



Course announcement

Formation and Growth of Atmospheric Aerosols

Hyttiälä, Finland, August 12-22, 2024

The Doctoral Programme in Atmospheric Sciences at University of Helsinki, the Nordic Graduate School 'Biosphere-Carbon-Aerosol-Cloud-Climate Interactions' (CBACCI), Nordic Master's Degree Programme 'Atmosphere-Biosphere-Studies' (ABS), iLEAPS, PEEEX, and the MSCA DN project CLOUD-DOC are pleased to invite students to the 2024 Summer School "Formation and growth of atmospheric aerosols" (course ATMDP-005).

The course is worth 5 credits of ECTS (European Credit Transfer System).

The course is aimed to PhD students and advanced MSc students in atmospheric sciences. Topics that will be covered include at least the following:

1. Atmospheric aerosols
2. Atmospheric observations of aerosol formation and growth
3. Aerosol particle formation mechanisms
4. Thermodynamics of aerosol formation
5. Aerosol dynamics: condensation, coagulation, deposition, general dynamic equation
6. Aerosols, clouds and climate
7. Large-scale modeling of atmospheric aerosol
8. Gaseous precursors of atmospheric aerosols and their chemistry
9. Laboratory investigations of nucleation and nanoparticle growth
10. Computational methods related to particle formation
11. Instrumentation to detect particle formation
12. Analysis of new particle formation events
13. Secondary aerosols and air quality

The course consists of lectures and exercises (group work). Separate sessions related to transferable skills will also be included. There will be an exam at the end of the course. The course includes a visit to the [SMEAR II station](#). There will also be recreational events such as barbeque, sauna and swimming.

Location

[Hyttiälä Forest station](#) in Southern Finland

Time

Monday, August 12th - Thursday, August 22th, 2024

Transportation schedule (tentative):

Monday, August 12th

16:00 Helsinki Railway Station

~16:20 Kumpula campus

~16:45 Helsinki-Vantaa airport

~20:30 arrival in Hyytiälä

Thursday, August 22th

12:15 departure from Hyytiälä

~13:15 Tampere railway station (if needed)

~15:30 Helsinki-Vantaa airport

~16:00 Helsinki Railway Station

(Note, students staying for the CLOUD-DOC workshop after the course will have a different departure schedule from Hyytiälä on Sun 25th).

Please organize yourself the travels from your point of departure to Helsinki and back. Also note that people arriving/departing outside these times will need to arrange their own transportation to/from Hyytiälä (public transportation options are very limited).

Teachers

Prof. Markku Kulmala, Prof. Veli-Matti Kerminen and Prof. Katrianne Lehtipalo from INAR (University of Helsinki) will lead the course. There will be also several guest lecturers, including Prof. Hanna Vehkamäki (University of Helsinki), Dr. Xu-Cheng He (University of Helsinki/Cambridge), Prof. Risto Makkonen (Finnish Meteorological Institute), Assoc. Prof. Pauli Paasonen (University of Helsinki) and Prof. Douglas Worsnop (Aerodyne).

Participation costs

The course fee is 1700 €. It covers bus transport from Helsinki to Hyytiälä and back, accommodation in two-person rooms, all meals (breakfast, lunch, afternoon coffee, dinner, evening snack) in Hyytiälä, course material, and all academic and social programme during the course. The course fee does not cover any travel expenses related to arriving to Finland. University of Helsinki does not provide financial support for the course fee or travel expenses.

For University of Helsinki students, the fee is covered by the ATM-DP. Students from other Finnish and Nordic universities will only pay for accommodation and meals during the course (ca. 800 €).

Application

The application period ends 26th of April.

Apply here: <https://elomake.helsinki.fi/lomakkeet/128805/lomakkeet.html>

We will inform the applicants by May 10th if they have been selected for the course.

Further information:

If you have questions, please contact:

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