

Pan-Eurasian Experiment (PEEX) Program

Hanna K. Lappalainen^{1,2}, Tuukka Petäjä¹, Gennady Matvienko³, Alexander Baklanov⁴, Yrjö Viisanen², Nikolay Kasimov⁵, Huadong Guo⁶, Valery Bondur⁷, Pavel Kabat^{1,7}, Sergej Zilitinkevich^{1,2} and Markku Kulmala¹

- 1) Dept. of Physics, University of Helsinki, Finland.
- 2) Finnish Meteorological Institute, Helsinki, Finland
- 3) Institute of Atmospheric Optics, Tomsk 634055, Russia
- 4) World Meteorological Organization, 1211 Genève, Switzerland
- 5) Moscow State University, Russia
- 6) Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, Beijing 100101, China
- 7) AEROCOSMOS Research Institute for Aerospace Monitoring, Moscow, Russia
- 8) International Institute of Applied System Analysis (IIASA), Schlossplatz 1 A-2361 Laxenburg, Austria

The Eurasian Pan-Eurasian Experiment (PEEX) is a multidisciplinary, multi-scale program focused on solving grand challenges in northern Eurasia and China focusing in Arctic and boreal regions. PEEX will also help to develop service, adaptation and mitigation plans for societies to cope with global change. It is a bottom-up initiative by several European, Russian and Chinese research organizations and institutes with co-operation of US and Canadian organizations and Institutes. The PEEX approach emphasizes that solving challenges related to climate change, air quality and cryospheric change requires large-scale coordinated co-operation of the international research communities. Strong involvement and international collaboration between European, Russian and Chinese partners is needed to answer the climate policy challenge: how will northern societies cope with environmental changes? The promoter institutes of this initiative are the University of Helsinki and the Finnish Meteorological Institute in Finland; the Institute of Geography of Moscow State University, AEROCOSMOS, and the Institute of Atmospheric Optics (Siberian branch) of the Russian Academy of Sciences (RAS) in Russia; the Institute of Remote Sensing and Digital Earth (RADI) of the Chinese Academy of Sciences (CAS) and the institute for climate and global change research of Nanjing University in China. PEEX is built on collaboration by EU, Russian and Chinese parties, involving scientists from various disciplines, experimentalists and modelers, and international research projects funded by European, Russian and Chinese funding programs. The first active PEEX period is 2013-2033, though PEEX will continue until 2100. The first PEEX meeting was held in Helsinki in October 2012. PEEX is open for other institutes to join.

References:

Kulmala, M., Lappalainen, H.K., Petäjä, T., Kurten, T., Kerminen, V.-M., Viisanen, Y., Hari, P., Bondur, V., Kasimov, N., Kotlyakov, V., Matvienko, G., Baklanov, A., Guo, H., Ding, A., Hansson, H.-C., and Zilitinkevich, S., 2015. Introduction: The Pan-Eurasian Experiment (PEEX) – multi-disciplinary, multi-scale and multi-component research and capacity building initiative, *Atmos. Chem. Phys.*, 15, 13085-13096, 2015 doi:10.5194/acp-15-13085-2015

Lappalainen, H. K., Kerminen, V.-M., Petäjä, T., Kurten, T., Baklanov, A., Shvidenko, A., Bäck, J., Vihma, T., Alekseychik, P., Andreae, M. O., Arnold, S. R., Arshinov, M., Asmi, E., Belan, B., Bobylev, L., Chalov, S., Cheng, Y., Chubarova, N., de Leeuw, G., Ding, A., Dobrolyubov, S., Dubtsov, S., Dyukarev, E., Elansky, N., Eleftheriadis, K., Esau, I., Filatov, N., Flint, M., Fu, C., Glezer, O., Gliko, A., Heimann, M., Holtzlag, A. A. M., Hörrak, U., Janhunen, J., Juhola, S., Järvi, L., Järvinen, H., Kanukhina, A., Konstantinov, P., Kotlyakov, V., Kieloaho, A.-J., Komarov, A. S., Kujansuu, J., Kukkonen, I., Duplissy, E.-M., Laaksonen, A., Laurila, T., Lihavainen, H., Lisitzin, A., Mahura, A., Makshtas, A., Mareev, E., Mazon, S., Matishov, D., Melnikov, V., Mikhailov, E., Moisseev, D., Nigmatulin, R., Noe, S. M., Ojala, A., Pihlatie, M., Popovicheva, O., Pumpanen, J., Regerand, T., Repina, I., Shcherbinin, A., Shevchenko, V., Sipilä, M., Skorokhod, A., Spracklen, D. V., Su, H., Subetto, D. A., Sun, J., Terzhevik, A. Y., Timofeyev, Y., Troitskaya, Y., Tynkkynen, V.-P., Kharuk, V. I., Zaytseva, N., Zhang, J., Viisanen, Y., Vesala, T., Hari, P., Hansson, H. C., Matvienko, G. G., Kasimov, N. S., Guo, H., Bondur, V., Zilitinkevich, S., and Kulmala, M.: Pan-Eurasian Experiment (PEEX): towards a holistic understanding of the feedbacks and interactions in the land–atmosphere–ocean–society continuum in the northern Eurasian region, *Atmos. Chem. Phys.*, 16, 14421-14461, <https://doi.org/10.5194/acp-16-14421-2016>, 2016.