

Multi–Scales and –Processes Integrated Modelling, Observations and Assessment for Environmental Applications

Online Young Scientist School (YSS) MEGAPOLIS-2021

15 November – 3 December 2021



ANNOUNCEMENT



Aim

This YSS will introduce young generation of researchers to special topics in atmospheric and environmental sciences, Earth system modelling approaches and applications, especially considering transport and fate of small (micro) particles. During the school, participants will learn about the current progress and challenges in Earth system research; meteorological, hydrological and atmospheric composition modelling and observations (including ground-based and remote-sensing); and modern technologies for environmental studies and assessments (including health impacts). The programme will consist of theoretical lectures and practical exercises (to be accomplished by students as small-scale research projects ending with presentation of the project results).

YSS Programme

This School was originally planned in August 2020 (Moscow, Russia) as part of the Academy of Finland (AoF) “ClimEco” & Russian Science Foundation (RSF) “MegaPolis” projects, but postponed due to covid pandemic. Professor Sergej Zilitinkevich (1936-2021) was one the key organizers of the School, promoting for research community, and especially, for the younger generation, the importance of atmospheric and environmental sciences, approaches in the Earth system modelling and their applications.

This School is organized in the Memory of Professor Sergej Zilitinkevich.

- **Block 1** – Current progress & challenges in Earth system research (atmosphere-hydrosphere- biosphere);
- **Block 2** – Modelling (Earth system, numerical weather prediction, atmospheric chemical transport, seamless online integrated, atmospheric boundary layer) and specific challenges;
- **Block 3** – Chemistry (gas, liquid) and aerosols (properties, dynamics, chemistry, micro-physics, interactions);
- **Block 4** – Emissions, data assimilation, models evaluation;
- **Block 5** – Ground-based and remote sensing observations; EU and Russian strategies for hydro-meteorological, ecosystems and atmospheric composition monitoring; SMEAR stations; measurements for atmospheric composition, ecosystems, meteorological, hydrological, urban scale;
- **Block 6** - GIS technologies in environmental sciences; Environmental (land, water, terrestrial ecosystems) and human health assessments.

& **Practical Exercises as Small-Scale Research Projects (SSRP)** on selected research topics to be accomplished by groups of students led by teachers

Organizing Committee

Markku Kulmala, Sergej Zilitinkevich, Jaana Bäck, Hanna Lappalainen, Alexander Mahura
Institute for Atmospheric and Earth System Research, University of Helsinki, Finland

Nikolay Kasimov, Sergey Chalov, Pavel Konstantinov, Natalia Frolova, Anatolii Tsyplenkov
Faculty of Geography, Moscow State University, Russia

Vladimir Melnikov, Andrei Tolstikov, Dmitrii Gabyshev
University of Tyumen, Tyumen, Russia

Alexander Baklanov
World Meteorological Organization, Geneva, Switzerland

Organizers and Support

Pan-Eurasian Experiment (PEEX); RSF MegaPolis; MEGAHAPI; AoF ACCC, ClimEco, ClimComp projects;
Russian Geographical Society & Russian Hydrometeorological Society;
World Meteorological Organization (WMO); Horizon-2020 iCUPE, INTAROS, RI-URBANS, CRiceS projects;
Russian Science Foundation & Academy of Finland

Target audience

Young Researchers (Post Docs, PhDs, MSc, advanced BSc)

Selection criteria

Based on motivation letter, other skills (e.g. programming, etc.), CV & publication list

Registration deadline **1 November 2021**

Language English

Costs no fee

Please, send your application package (*i.e. motivation letter, CV & publication list*):
through web-page: <https://www.megapolis2021.ru/>