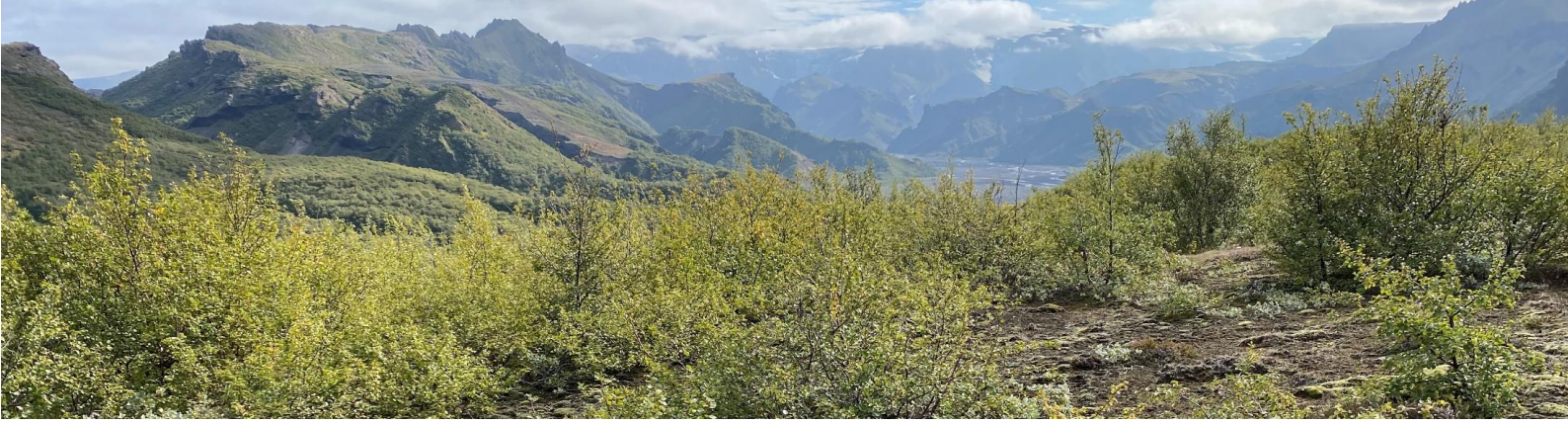

Diverse and inter-disciplinary PhD and MS projects in relation to birch woodland restoration in Iceland

are open for applications within the research project **Restoration of birch woodlands in the 21st century – challenges, approaches and benefits (BirkiVist)** funded by the Strategic Research and Development Program 2020-2023 on Societal Challenges. The project is a collaboration between the Agricultural University of Iceland (AUI), Soil Conservation Service of Iceland (SCSI), University of Iceland (UI), Iceland University of the Arts (IUA) and Icelandic Forest Service (IFS) together with other institutes, start-up company and NGOs.

Restoration of birch woodlands is an important way to conserve biodiversity and has an enormous potential for sequestration of carbon from the atmosphere into soils and vegetation. The main aim of BirkiVist is to promote large-scale restoration of birch ecosystems and assess multiple environmental, societal, economic and cultural implications of birch woodland restoration. The project is based on a cross-disciplinary approach and there is emphasis on developing administrative solutions and tools for improved effectiveness of restoration, along with modelling of potential rates and patterns of birch establishment with minimal intervention. The output will contribute to environmental policy and help Iceland meet its commitments to the Paris agreement and UN sustainable development goals.

We are now seeking applications for two PhD positions (36 months each) in the Faculty of Environmental and Forest Sciences at the Agricultural University of Iceland (potential for a joint degree with UI) and six MS projects (5-10 months stipend) at AUI (two projects) and Faculty of Life and Environmental Sciences at the University of Iceland (four projects). The individual projects are described briefly below:

- PhD 1 (AUI). The project addresses the colonization and dispersal of birch and involves modelling of the rate and patterns of birch colonization. The PhD candidate will also participate in the development of a model to predict natural colonization under different conditions and other project tasks that aim to underpin the ecological basis for restoration strategies on a national scale (contacts Ása L. Aradóttir asa@lbhi.is and Kristín Svavarsdóttir kristin.svavarsdottir@landgraedslan.is)

- PhD2 (AUI). The project focuses on changes in hydrology, carbon budgets and other soil factors associated with the establishment and maturing of birch woodlands on previously unforested (open) land (contacts Jóhann Þórsson johann.thorsson@landgraedslan.is and Ólafur Arnalds oa@lbhi.is)

- MS 1 (AUI). The project is interdisciplinary and focuses on the analysis of systematic and societal factors that facilitate or impede the conservation and restoration of birch ecosystems. The results will be used to develop or improve administrative and governance

tools for conservation, restoration, and management of birch ecosystems (contact Þórunn W. Pétursdóttir thorunn.petursdottir@landgraedslan.is).

- MS 2 (AUI). The project is interdisciplinary and addresses the importance and impact of different stakeholders for the protection and restoration of birch woodlands; analyses societal challenges and opportunities and examines ways to facilitate participation and cooperation among different stakeholders (contact Jónína S. Þorláksdóttir, joninasth@lbhi.is).
- MS 3 (UI/IUA). This project examines people's views and experiences of given birch woodlands to assess the aesthetic value of landscapes with birch woodlands. The project is interdisciplinary and is based on both quantitative and qualitative approaches (contacts Guðbjörg R. Jóhannesdóttir gudbjorgr@lhi.is and Edda R.H. Waage erw@hi.is).
- MS 4 (UI). This project studies the belowground biodiversity of birch woodlands at different stages of succession. Analyses of soil DNA (eDNA) will be used to assess the main groups of microbes, fungi and eucaryotes and how their composition changes through vegetation succession (contacts Edda Sigurdís Oddsdóttir Edda@skogur.is and Snæbjörn Pálsson snaebj@hi.is).
- MS 5 and 6 (UI). One of the projects aims at assessing the visual characteristic and status of birch woodlands among the main landscape types in Iceland; while the other project aims to describe visual changes during the establishment and development of birch woodlands in an open landscape and assess correlations between biodiversity and visual diversity of the landscape. Data collection will be shared for the two projects (contact Þóra Ellen Þórhallsdóttir theth@hi.is).

Students within the BirkiVist project will have the opportunity to work together in a multidisciplinary research group with scientists from many different agencies and universities, regardless of the program they will be registered in.

Applications should be submitted as soon as possible, and applications received by March 25th will have precedence. However, we will continue to accept applications until all positions have been filled. Students should commence their studies no later than June 2021.

Applicants for the PhD positions should have completed a MS degree in Restoration Ecology, Ecology, Biology, Environmental Sciences or related fields. The application should include a CV, appropriate confirmation of previous studies and an introductory letter stating the candidate's research interests and experiences in the field of the project in question. Additionally, students that have graduated from programs other than the hosting ones should provide contact information for two professional referees (including their relationship to the applicant).

Applicants for the MS projects should have completed a BS or BA degree in an appropriate field of study. CV and grades from their undergraduate studies should accompany the application.

Please note that many of the projects require considerable field work and extended travel throughout Iceland. Field work experience is advantageous and ability to work both independently and as a part of a team is required.

Applications and queries should be sent to Ása L. Aradóttir asa@lbhi.is or directly to the contact persons for each project (see above).