OPEN PhD POSITION IN BRYOPHYTE BIOTECHNOLOGY/CONSERVATION

WHERE: Faculty of Biology, University of Belgrade (50% of the time); Fondazione Edmund Mach, Italy (50% of the time)

POSITION: 3 years position (half time in Serbia and half time in Italy)

REQUIERMENTS: MSc in Biological and allied sciences

FINANCE: We provide financial means for travel, stay and research in Italy, and research cost in Serbia.

Project description

The Institute of Botany and Botanical Garden, Faculty of Biology, University of Belgrade, Serbia (Prof. Dr. Marko Sabovljević) and the Reasearch and Innovation Center, Fondazione Edmund Mach, Italy (Dr. Li and Dr. Varotto) jointly offer a 3-year PhD position in bryophyte biotechnology/conservation.

Trentino-Alto Adige is the Italian region with the highest number of bryophytes (mosses, liverworts and hornworts): as many as 960 of the approximately 1200 Italian species are present in the Trentino region. Unfortunately, 287 species (96 liverworts and 191 mosses) are threatened with high extinction risk due to habitat fragmentation, land use change and climate change.

The project has two main objectives:

1) The conservation of some species of bryophytes of the Trentino flora vulnerable to global changes

2) Their use as a source of new metabolic genes for the biosynthesis of biologically active compounds with potential relevance for medicine and agriculture

The project involves the mapping of the populations of 20-25 species of bryophytes (mosses and liverworts) present in Trentino and considered vulnerable due to global changes. Following the assessment of the risk status, the selected species will be identified in the field and living samples will be collected to start their conservation and propagation *in vitro*. At the same time, the first *ex-situ* collection of Italian bryophytes will be launched, aimed at the conservation of species and genotypes at a national and regional level on the basis of the obligations undertaken at an international level by Italy under the Convention on Biological Diversity (CBD).

When some of the selected species of bryophytes reach a sufficient size *in vitro*, they will be used for stress physiology studies and next generation RNA sequencing under conditions that induce the production of anti-fungal compounds. The analysis of the resulting data will allow the identification and characterization in model organisms like yeast and *Marchantia polymorpha* of candidate genes for the biosynthesis of selected metabolites, which are active compounds with high potential for medicine and agriculture.

Your profile

- You have affinity with non-model plants
- You are experienced in wet-lab plant genetics/biotechnology
- You have experience with or are able to learn data mining (RNA-Seq)
- Proficiency in English both written and oral is a must
- You can work independently but also enjoy interaction with an international team

For more information you can contact Prof. Dr. Marko Sabovljević (marko@bio.bg.ac.rs), + 381 11 3244923 ext. 127 (office);

How to apply

Submit your application (including your CV) by email to Prof. Dr. Marko Sabovljević (marko@bio.bg.ac.rs) before October 1th 2021.