First Announcement:

An Introduction to the PArallelized LES Model PALM

A 5-day intensive workshop to be held at the School of Architecture, the Chinese University of Hong Kong (CUHK), 9am to 5pm, Wed 25th – Sun 29th September 2013.

PALM is a parallelized large-eddy simulation model, which has been continuously developed at the department of meteorology and climatology, Leibniz Universität Hannover, Germany, since 1997. It is used to study micro- and mesoscale turbulent boundary layer flows in the atmosphere and ocean by different groups of researchers all over the world. Compared with many other LES models, PALM includes a number of advanced features like topography, non-cyclic horizontal boundary conditions, an embedded Lagrangian particle model, or an interface for adding user defined code. The ocean option of PALM includes salinity and the equation of state for seawater. A coupling between PALM-atmosphere and PALM-ocean has recently been developed. Data output is in NetCDF format. PALM is optimized for high performance on all kind of state-of-the-art processor architectures and scales up to several thousands of processors. It is free to use for research and can be downloaded from the web. Download information and a detailed online documentation are available under http://palm.muk.uni-hannover.de.

Workshop contents

The one week workshop gives an overview of PALM, explains the installation procedure, and demonstrates how to carry out runs, either on Linux notebooks provided by the participants or on local PCs provided by CUHK (limited supply). The workshop starts with a general introduction to large eddy simulation, followed by a discussion of the basic set of equations that are used in PALM, and the numerical methods that are implemented. After explaining the PALM installation procedure, the main focus is given on how to set up PALM simulations and how to run them using the ksh-shell scripts that are provided with PALM. Further attention is also given to questions like how to extend PALM by user-defined code and how to debug the code. Setups for several standard applications will be explained in detail (e.g. convection, flow around buildings, etc.). Beside the theoretical lessons given in the morning, there will also be hands-on sessions in the afternoon, where participants carry out exercises under the guidance of the lecturers.

Requirements

Participants should have a solid background in CFD modelling, FORTRAN90/95, MPI, and Linux/Unix. If participants intend to use their own Linux notebooks for running PALM during the workshop, these notebooks should have at least a dual-core processor. Required software on the notebook are a FORTRAN90/95 compiler, an MPI library, the netCDF library (not later than version 3.6.3), graphics software to display netCDF data (preferably NCL), the Korn- or bashshell (ksh, bash), as well as subversion (a revision control system necessary to download the PALM code). subversion is already a part of many Linux distributions (e.g. openSuSe). The lecturers will be Professor Siegfried Raasch, and other members of the PALM group from the Institute of Meteorology and Climatology, Leibniz Universität Hannover, Germany.

Fee

The participant fee will be 300€ for Japan and Korean student participants, HK$3,000 for Hong Kong and China student participants, or HK$9,000 for non-student / professional participants. The fee includes tuition, handouts, welcome and farewell party. Visa costs, accommodation, meals, travel expenses and insurance are not included.

Further information and Registration

In case of any further (technical) questions about the workshop, please send an email to Mr Marius Keck (keck@muk.uni-hannover.de). For registration, send an email with your name, contact information, status (e.g. master student, PhD student, professional background, etc.) and current affiliation to Ms Kam Ka Man (kam@eservices.cuhk.edu.hk), not later than Friday 19th July 2013. Successful applications and methods of payment will be announced by the end of July 2013. “Paid” participants will receive detailed information (reading list, location plan, class schedule, etc.) by the end of August.