

# Third European SCAT Workshop & Summer School in partnership with IRPHE and CNRS

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“Vortices and Vortex Sheets: theories, numerics and applications”

## General Concepts in Stability Theory



**One of a series of mini-courses taking place 4-10 June 2007, Centre IGESA**

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### Description

This course will give an introduction to general concepts for stability analysis of shear flows. It is based on a mathematical framework that will allow the description of short-time and long-time instabilities, the response to deterministic and stochastic excitations and the extension to time-dependent and nonlinear flows.

### Lecturer

**Prof. Peter J. Schmid**, Laboratoire d'Hydrodynamique (LadHyX), École Polytechnique

### Syllabus

- ▶ Introduction to stability theory
- ▶ Eigenvalues in hydrodynamic stability theory
- ▶ Transient growth and initial amplification
- ▶ Response behavior of linear systems
- ▶ Response to stochastic forcing
- ▶ A framework for time-dependent flows
- ▶ Stability analysis of flows in complex geometries
- ▶ Nonlinear stability analysis

For more information, email [info@scat-alfa.eu](mailto:info@scat-alfa.eu) or visit [www.scat-alfa.eu](http://www.scat-alfa.eu)



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