4th PEEX MEETING IN ST.PETERSBURG, RUSSIA
MEMO

Time :	**4-6.March.2014**
Local Host :	**The headquarters of the Russian Geographical Society**
Place:	**Grivtsova Pereulok, 10, Saint Petersburg, 190000, Russian Federation http://int.rgo.ru/contacts/**
Minutes :	**Hanna Lappalainen, Tuukka Petäjä, Joni Kujansuu, Markku Kulmala Univ.Helsinki**
APPENDIX-1	**Participant List**
APPENDIX-2	**Agenda**
MEETING PRESENTATIONS	**available from *http://www.atm.helsinki.fi/peex/index.php/intranet***

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1. AIM OF THE WORKSHOP

Aim of the workshop (see presentation by Kulmala) was

- Science Plan - Final remarks before editing
- Infra Implementation Plan - Input from WGs
  - wg-1 in-situ, chair T. Petäjä
  - wg-2 satellites, chair G. de Leeuw
  - wg-3 modelling, chair A. Baklanov
  - wg-4 PEEX marine component, chair T. Vihma
  - wg-5 PEEX integration, chair A. Shvidenko
- to discuss joint papers - Nature/Science, ACP, BG, Ecology and society, The Environmentalist
- to introduce and discuss on joint funding - JPI, Russia-China-EU joint calls + other countries

This memo is a summary of discussion and presentations during the workshop.

2. SCIENCE PLAN

It was addressed that the PEEX Science Plan (SP) is a White paper / a Background document needed for writing the PEEX research funding applications, for the initiation of new PEEX projects, for the infrastructure fundraising and for establishing PEEX relevant education activities. PEEX SP is identifying the PEEX initiative at the large scale: (i) large scale research questions and (ii) the key topics relevant to Arctic boreal regions (see presentation by Lappalainen).

Project Office will edit the final version of the Science Plan including the remarks and comments of the Working groups:

- WG-2: Satellite WG listed the satellite data relevant / available needed to meet the PEEX research questions.
- WG-4: Marine part; Timo Vihma (FMI) and Dmitry Pozdnyakov will provide small new text chapters especially on marine observations and ecosystems next week.
- WG-5: addressed three topics here: (i) the need of clear strategy of future socio-economic research (objectives, theoretical basis for interdisciplinary research and well defined methods) and (ii) operationalization of key concepts for interdisciplinary research (society, social systems, environment etc.) and (iii) stronger coordination of the Social Section of PEEX.
- *WGs 1 and 3 focused on the implementation plan of the PEEX observation network and the modelling platform.*

The final version will be printed in June 2014 and after that will follow the English to Russian / Chinese translations. The translated SPs will be published in autumn 2014.

3. INFRA IMPLEMENTATION PLAN

The main components (in-situ; modelling platform, satellites) of the Infra Implementation Plan outline (v 0.1) was introduced by Petäjä, Baklanov and de Leeuw. Presentations on the observational activities relevant to PEEX were given by Arshinov, Makshtas, Kujansuu and Zaitseva.

WG-1 in-situ addressed: Updated station descriptions (PEEX Stations Catalogue) for existing in-situ stations is the first step towards coordinated PEEX observation network. The first action will be to combine Nina Zaitseva's list +the existing PEEX list (excel metadata list) + the Rosshydromet list and to outline a PEEX stations catalogue. The PEEX catalogue includes also identification of station type with the a web-based integrative list\ map -tool. Code of Contact - coordination: Tuukka Petäjä tuukka.petaja@helsinki.fi, Hanna Lappalainen hanna.k.lappalainen@helsinki.fi.

WG-3 Satellites addressed the satellite information needed to meet the PEEX research questions, see the list below. Satellite observing systems inventory in implementation plan (List of EO data sources and products + Land and atmosphere observing systems) are already included in the first draft of Infra-Implementation Plan document. Code of Contact - coordination: Gerrit de Leeuw Gerrit.Leeuw@fmi.fi, Valery Bondur Bondur_new-new <office@aerocosmos.info>

SATELLITES - LIST - How to meet the PEEX research questions?

Q-1: Key Topic shifting of vegetation Zone

- multi-scale land monitoring using optical coarse time series data and VHR systems
- Time series analysis to track vegetation penology trends
- Multi-variate analyses to derive proxies for vegetation shift magnitudes
- Using current and historic data for mapping tree cover change in the high lats
- Baseline mapping of the tree line and temporal monitoring

Q-2: Permafrost

- Provide indications from RS (ESA DUE Permafrost project)

Q-3: Ecosystem structural changes in the future

- RS can provide baseline (reference) information on the current state of the ecosystem
- Use RS to train models
- Parameters: time series of: NDVI, Albedo, LST, …

Q-4: Atmospheric Composition and Chemistry

- Rethrieve burnt area information, fire detection
- Freeze thaw detection
- Smoke and forest fire released trace gases and aerosols
- Bloom dispersion monitoring, radiation in clouds
- Near real time monitoring of atmosph. composition, clouds, trace gases, land dynamics, radiation intensity

Q-5 Urban air quality, megacities and changing APL

- Aerosol monitoring (CALYPSO)
- Atmospheric composition & trace gas monitoring
- **Q-7: Arctic Ocean in the climate system**
- Sea ice mapping and tracking
- Snow water equivalent, Albedo, … (ESA GlobSnow)

Q-8: Arctic maritime environments

- Ocean color (MERIS, MODIS, S-3)
- Ocean biomass mapping

Q.9: Lakes and large scale river systems in Siberian Region

- Biomass and biomass change mapping (fire, deforestation)
- Lake change mapping
- Water quality mapping (oil spills, sedimentation, …)

Q-10: Anthropogenic Impact

- Calibration of land use models (land cover, land cover change)

Q-11: Environmental impact:

- Use of historic satellite data and long time series to observe land dynamics

Q-12: Natural hazards:

- Forest fire detection (valiability, spatial, temporal)
- Vulnerability and risk mapping
- Flood Mapping
- Air quality mapping (provision of maps, detecting anomalies)

Q-13: (see Q-1)

Q-14: Improving the understanding of biogenic aerosol formation and feedback

- Trace gases concentration monitoring as proxies of aerosol formation processes

Q-15: How intensive urbanization processes are changing climate

- Detection of night time lights (NASA Night time lights product)
- Indication of urbanization
- Urban heat island detection (LST)
- Cloud cover & precipitation mapping

Interaction and Integration: EO can provide a „big picture“

In-situ: cal/val activities; Data policy; Regionalization by involving the spatial component by EO
Modelling: Spatial component integration; Cal/val activities

WG-3 Modelling addressed: PEEX Network/ hierarchy of models is needed. The PEEX-Modelling Platform approach has a 2-level strategy: a) following existing projects/activities & b) what is needed and future funding opportunities. Code of Contact - coordination: A. Mahura ama@dmi.dk, A. Baklanov abaklanov@wmo.int

Preliminary list of Modelling teams/institutions:

- UK (vegetation,atmosphere,biosphere,chemistry,aerosol,etc.)/ global scale);
- NL (meteorology,chemistry,land-atmosphere interactions, etc./ meso-scale);
- NO NILU (inverse modelling of GHG/ multi-scale, FLEXPART)
- IT (chemistry-aerosols, coupling meteo&chem, ABL parametrizations,
- NO, NERSC (multi-scale modelling, geostatistics, GIS mapping, ABL
- RU, SCERT (data, understanding processes based on modeling and observations in Siberia, virtual research environment
- China, IAPh CAS (global/regional scale, climate, air quality, ACTM,

- China, IG (global/regional scale, ESM, ecosystems
- RU, ISS RAS (ecosystem modelling, dynamics of forest
- RU, IP RAS (atmospheric electricity, ABL, modelling,
- EST, (processes, biogenic emissions,
- FIN, UHel (ABL, turbulence, chemistry, aerosols, modeling,
- FIN, FMI (climate research modelling, ocean+atmosphere (aerosols/cloud/radiation, carbon cycle modelling

Data policy topic was discussed and introduced as a part of the implementation plan (see presentation by Asmi).

4. JOINT PAPERS

It was discussed that all the main topics of the research / research infrastructure introduced in the PEEX Science Plan are aimed to be published also in scientific journals such as NATURE/SCIENCE, ACP, BG, ECOLOGY AND SOCIETY, THE ENVIRONMENTALIST.

5. JOINT FUNDING

PEEX first funding opportunities, applications and grants were introduced and discussed.

- Russian funding. V. Bondur introduced the Russian funding opportunities. It was addressed that the main interest of the Russian funding organizations is on the solution orientated research not on a basic research. For example natural hazards is one of the hot topics at the moment (see presentation by Bondur).
- EU- JPI-Climate GREENSCAPE proposal (see presentation by Vesala). GREENSCAPE consortium will submit the 2-Phase proposal by the end of March. This specific EU-JPI-Climate call is co-designed directly with the PEEX Science Plan. Member countries of the consortium are: Finland, UK, Sweden, Belgium, Norway, Sweden + Russian cluster (17 institutes). The applied funding of the European consortium is 2,2 MEURO. Russian cluster funding is based on the (i) in-kind contribution and (ii) funds to be applied from the Russian funding organization.
- EU-Horizon2020 MarieCurie PEEX proposal, see presentation by Lauri. PEEX consortium will submit a proposal for the EU Call opening Sep 2014.
- a 2 year funding is provided by The Finnish Technology Agency for the “Beautiful Beijing” the air quality project, see presentation by Järvi
- Nordforsk has granted PEEX to organize six CRAICC – PEEX Workshops in 2014-2015 (see presentation by Lappalainen):
  - *Short-living climate forcers in the Arctic and Eurasia(PI Petäjä, Univ. Helsinki)*
  - *Carbon exchange in the soil-vegetation-atmosphere system(PIs Bäck, Laurila Univ. Helsinki, FMI)*
  - *Climate change for Arctic seas and shipping(PI Mahura, DMI)*
  - *Estimating and monitoring anthropogenic emission in the Arctic by using remote sensing (PI Bobylev, Nansen)*
  - *Climatology of the high-latitude planetary boundary layer (PI Esau, Nansen)*
  - *Turbulent exchange across strongly heterogeneous interface (PI Vesala, Zilitinkewich Univ.Helsinki, FMI)*

The CRAICC-PEEX WSs will be organized in the connection of the large events/ conferences and will be announced in the PEEX and CRAICC websites. The first WSs will take place autumn 2014. Further information will be available soon.

- Negotiations on the China (MOST) –Finland (OKM) bilateral funding possibility is under way. The funding would be allocated to initiate (i) the training programme and (ii) the first PEEX research activities in China.

6. PEEX RELEVANT RESEARCH AND COLLABORATION

The one of the main PEEX collaborators are IIASA (see presentation by Shvidenko) and Future Earth (see presentation by Greenslade) which activities were presented in the PEEX-4 meeting. Furthermore new research topics (ethnodiversity, Stable Boundary Layers) relevant to PEEX were introduced by Juha Janhunen Univ. Helsinki and Bert Holstlag Wageningen University.

Elisabeth Larson (NASA) introduced the Arctic Boreal Vulnerability Experiment (ABoVE). NASA's Terrestrial Ecology Program is in the process of planning a major field campaign called the Arctic Boreal Vulnerability Experiment (ABoVE). ABoVE will take place in Alaska and western Canada during the next 5 to 8 years. ABoVE has similar components and research aims together with PEEX which provides a good basis for future collaboration.

7. FIRST PEEX EDUCATION ACTIVITIES

The first PEEX (i) "PEEX COURSES BY CONTRIBUTING INSTITUTES"[*)] and (ii) "PEEX BENCHMARKED COURSES"[**)] - courses has been published in the PEEX webpage (http://www.atm.helsinki.fi/peex/index.php/education) , see presentations by Ruuskanen and Regaerand. For further information on PEEX courses contact Taina Ruuskanen taina.ruuskanen@helsinki.fi.

) Courses by contributing institutes (i) are posted by the organizers and act channel to share expertize within the PEEX contributing institutes.
****) Benchmarked courses (ii) category are aimed at harmonizing the PEEX observation platform and procedures from measurements to data processing.***

China education activities were presented by Yong Xue, CAS.

8. NEXT STEPS

PEEX Science Plan:
- *Editorial process in spring 2014 coordinated by the PEEX Project Office*
- *The latest version of SP is available from PEEX intranet (http://www.atm.helsinki.fi/peex/). All comments should be sent to hanna.k.lappalainen@helsinki.fi*

PEEX Session in EGU:
- *Orals Monday, 28 Apr 13:30–15:00, Room B11, (AS4.4/BG5.5/CL4.7/SSS.0.14 Programmes)*
- *Posters Monday, 28 Apr 17:30–19:00*

PEEX Session in the next iLEAPS Conference:
- *4th iLEAPS Science Conference "Terrestrial ecosystems, atmosphere, and people in the Earth system" 12-16 May 2014 in Nanjing, China(http://www.ileaps.org/?q=node/87)*

CRAICC-PEEX Pilot Workshops
- *to be organized in 2014-2015; Further information available soon in PEEX / CRAICC websites*

PEEX in the Arctic Science Summit Week (ASSW) and Arctic Observing Summit (AOS) 2014, Helsinki
- M. Kulmala will introduce PEEX on Wed. 9 April at 15:15 in SESSION: Science coordination towards an Arctic Observing System (place: room <*TBD*>, Physicum, Kumpula Campus, Helsinki)

Funding applications

- *EU-JPI-Climate GEENSCAPE Phase-2 Proposal to be submitted end of March 2014. Coordinator T. Vesala Univ. Helsinki.*
- *EU-MarieCurie-ITN PEEX proposal will be submitted for the EU-call opening in September 2014. Coordinator M. Kulmala, Univ. Helsinki.*

Infrastructure – Implementation Plan - WGs Next steps

- *Infra-WGs of In-situ / Satellites / Modelling continue their work towards the next version of of the Infrastructure Implementation Plan. If you like to contribute the WG-work, please ,contact the WG-coordinators / code of contacts*
    - *In-situ: tuukka.petaja@helsinki.fi, hanna.k.lappalainen@helsinki.fi*
    - *Satellites Gerrit.Leeuw@fmi.fi*
    - *Modelling: ama@dmi.dk, abaklanov@wmo.int*

Next meeting

- *PEEX Science Conference will be organized in Helsinki in February – March 2015. The exact dates will be announced as soon as possible.*

APPENDIX-1 PARTICIPANT LIST

1	Alekseychik	Pavel	University of Helsinki
2	Anisimov	Sergey	BGO IPE RAS
3	Antropov	Alexey	Ministry of Education and Science of Russian Federation
4	Arnold	Steve	University of Leeds
5	Arshinov	Mikhail	V.E. Zuev Institute of Atmospheric Optics
6	Asmi	Eija	FMI
7	Asmi	Ari	University of Helsinki
8	Babkovskaia	Natalia	University of Helsinki
9	Bagryansky	Victor	Institute of Chemical Kinetics and Combustion SB RAS
10	Baklanov	Alexander	World Meteorological Organization
11	Belan	Boris	V.E. Zuev Institute of Atmospheric Optics
12	Belotserkovsky	Andrey	Tver State University
13	Bobylev	Leonid	Nansen Centre
14	Bogorodskiy	Petr	Arctic and Antarctic Research Institute
15	Bondur	Valery	AEROCOSMOS Research Institute for Aerospace Monitoring
16	Borisov	Yury	Central Aerological Observatory
17	Borisova	Alla	University of Helsinki
18	Bäck	Jaana	University of Helsinki
19	Chalov	Sergey	Lomonosov MSU
20	Chechin	Dmitry	Obukhov Institute of Atmospheric Physics RAS, Moscow, Russia
21	Chibilev	Aleksander	Russian Geographical Society
22	Chongyin	Li	Inst. of Remote Sensing and Digital Earth, Chinese Academy of Sciences
23	Chubarova	Natalia	Lomonosov Moscow State University, Faculty of Geography
24	Congbin	Congbin	China Research Center of International Eurasian Academy of Sciences
25	Ding	Aijun	Nanjing University
26	Fu	Congbin	Nanjing University
27	de Leeuw	Gerardus	Finnish Met. Inst. / Univ.Helsinki
28	Diakonov	Kirill	Russian Geographical Society
29	Dobrolyubov	Sergey	Lomonosov Moscow State University
30	Dubtsov	Sergei	institute of chemical kinetics and combustion SB RAS
31	Dyukarev	Egor	Institute of Monitoring of Climatic and Ecological Systems SB RAS
32	Eleftheriadis	Konstantinos	NCSR Demokritos
33	Ermolaev	Oleg	Russian Geographical Society
34	Esau	Igor	NERSC
35	Fedorov	Gennady	Russian Geographical Society
36	Filatov	Nikolai	Russian Geographical Society
37	Glezer	Olga	Institute of Geography of the Russian Academy of Sciences
38	Gordov	Evgeny	SCERT/IMCES SB RAS
39	Greenslade	Diana	Future Earth
40	Gurov	Ilya	Russian Geographical Society
41	Hari	Pertti	University of Helsinki
42	Heimann	Martin	Max-Planck-Institute for Biogeochemistry
43	Holtslag	A.A.M. (Bert)	Wageningen University

44	Huang	Mei	Institute of Geographical Sciences and Natural Resources Research, CAS
45	Hüttich	Christian	Friedrich-Schiller-University Jena
46	Isaev	Alexey	RSHU
47	Ivakhov	Viktor	Main Geophysical Observatory (MGO)
48	Janhunen	Juha	University of Helsinki
49	Zhang	Jiahua	Inst. of Remote Sensing and Digital Earth, Chinese Academy of Sciences
50	Järvi	Leena	University of Helsinki
51	Kasimov	Nikolay	Lomonosov MSU
52	Kattsov	Vladimir	Voeikov Main Geophysical Observatory
53	Khattatov	Vyacheslav	Central Aerological Observatory
54	Kolosov	Vladimir	Russian Geographical Society
55	Komarov	Alexander	Inst.of Physico-chemical and Biological Problems in Soil Science of RAS
56	Komppula	Mika	Finnish Meteorological Institute
57	Kotlyakov	Vladimir	Institute of Geography, RAS
58	Kozlov	Alexander	Institute of Chemical Kinetics and Combustion SB RAS
59	Krasnova	Alisa	Estonian University of Life Sciences
60	Krüger	Olaf	Tartu Observatory
61	Kudeyarov	Valery	Institute of Physical-Chemical & Diological problems of Soil RAS
62	Kujansuu	Joni	University of Helsinki
63	Kulmala	Markku	University of Helsinki
64	Kustov	Vasilii	Arctic and Antarctic Research Institute, St.Petersburg, Russia
65	Laaksonen	Ari	Finnish Meteorological Institute
66	Lappalainen	Hanna	University of Helsinki / FMI
67	Larson	Libby	National Aeronautics and Space Administration (NASA)
68	Lauri	Antti	University of Helsinki
69	Laurila	Tuomas	Finnish Met. Institute
70	Lihavainen	Heikki	Finnish Met. Institute
71	Ma	Keping	Biodiversity Committee,CAS/ Institute of Botany, CAS
72	Mahura	Alexander	Danish Meteorological Institute (DMI)
73	Maksshtas	Alexander	Arctic and Antarctic Research Institute
74	Mareev	Evgeny	Institute of Appplied Physics, RAS
75	Matishov	Gennady G.	SSC RAS, MMBI KSC RAS
76	Matishov	Dmitry	IAZ SSC RAS
77	Matvienko	Gennadii	V.E. Zuev Institute of Atmospheric Optics
78	Melnikova	Irina	St.Petersburg State University
79	Nigmatulin	Robert	P.P. Shirshov Institute of Oceanology, RAS
80	Filatov	Nikolai	Northern Water Problems Institute
81	Noe	Steffen M.	Estonian University of Life Sciences
82	Petäjä	Tuukka	University of Helsinki
83	Piskunova	Elena	The Herzen State Pedagogical University of Russia
84	Pisso	Ignacio	NILU
85	Pliysnin	Viktor	Russian Geographical Society
86	Popovicheva	Olga	Institute of Nuclear Physics Moscow State University
87	Potapov	Aleksandr S.	Institute of Solar-Terrestrial Physics SB RAS
88	Pumpanen	Jukka	University of Helsinki, Department of Forest Sciences
89	Ruuskanen	Taina	University of Helsinki

90	Savina	Aleksandra	Ulmart
91	Shcherbinin	Aleksei	Helsinki University
92	Shevchenko	Vladimir	P.P. Shirshov Institute of Oceanology RAS
93	Shikhova	Natalia	BGO IPE RAS
94	Shitova	Natalia	Russian Geographical Society
95	Skorokhod	Andrey	A.M. Obukhov Institute of Atmospheric Physics RAS
96	Sofiev	Mikhail	Finnish Meteorological Institute
97	Spracklen	Dominick	University of Leeds
98	Subetto	Dmitry	Norther Water Problems Institute, Karelian Research Center of RAS
99	Suni	Tanja	iLEAPS / University of Helsinki
100	Tampieri	Francesco	CNR ISAC
101	Tishkov	Arkadii	Russian Geographical Society
102	Tishkov	Valery	Russian Geographical Society
103	Troitskaya	Yuliya	Institute of Applied Physics RAS
104	Tulohonov	Arnold	Russian Geographical Society
105	Tørseth	Kjetil	NILU
106	Umnov	Alexey	University of Nizhni Novgorod
107	Urban	Marcel	Institute of Geography, University of Jena
108	Nie	Wei	Nanjing University
109	Vesala	Timo	University of Helsinki
110	Vihma	Timo	Finnish Meteorological Institute
111	Viisanen	Yrjö	Finnish Meteorological Institute
112	Vitale	Vito	ISAC-CNR
113	Xue	Yong	RADI/CAS
114	Zapadinsky	Evgeni	University of Helsinki
115	Zaytseva	Nina	Department of Earth Sciences, Russian Acacdemy of Sciences
116	Zheng	Xunhua	Institute of Atmospheric Physics, Chinese Academy of Sciences
117	Zilitinkevich	Sergej	Finnish Meteorological Institute / University of Helsinki
118	Zinchenko	Alexander	Main Geophysical Observatory (MGO)
119	Regerand	Tatyana	Northern water problems Institute, RAS, Petrozavodsk
120	Samulenkov	Dmitry	St.Petersburg State University
121	Shvidenko	Anatoly	IIASA
122	Shakhramanyan	Mikhail	
123	Tsidilina	Marina	Aerocosmos
124	Telnova	Irina	Aerocosmos

APPENDIX-2: PEEX-4- AGENDA

TUESDAY 4. March

Arrival of the meeting participants to *St. Petersburg*

16:30 *"Aerosols in Arctic " bilateral meeting, Olga Popovicheva (specific meeting, by invitation only)*
17:00 *Preliminary Phase Committee Meeting (specific meeting, by invitation only)*

18:00- PEEX-4 workshop - Registration

19:00 Ice Breaker Party

WEDNESDAY 5.March

08:00 PEEX-4 workshop - Registration

09:00 Opening of 4th PEEX workshop

- Rector of the Russian State Hydrometeorological University in St. Petersburg Prof. Lev Karlin
- First Vice-President of the Russian Geographical Society Prof. Nikolay Kasimov

SESSION: PEEX INTIATIVE STATUS OVERVIEW

09:20 Aim of the workshop, Markku Kulmala, Univ. Helsinki

09:40 Ability to launch Russian partnership projects to PEEX initiative in the frame of Federal special-purpose program "Research and development of science and technology priority areas in Russia in 2014-2020" V.G.Bondur, ISR "AEROCOSMOS", Russia
10:00 Research objectives and goals of Russian partnership projects complementary to PEEX initiative. V.G.Bondur, ISR "AEROCOSMOS", Russia
10:20 PEEX-China future prospects, Jiahua Zhang, Center for Earth Observation and Digital Earth, CAS
10:40 PEEX Science Plan, implementation structure, Hanna Lappalainen, Univ. Helsinki
11:00 PEEX Infrastructure and observation networks status overview, Tuukka Petäjä, Univ. Helsinki
11:20 PEEX Modelling Platform, Alexander Baklanov, WMO

SESSION: INTRODUCTION OF NEW PEEX RELEVANT RESEARCH AND RESEARCH INFRASCTRURES

11:40 PEEX Satellites, Gerrit de Leeuw, Finnish Meteorological Institute

12:00 Lunch

SYSTEMS

13:00 Biogeochemical systems in the Arctic-boreal context, *Martin Heimann,* Max Planck Institute for Biogeochemistry, Jena

LAND ECOSYSTEMS

13:20 Upper-Volga region "scientific cluster" in the PEEX project, Evgeny Mareev, Institute of Applied Physics, RAS

MARINE

13:40 Changing climate system in the marine Arctic, Timo Vihma Finnish Met institute

14:00 Remote sensing of the Arctic Ocean and atmosphere, Leonid Bobylev, Nansen Environmental and Remote Sensing Center

ANTHROPOGENIC

14:20 Black Carbon from Diesel Sources in the Russian Arctic, Vladimir S. Malyshev, Energy and transport department MSTU

14:40 Introduction to PEEX JPI-CLIMATE research plan and proposal, Timo Vesala, Univ. Helsinki

15:00 coffee break

15:20 Beautiful Beijing research plan, Leena Järvi Univ. Helsinki

15:40 SESSION: PEEX INFRASTRUCTURE - DATA POLICY

15:40 Commonalities and integration of European Environmental Research Infrastructures, Ari Asmi Univ.Helsinki

16:00 Russian data policy, NN

16:20 Current status and future prospects of the TOMSK station, Mikhail Arshinov, V.E. Zuev Institute of Atmospheric Optics

16:40 AARI observation networks, Alexander Makshtas, RUSHYDROMET

17:00 PEEX- China observation networks, Joni Kujansuu, Univ. Helsinki

17:20 New aircraft laboratory, Nina Zaytseva, Department of Earth Sciences, RAS (behalf of Yury Borisov Central Aerological Observatory)

PEEX stations network – existing stations in the Siberian region, Nina Zaytseva, Department of Earth Sciences, RAS

SESSION: Working Groups

17:40 **Working Groups -** PEEX observation network - conceptual design

wg-1 in-situ, chair T. Petäjä

wg-2 satellites, chair G. de Leeuw

wg-3 modelling, chair A. Baklanov

wg-4 PEEX marine component, chair NN

wg-5 PEEX integration, chair A. Shvidenko

18:30 closing

19:00 Joint dinner

THURSDAY 6. March

SESSION: PEEX INTERNATIONAL ACTIVITES AND COLLABORATION

09:00 Socio-ecology-economic research activities in the PEEX region – status and needs, A. Shvidenko IIASA

09:20 The direct and indirect impact of climate change on ethnodiversity, Juha Janhunen University of Helsinki

09:40 ARCTIC- BOREAL Vulnerability Experiment, Elisabeth Larson NASA

10:20 Stable Boundary Layers and Diurnal Cycles - Challenges for Weather and Climate Models, B. Holstlag Wageningen University

10:40 Future Earth, Diana Greenslade, The International Council for Science (ICSU)

11:00 SESSION: PEEX Education

11:00 PEEX labeled education and training, Taina Ruuskanen, Univ. Helsinki, Tatjana Regaerand, KarRC of RAS

11:20 China education activities, Yong Xue, CAS

11:40 EU Marie Curie ITN PEEX proposal, Antti Lauri, Univ. Helsinki

12:00 lunch

SESSION: Working Groups

13:00 Working Groups

14:30 Reporting of WGs and discussion

15:30 coffee break

16:00 **GENERAL ISSUES**

- PEEX Science Plan
- PEEX Sessions in EGU, iLEAPS conference – abstracts
- CRAICC-PEEX Pilot Workshops
- Funding applications
- WGs Next steps
- Next meeting

17:00 Closing of the Workshop

Organizing committee

Director of Atmospheric Sciences Division, Prof. Markku Kulmala, Univ. Helsinki
Prof. Sergej Zilitinkevich, Finnish Meteorological Institute
Rector of the Russian State Hydrometeorological University in St. Petersburg Prof. Lev Karlin
First Vice-President of the Russian Geographinal Society Prof. Nikolay Kasimov
PEEX Executive Officer Dr. Hanna Lappalainen, Univ. Helsinki /Finnish Meteorological Inst.
PEEX Science Director Prof. Tuukka Petäjä Univ. Helsinki
PEEX Project Officer Dr. Joni Kujansuu
iLEAPS IPO Project Manager Alla Borisova, Univ. Helsinki
Project Assistant Leevi Viisanen, Univ. Helsinki
Dr. Alexey Isaev, RSHU
Ms. Irina Telnova, RSHU