Applications are invited for a fully funded PhD studentship at Freie Universität Berlin.

Project: We are looking for a highly-motivated student to fill a three-year PhD position. The PhD student will be responsible for adapting a species-area curves (SAC) methodology for soil systems to better describe beta-diversity of terrestrial microbial communities and assess how land use intensity may be altering microbial alpha- and beta-diversity.

Unlike traditional ecologists that can often identify and count every single individual in a study area, a microbial ecologist, particularly when working with soil, has to infer these diversity metrics. The usual procedure involves subsampling tiny volumes of habitat, relative to the size of the study area. This assumes that these are representative of the surrounding habitat; and, depending on the resolution of the technique used, it means assaying a representative but not complete fraction of the community in that sample. For this project we will use an adaptation of the SAC methodology to address this limitation. The PhD candidate is expected to collaborate with an existing team at Freie Universität Berlin and address the following objectives:

1) How do SAC estimates of beta diversity relate to those produced from exhaustive sampling of the soil habitat?
2) How does land use intensity influence alpha- and beta-diversity of microbial communities?
3) Are there undocumented systematic biases in assaying diversity with traditional molecular methods across land use gradients?

Qualifications: The PhD candidate will mainly focus on the molecular characterization of 1,188 soil samples that will be taken from the biodiversity exploratories. Candidates should have obtained an MSc in Molecular Biology or a related field. You are required to possess excellent molecular-lab skills and be fluent in English (certified C1-level or equivalent). We really appreciate any evidence of previous work with molecular techniques and value any past practice of aseptic techniques.

Contact: For more information or inquiries please contact Dr Stavros Veresoglou at sveresoglou@zedat.fu-berlin.de

References: