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Zurich-Basel Plant Science Center

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Open PhD Position in

RESPONSE (GA No. 847585)
«RESPONSE - to society and policy needs through plant, food and energy sciences»

H2020-MSCA-COFUND-2018

ESR 22

Inferring legacy of human activities on tropical forest plant diversity with spatial genetics and remote sensing

Within the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 847585, University of Zurich is offering a 36-month PhD position for an early-stage researcher (ESR) in the area of sustainable land-use decisions.

Job Description

We are looking for applicants to a PhD position on "Inferring legacy of human activities on tropical forest plant diversity with spatial genetics and remote sensing". We are looking for candidates who have an interest in the understanding social-ecological systems legacies on biodiversity. More specifically, the project focus on long term human legacies, i.e., the hypothesis of 'human influence tempos' on different domains of biodiversity, and determine the strength of evidence for such impacts. We take Borneo as a case study, focusing on Sabah and Sarawak. To assess the cumulative effects of human influence on plant species and their traits, we are looking for a candidate versed or eager to learn about disciplines such as social-ecological systems, plant ecology, remote sensing and spatial genomics.

The ESR will (i) gain an understanding on which and how changes in diversity, turnover, structure and function are attributable to early human presence in Borneo, (ii) determine which effect legacies of human settlement and intensity, i.e. 'human influence tempos' have an effect on local plant species and trait diversity, and (iii) identify whether changes in trait space due to human legacies are associated with changes in underlying genetic diversity.

Specifically the candidate will: (i) conduct a meta analysis of human legacies on biodiversity in Borneo historical databases on charcoal systems, (ii) apply Bayesian frameworks to understand the linkages between human activities and biodiversity dimensions (eg., traits, composition, structure), (iii) develop and test novel methods for remote sensing plant traits using a combination of remotely-sensed data sets, including novel imaging possibilities using drones, (iv) collect samples and analyse them to obtain information on low quality genome sequences for a selected set of plant species along environmental gradients in Borneo, (v) model the linkage between human influence tempos, remotely-sensed traits and underlying

genetic structure. The successful candidate is expected to produce quality research to be published in relevant journals of the field and also white papers to be distributed to the secondment organizations and the local partners and communities. A planned secondment (i.e. internship) of 12 months with the South East Asia Rainforest Research Partnership is part of this project. During this secondment, the ESR will work with the partner organization to understand tropical biodiversity, conservation, dependency of livelihoods on biodiversity and fundamental contextual knowledge of the system. The secondment institution will also support field activities. To perform successfully, potential candidates should have strong interest in biodiversity, social-ecological systems, remote sensing, and genetics, as well as bioinformatics and modelling. Good writing and communication skills are also essential.

Eligibility: Early stage researcher in the first 4 years (full-time equivalent) of their research careers, including the period of research training, starting at the date of obtaining the degree which would formally entitle them to embark on a doctorate either in the country in which the degree was obtained or in the country in which the initial training activities are provided.

At the time of recruitment (for call 3 = December 1, 2020) by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in Switzerland for more than 12 months in the 3 years immediately before the reference date. Compulsory national service and/or short stays such as holidays are not taken into account.

Language requirement: English / Proficient oral and written English skills are expected. French and/or German is desirable.

Main Research Field: Ecology, Social-Ecology

Sub Research Field: Remote Sensing or Bioinformatics

RESPONSE is open to applicants of any nationality.

For submitting your online application: https://join.lszgs.uzh.ch/ (select PhD Program Science and Policy). The online application should contain all information as indicated by the application portal. Moreover, the following documents have to be uploaded under “further documents”: 1) a letter of motivation to join a) the RESPONSE doctoral programme and b) to apply for this specific positon (ESR 22), 2) a comprehensive tabular CV, and 3) transcripts of records. If you apply for more than one RESPONSE position, please refer to them in your letter of motivation. Please note that we exclusively accept applications submitted through our online application portal. Applications via email or postal services will not be considered. The deadline is December 1, 2020.

Benefit

We are offering an interesting position at the interface of science and policy. While working in an international, interdisciplinary and innovative research environment at University of Zurich, the ESR will be jointly co-supervised by Prof. Maria J. Santos (Earth System Science,

Department of Geography) and Prof. Dr. Meredith Schuman (Spatial Genetics, Department of Geography) at University of Zurich and the South East Asia Rainforest Research Partnership.

The complete 36 months will be under 100% working contracts.

The PhD salary follows the regulations of University of Zurich and will be according to EU regulations for Marie Skłodowska-Curie Early Stage Researchers. The monthly salary will not be lower than CHF 3920.

The successful candidate will be matriculated and will have a working contract at University of Zurich. He/she will work in Switzerland. The secondment will take place Borneo.

Expected starting date of the working contract: **01.03.2021**

For questions and further information on the position, please contact (Prof. Dr. Maria J. Santos, maria.j.santos@geo.uzh.ch), no applications.

Further information

RESPONSE Doctoral Programme (DP): «RESPONSE - to society and policy needs through plant, food and energy sciences» is funded by the European Union's Horizon 2020 research and innovation program under the Marie Skłodowska-Curie Grant Agreement No 847585. RESPONSE DP builds on the academic expertise of three world-leading institutions - ETH Zurich, University of Zurich and University of Basel. The successful candidate will be integrated in the research network and infrastructure of the internationally renowned competence center Zurich-Basel Plant Science Center.

All RESPONSE ESRs will follow the PSC PhD Program Science and Policy that is unique in its kind. Through the curriculum of this program, ESR will be trained in the communication of scientific evidence to policy-makers and the public; the involvement of different stakeholder groups as well as in policy development and endorsement in Europe and at global scale.

For project, programme and application details:
https://www.plantsciences.uzh.ch/en/research/fellowships/response.html

Working location: Winterthurerstrasse 190, 8057 Zurich, Switzerland

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