Deutsche Forschungsgemeinschaft (German Research Foundation)
Information for Researchers

Call for Proposals

No. 60 **9 September 2015**

Priority Programme "Ecosystem Nutrition: Forest Strategies for Limited Phosphorus Resources" (SPP 1685)

The Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) has established the Priority Programme "Ecosystem Nutrition: Forest Strategies for Limited Phosphorus Resources" (SPP 1685). The programme is designed to run for six years. Applications are now invited for the second three-year period of this Priority Programme.

Fundamental understanding of processes controlling P acquisition and P cycling is crucial for maintaining forest ecosystem stability under conditions of climate change, high N loading and increased export of forest biomass. Conceptualising P nutrition strategies of close-to-natural systems may provide fresh impetus to ecosystem analysis and to reshaping the nutrient management of human controlled (eco)systems. For this reason, the Priority Programme aims at launching the emerging scientific field of ecosystem nutrition.

During the first three-year phase of funding the projects have focussed on testing the overall hypothesis of P depletion of soils driving forest ecosystems from P-acquiring systems (efficient mobilisation of P from primary and secondary minerals) to P-recycling systems (highly efficient cycling of P). The results of the ongoing projects support this hypothesis and indicate a high relevance of soil organic matter and organically bound P for efficient recycling of P. The lead hypothesis for the second phase is that factors and processes increasing the turnover of soil organic matter impair efficient biogeochemical recycling of P. Under conditions favouring fast turnover of soil organic matter, biochemical cycling is of high relevance for P nutrition of forest ecosystems.

Projects of the second phase should concentrate on (1) the identification of processes contributing to the success of P-acquiring and P-recycling systems, (2) assessing the effect of environmental changes (especially changes induced by N-deposition, changes in soil pH or climate conditions) on P use efficiency via changes in the turnover of the soil organic matter or via increased plant growth and reproduction rate and/or (3) the modelling and regionalisation of P-cycling processes of forest ecosystems.

Each project should contribute to at least one of the following research clusters: (1) key players, processes and controls in speciation and allocation of P in soils, (2) allocation, usage, and cycling of P within vegetation, (3) allocation, usage, and cycling of P within the microbial communities, (4) mass fluxes of P within and between ecosystem compartments (especially on long time and large spatial scales), (5) generalisation and modelling of ecosystem nutrition strategies.

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All projects should consider the central field sites of the Priority Programme, five on silicate substrates and three on carbonate substrates, and the newly established N × P application experiment (factorial design; information on the field experiment available by mid of October on the programme's website). If it is not possible to address all the central sites, please include at least the two end-members of the P gradient. Focal tree species are Norway spruce (Picea abies) and European beech (Fagus sylvatica), which occur at all field sites. Molecular studies may be conducted using Populus sp. as a model organism. The working groups are expected to make use of recent innovations in molecular biology, spectro(micro)scopy, isotopic tracing and vegetation ecology. (Soil) faunal aspects of ecosystem nutrition have been excluded in the first phase but are welcome for the second phase of the programme. An interdisciplinary network of appropriate disciplines such as soil science, plant science, microbiology, vegetation ecology, and silviculture is needed to unravel the ecological dimension of P efficiency and to provide the desired, entirely new concepts and methods for ecosystem nutrition.

Research proposals for the second three-year funding period, written in English, are now invited. All proposals should follow the guidelines in DFG form 50.05 (Priority Programmes) and 54.01 (Project Proposals). Please include a title page with your name, your address, and the title of your project. In addition to submitting your proposal to the DFG, please send an electronic version (pdf format) to the Priority Programme's coordinator. Deadline for proposal submission is **15 February 2016.**

Proposals must be submitted via the DFG's electronic submission system "elan", selecting "SPP 1685". If you are using the "elan" system for the first time, please note that you need to register yourself and your institutional addresses before being able to submit a proposal. Also, if you are planning to move to a different institution (e.g. with a Temporary Position for Principal Investigators) you need to register the new institutional address beforehand. Please make sure that all applicants of your project (in case there is more than one) start their registration at the latest two weeks before the submission deadline. The registration requests are handled manually by DFG staff.

The anticipated start date of projects is September 2016.

Further information

For further information please refer to the programme's website:
www.ecosystem-nutrition.uni-freiburg.de

The DFG's electronic portal "elan" can be found at:
https://elan.dfg.de

Proposal guidelines and preparation instructions are outlined in the DFG forms 50.05 and 54.01, which can be found on the DFG's website at:
www.dfg.de/foerderung/formulare

Contact person for questions concerning research proposals is the Priority Programme's coordinator:
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