

EGU2020-7740

<https://doi.org/10.5194/egusphere-egu2020-7740>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Pan-Eurasian Experiment (PEEX) Programme – Overview on the recent results

Hanna Lappalainen^{1,2,3}, Veli-Matti Kerminen¹, Nuria Altimir¹, Alexander Mahura¹, Ekaterina Ezhova¹, Timo Vihma², Petteri Uuotila¹, Sergey Chalov⁴, Pavel Konstantinov⁴, Michael Archinov⁵, Yubao Qui⁶, Igor Ezau⁷, Ilmo Kukkonen⁸, Vladimir Melnikov³, Aijun Ding⁹, Alexander Baklanov¹⁰, Nikolai Kasimov⁴, Hudong Guo⁶, Varely Bondur¹¹, Tuukka Petäjä^{1,3}, and the Hanna Lappalainen*

¹University of Helsinki, Physics Department, Helsinki, Finland (hanna.k.lappalainen@helsinki.fi)

²Finnish Meteorological Institute (FMI), Helsinki, Finland

³University of Tyumen, Russia

⁴Moscow State University, Moscow, Russia

⁵Institute of Atmospheric Optics, Tomsk 634055, Russia

⁶Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China

⁷Nansen Environmental and Remote Sensing Center, NERSC, Norway

⁸Geophysics, University of Helsinki, Finland

⁹Institute for Climate and Global Change, Research & School of Atmospheric Sciences, Nanjing University, China

¹⁰World Meteorological Organization, Switzerland

¹¹Aerocosmos, Russia

*A full list of authors appears at the end of the abstract

Pan-Eurasian Experiment (PEEX) Programme (www.atm.helsinki.fi/peex) initiated in 2012 is an asset for INAR at the University of Helsinki and its co-partners to have high international visibility, to attract further research collaboration and to upscale the scientific impact in various arenas. The PEEX is interested in the northern high latitudes (Arctic, boreal) and on China and the new Silk Road Economic Belt regions. The PEEX scientific focus is on understanding of large-scale feedbacks and interactions between the land -atmosphere - ocean continuum under the changing climate of the Northern high latitudes and at the Arctic (Kulmala et al. 2015, Lappalainen et al. 2014; 2015; 2016; 2018, Vihma et al. 2019, Alekseychik et al. 2019, Kasimov et al. 2018) and on the transport and transformation of air pollution in China. PEEX research results have been published the PEEX Special Issue in J. Atmospheric Chemistry and Physics (www.atmos-chem-phys.net/special_issue395.html), in the Journal "Geography, Environment, Sustainability" (ges.rgo.ru/jour) and in the J. Big Data (journalofbigdata.springeropen.com). In 2019 PEEX started comprehensive analysis on the first results over last five years based on the published peer review papers and results attained from the PEEX geographical domain. The aim of the analysis is to study the state-of-the-art research outcome versus the PEEX large-scale research questions addressed by the Science Plan (Lappalainen et al. 2015). To facilitate the direct input from the research community, we have asked researchers to answer to a form where they could list their main scientific results and activities considered relevant to PEEX region and also include ancillary

information such as type of activity or geographical extend. The preliminary metadata database covers information from over 400 scientific papers and the analysis is in progress. The key gaps of current understanding and future research needs will be discussed from the system point of view, from the land ecosystems, atmosphere, ocean & river systems and society perspectives and preliminary results will be introduced at EGU PEEEX session.

Hanna Lappalainen: H.K. LAPPALAINEN, V-M. KERMINEN, N. ALTIMIR, A. MAHURA, E. EZHOVA, T.VIHMA, P. UOTILA, S. CHALOV, P. KONSTANTINOV, M. ARSHINOV, Y. QIU, I. EZAU, I.KUKKONEN, V. MELNIKOV, A. DING, A. BAKLANOV, N. KASIMOV, H. GUO, V. BONDUR, T.PETÄJÄ, S. ZILITINKEVICH, M. KULMALA & PEEEX Teams