

Hyttiälä Winter School 2018 - Advanced Analysis of Atmosphere-Surface Interactions and Feedbacks

University of Helsinki, [INAR](#) Institute for Integrated Atmospheric and Earth System Science Research (formerly [Division of Atmospheric Sciences](#)) is pleased to announce the intensive course "Advanced analysis of atmosphere-surface interactions and feedbacks " to be held at the Hyttiälä Forestry Field Station in Southern Finland on March 5-16, 2018.

Similar to our annual Autumn/Winter Schools, the course is based on intensive work in small groups, with MATLAB being the main tool for statistical analysis. This course in particular has the following main topic:

- ACTRIS intergration of observations, COBACC feedback loop from in-situ to remote sensing, new particle formation in pristine and megacity surroundings

Some of the transferable skills the course strives to improve:

- statistical analysis and use of MATLAB
- multidisciplinary approach
- project management
- collaborative learning
- broadening of the personal comfort zone
- introduction to SMEAR II measurement station

The course involves a few short relevant lectures, with the main emphasis placed on intensive group work and final report written after the course. The course is aimed at PhD students in atmospheric and biospheric sciences (also advanced MSc students are welcome to apply). During the course the students will utilize long-term aerosol, air ion, trace gas, meteorological and ecophysiological data measured at field stations in order to learn advanced data treatment and data analysis methods. The main tool used on the course is MATLAB.

To apply to the course, please fill in the [online application](#) form by **January 12, 2018**.

Location: [Hyttiälä Forestry Field Station, Southern Finland](#)

Time: March 5-16, 2018

Teachers: Prof. Markku Kulmala is the leading teacher. The other lecturers include Prof. Jaana Bäck, Prof. Tuukka Petäjä, Prof. in ACTRIS to be selected, Dr. Albert Porcar-Castell, Docent Katrianne Lehtipalo, Dr. Ekaterina Ezhova, Docent Leena Järvi, Dr. Ewan O'Connor, Dr. Silja Häme, Dr. Juho Aalto, Dr. Martha Arbayani Zaidan, Dr. Tuija Jokinen, Docent Taina Ruuskanen, and Dr Antti Lauri

Assistants: Chen Xuemeng, Dada Lubna, Garmash Olga, Halmeenmäki Elisa, He Xucheng, Keronen Petri, Lampilahti Janne, Nikandrova Anna, Passananti Monica, Tabakova Ksenia, Wimmer Daniela, Yonghong Wang, Jokinen Tuija, Leino Katri

Credits and accrediting body: 5 ECTS, University of Helsinki

Exam: Students write a scientific report based on the results from analysis done during the course

The course fee is 1600 EUR. This fee covers:

- all academic and social programme during the course
- access to the electronically provided course material

- accommodation in two-person rooms at the Hyytiälä Forestry Field Station during the course
- evening snacks on March 5, five daily servings between March 6-15 (breakfast, lunch, afternoon coffee, dinner, evening snacks) and breakfast on March 16
- transportation from Helsinki to Hyytiälä on March 5, and from Hyytiälä to Helsinki on March 16 (service to/from Helsinki-Vantaa airport is available)

The fee does not cover:

- travel expenses to and from Helsinki
- personal health and civil liability insurance
- personal expenses such as drinks, telephone, fax, photocopies, etc. during the course

For doctoral students of the University of Helsinki, the fee is covered by the [ATM-DP](#) Doctoral Programme. For master students of [ABS network](#) universities, the fee is covered by the ABS network.

Bus transportation between Helsinki and Hyytiälä

On Monday March 6th the bus to Hyytiälä will proceed according to the following schedule:

16:00 - departure from the Helsinki city center ([Mikonkatu charter bus stop](#))

16:20 - a brief stop in Kumpula campus (between Physicum and Chemicum buildings)

16:45 - a brief stop at Helsinki-Vantaa airport ([bus stop to the right of terminal 2 exit](#))

20:00 - arrival at the Hyytiälä Forestry Field Station

On Friday March 17th the bus from Hyytiälä will proceed according to the following schedule:

08:45 - departure from the Hyytiälä Forestry Field Station

12:00 - a brief stop at Helsinki-Vantaa Airport

12:25 - a brief stop in Kumpula campus

12:45 - arrival at the Helsinki city center

Activities during free time

Depending on the weather, there may be a possibility for winter sports like skiing. Before your departure, check the latest weather forecasts and bring your sports gear with you, if you wish. There will also be time for sauna during some of the evenings.

Facilities in Hyytiälä

Accommodation for the students is in two person rooms. Each room is equipped with beds, bed linens, towels, a small desk and a wardrobe. Two rooms share a bathroom and six rooms share a shower. It is also possible to store food in a refrigerator. There is also a washing machine for common use. For more detailed information please visit the [information page](#) of the station. In addition to normal clothes and perhaps some money (in Euros, to pay soft drinks and beer) you should bring

shoes and clothes to be prepared for the weather; the temperature in Hyytiälä in March is usually somewhere between -20 and +5 Celsius, it can be sunny, windy, rainy or snowing;

light indoor shoes since we stay inside most of the time;

bathing suit/shorts for ice-swimming (for the brave ones).

Furthermore, it is a good idea to bring a laptop computer with you if you have one. There will be desktop computers in common use, but not enough for everyone to have a personal computer all the time. There is a wireless internet connection at the station.

For any questions or clarifications regarding the course, please contact Taina Ruuskanen (taina.ruuskanen@helsinki.fi).

The course will be held in cooperation with Doctoral Programme in Atmospheric Sciences (ATM-DP), ABS network, BACCHUS, ACTRIS, Pan-Eurasian Experiment (PEEX), eScience Tools for Investigating Climate Change at High Northern Latitudes (eSTICC), Biosphere-Carbon-Aerosol-Cloud-Climate Interactions, Nordic graduate school (CBACCI). More information about the contributing and related projects and networks:

- [ATM-DP](#) (Doctoral Programme in Atmospheric Sciences)
- [ABS network](#) (Atmosphere-Biosphere Studies)
- [BACCHUS](#) (Impact of Biogenic versus Anthropogenic emissions on Clouds and Climate: towards a Holistic Understanding)
- [ACTRIS](#) (Aerosols, Clouds, and Trace gases Research Infrastructure Network)
- [PEEX](#) (Pan-Eurasian Experiment)
- [eSTICC](#) (Nordic Centre of Excellence)
- CBACCI (Biosphere-Carbon-Aerosol-Cloud-Climate Interactions, Nordic graduate school)