the existing Priority Programme, please go to Proposal Submission – New Project – Priority Programmes and select “SPP 1833” from the current list of calls. Previous applicants can submit a proposal for the renewal of an existing project under Proposal Submission – Proposal Overview/Renewal Proposal.

Applicants must be registered in elan prior to submitting a proposal to the DFG. If you have not yet registered, please note that you must do so by **1 November 2017** to submit a proposal under this call; registration requests received after this time cannot be considered. You will normally receive confirmation of your registration by the next working day. Note that you will be asked to select the appropriate Priority Programme call during both the registration and the proposal process.

In preparing your proposal, please review the programme guidelines (form 50.05, section B) and follow the proposal preparation instructions (form 54.01). These forms can either be downloaded from our website or accessed through the elan portal. Please also refer to the guidelines for submitting proposals which are published at the website of the Priority Programme. In addition to submitting your proposal to the DFG, please send an electronic version (pdf format) to the Priority Programme coordination office. Researchers considering to submit proposals should contact the coordinator prior to submission to ascertain that proposals fit the scientific scope of the programme.

Further Information

More information on the Priority Programme is available under:
www.habitableearth.uni-koeln.de

The elan system can be accessed at:
<https://elan.dfg.de/en>

DFG forms 50.05 and 54.01 can be downloaded at:
www.dfg.de/formulare/50_05
www.dfg.de/formulare/54_01

For scientific enquiries please contact the Priority Programme coordinator:

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Priority Programme coordination office:

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Questions on the DFG proposal process can be directed to:

Programme contact:

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