

Training program planned in the context of POLAR-MELT project

The PhD thesis will focus on the responses of the polar microbiome to climate change-induced expansion of glacier-fed streams. The doctoral candidate training plan aims to foster research excellence, creativity and develop critical thinking skills, along with other soft skills commonly associated with research activities, including leadership, effective communication, teamwork and diligence. The novelty of the proposed research, the robust internationalization of our group, and the significant technological developments associated with this research will provide the doctoral candidate with an opportunity to receive comprehensive training in fundamental aspects of ecology. This training will equip them to tackle challenges in their future research career. The training program includes three main strands:

Enrollment in a doctoral program in microbiology: The aim of this selection is to ensure adequate training in state-of-the-art microbiological techniques and knowledge. This will facilitate the development of the thesis and the integration of the future doctoral candidate in the R+D+I system. The target PhD programs are those available at the UAM or UCM.

Research activities: During the development of the thesis, the PhD candidate will acquire a wide range of skills and knowledge in microbial ecology and biogeochemistry through hands-on learning, tutoring activities by the thesis supervisor and specific training courses. The PhD candidate will be trained in the most advanced DNA-based molecular techniques to characterize the taxonomic and functional diversity of microbial communities and in high-resolution microscopy techniques. Learning molecular and microscopy techniques is highly relevant for the research career of the PhD candidate. This is particularly significant due to the scarcity of professionals with dual expertise in this field, an area in which the candidate's future research group is a pioneer in Spain. As part of their training plan and to enhance these skills, the candidate will participate in training sessions at the MNCN, such as the courses "Computer Geograph" and 'Analysis by Non Destructive Techniques'. Data analysis, writing, and communication skills are integral components that a PhD candidate must acquire and master. Therefore, we will strongly encourage the candidate to enroll in various courses available at the MNCN-CSIC and CSIC. The candidate will also be encouraged to attend the MNCN research seminars held every Friday and to participate in the annual MNCN research sessions. In

addition, the candidate will participate in outreach activities organized by MNCN, such as the European Researchers' Night. The research group collaborate actively with researchers from another national and international Centers, experts in different fields and methodologies. The interaction with these researchers will be enormously enriching for anyone who joins the project as a doctoral student. To foster his/her communication skills, the candidate will attend national (AIL, SIBECOL or AETT congress) and from the second year also to international (ASLO, ISME, SEFS) congresses to present ongoing research, first in the form of posters and later as oral communications.