

Summary Report

Enviro-HIRLAM

Research Training

(19-23 Oct 2009)



Young scientists (PhD students) -- Adomas Mazeikis, Kaarel Kimmel, and Julia Palamarchuk from Lithuania, Estonia, and Ukraine, respectively -- whom are actively involved into research and development topics on the Enviro-HIRLAM (Environment - High Resolution Limited Area Model) had attend a short practical research training in the Research Department of the Danish Meteorological Institute (RD DMI). The item of this visit was a joint work/ research/ discussions/ consulting/ co-advising/ etc. of young researches. The DMI scientists involved are: Alexander Baklanov, Ulrik S. Korsholm, Alexander Mahura, Kristian P. Nielsen, Roman Nuterman, and Bent H. Sass.

3 PhD students attended the training week are:

from Univ of Tartu, UoT, Estonia:

Kaarel Kimmel Univ-Tartu <kaarel.kimmel@ut.ee>

from research team of Prof. Rein Room <room@physic.ut.ee>

from University of Vilnius, UoV, Lithuania:

Adomas Mazeikis Univ-Vilnius <adomas.m@gmail.com>

from research group of Dr. Julius Taminskas <julius.taminskas@geo.lt>

from the Odessa State Environmental University, OSEU, Ukraine:

Julia Palamarchuk <j_pal@ukr.net>

from research team of Dr. Serguei Ivanov <svvivo@te.net.ua>

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NetFAM (<http://netfam.fmi.fi>) and MEGAPOLI (<http://megapoli.dmi.dk>)

The relevant research topics include work on a new aerosol dynamics module, integration with non-hydrostatic kernel, cloud microphysics, aerosol feedbacks, urban planning and effects on urban climate and pollution, parametrization effects on atmospheric chemical transport modelling, urban planning optimization, validation study for breeze and urban effects, climate change effects on air pollution and meteorology, effects of chemical composition, boundary layer parametrizations.

Research Topics of Focus:

--- Adomas Mazeikis: studies on influence of urban development scenarios (taking into account urban fabric, energy use, land changes, etc.) on formation of meteorological fields and quality of forecasts; specific cases studies analysis for scenarios; long-term evaluation for seasonal and monthly variability with respect to NWP;

--- Kaarel Kimmel: studies on effects of aerosols on radiation as well as Enviro-HIRLAM model validation studies;

--- Julia Palamarchuk: studies on sea-breeze circulation effects on meteorological fields and air quality as well as Enviro-HIRLAM model validation studies;

It is expected that students will submit/ present their 1st results for the up-coming European Geosciences Union (EGU-2010) General Assembly to be held in Vienna, Austria (May 2010).