



BACCHUS

Impact of Biogenic versus Anthropogenic emissions on Clouds and Climate: towards a Holistic UnderStanding

Collaborative Project

SEVENTH FRAMEWORK PROGRAMME
ENV.2013.6.1-2

Atmospheric processes, eco-systems and climate change

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Internal reviewer:	Ulrike Lohmann

Summary of results

Hyytiälä Winter school 2015: “Advanced analysis of atmospheric processes and feedbacks and biosphere-atmosphere interactions”

The winter school was organized by University of Helsinki at the Hyytiälä Forestry field station 15–26 March, 2015. It was aimed at PhD students in the fields of atmospheric and biospheric sciences. The participants of the winter school can obtain 5 ECTS credit points for their studies. The work during the winter school was based on analyzing measurement data from the Hyytiälä SMEAR II station in small groups of 4–5 students lead by assistants and teachers. The progress of the group works was presented in 3 presentations during the winter school, and a final report will be written by each group summarizing the main scientific results and conclusions. The winter school established a number of young researchers to work in the field of BACCHUS project.

The main topics of the winter school were covering several BACCHUS objectives:

1. Feedback-loops related to the interactions between atmosphere and biosphere especially focusing on the aerosol-cloud-climate interactions, which is one of the main objectives in BACCHUS. Attempts were made to link the ground-based aerosol number concentration measurements to satellite derived columnar properties (e.g. BACCHUS WP1).
2. Detailed study of the molecular steps leading to new particle formation in the boreal forest environment, and identifying conditions favoring or inhibiting growth of clusters over 2–4 nm size range and further into cloud condensation nuclei (BACCHUS WP2).
3. Effects of the unusually warm winter 2013–2014 on the ecosystem and its interaction with the atmosphere. Special focus of this topic was the spring recovery period, when the trees are found to frequently emit large quantities of volatile organic compounds that can participate in atmospheric chemistry and lead to new particle formation and growth (BACCHUS WP2).

In addition to the group work, the winter school had also lectures related to the scientific topics of the winter school (atmosphere-biosphere interactions, satellite data utilization and atmosphere-biosphere interactions), as well as on career development and philosophy of science.

The leader of the winter school was Prof. Markku Kulmala from University of Helsinki. Lecturers and teachers were mainly from the University of Helsinki,

Prof. Jaana Bäck (University of Helsinki)
Prof. Pepe Hari (University of Helsinki)
Prof. Veli-Matti Kerminen (University of Helsinki)
Prof. Doug Worsnop (University of Helsinki)
Dr. Jon Atherton (University of Helsinki)
Dr. Teemu Hölttä (University of Helsinki)
Dr. Olaf Krüger (Centre for Marine and Atmospheric Sciences (ZMAW), Germany)
Dr. Katrianne Lehtipalo (University of Helsinki)
Dr. Anna Lintunen (University of Helsinki)
Dr. Tuomo Nieminen (University of Helsinki)

The winter school had 19 students from 8 European universities and research institutes (BACCHUS partner institutes indicated with *):

Mai Allo (University of Helsinki) *
Sigurd Christiansen (University of Copenhagen)
Lubna Dada (University of Helsinki) *
Konstantinos Doulgeris (Finnish Meteorological Institute) *
Luise Jabu Fischer (University of Zürich and University of Helsinki) *
Kirsten Fossum (National University of Ireland) *
Benjamin Normann Frandsen (University of Copenhagen)
Tom Goren (The Hebrew University of Jerusalem) *
Liine Heikkinen (University of Helsinki) *
Silja Häme (University of Helsinki) *
Lauri Lindfors (University of Helsinki) *
Mari Mäki (University of Helsinki) *
Androniki Maragkidou (University of Helsinki) *
Laura Matkala (University of Helsinki) *
Ghislain Motos (Paul Scherrer Institute) *
Otso Peräkylä (University of Helsinki) *
Sissel Svendsen (University of Copenhagen)
Jesus Vergara Temprado (University of Leeds) *
Filippo Xausa (University of Helsinki) *



Figure 1. Participants of the Hyytiälä winter school 2015.

Changes with respect to the DoW

No changes with respect to the Dow.