



## Postdoctoral Research Scientist and PhD Student Openings:

### *Interacting Processes in Arctic Reindeer Systems Experiencing Rapid Climate Change*

The Kvantum Institute  
University of Oulu, Finland

#### **Description of the positions**

- The Postdoctoral Researcher will study Social-Ecological-Climate Interactions, between reindeer herders, Lapland landscapes, weather & climate. The successful candidate will conduct and use stakeholder workshops and interviews to integrate traditional knowledge with scientific discoveries to co-produce new insights and identify key vulnerabilities, adaptive strategies, and management options applicable to sustainable reindeer systems.
- The Doctoral Student who will be quantifying CO<sub>2</sub> feedback magnitudes and year-long patterns in response to long term differences in reindeer grazing history and changes in winter snow regimes. These studies will be undertaken in Lapland at the Kevo Field Station and at the Oulanka Field Station in eastern Finland and will contribute to the EU EcoClimate research community.

#### **Description of the research group and project**

You will be part of a 4 year Kvantum project within the research program of the UArctic Research Chair, Professor Jeffrey Welker. Dr. Welker's research group (Arctic Ecology and Biogeochemistry-AEB) currently consists of postdoctoral fellows and graduate students at UOulu and the University of Alaska, Anchorage. Dr. Maria Vaisanen is a Co-PI on this project and collaborators include: Dr. Jouko Kumpula, Finnish Natural Resources Institute (LUKE), Dr. Riku Paavola, Director, Oulanka Field Station and Dr. Otso Suominen, Director, Kevo Field Station, and Dr. Minna Turunen, Arctic Center, University of Lapland, Rovaniemi.

As part of this Kvantum project, the Postdoctoral fellow will aim to create a revolutionary framework for understanding reindeer/caribou systems that will use experts from different disciplines and members of the stakeholder community to share, discover, and co-produce new knowledge, education and management options. Other members of the team, Two Doctoral Students, will simultaneously be: a) studying annual ecosystem CO<sub>2</sub> balances in response to grazing history and changes in snow in Lapland and eastern Finland and b) quantifying reindeer grazing patterns in Finnish Lapland with GPS data from collared reindeer, determining their seasonal diets using isotope forensics and evaluating how landscape use and diets effect reindeer carcass weights; and how that metric of animal production varies among individuals and between two reindeer herding districts.

#### **Qualification requirements**

**Postdoctoral Researcher position:** Prior experience working with reindeer herders in the Nordic region is preferred as is evidence of a strong publication record, academic training and a PhD in the fields of geography, environmental sciences, resource management, ecosystem science or related disciplines is required. The PhD degree must have been received no more than 10 years ago. Demonstrated skills in traditional knowledge gathering, spatial analysis, ArcGIS, and statistics are

critical. Fluency in Finnish as a first or second language is an important qualification as is fluency in English.

**Doctoral Student position:** Prior field measurements of trace gas fluxes and ancillary measures of vegetation, soils and microclimate traits are a requirement for the most complete applicants. In addition, she/he needs to have completed a MS or a MSc in ecology, ecosystem ecology, geography, environmental sciences or closely related fields within the past 2-3 years. Evidence of managing trace gas flux data, experience working under a suite of field conditions, and supervising field assistants is important as are statistical analysis experience and scientific presentation skills. Skills in ArcGIS and similar software are considered as advantages. These studies will take place in Lapland and eastern Finland where long-term grazing enclosures (60 and 25 years old in Pine Forests) and snow manipulations experiments are in place. Fluency in English and Finnish is an important qualification.

The selected PhD candidate will carry out her/his doctoral studies within the University of Oulu Graduate School (UniOGS) and must meet the requirements to receive doctoral study rights as defined in: [http://www.oulu.fi/uniogs/requirements\\_for\\_admission](http://www.oulu.fi/uniogs/requirements_for_admission).

#### What we offer

- You will become a part of a highly talented research group, working on strategically and globally significant research area
- You will receive support from your team and supervisor, so that you can excel in your studies and research
- In addition to modern research facilities, we offer you personnel benefits such as occupational healthcare and affordable sport services
- 4-year position, beginning on January 1, 2021 (or as soon as possible thereafter)
- A salary in accordance with the Finnish universities salary system (for teaching and research personnel): A Postdoctoral Researcher will be based on demand level 5 – 6 and a Doctoral Student level 2 – 4. In addition, a salary component based on personal work performance will be paid (maximum of 50% of the job-specific component). Typical starting salary for a Postdoctoral Researcher is approx. 3400€ per month (before taxes) and for a Doctoral Student approx. 2350€ per month (before taxes). A trial period of six months will be applied.

#### How to apply

Applications, together with all relevant enclosures, should be submitted using the electronic application form by **November 1st, 2020 at 23:59 (Finnish local time)**. The application should be written in English and include the following:

**Application link: <https://www.oulu.fi/kvantum/node/206669>**

- 1) A motivation letter (max. 2 pages)** summarizing applicant's professional experience and expertise and describing why applicant is interested in this position. Also, information on personal research interests, experience and career plans are valuable to provide here
- 2) Curriculum vitae (max. 4 pages)** in accordance with the guidelines of the Finnish Advisory Board on Research Integrity <http://www.tenk.fi/en/template-researchers-curriculum-vitae>
- 3) List of publications** based on the guidelines of the Academy of Finland <https://www.aka.fi/en/funding/apply-for-funding/az-index-of-application-guidelines/list-of-publications/>
- 4) A research plan, max. 3 pages** (Postdoctoral Researcher position only)
- 5) Certificates/Diplomas:** Scanned copy of the original doctoral degree certificate (Postdoctoral Researcher position) or of the original Master's degree certificate (Doctoral Student position) and transcript of records and, when necessary, official translations to Finnish or English
- 6) Contact information of two senior/experienced researchers** who may be asked to give a statement on the candidate

Only applications containing all relevant appendices and submitted through portal will be considered. Top candidates will be invited to an on-site or remote interview.

**Further information**

Dr. Jeff Welker, [jmwelker@alaska.edu](mailto:jmwelker@alaska.edu)

<https://www.oulu.fi/university/researcher/jeff-welker>

<https://www.uaa.alaska.edu/academics/college-of-arts-and-sciences/departments/biological-sciences/faculty/welker.cshtml>

Kvantum Institute (<https://www.oulu.fi/kvantum>) is one of the four strategic focus institutes supporting high-quality research, coordinating multidisciplinary research activities and doctoral training. Kvantum's science-based expertise meets global challenges in the focus areas Sustainable materials and systems and Changing climate and northern environment. The Institute promotes interdisciplinary networking of research groups as well as co-operation between groups and national and international partners.

**City of Oulu**

*The Oulu region is home to over 200 000 people making it the largest urban centre in northern Scandinavia and one of the fastest growing regions in Finland. Oulu is a combination of beautiful, northern nature, vivid cultural life and modern technology. Oulu is also known for its highly-educated people and friendly, easy-going atmosphere. Find out more about Oulu:*

*<https://www.oulu.fi/university/living-in-oulu>*