

Training Course on Modern Programming and Visualization Techniques

18/10/2010-29/10/2010 (by Adrian Jackson et al.)

The **EFDA Goal Oriented Training Programme in Theory (GOTiT)** would like to draw your attention to the seventh course out of a series of 2-week and 1-week courses in the field of magnetically confined fusion.

This 2-week course will be covering a variety of topics related to **modern programming and visualization techniques**. It will be led by Adrian Jackson of the Edinburgh Parallel Computing Centre in Edinburgh, United Kingdom. It will take place **from 18.10.2010 till 29.10.2010 at the Max-Planck-Institute for Plasma Physics (IPP) near Munich, Germany**.

The course is mainly targeted at the trainees who are enrolled with the GOTiT training programme but is also open to graduate students and early career scientists who work in fusion modelling. Mobility funding may be applied for with the respective associations.

The course will cover a variety of topics focusing on programming and visualization techniques. Topics which will be discussed include the following:

- Visualization of scientific data
- Python: visualization and numerical libraries
- Visualization with Visit
- Visualization with IDL, optimizing IDL
- Visualization with gnuplot, xmgrace, and inkscape (vector graphics)
- Modern programming with Fortran
- XML for scientific data and web publishing, DocBook XML
- Compilers and scientific libraries
- Parallel computing: OpenMP and MPI
- Debugging and Profiling
- Version control using Subversion and Gforge
- High Performance Computing: HPC-FF and HLST
- Batch systems and Makefiles

The course will consist of lectures and practical exercises with a stress on the practical exercises. All lectures and teaching material will be in English.

The practical parts of the course will be carried out on the *EPCC and HPC-FF supercomputers* in Edinburgh and Jülich and on the *EFDA ITM Gateway cluster* in Portici, Italy which is generously provided by ENEA and the EFDA ITM. Special thanks go to Francesco Iannone for providing temporary accounts on the ITM Gateway.

The material of the course will be made available upon request.

For further information and registration please visit

http://solps-mdsplus.aug.ipp.mpg.de/GOTiT/wp2_course07_index.html