



Workshop: Developing an Interdisciplinary Research Agenda for Arctic Air Pollution – Natural and Social Science

Location: ASSW 2017 venue, Prague, Czech Republic

Date: between 31 March and 7 April 2017 (most likely 2 April 2017)

Attendees: maximum 30 international scientists and experts on natural and social sciences in the Arctic including early career researchers

The objectives of this workshop are:

- a) to develop joint and concrete research questions among social and natural sciences on local Arctic air pollution sources and their impacts
- b) to define priority geographic research areas,
- c) to identify the geographical, cultural and scientific scope of the WG activities
- d) to gain members for the interdisciplinary working group within the PACES activity on the theme “Arctic Air Pollution and Societies” that will be in charge of facilitating the inter- and transdisciplinary research in the coming years (Working Group 2).

Specific topics to be discussed will be how to:

- a) develop ways to understand in-Arctic air pollution sources and their development trajectories through natural-social science collaboration,
- b) explore community based observing (CBO) in pilot programs in key regions and opportunities for further efforts,
- c) explore topics related to legal frameworks, service delivery, health impacts, communication, and broader issues of trust.

Background

This workshop will provide a forum for focused discussions, building on ideas from two previous PACES meetings held in 2015 (Boulder and Helsinki, see <http://www.igacproject.org/PACES>) and the “Air pollution and Arctic Societies” workshop in Fairbanks during ASSW 2016, a preparatory meeting to the proposed activity. Follow-up meetings on research ideas, methodological development, development of community based monitoring approaches specific to the theme, as well as establishing connections to Arctic communities are planned for 2017 and 2018. This timeline is aligned with the schedule for dedicated atmospheric chemistry measurement campaigns under PACES. A white paper draft for WG 2 activities will be available by then.



PACES is a

- **New international initiative (2015- ..)** : under auspices of **International Atmospheric Chemistry Project** (IGAC/Future Earth) & **International Arctic Science Committee** (Atmosphere WG)
- **Community initiative following workshop** (Boulder, Feb. 2015) (sponsored by IGAC/IASC) → **White Paper** (<http://www.elementalscience.org/articles/104>, **Elementa**)
- **Exploring links** to other international initiatives (PEEX, IASOA, AMAP, HTAP, MOSAiC, Year of Polar Prediction (YOPP), Arctic Obs Summit (AOS), ArcticStar, ...)
- **Second workshop** in Helsinki, October 2015 (joint AMAP/BORNET-PEEX) to identify first set of **PACES actions**

3 Co-chairs:

- Steve Arnold, School of Earth and Environment, University of Leeds, UK
- Kathy Law, LATMOS/CNRS, Paris, France
- Chuck Brock, NOAA Earth System Research Laboratory, Boulder, US

Scientific Steering Committee:

Sandy Starkweather (NOAA, US), Jennie Thomas (CNRS, France), Hiroshi Tanimoto (NIES, Japan), Sangeeta Sharma (Environ. Canada), Marianne Lund (CICERO, Norway), Jim Gamble (Aleut Int. Assoc., US), Andreas Stohl (NILU, Norway), Tuukka Petäjä (U. Helsinki, Finland), Knut von Salzen (Environ. Canada), Julia Schmale (PSI, Switzerland)

Key Research Topics

- **Sources** of air pollution in the Arctic – **remote and local**
- **Processing, fate, and impacts** on climate, ecosystems & health
- Interactions and **feedbacks** between anthropogenic pollution and natural sources
- Arctic **climate response** to forcing within and outside of Arctic
- **Societal perspectives**: health, ecosystems, sustainability, adaptation, economics, politics

Goals of PACES

- Assess current understanding and provide recommendations for policymakers and research agencies, to guide future research in Arctic air pollution and its effects across the atmosphere, cryosphere, ocean, land surface and local societies
- Coordinate research efforts on Arctic air pollution – link to past, current and upcoming programs
- Foster trans-disciplinary research by organizing workshops and supplying on-line resources
- Encourage and coordinate collaborative, international, coupled measurement-modeling projects on specific Arctic air pollution topics