

## **PhD or Postdoctoral position in Experimental Aerosol Science**

The Institute of Atmospheric and Earth System Research at University of Helsinki has a full-time vacancy for a talented PhD student (4 years) or a Postdoctoral researcher (2+2 years) in the area of Experimental Aerosol Science.



Institute for Atmospheric and Earth System Research

Institute for Atmospheric and Earth System Research (INAR) is a multi- and interdisciplinary research unit based in physics, chemistry, meteorology, forest sciences, environmental sciences and social sciences in the University of Helsinki. INAR aims to strengthen the internationally leading, integrated multidisciplinary research and education environment for atmospheric and Earth system science and to feed in scientific results for the national and international environment and climate policy. It performs multiscale research from molecular to global scale and focuses on climate change, air quality, biogeochemical cycles and ecosystem processes.

### **Outline:**

Aerosol particles are present throughout the atmosphere and significantly affect the climate. Aerosols scatter and absorb solar radiation, and they are able to act as cloud condensation nuclei. A large fraction of particles is formed in the atmosphere through clustering and gas-to-particle conversion of low-volatile vapours: a phenomenon called New Particle Formation (NPF). According to the observations performed at the Amazon and Siberia, formation of new aerosol particles via gas-to-particle conversion is a rather uncommon phenomenon in pristine air, although the sink for low-volatile vapors is rather low and thus ideal for NPF. This is also in contradiction with what would be expected based on the knowledge obtained from recent laboratory experiments or from atmospheric measurements made in the boreal forest. The aim of the project is to understand why NPF are rare in Siberia.

### **Approaches:**

State-of-the-art experimental equipment will be placed at the remote Siberian stations for long-term measurements. The project suggests multidisciplinary approach: both physical characteristics of aerosol particles and chemical composition of precursor vapours will be measured, and together with available meteorological data this will provide a necessary data set for the holistic view on the phenomenon.

### **Job description**

Running the instruments (aerosol particle instrumentation and mass spectrometer) during measurement campaigns in Russia (Fonovaya-Tomsk station in Siberia);  
Data analysis and research based on the data including (but not limited to) atmospheric new particle formation and growth as well as oxidation of volatile organic compounds.

## **Profile and requirements**

You hold a Master's or PhD degree in Physics, Engineering, Chemistry, Meteorology, Atmospheric or Environmental Sciences.

You have good command in Russian and English languages.

You have basic programming skills (MATLAB/Python/R or similar).

You would like to work in the field/laboratory with experimental set-up and instrumentation.

Russian citizenship is an advantage.

## **We offer**

a salary for a period of four years (trial period 6 months):

a salary ranging from €2.100,00 to €2.400,00 for a PhD student, from €2.500,00 for a Postdoctoral researcher;

a dynamic and stimulating work environment.

## **How to apply?**

Applications (CV and motivation letter) may only be submitted by e-mail (see the list of contact persons below), until the closing date **20 September 2018**.

The selection committee will make a shortlist of candidates from amongst the submitted applications. The remainder of the selection procedure is specific to the position and will be determined by the selection committee. The starting date of the working contract is as early as possible.

For additional information about the position and the project, please contact

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Prof., Academician Markku Kulmala ([markku.kulmala@helsinki.fi](mailto:markku.kulmala@helsinki.fi)).

More information about the Institute: <https://www.helsinki.fi/en/inar-institute-for-atmospheric-and-earth-system-research>