

## 1 PhD student in the research education subject: Biology with specialisation in ecology

### Ecology of aquatic fungi

The project is studying ecology and environmental role of fungi in the boreal and arctic region with emphasis in aquatic environments. Climate change is increasing the carbon loads to surface waters through the northern hemisphere with unknown impacts to the lake ecology and carbon cycling. One of the main groups starting the decomposition of organic matter are the fungi. The main focus of this project is to study the contributions of fungi to the processing of terrestrial organic matter arriving to the surface waters from surrounding vegetation and, in the arctic region, also from the melting permafrost. The methodology is combining experimental work with molecular methods, especially metagenomics sequencing. The project includes collaborations with researcher within the department and internationally.

Research at the Department of Forest Mycology and Plant Pathology centers on fundamental and applied aspects of fungal, microbial and plant biology. Important research topics include fungal interactions with other microorganisms and plants, ecological functioning and evolution. Central themes are plant pathology and nutrient cycling in agricultural and forest ecosystems. The department is placed at Uppsala BioCenter at SLU, Uppsala with approximately 300 employees in plant science, microbiology, plant pathology, chemistry, molecular biology, food science and computing biology. At campus active collaborations are established with the ecology and soil science departments, in particular related to community biology using high throughput DNA sequencing.

### Qualifications

We are seeking a highly motivated and enthusiastic candidate with a MSc degree in biology, ecology, environmental sciences or a related field. Experience in laboratory work is considered a merit. Either existing bioinformatics skills or aptitude to learn bioinformatics of genomic data is expected. Personal qualities, such as ability to work independently as well as in a team are highly valued. Good skills in written and spoken English are required. The applicant is expected to provide a motivation letter, CV, certified copies of degree certificates and a list of at least two personal references and their full contact information.

### Forms for funding or employment

Employment as PhD student 4 years

### SLU is an Equal Opportunity Employer.

**A person has basic eligibility for third level education** if he or she has taken a second level qualification or has completed course requirements of at least 240 higher education credits, including at least 60 higher education credits at second level.

**Selection among applicants meeting the requirements** is made with reference to written application including curriculum vitae, copies of degrees and transcripts of academic records, one copy of the dissertation for masters or undergraduate degree, a list of at least two references familiar with the applicant's qualifications, certified knowledge of the English language and an interview.

**Read more** about the PhD education in [the Handbook for postgraduate students](#)

**Read** about the PhD education at SLU at [www.slu.se/en/education/programmes-courses/postgraduate-studies/](http://www.slu.se/en/education/programmes-courses/postgraduate-studies/)

Use this [APPLICATION FORM](#)

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**Applications**, marked with **ref no SLU ua 4931/2016**, must have arrived at the Registrar of SLU, P.O. Box 7070, S- 750 07 Uppsala or [registrator@slu.se](mailto:registrator@slu.se) no later than **2017-02-14**.

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### Microbial mitigation of greenhouse gas emissions

The project is addressing microbial contributions to mitigating greenhouse gas emissions from boreal and arctic lakes. The study lakes represent key environments at the respective climatic zones with significant contributions to carbon cycling. The project is studying carbon dioxide and methane uptake by poorly characterized, but environmentally important microbes and the biology of these organisms. The methodology is combining fieldwork and cultivation experiments with molecular and biogeochemical analyses. The molecular methods used in the project include metagenomics and metatranscriptomics analyses and single cell sequencing of the environmental samples and cultured organisms. The work will be done in collaboration with researchers at Uppsala University, and at UiT The Arctic University of Norway.

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### Qualifications

We are seeking a highly motivated and enthusiastic candidate with a MSc degree in microbiology, biology, environmental sciences or a related area. Experience in laboratory work and fieldwork are considered a merit. Skills or interest in learning bioinformatics and statistical analysis of large data sets including both genomic and geochemical data is expected. Personal qualities, such as ability to work independently as well as in a team are highly valued. Driver's license is required. Good skills in written and spoken English are required. The applicant is expected to provide a motivation letter, CV, certified copies of degree certificates and a list of at least two personal references and their full contact information.

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**Applications**, marked with **ref no SLU ua 4919/2016**, must have arrived at the Registrar of SLU, P.O. Box 7070, S- 750 07 Uppsala or [registrator@slu.se](mailto:registrator@slu.se) no later than **2017-02-14**.