



Pan-Eurasian Experiment

PEEX

The 1st Pan-Eurasian Experiment (PEEX) Science Conference & The 5th PEEX Meeting Helsinki, Finland 10-13 February 2015

TENTATIVE AGENDA

Plenaries 40 min (30+10) min; Scientific presentation 20 min (15+5 min) or 15 min

TUESDAY 10. February

10:00 Registration opens

LUNCH

13:00 Opening Words – Rector Jukka Kola University of Helsinki

13:10 Aims of the Conference and the meeting

Introduction to PEEX Science Plan , Prof. Markku Kulmala, University of Helsinki

13:40 **SESSION: ATMOSPHERIC – ANTHROPOGENIC SYSTEM** chair: Aijun Ding

13:40 Proactive and integrative adaptation to climate change in future earth,
Prof. Congbin Fu, Institute for Climate and Global Research, Nanjing University, China (**Plenary**)

14:20 The role of anthropogenic activities in CO₂ and CH₄ emission from soil to atmosphere in polar regions of East Europe, S.V.Goryachkin INST

14:40 Evaluating model-simulated short-lived climate pollutants in the high latitude Pan-Eurasian region, Dominick Spraklen Univ.Leads

15:00 **SESSION: ATMOSPHERIC AEROSOLS** chair: NN

<presentations 15 min>

15:00 Atmospheric mass spectrometry group at the University of Helsinki,: overview and recent results, Michael Ehn, Univ.Helsinki

15:15 Hygroscopic properties of background aerosols in Siberian boreal forests: ZOTTO summer campaign 2013 E. F. Mikhailov St-Petersburg State University

15:30-16:00 Coffee break

SESSION: ATMOSPHERIC AEROSOLS

16:00 New insights on the new particle formation events observed in the boreal zone of West Siberia derived from recent four-year continuous observations ,M.YU. Arshinov Inst. of Aerosol Optics

16:15 Observation of ultrafine particles size distribution at two different heights in an arctic site Lupi ISAC-CNR

16:30 Aging of biomass burning aerosol after long- range transport from large scale wildfires in the PEEX region, K. Eleftheriadis, N. C. S. R. Demokritos Greece

16:45 Vertical mixing of aerosol in the planetary boundary layer AT NY-ÅLESU,ND, Svalbard, O. Drofa CNR-ISAC

17:00 Aerosol emission reductions over the 20th and 21st century and their impact on polar climate, V. Varma Univ.Stockholm

17:15 Long-term aerosol measurements in Russian Arctic, E. Asmi, FMI

17:30 Lightning activity in the changing climate: aerosol significance, Evgeny Mareev

session end at 17:45

18:00 **POSTER SESSION incl. short introduction on posters & Ice Breaker Party**

PEEX Preparatory Phase Committee meeting (invited participants)

WEDNESDAY 11. February

09:00 Meeting the Challenges and Risks of Climate Change in the Arctic. Prof. Klaus Peter Koltermann, Moscow State University, Russia (**Plenary**)

09:40 **SESSION: ATMOSPHERE - METEOROLOGICAL SCALE** chair: NN

09:40 Stably stratified planetary boundary layers: nature, theory and role in atmosphere-land systems S. Zilitinkevich, FMI

10:00 The climate role of shallow stably stratified atmospheric boundary layers, Igor Esau Nansen

10:20 The large-scale circulation during air quality hazards in Bergen, Norway T. Wolf, NERSC NO

10:40 Atmosphere-Land coupling at high latitudes: impact on near surface temperature and CO₂, A. Beljaars, ECMWF

11:00 **SESSIONS: BIOGEOCHEM CYCLES** chair: NN

11:00 Regional greenhouse gas budgets of northern Eurasia as inferred from in situ observations and from space, Martin Heimann, Max-Planck-Institute for Biogeochemistry

11:20 Impact of biogeophysical and biogeochemical processes and their interactions on permafrost soil carbon stocks A.K. Jain and S. Shu

11:40 Response of carbon cycle to enhancement of climate aridity in various ecosystems of Central Russia, Kurganova INST

12:00-13:00 Lunch

13:00 **SESSIONS: BIOGEOCHEM CYCLES** *continues*

13:00 Impacts of northern Eurasian forests on the global carbon cycle: a system approach. Z. Shvidenko IIASA

13:40 Soil HONO emission and its potential impact on the atmospheric chemistry and nitrogen cycle H. Su MaxPlanck Chemistry

13:40 **SESSION: LAND-ATMOSPHERE INTERACTIONS & LAND ECOSYSTEMS** chair: NN

13:40 Does Northern hemisphere terrestrial snow cover vary intra seasonally? B.S. Barrett and G.R. Henderson, US Naval Academy

14:00 Snow mapping over Tibetan Plateau using Earth Observations Data, Y.B. Qiu RADI

14:20 China environmental and contamination histories: insights from atmospheric trace elements in the Puruogangri ice core (Tibetan Plateau), Emilie Beaudon, Ohio State University

14:40 Temporal - spatial variability of the thermal regime of the near-surface permafrost AT TIKSI Observatory P.V. Bogorodskii, AARI

15:00 Precipitation and net ecosystem exchange are the most significant factors explaining runoff DOC concentrations and fluxes in upland boreal catchments, Jukka Pumpanen, Univ.Helsinki

15:30-16:00 coffee break

16:00 **SESSION: THE ARCTIC OCEAN & THE BALTIC SEA** chair: NN

<presentations 15 min>

16.15 Effects of the arctic sea ice decline on Eurasian climate, Timo Vihma, FMI

16.30 Arctic sea ice and East Asian Monsoons Yongqi Gao NERSC

16:45 A role of the Arctic sea ice loss in the increased frequency of anomalously cold winters over the Northern Eurasia V.A. Semenov and M. Latif Helmholtz Zentrum für Ozeanforschung Kiel

17:00 ATLAS "Russian Arctic IN THE XXI CENTURY: nature conditions and risks in the development" Sergey Dobrolyubov Moscow State University

17:15 Small-scale atmosphere-ocean coupling in gale-force winds: models, experiments, remote sensing, Y.Troitskaya Nizhny Novgorod State University

17:15 **SESSION: LAKE AND RIVER SYSTEMS** chair: NN

<presentations 15 min>

17:15 Geochemical Patterns in a Large River Network due to Hydroclimatic Development and Anthropogenic Impacts: Selenga-Baikal catchment, Sergey Chalov Moscow State university

17:30 Sensitivity of carbon fluxes in land-atmosphere-hydrosphere system of Yenisey river catchment to climate variability: development of krasflux network for the long-term analysis A.S. Prokushkin, V N Sukachev Institute of Forest SB RAS
17:45 Methane under ice in boreal lakes, Terhi Rasilo, L'Université du Québec à Montréal
18:00 Methane emission from tundra lakes in Western Siberia, L.L. Golubyatnikov and V.S. Kazantsev INST

session ends at 18:15

19:00 **JOINT DINNER INCLUDING PROGRAM AND CEREMONY**

THURSDAY 12. February

09:00 **SESSION: FUTURE SOCIETIES – NATURAL HAZARDS** chair: NN

09:00 The value of systems science to study pan-Eurasian futures, Prof. Pavel Kabat, International Institute for Applied Systems Analysis, Austria (Plenary)
09:40 Transformation of Human Settlements in Arctic Regions of Russia and Its Relation to Ethnicity and Natural Resources Use T.V. Litvinenko, Dept.Social and Economical Geography, Inst Of Geography
10:00 Social systems, new infrastructure and climate effects: Yamal Peninsula Alexey Shcherbinin, Univ.Helsinki (15 min)
10:15 The storminess and the wind wave climate in the Baltic sea produced by the swan model A.YU. S.Myslenkov INST.(15min)-
10:30 Modelling and evaluation of impact on population due to continuous emissions from severonickel smelters (Kola Peninsula), A.G. Mahura, Danish Met.Inst.(15 min)
10:45 Introduction of air quality studies at Tsinghua University, Beijing China Jingkun Jiang (15 min)

11:00 **SESSION: CONCEPTS TOWARDS COHERENT, COORDINATED PAN-EURASIAN OBSERVATION NETWORK, DATA SYSTEMS AND MULTI-SCALE MODELLING PLATFORM** chair: Gerrit de Leeuw

11:00 Why should PEEEX rely on Environmental Research Infrastructures ? Prof. Paolo Laj, Laboratoire de Glaciologie et Geophysique de l'Environnement & Univ,Helsinki (Plenary)
11:40 Global network concept Prof. Pertti Hari Univ.Helsinki

12:00-13:00 Lunch

13:00 EARTH OBSERVATION FOR ENVIRONMENTAL STUDIES ON THE SILK ROAD ECONOMIC BELT > Prof. Huadong Guo, Institute of Remote Sensing and Digital Earth, CAS, China (Plenary)
13:40 GAW program and links with PEEEX/modelling platform Prof. Alexander Baklanov, WMO
14:00 Arctic Ocean network concept Prof. Timo Vihma, FMI
14:20 Current PEEEX-labeled activities at IEAS and AEROCOSMOS, Prof. Valery Bondur

14:40 **SESSIONS PEEEX RESEARCH INFRASTRUCTURE** chair: Tuukka Petäjä

<RI presentations 15 min>

14:40 Sort remarks on the PEEEX RI main aspects T.Petäjä
14:45 Overview and first results from SMEAR Estonia, Steffen Noe EULS
15:00 Introduction to a flagship site SORPES in East China and an overview of main results obtained during 2011-2014, Aijun Ding, Univ.Nanjing
15:15 Observing cloud and precipitation processes in the PEEEX domain through a combination of satellite remote sensing and ground based observations, V.Chandrasekar FMI

15:30-16:00 coffee break

16:15 Building the metadatabase of PEEEX observational infrastructure Pavel Alexeychik Univ.Helsinki
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16:15-18:00 **WORKING GROUPS** (all conference/meeting participants)

- WG-Land system (Rapporteurs 1,2 NN, NN)
 - WG-Atmospheric system (Rapporteurs 1,2 NN, NN)
 - WG-Water systems (Rapporteurs 1,2 NN, NN)
 - WG-Anthropogenic activities – society –mitigation – adaptation (Rapporteurs 1,2 NN, NN)
 - WG-Research Infrastructures (Rapporteur NN,NN)
 - WG Modelling Platform (Rapporteur NN,NN)
 - WG-Education – training – out research (Rapporteur 1,2 NN, NN)
- (side-meetings)

19:00 Dinner

Friday 13. February

08:30 SESSION: RESEARCH INFRASTRUCTURES continues

<RI presentations 15 min>

08:30 A New peatland research station in the center of West Siberia: description of infrastructure and research activities, E.D Lapshina INST
08:45 Observational infrastructure in eastern Siberia by Japanese collaborative study, Y. Iijima INST.
09:00 UAV monitoring technology for observations in Pan-Eurasian Regions, N.M.Sitnikov
09:15 Remote sensing and field data applied to the regional validation of a snow climate model D. Verseghe Canada
09:30 WEB-GIS based virtual research environment for north Eurasia climatic studies E.P. Gordov
09:45 Generalizing flux tower measurements with lidar-assisted forest maps, T. Kauranne Univ.Lappeenranta

10:00 SESSION TRAINING AND EDUCATION

chair: NN

10:00 Seas, lakes and boulder watershed territories OF RUSSIA, FINLAND and ESTONIA – international training and education school-conference for young scientists, T.I. Regerand, NWPI KRC Karelia
10:15 How to make air quality education effective? Ruuskanen Univ.Helsinki

10:30 WG Reporting (10 min per WG)

- WG-Land system (rapporteur NN, NN)
- WG-Atmospheric system (rapporteur, NN, NN)
- WG-Water systems (rapporteur NN, NN)

11:00-12:00 Lunch

12:00 WG Reporting (10 min per WG)

- WG-Anthropogenic activities – society –mitigation – adaptation (rapporteur NN, NN)
- WG-Research Infrastructures (rapporteur NN, NN)
- WG Modelling Platform (rapporteur NN,NN)
- WG-Education – training – out research (rapporteur NN,NN)

12:40 SESSION PEEX FUTURE PROSPECTS

chair: S.Zilitinkewich

12:40 Long-term foresight in Earth science and nature management for Russia Profs. Nikolay Kasimov, N. Alekseeva, L. Gokhberg, A. Sokolov, Moscow University / Higher School of Economics, Russia
13:10 PEEX Program: implementation plans and future prospects, Hanna Lappalainen Univ.Helsinki/FMI

13:30 Concluding remarks

M. Kulmala, S.Zilitinkewich, V. Bondur, A Baklanov, HD. Guo

14:00

End of Conference