



## Virtual training school: Atmospheric observations of aerosols, clouds and trace gases (ATM-319)

May 3<sup>rd</sup>-10<sup>th</sup>, 2021

This is an advanced course on atmospheric observations of aerosols, clouds and trace gases. The topics covered on the course include: in-situ measurements and ground based remote sensing techniques of aerosols, reactive trace gases and clouds.

The students are expected to learn to understand the basic principles behind the measurement methods, to know the most important instrumentation including their advantages and limitations, and to use openly available data to answer their own research questions. We will also address issues related to open data, data management, data quality and integration of different observations.

### Teaching methods:

The course consists of a pre-assignment (to be completed before the course), lectures and group work during the intensive period and a project work, which should be handed in after the course. Attendance during the intensive period (3<sup>rd</sup> to 10<sup>th</sup> May, ca. 9-17 CET daily) is mandatory. The lectures are given via Zoom.

Master and doctoral students will obtain 5 ECTS after successful participation and completing all assignments.

### Target group and prerequisites:

The course is intended to advanced master students, doctoral students, young scientist (e.g. post docs), and personnel from aerosol measuring stations and research institutes involved in ACTRIS, CRAICC, GAW, GUAN, and EMEP.

Good English understanding and speaking skills, as well as basic knowledge about atmospheric science is required. The students should have at least basic skills in data analysis using a program of their liking (e.g. Matlab, Python, ...).

The number of participants is limited. In case there are too many applications, students will be selected based on their reason to take the course, their study background, and the order of registration.

### Teachers:

The course is coordinated by *Associate Prof. Katrianne Lehtipalo* (University of Helsinki, INAR). Lectures are given by various guest experts. More information and a detailed lecture program is available later.

### Application:

Please fill in the online application form by **April 1st** at:

<https://elomake.helsinki.fi/lomakkeet/110007/lomake.html>

We will inform applicants about the acceptance to the course by 15th of April.

**Requests of information:**

See the [course page](#) for updates.

For any additional information about the course, please contact:

[katrianne.lehtipalo@helsinki.fi](mailto:katrianne.lehtipalo@helsinki.fi)

**Course organizer:**

The course is organized by University of Helsinki, Institute of Atmospheric and Earth System Research (INAR) and ATM-MP Master Program, within the framework of the European research infrastructure ACTRIS and in collaboration with iLEAPS, PEEEX, ATM-DP Doctoral Program, the Nordic Graduate School “Biosphere-Carbon-Aerosol-Cloud-Climate Interactions” (CBACCI) and Nordic Master’s Degree Program “Atmosphere-Biosphere-Studies” (ABS).