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AGENDA

Plenaries 30+10 min; Scientific presentations 15+5 min / 15 min

TUESDAY 10 February 2015

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, Markku Kulmala, University of Helsinki

13:40-15:00 SESSION: ATMOSPHERIC – ANTHROPOGENIC SYSTEM

chair: Aijun Ding

13:40 Proactive and integrative adaptation to climate change in future earth, 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, Sergey Goryachkin, Institute of Geography RAS, Russia

14:35-14:45 Short Break

14:45 Evaluating model-simulated short-lived climate pollutants in the high latitude Pan-Eurasian region, Dominick Spracklen, Univ. Leeds, UK

15:00-17:30 SESSION: ATMOSPHERIC AEROSOLS

chair: Veli-Matti Kerminen

15:00 Atmospheric mass spectrometry; overview and recent results, Mikael Ehn, University of Helsinki, Finland

15:15 Hygroscopic properties of background aerosols in Siberian boreal forests: ZOTTO summer campaign 2013, Eugene Mikhailov, St-Petersburg State University, Russia

15:30-16:00 Coffee break

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, Mikhail Arshinov, V.E. Zuev Institute of Atmospheric Optics RAS, Russia

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

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

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



























17:00 Aerosol emission reductions over the 20th and 21st century and their impact on polar climate, Hans-Christen Hansson, Stockholm University, Sweden

17:15 Lightning activity in the changing climate: aerosol significance, Evgeny Mareev, Lomonosov Moscow State University, Russia

17:30-21:00 POSTER SESSION & Ice Breaker Party

Short oral presentations of the posters

WEDNESDAY 11 February 2015

09:00-9:40 SESSION: CLIMATE CHANGE AND ASSOCIATED RISKS IN THE PEEX DOMAIN

chair: Alexander Baklanov

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

09:40-11:00 SESSION: ATMOSPHERE - METEOROLOGICAL SCALE chair: Alexander Baklanov

09:40 Stably stratified planetary boundary layers: nature, theory and role in atmosphere-land systems, Sergej Zilitinkevich, Finnish Meteorological Institute, Finland

10:00 Atmosphere-Land coupling at high latitudes: impact on near surface temperature and CO₂, Anton Beljaars, The European Centre for Medium-Range Weather Forecasts, UK

10:20-10:30 Short break

10:30 Large-scale circulation during air quality hazards in Bergen, Norway, Tobias Wolf, NERSC, Norway 10:45 Climatic role of shallow stably stratified atmospheric boundary layers, Igor Esau, NERSC, Norway

11:00-13:40 SESSION: BIOGEOCHEMICAL CYCLES chair: Jaana Bäck

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, Germany

11:20 Impact of biogeophysical and biogeochemical processes and their interactions on permafrost soil carbon stocks, Atul Jain, University of Illinois, USA

11:40 Response of carbon cycle to enhancement of climate aridity in various ecosystems of Central Russia, Irina Kurganova, Institute of Physicochemical and Biological Problems in Soil Science, RAS, Russia

12:00-13:00 Lunch

13:00 Impacts of northern Eurasian forests on the global carbon cycle: a system approach, Anatoly Shvidenko, IIASA, Austria

13:20 Soil HONO emission and its potential impact on the atmospheric chemistry and nitrogen cycle, Hang Su, Max Planck Institute for Chemistry, Germany

13:40-15:30 SESSION: LAND-ATMOSPHERE INTERACTIONS & LAND ECOSYSTEMS

chair: Anatoly Shvidenko

13:40 Does Northern hemisphere terrestrial snow cover varies intra seasonally? Bradford Barrett, US Naval Academy, USA















chair: Sergey Dobrolyubov

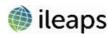












14:00 Snow mapping over Tibetan Plateau using Earth Observations Data, Yubao Qiu, RADI, CAS, China

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

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

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

15:30-16:00 Coffee break

16:00-17:20 SESSION: THE ARCTIC OCEAN & THE BALTIC SEA chair: Sergey Dobrolyubov

oresentations 15 min+5min>

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

16.20 Arctic sea ice and East Asian Monsoons Yongqi Gao, NERSC, Norway

16:40 A role of the Arctic sea ice loss in the increased frequency of anomalously cold winters over the Northern Eurasia, Vladimir Semenov, Inst. of Geography, RAS, Russia

17:00 ATLAS "Russian Arctic in the XXI century: nature conditions and risks in the development", Sergey Dobrolyubov, Moscow State University, Russia

17:20 Small-scale atmosphere-ocean coupling in gale-force winds: models, experiments, remote sensing, Yuliya Troitskaya, Nizhny Novgorod State University, Russia

17:20-18:20 SESSION: LAKE AND RIVER SYSTEMS

cpresentations 15 min>

17:35Geochemical Patterns in a Large River Network due to Hydroclimatic Development and Anthropogenic Impacts: Selenga-Baikal catchment, Sergey Chalov, Moscow State University, Russia 17:50 Sensitivity of carbon fluxes in land-atmosphere-hydrosphere system of Yenisei river catchment to climate variability: development of Krasflux network for the long-term analysis, Anatoly Prokushkin, V.N. Sukachev Institute of Forest SB RAS, Russia

18:05 Methane under ice in boreal lakes, Terhi Rasilo, L'Université du Québec à Montréal, Canada 18:20 Methane emission from tundra lakes in Western Siberia, Vladimir Kazantsev, A.M.Obukhov Institute of Atmospheric Physics RAS, Russia

19:00 FESTIVE DINNER, INCLUDING PROGRAM AND CEREMONY

THURSDAY 12 February 2015

09:00-11:00 SESSION: FUTURE SOCIETIES AND NATURAL HAZARDS chair: Martin Heimann

09:00 The value of systems science to study Pan-Eurasian futures, 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 Use of Natural Resources, Tamara Litvinenko, Institute of Geography RAS, Russia (15 min)

9:55 Social systems, new infrastructure and climate effects: Yamal Peninsula, Alexey Shcherbinin, Univ. Helsinki, Finland (15 min)

10:10 The storminess and the wind wave climate in the Baltic Sea produced by the SWAN model, Stanislav Myslenkov, Moscow State University, Russia (15 min)

10:25 Modelling and evaluation of impact on population due to continuous emissions from Severonickel smelters (Kola Peninsula), Alexander Mahura, Danish Meteorological Institute, Denmark (15 min)

10:40 Introduction of air quality studies at Tsinghua University, Beijing, China, Jingkun Jiang, Tsinghua University, China (15 min)















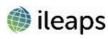












10:55-11:00 Short break

11:00-12:00 SESSION: CONCEPTS TOWARDS COHERENT, COORDINATED PAN-EURASIAN OBSERVATION NETWORK, DATA SYSTEMS AND MULTI-SCALE MODELLING PLATFORM chair: Ari Laaksonen

11:00 Why should PEEX rely on Environmental Research Infrastructures? Paolo Laj, Laboratoir de Glaciologie et Geophysique de l'Environnement, France & University of Helsinki, Finland (**Plenary**) 11:40 Global network concept, Pertti Hari, University of Helsinki, Finland

12:00-13:00 Lunch

13:00 SESSION: CONCEPTS TOWARDS COHERENT, COORDINATED PAN-EURASIAN OBSERVATION NETWORK, DATA SYSTEMS AND MULTI-SCALE MODELLING PLATFORMS chair: Gerrit de Leeuw

13:00 Earth observation for environmental studies on the Silk road economic belt, Huadong Guo, Institute of Remote Sensing and Digital Earth, CAS, China (Plenary)

13:40 GAW program and links with PEEX / modelling platform, Alexander Baklanov, WMO, Switzerland

14:00 Arctic Ocean network concept, Timo Vihma, FMI, Finland

14:20 Current PEEX-labeled activities at IEAS and AEROCOSMOS, Valery Bondur, AEROCOSMOS, Russia

14:40 SESSION: PEEX RESEARCH INFRASTRUCTURES chair: Tuukka Petäjä

<RI presentations 15 min>

14:40 Short remarks on the PEEX RI main aspect, Tuukka Petäjä, University of Helsinki, Finland

14.45 Overview and first results from SMEAR Estonia, Steffen Noe EULS, Estonia

15.00 Introduction to a flagship site SORPES in East China and an overview of main results obtained during 2011-2014, Aijun Ding, University of Nanjing, China

15:15 Observing cloud and precipitation processes in the PEEX domain though a combination of satellite remote sensing and ground based observations, Venkatachalam Chandrasekar, FMI and University of Helsinki, Finland

15:30-16:00 Coffee break

16:00-18:30 PARALLEL SESSIONS I-III, PEEX IMPLEMENTATION

SESSION-I: PEEX RESERACH INFRASTRUCTURE chair: Tuukka Petäjä

16:00 Building the metadatabase of PEEX observational infrastructure – including demonstration of the PEEX metadatabase, Pavel Alexeychik, University of Helsinki, Finland

16:15 On a possibility to improve our observational knowledge about mesoscale and sub-mesoscale processes in the PEEX area, Nina Zaitseva, RAS, Russia

16:30 Introduction to SMEAR station data procedures – Open data in general, Ari Asmi, University of Helsinki, Finland

16:45 Discussion (Rapporteurs Hanna Lappalainen, Pavel Konstantinov)

SESSION-II: PEEX RESEARCH AGENDA & MODELLING PLATFORM

chairs: Alexander Baklanov & Alexander Mahura

16:00 PEEX-MP: Including New Tools/Models for Earth System Observations and Forecasting (Alexander Mahura, DMI, Denmark & Alexander Baklanov, WMO, Switzerland & PEEX-MP team)















chair: Hanna Lappalainen

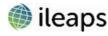












Boundary layer issues in NWP and climate models (Anton Beljaars, ECMWF, UK)

16:10 Ecological modeling in the PEEX domain: recent results and needs (Anatoly Shvidenko, IIASA, Austria)

16:20 Estimates of CH4 emissions from natural wetlands in China: From 1950 to 2008 (Tingting Li et al., IAP-CAS, China)

16:30 Process based modelling of particle formation in boreal forest region (Zhou Luxi et al., UHel, Finland)

16:40 Current status of modelling activities of BVOC emissions and atmospheric reactivity in the boreal forest (Ditte Mogensen et al., UHel, Finland)

16:50 Discussion (Rapporteurs NN, NN)

SESSION-III: PEEX IMPACT ON SOCIETY & KNOWLEDGE TRANSFER Chairs: Joni Kujansuu

16:00 Introduction to IPCC procedure, Veli-Matti Kerminen, University of Helsinki, Finland

16:15 Air Quality and society in China - PEEX perspective , Joni Kujansuu, University of Helsinki, Finland

16:30 Demo of the visualization tool, Risto Makkonen, University of Helsinki, Finland

16:40 Discussion (Rapporteurs, Alexey Shcherbinin, Tamara Litvinenko)

18:30 Joint Dinner

Friday 13 February 2015

09:00-10:30 **SESSION: RESEARCH INFRASTRUCTURES** continues chair: Tuukka Petäjä

<RI presentations 15 min>

09:00 Observational infrastructure in eastern Siberia by Japanese collaborative study, Y. Iijima Research and Development Center for Global Change (RCGC), JAMSTEC, Japan

09.15 Model assessment for changing terrestrial processes over pan-Arctic regions, Park Hotaek Research and Development Center for Global Change (RCGC), JAMSTEC, Japan

09:30 A New peatland research station in the center of West Siberia: description of infrastructure and research activities, E.D. Lapshina INST, Russia

09:45 Remote sensing and field data applied to the regional validation of a snow climate model D. Verseghy, Canada

10:00 WEB-GIS based virtual research environment for north Eurasia climatic studies E.P. Gordov, Russia

10:15 Generalizing flux tower measurements with lidar-assisted forest maps, Tuomo Kauranne, University of Technology, Lappeenranta, Finland

10:30-11:00 SESSION: TRAINING AND EDUCATION

10:30 Seas, lakes and bounder watershed territories OF RUSSIA, FINLAND and ESTONIA - international training and education school-conference for young scientists, T.I. Regerand, NWPI KRC Karelia, Russia 10:45 How to make air quality education effective? Taina Ruuskanen, University of Helsinki, Finland

11:00-12:00 Lunch

12:00-13:00 PEEX IMPLEMENTATION - WG Reporting and discussion chair: Markku Kulmala

- WG- Infra (rapporteur Hanna Lappalainen, Pavel Konstantinov)
- WG- Modelling Platform (rapporteur NN, NN)
- WG- Impact on Society (rapporteurs Alexey Shcherbinin, Tamara Litvinenko)















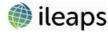












13:00-13:45 SESSION PEEX FUTURE PROSPECTS

chair: Sergej Zilitinkevich

13:00 Foresight for Setting Priorities in Science and Technology, Alexander Sokolov, Higher School of Economics, Russia

13:15 Long-term foresight in Earth science and nature management for Russia, Nina Alekseeva, Lomonosov Moscow State University, Russia

13:30 PEEX Program: implementation plans and future prospects, Hanna Lappalainen, University of Helsinki, FMI, Finland

13:45 Concluding remarks

M. Kulmala, S. Zilitinkevich, A Baklanov

14:00 **End of Conference**