

PEEX-Academic Challenge – FIRST+ Intensive Course



FINNISH NATIONAL
AGENCY FOR EDUCATION

“Multi-Scales and -Processes Modelling and Assessment for Environmental Applications”

Russian State Hydrometeorological University (RSHU, St.Petersburg, Russia)

<https://www.atm.helsinki.fi/peex/index.php/education/16-courses/184-april-2020-peex-ac-research-training-intensive-course>

RSHU & UHEL virtual meeting on academia/university education collaboration

23 April 2020, Thursday

Summary of Discussions (including chat)

English taught disciplines at RSHU; Evro-group; aviation meteorology program at RSHU; aimed at development in English (rised complexities); 2 groups (in total up to 30 students; usually 10-12); taught courses in English (atmospheric physics, climatology, space meteorology, nowcasting, statistical methods for analysis of hydrometeorological information, satellite analysis of convective clouds, tropical meteorology) and continue work on increasing number of disciplines in English (next year – adding meteorological support for economy); in 2020 – only 4 students will graduate from Evro-group; but in 2019 – 19 students enrolled (good work was done; recently - new program on polar meteorology; up to 60% - taught in English (at best times); Trans-Arctic project – international expeditions are conducted, but these are commercial (meteorology students did not participate)

Hydrology - no courses in English; at current moment - minimal interest from RSHU students in English courses; teachers are also not ready yet; international students are also taking part if field training/practice; sharing experience; might be not a good idea to separate programs; teaching at different levels of education (BSc, MSc, PhD) – all practically done in Russian; training/visits between RU & foreign Univ – at minimal level & language knowledge is critically important; PhD programs at RSHU are now at a very limited availability (for example: Ecological Faculty – has 4 students, but other departments – 1 or none)

- moderated by Eduard P., Yana D., Larisa T., RSHU

Learn experiences of other Univs through workshops/meetings/webinars; what students should do to get into PhD? (not fully available at RSHU); start collaboration with heads of faculties at RSHU; important – not the quantity/ number of PhD students, but quality; start at development of extra curriculum activities and special courses (foreign experts contribution will be very useful); learn experiences from other Univs through workshops/meetings/webinars; UHEL can promote also own approaches in education; example of EDU-ARCTIC platform for school students (good example); establishing more contacts/ networking with involvement of students from both Univs; science connection already established and working

- moderated by Ekaterina R., Eduard P., RSHU

Distance learning (now and next academic year) – more attention to pay; online teaching now, telecommuting for workmaking plans for **virtual courses/ classes**; UHEL uses Moodle; learning courses; FI national project "DigiCampus" (login by google account) <https://digicampus.fi>; building course on statistical tools for atmospheric and climate scientists (to be available for international audience); Climate University, <https://blogs.helsinki.fi/climateuniversity>, available participation for all, 3-4 courses about climate, economy, leadership, sustainability change; can use for own teaching/ learning; can get certificate; also piloting courses; although only FI Univ listed, RSHU interested to learn more

RSHU is looking for platform on where MOOCS can be stored; / it is a challenge also for UHEL (some experience from Nordic countries), for now – only FI Univs for digicampus.fi;; more international access with time; let's use this time as opportunity for mutual teaching; / possibility to do practical works on data processing and modeling directly on digicampus - digicampus is still under construction and development, there is other FI national system (our national centre for scientific computing, CSC - <https://www.csc.fi>) with notebook server accessible by all FI Univs' teachers and students (but no international access

- moderated by Katja L., UHEL, Eduard P., RSHU, Vladimir Ch., MeteoLab

EU Erasmus+ MODEST project (focus is on **university doctoral education**; see details on partners/ objectives/tasks etc. at <https://www.atm.helsinki.fi/peex/index.php/projects/174-modest-project>); recent MODEST training event (hosted by UHEL): <https://www.emodest.eu/index.php/meetings/7-training-on-curriculum-development-and-learning-outcomes>; and colleagues from RSHU are welcome to check/apply what is acceptable for RU Univs environment

- moderated by Katja L., Alexander M., UHEL

April 2020 FIRST+ **PEEX-AC research training intensive course** (<https://www.atm.helsinki.fi/peex/index.php/education/16-courses/184-april-2020-peex-ac-research-training-intensive-course>; hosted by RSHU) was postponed (not cancelled) due to covid19; we are exploring possibilities for virtual course (vs. typical face-to-face); possible to deliver lecture materials and

introduction into exercises; issue is with small-scale research projects (SSRPs) realization because team work is required with rather complex models; for climate/online models – physical presence in the same room is required; / option as to grant access between remote computers of SSRPs teachers and students (although there is software - TeamViewer, Virtual Network Computing; but depend on Univ access policies/ regulations); option – individual research projects (no internationalization or team work); “academic tourism” (travels to other places, site-seesings, socializing) is the past & there is need to adapt for virtual environment

FIRST+ PEEEX-AC proposal was approved & intensive course was prepared (clarification is needed on revised dates); let's also consider option with virtual option & re-evaluate costs of hosting; contact with funding agency to clarify; there are complexities for students/ teachers during this spring 2020 virtual semester (no questionnaire statistics released yet by Univs); avoiding stress: dancing breaks/ lunches/ beer-party/ cake-party/etc.; to settle SSRPs-communication in zoom - it is difficult to predict all possible questions from students

- moderated by Alexander M., Risto M., UHEL., Eduard P., RSHU, Vladimir Ch., MeteoLab

Face-to-face contact with students are also important/ needed (offline vs online); facing problems: students, whom are not interested, ignore; additional extra load/time for teachers to assign/check work by students; think more about permanent **teachers' collaboration and sharing experiences on virtual teaching**; “virtual pedagogical laboratory” on meteorology, hydrology, etc. for teachers; lack of collaboration is also problem; WMO announced new course on teaching hydrometeorology; UHEL published Univ education related paper

lectures/ webinars by RSHU & UHEL teachers/lecturers; freely sharing experience by providing access/link to attend events to both teachers/ students (examples – this PEEEX-AC and MODEST zoom meetings

- moderated by Larisa T., Ekaterina R., RSHU, Katja L., Alexander M., UHEL

Students graduation practice (4th-5th year of Univ education) at national and international levels; there is such experience/ examples from UHEL (incl RSHU students whom visited Univ); now it is possible to do online/ virtually (consulting, co-supervision, thesis pre-defence/defences, short-term trainings/ practicies, etc.) & we need to explore technical possibilities; important - more persons can attend virtual-events (to share knowledge/ experience/etc, promote own studies)

- moderated by Aaed M., Eduard P., RSHU, Alexander M., Risto M., UHEL

Joint publications, education, research - UHEL is always open; results of research projects/proposals; Finnish National Agency for Education Calls on students/teachers mobilities and intensive training courses (<http://www.cimo.fi/programmes/firstplus>); possible individual proposals (EnvriPLUS <https://www.envriplus.eu/calls>) for visiting by students/ teachers/ researchers SMEAR-II (Hyytiälä station, Finland; (<https://www.atm.helsinki.fi/SMEAR/index.php>); RSHU students are welcome to UHEL-INAR education courses (<https://www.atm.helsinki.fi/peex/index.php/education>) under PEEEX umbrella; complexities to attend due to covid19;

- moderated by Aaed M., Eduard P., RSHU, Vladimir Ch., MeteoLab, Alexander M., UHEL

MeteoLab's extra suggestions - jointly develop a method for remote calibration of cheap air quality sensors; calibrate precipitation monitoring system based on signal attenuation of 5G networks; initiate a joint scientific project to create tools for ensuring the flights of UAV

- moderated by Vladimir Ch., MeteoLab

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- MeteoLab (as private company) is welcome to join the PEEEX programme to sign the PEEEX Memorandum of Understanding (MoU); contact established with Dr. Hanna K. Lappalainen, UHEL

UHEL's extra suggestions - building Centers of Excellence (FI+RU) in atmospheric sciences; national, NCM, NordForsk Calls monitoring and joint Univ education/research proposals; PEEEX-AC course (RSHU & St.Petersburg State Univ in spring 2021); RSHU is welcome to join MODEST virtual trainings for PhD doctoral education; joint co-supervision of RSHU+UHEL students, starting from advanced BSc (but problem with English skills – RSHU comment); joint development of new courses & practices for students (in English) in atmospheric sciences

- moderated by Alexander M., Risto M., UHEL