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11th International Conference on Air Quality - Science and Application

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Observation, Modelling, Assessment in the Arctic-Boreal Domain

Organised by Pan-Eurasian Experiment (PEEX) - this session is open to all researchers with an interest in this area

You are kindly invited to contribute to the special session organised by "Pan-Eurasian Experiment (PEEX)" with oral or poster presentations. Please select topic "Special session – Observation, Modelling and Assessment in the Arctic-Boreal Domain " when submitting your abstract.

Chairs: Prof. Markku Kulmala, UHEL, Finland; Prof. Alexander Baklanov, WMO, Switzerland and Dr. Alexander Mahura, UHEL, Finland

Background and scope

This special session will be led by called "Pan-Eurasian Experiment" (PEEX; <https://www.atm.helsinki.fi/peex> (<https://www.atm.helsinki.fi/peex>)), which is a multi-disciplinary, multi-scale and multi-component climate change, air quality, environment and research infrastructure and capacity building programme (http://www.atm.helsinki.fi/peex/images/PEEX_Science_Plan.pdf (http://www.atm.helsinki.fi/peex/images/PEEX_Science_Plan.pdf)). It is originated from a bottom-up approach by the science community, and is aimed at resolving major uncertainties in Earth system science and global sustainability issues concerning the Arctic and boreal Pan-Eurasian regions as well as China. The programme solves interlinked grand challenges influencing human well-being and societies in Northern Eurasia and China, by establishing and maintaining long-term, coherent and coordinated research activities as well as continuous, comprehensive research and educational infrastructures. The PEEX approach is integrative and interdisciplinary, recognizing the important role of the Arctic and boreal ecosystems in the Earth system, and understanding that solutions to the interconnected environmental problems can be provided only by a harmonized and holistic comprehensive observational approach utilizing all available modeling tools representing different spatial and temporal scales.

However, the session is open to all researchers and users who are interested in scientific issues such as air quality, climate change, biodiversity loss, chemicalisation, etc. as well as in-situ and satellite observations and multi-scale modelling of atmospheric composition as well as multi-level assessment on environment and population of the Northern Eurasia and China.

This session scope and aims to bring together researchers and users interested to (i) understand the Earth system and influence of environmental and other changes in pristine and industrialized Pan-Eurasian environments (system understanding); (ii) determine relevant environmental, climatic, and other processes in the Arctic-boreal regions (process understanding); (iii) maintain long-term, continuous and comprehensive ground-based, air/seaborne research infrastructures together with satellite data (observation component); (iv) develop new datasets and archives with continuous, comprehensive data flows in a joint manner (data component); (v) implement validated and harmonized data products in models of appropriate spatial and temporal scales and topical focus (modeling component).

List of topics included in this special session:

- Impacts on environment and ecosystems as well as on human health due to atmospheric transport, dispersion, deposition and chemical transformations of air pollutants for the Northern Eurasia and China regions
- Ground-based and satellite measurements for atmospheric composition, datasets with observations for the Arctic-boreal regions
- New approaches and methods on measurements and modelling in Arctic conditions
- Improvements in natural and anthropogenic emission inventories for Arctic-boreal regions
- Atmospheric physical and chemical processes in a northern context
- Aerosol formation, radiative forcing and feedbacks in Arctic regions, Siberia and China
- Short lived pollutants and climate forcers, permafrost effects, forest fires effects
- Carbon monoxide and methane, ecosystem carbon cycle

Submission and review of abstracts

Abstracts should be submitted normally via the website system. Authors should indicate in their abstract that they wish to have their presentation considered as part of this special session. All abstracts are reviewed through the usual review process of the Conference.

Submission of papers or submission to a specific journal

Manuscripts may be submitted to appropriate journals such as Atmos. Environ., Geosci. Model Develop., Atmos. Chem & Physics special PEEX issue (https://www.atmos-chem-phys.net/special_issue395.html)

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