



LARGE EDDY SIMULATION AND RELATED TECHNIQUES THEORY AND APPLICATIONS



VON KARMAN INSTITUTE FOR FLUID DYNAMICS

March 10 - 14, 2008

INTRODUCTION

Large-eddy Simulation (LES) has reached a level of development and width of application to justify a full course dedicated to this specific topic.

The course encompasses an introduction and discussion of the fundamental principles, state-of-the-art applications and possible developments of LES and LES-related techniques for high Reynolds-number flows. Specific sessions will cover the numerical techniques suitable for the implementation of these models.

This presentation will be complemented by sessions devoted to the application of these approaches to various fields of interest, namely, biological and atmospheric flows.

The course will be delivered by internationally recognized experts. Its contents are addressed both to researchers interested in the fundamental simulation of turbulence and to engineers wanting to apply the LES techniques or LES solvers to the accurate simulation of turbulent flows.

The Directors of this lecture series are Professors C. Benocci and J.P.A.J. van Beeck from the von Karman Institute for Fluid Dynamics and Professor U. Piomelli from the University of Maryland, USA.

Please pass this announcement to someone who may be interested if you are unable to attend the Lecture Series yourself

TIMETABLE

MONDAY MARCH 10, 2008

- 08:45** Welcome address
- 09:30** Large-eddy and direct simulation of turbulent flows
U. Piomelli, University of Maryland, USA
- 14:00** Large-eddy and direct simulation of turbulent flows (Continued)
U. Piomelli
- 17:00** Reception

TUESDAY MARCH 11, 2008

- 09:00** Numerical implementation of large-eddy simulation
D. Laurence, University of Manchester, UK
- 14:00** Large-eddy and direct simulation of turbulent flows (continued)
U. Piomelli

WEDNESDAY MARCH 12, 2008

- 09:00** Detached eddy simulation
K. Squires, Arizona State University, USA
- 14:00** Detached eddy simulation
K. Squires

THURSDAY MARCH 13, 2008

- 09:00** Applications of large-eddy simulation and direct simulation to biological flows
E. Balaras, University of Maryland, USA
- 14:00** Immersed boundary technique for large-eddy simulation
R. Verzicco, Politecnico of Bari, Italy

FRIDAY MARCH 14, 2008

- 09:00** Field studies and instrumentation to guide the improvement of SGS models for large-eddy simulation
M. Parlange, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 11:00** Simulations in the atmospheric boundary layer
M. Parlange
- 14:00** VKI bus departure

PRACTICAL INFORMATION

Lunch will be taken from 12h30 to 14h00. Coffee breaks are scheduled each morning and afternoon.



von Karman Institute for Fluid Dynamics
72, Chaussée de Waterloo
1640 Rhode-Saint-Genèse, Belgium

Phone: +32(0)2 359 96 04 - Fax: +32(0)2 359 96 00
E-mail: secretariat@vki.ac.be, TVA BE 0407 185 709
Website: <http://www.vki.ac.be>