

Training Course on Transport in Tokamaks

17/05/2010-28/05/2010 (by Dr. Michele Romanelli et al.)

The **EFDA Goal Oriented Training Programme in Theory (GOTiT)** would like to draw your attention to the sixth 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 **transport in tokamaks**. It will be led by Dr. Michele Romanelli of the CCFE Culham Science Centre in Oxfordshire, United Kingdom.

It will take place **from 17.05.2010 till 28.05.2010 at the CCFE Culham Science Centre near Oxford, United Kingdom**.

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 transport in tokamaks. Topics which will be discussed include the following:

- Introduction to transport in a generic medium and tokamaks (theory and experiment)
- Classical and neoclassical transport
- Confinement modes and scalings, transport barriers
- Instabilities affecting transport (ELMs, Sawtooth, NTM)
- Heat, particle, momentum, and current transport in turbulent tokamak plasmas
- Overview of recent kinetic approaches to turbulent transport
- Core transport of impurity ions and fast particles
- Transport equations in the plasma edge, scrape-off layer, and divertor
- Phenomenological transport models
- Transport codes (core, edge, first principle)

The course will consist of lectures and practical exercises. All lectures and teaching material will be in English.

The practical parts of the course will be carried out 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_course06_index.html