

# **Transport in fusion plasmas: transport barriers physics 7th EU-US Transport Task Force Workshop**

**Varenna, Italy, September 4 - 7, 2000**



**Organized by  
International School of Plasma Physics "Piero Caldirola"  
Istituto di Fisica del Plasma del CNR-Milano**

The physics of transport barrier will be a major topic in the workshop. The meeting will be organized in 4 topical sessions, each organized by a session leader, including the following areas of research: transport barriers, turbulence, MHD instabilities and core transport.

- I. Phenomenology of transport barriers (Session leaders: Ulrich Stroth, Kiel University and Arthur Peeters, IPP-Garching)**
  - a. Role of pressure gradients, poloidal-toroidal flows
  - b. Edge transport barriers in tokamaks and stellarators
  - c. Do edge and internal transport barriers share a common physics?
  - d. Role of rational surfaces to trigger transport barriers
  - e. Role of  $q_{min}$  (magnetic shear).
- II. Turbulence (Session leader: Carlos Hidalgo, Ciemat, Spain)**
  - a. Nature of turbulence
  - b. Link between fluctuations and electric field (i.e. zonal flows)
  - c. Role of rational surfaces in turbulence: fluctuations and electric fields
- III. MHD stability in the presence of transport barriers (Session leader: Richard Buttery, Culham, UK )**
  - a. Stabilization of pressure gradient modes
  - b. Stabilization of neoclassical tearing modes
  - c. Active control of plasma current.
- IV. Core transport (Session leader: Giovanni Bracco, ENEA Frascati, Italy)**
  - a. Similarity and dimensionless scalings
  - b. Effects of low aspect ratio and shaping
  - c. Perturbative transport
  - d. Transport in turbulent plasma.

**Scientific Committee:**

**J. W. Connor (Chairman), G. Bracco, R. Buttery, J. Cordey, C. Hidalgo, A. Jacchia, A. Peeters, F. Romanelli, U. Stroth, F. Wagner, J. Weiland, J. D. Callen, B. A. Carreras, E. D. Synakowski, M. Greenwald, M. Zarnstorff**

**Deadline for abstracts and registration: June 15, 2000**  
**Applications**

**Application form and form for hotels reservation can be obtained from:**

**Donatella Pifferetti, Organizing Secretariat**  
**International School of Plasma Physics "Piero Caldirola"**  
**e-mail: ISPLASMA@TIN.IT**  
**or Fax +39 0341 732 490**

**Abstracts should be sent by June 15, 2000 to:**

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**Via Roberto Cozzi, 53 - 20125 Milano Italy**  
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**Registration Fee**

**Registration fee: 500 000 Italian Lit. should be paid by July 31, 2000**

**Banca Popolare di Lecco, Division of the Deutsche Bank**  
**Via IV Novembre, 23829 VARENNA (LC), Italy**  
**c/c 9500/E, ABI 03104, CAB 51830**  
**in favour of International School of Plasma Physics.**

**The fee covers admission to the Workshop and social events.**  
**The fee can also be paid in Varenna at registration desk.**  
**Sponsored by**

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