



J.M. Burgerscentrum



International Summer School on Turbulence, Plankton and Marine Snow

Barcelona, Spain
1 - 5 September 2008

A one-week summer school is planned in the field of (geophysical) turbulence and its role on the swimming behaviour and contact rates of plankton, patchiness of plankton, bloom formation, marine snow formation. Attention will also be paid to the theory and modeling of geophysical turbulence, laboratory experiments, and in situ observation on plankton in turbulence.

The aim of the meeting is to provide an intense course on current advances in the field with six invited didactical lectures by top specialists in the subject. The main emphasis will be put on **the fluid-mechanical aspects of ocean flows, dispersion of species in small-scale turbulence** and the available numerical and experimental techniques to analyze those. Additionally, it is aimed to promote the **interactions between marine biology and fluid mechanics** by bringing together senior and junior scientists from both disciplines, and to stimulate discussions and interaction between colleagues from the two disciplines. Besides the keynote lectures there will be room for several lectures by senior researchers on specialized topics.

Location: Moli de Mar, Po Ermita de St. Cristofor (Far), Vilanova i la Geltrú, 08800 Barcelona, Spain

Full fee: 200 euro. The course fee includes lodging, lecture notes, coffee breaks, and conference diner. Payment must be received by August 1st, 2008.

The following keynote lectures will be given (with the proposed the lecturer between brackets)

- turbulence in the ocean: an introduction to its physics (Steve Thorpe, Bangor, UK)
- experiments and observation of plankton in turbulence (Francesc Peters, Barcelona, Spain)
- planktonic population dynamics in turbulent boundary layers (David Lewis, Liverpool, UK)
- mesoscale turbulence and plankton patchiness (Marina Levy, Paris, France)
- small-scale hydrodynamics and plankton (Andy Visser, Copenhagen, Denmark)
- the formation and fate of marine snow: the role of hydrodynamics (Thomas Kioerboe, Copenhagen, Denmark)

Besides short lectures on special topics will be given, covering:

- turbulent exchange in the benthic boundary layer (Luca van Duren, Delft, The Netherlands)
- planktonic contact and capture rates in turbulent environments (Hans Pecseli, Oslo, Norway)
- using CFD to investigate the copepod hydrodynamics (Houshuo Jiang, Woods Hole, USA)
- animal and robot strategies for tracking odors underwater (Frank Grasso, New York, USA)
- physical gradients and biological responses across the edge of the continental shelf (Jonathan Sharples, Liverpool, UK)

Finally, also the junior participants will be invited to present their work in separate sessions.

The Summer School is organized by:

- **Herman Clercx**, Fluid Dynamics Laboratory, Eindhoven University of Technology, The Netherlands (chairman)
- **Tim Pedley**, DAMTP, University of Cambridge, UK
- **Jaume Piera**, Marine Technology Unit, CMIMA-CSIC, Barcelona, Spain
- **François Schmitt**, CNRS, Director of Laboratory of Oceanology and Geosciences, France
- **Anton van Steenhoven**, Eindhoven University of Technology, The Netherlands

A scientific advisory committee consists of: José Redondo (Barcelona), Cèlia Marrasé (Barcelona), Thomas Kioerboe (Copenhagen), Antonello Provenzale (Torino), David Lewis (Liverpool).

Registration: Send an email to Herman Clercx (h.j.h.clercx@tue.nl) before June 1th, 2008. It should include a brief CV (2 pages maximum), a letter specifying why he/she should attend the Summer School and providing a brief 10-line description of their PhD or PD project, a motivation for some limited financial support to cover travel costs, a letter of recommendation of their supervisor, and administrative details (including billing address). Selection will be made by the organising committee and the scientific advisory committee.¹ Notification of admittance will be sent by email before July 1st, 2008.

¹ Maximum number of participants is 25.