Sunday 16 June 2013
15:00 – 18:30 Early registration

Monday 17 June 2013
08:30 – 09:35 Registration
09:40 – 09:50 Welcome Address
09:50 – 10:40 Key Note Lecture: Charles Hirsch, NUMECA S.A., Belgium
Coupling strategies and reduced order modeling for fluid-structure interactions

10:40 – 12:05 Session I.1 – Chairman: Kerry Hourigan
Numerical Approaches for Unsteady Separation in Fluid-Structure Interaction

10:40 – 11:05 M.A. Woodgate & G.N. Barakos
(University of Liverpool, U.K.)
Rotor Computations with Active Gurney Flaps

11:05 – 11:30 A. Ponce, D. Pena, T. Deloze & Y. Hoarau
(ICUBE, Université de Strasbourg, France – Ecole Polytechnique de Montréal, Canada)
Chimera Simulation of Trajectories of Falling Bodies

11:30 – 11:55 S. Court & M. Fournié
(Institut de Mathématiques de Toulouse, France)
A Fictitious Domain Approach for Fluid-Structure Interactions Based on the Extended Finite Element Method

11:55 – 12:05 C. Peng, L. Hui & S. Zaleski
(Harbin Institute of Technology, China – Institut Jean-Le-Rond d’Alembert, Université Pierre et Marie Curie, France)
Numerical Simulation of Rain Rivulets on Stay Cables Subjected to Wind Based on VOF Method (Poster)

12:05 – 13:50 Lunch

13:50 – 14:40 Key Note Lecture: Wolfgang Rodi, Karlsruhe Institute of Technology, Germany
The ERCOFTAC QNET-CFD knowledge base Wiki and its test cases on flows past structures

14:40 – 16:05 Session I.2 – Chairman: Charles Hirsch
Numerical Approaches for Unsteady Separation in Fluid-Structure Interaction

14:40 – 15:05 J. Favier, A. Revell & A. Pinelli
(Aix Marseille Université, France – University of Manchester, UK – CIEMAT, Unidad de Modelización y Simulación Numérica Spain)
Interaction of Multiple Flapping Filaments Using Lattice Boltzmann and Immersed Boundary Methods

15:05 – 15:30 A.F.P. Ribeiro, D. Casalino & E. Fares
(Exa GmbH, Germany)
Lattice-Boltzmann Simulations of an Oscillating NACA0012 Airfoil in Dynamic Stall

(ICUBE, Université de Strasbourg, France – Imagerie Préclinique des Hôpitaux Universitaires de Strasbourg, France – Laboratory of dynamic imaging, Monash University, Australia – IMFT, France)
Flow and Particles Deposition in Rabbit and Rat Airways under Realistic Inflow Rate

15:55 – 16:05 A. M. Nasar, B.D. Rogers, A. Revell & P.K. Stansby
(School of Mechanical, Aerospace & Civil Engineering, University of Manchester, UK)
Methodologies for Fluid-Structure Interaction in the Framework of Smoothed Particle Hydrodynamics and the Lattice-Boltzmann Methods (Poster)

16:05 – 16:50 Coffee Break

16:30 – 17:20 Key Note Lecture: Michael Triantafyllou, MIT, Massachusetts Institute of Technology, USA
Global vorticity shedding
17:20 – 18:20  Session II.1 – Chairman : Eric Duha yon

Experimental Techniques for the Unsteady Flow Separation

(Institut Supérieur de l’Aéronautique et de l’espace, Toulouse, France)
Study of a Flexible Blade for Optimized Proprotor

17:45 – 18:10  L. Divaret, O. Cadot, P. Moussou & O. Doaré
(Laboratoire de Mécanique des Structures Durables, France – Unité de Mécanique, ENSTA ParisTech, France)
On the Origin of the Linear Damping with the Axial Flow of a Vibrating Cylinder

19:50  Cocktail-Dinner at St John’s Pool Bar

Tuesday 18 June 2013

08:30 – 09:20  Key Note Lecture: Kerry Hourigan, Monash University, Australia
A. Rao, A. Radi, J. Leontini, J. Sheridan, M.C. Thompson & K. Hourigan
Wake transitions for flow around rotating cylinders

09:20 – 10:35  Session III.1 – Chairman : Yannick Hoarau
Instability and transition in FSI with unsteady separation, theory and DNS

09:20 – 09:45  R. Bourguet, G. Karniadakis & M.S. Triantafyllou
(Institut de Mécanique des Fluides de Toulouse, France – Brown University, USA, Massachusetts Institute of Technology, USA)
Flow-Induced Vibrations of a Flexible Cylinder at Large Yaw Angle

09:45 – 10:10  J. Tchoufag, D. Fabre & J. Magnaudet
(Institut de Mécanique des Fluides de Toulouse, France)
Weakly Non-Linear Analysis of the Flutter Motion of Disks

10:10 – 10:35  J. Dušek, M. Chrust & G. Bouchet
(ICUBE, Université de Strasbourg, France – University of Ottawa, Canada – Aix-Marseille Université, France)
Transitional Dynamics of Freely Falling Discs

10:35 – 11:00  Coffee Break

11:00 – 11:50  Key Note Lecture: Bernard J. Geurts, University of Twente, Netherlands
Regularization modeling of separated turbulent flow

11:50 – 12:40  Session III.2 – Chairman : Rémi Bourguet
Instability and transition in FSI with unsteady separation

11:50 – 12:15  M. Benaouicha, E. Longatte & F. Baj
(EDF-LaMSID, France)
Fluidelastic Stability Criteria of Tube Bundles in Potential Flow

12:15 – 12:40  M. Carini, F. Auteri & F. Giannetti
(Politecnico di Milano, Italy – Università Degli Studi di Salerno, Italy)
Secondary Instability of the Flow Past Two Side-by-Side Cylinders

12:40 – 14:00  Lunch

14:00 – 14:50  Key Note Lecture: Jean-François Rouchon, Laplace – UMR CNRS 5213, France
New concepts for improving the aerodynamic performance of airvehicles by electroactive morphing
14:50 – 16:05  Session II.2 – Chairman: Piotr Doerffer

**Experimental Techniques for the Unsteady Flow Separation**

**14:50 – 15:15**  
**M. Chiaud, J. Scheller, J-F. Rouchon, E. Duhayon & M. Braza**  
(Laplace, France – IMFT, France)  
Experimental Study of the Flow Past an actuated Deformable Wing Prototype at High Reynolds Number

**15:15 – 15:40**  
**S. Prothin & J-M. Moschetta**  
(Institut Supérieur de l'Aéronautique et de l'Espace, Toulouse, France)  
A Vectoring Thrust Coaxial Rotor for Micro Air Vehicle: Modeling, Design and Analysis

**15:40 – 16:05**  
**J. Scheller, M. Chiaud, J-F. Rouchon, E. Duhayon & M. Braza**  
(IMFT, France – Laplace, France)  
Study on Piezoelectric Actuators for Aeronautical Applications

16:05 – 16:30  Coffee Break

16:30 – 17:10  Lecture: Elisabeth Longatte, Mustapha Benaouicha, EDF - LaMSID, France

**Review on advanced numerical methods for uncertainty reduction on stability limits of dynamical systems**

17:10 – 18:25  Session III.3 – Chairman: Frank Thiele

**Instability and transition in FSI with unsteady separation**

**17:10 – 17:35**  
**M.E. Mastrokalos, C.I. Papadopoulos & L. Kaiktsis**  
(Department of Naval Architecture and Marine Engineering, National Technical University of Athens, Greece)  
Stability Properties of Flow Past a Circular Cylinder with Slip Conditions

**17:35 – 18:00**  
**P. Paredes & V. Theofilis**  
(School of Aeronautics, Universidad Politécnica de Madrid, Spain)  
Linear Spatial Global Instability Analysis of Hypersonic Flows over Elliptic Cones

**18:00 – 18:25**  
**T. Ishihara & H. Ogasawara**  
(Nagoya University, Japan)  
Conditional Analysis of Statics Obtained Near the Turbulent/Non-Turbulent Interface of Turbulent Boundary Layers

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**Wednesday 19 June 2013**

**08:30 – 09:20**  
**Key Note Lecture: Parviz Moin**, CTR - Stanford University, USA  
**P. Moin**, J. Bodart, S. Bose & G.I. Park  
*Wall modelling in complex turbulent flows*

**09:20 – 10:35**  
**Session IV.1 – Chairman: Wolfgang Rodi**

**LES, Hybrid and Statistical Turbulence Modelling of Unsteady Separated Flows**

**09:20 – 09:45**  
**A. Skillen, A. Revell, J. Favier, A. Pinelli & U. Piomelli**  
(University of Manchester, UK – Aix-Marseille Université, France, Unidad de Modelización y Simulación Numerica, Madrid, Spain – Queen’s University, Ontario, Canada)  
LES Study into the Flow Physics of an Undulating Leading-Edged Wing

**10:45 – 10:50**  
**S. Rolfo & A. Revell**  
(University of Manchester)  
Effect of span-wise resolution for LES of flow over a rotating cylinder at high Reynolds

**10:35 – 11:00**  
Coffee Break

**11:00 – 11:50**  
**Key Note Lecture: Ahsan Kareem**, University of Notre Dame, USA  
*Bluff body aerodynamics and aeroelasticity: Nonstationary, non-gaussian and nonlinear features*

**11:50 – 12:15**  
**Session II.3 – Chairman: Christophe Brücker**

**Experimental Techniques for the Unsteady Flow Separation and Instability**

**11:50 – 12:15**  
**E. Duhayon**  
(Laplace, France)  
The Potential Applications of Electroactive Polymers in Fluid Structure Interaction

**12:15 – 14:00**  
Lunch

**14:00 – 14:50**  
**Key Note Lecture: George Karniadakis**, Brown University, USA  
*Fictitious methods for stabilizing flow-structure interactions*
Thursday 20 June 2013

09:00 – 09:50
Key Note Lecture: Dieter Schwamborn, DLR – Göttingen, Germany
Results and lessons learned from the EU-project ATAAC

09:50 – 10:40
Session IV.2 – Chairman: Parviz Moin
LES, Hybrid and Statistical Turbulence Modeling of Unsteady Separated Flows

C. S. Johnson, M. Woodgate & G. N. Barakos
(University of Liverpool, UK)
Optimising Aspects of a BERP-like Rotor Using Frequency-Domain Methods

10:15 – 10:40
F. Billard, J. McNaughton & A. Revell
(University of Manchester, UK)
Unsteady RANS Study of a Flow Past a Vertical Axis Turbine

12:00 – 12:50
Session IV.3 – Chairman: George Barakos

F. Grossi, Y. Hoarau & M. Braza
(Institut de Mécanique des Fluides de Toulouse, France – Institut de Mécanique des Fluides et des Solides de Strasbourg, France)
Hybrid RANS-LES Simulation of Unsteady Transonic Shock-Induced Separation

G. Tzabiras, V. Papakonstantinou & S. Voutsinas
(National Technical University of Athens, Greece)
A numerical Study of the Flow Past Wind Generators

12:50 – 14:15
Lunch

14:15 – 15:05
Key Note Lecture: Julian Hunt, University College London, UK

J. C. R. Hunt, T. Ishihara, Y. Hoarau & M. Braza
(University College London, UK – Nagoya University, Japan – IMFS, France – IMFT, France)
Turbulence near interfaces – Modeling and simulations
15:05 – 16:20  Session IV.4 – Chairman : Alistair Revell

**LES, Hybrid and Statistical Turbulence Modeling of Unsteady Separated Flows**

15:05 – 15:30  
**C. Moussaed, S. Wornom, B. Koobus, A. Dervieux, T. Deloze, Y. Hoarau, M. Elhimer, R. Elakoury & M. Braza**  
(Université de Montpellier II, France – INRIA, France – IMFT, France – IMFS, Strasbourg, France)  
VMS- and OES-Based Hybrid Simulations of Bluff Body Flows

15:30 – 15:55  
(IMFT, France – ICUBE, Université de Strasbourg, France – Laplace, France)  
Dynamic Effect of an Active Deformable Flat Plate under Turbulent Flow

15:55 – 16:20  
**V. Shinde, M. Braza, E. Longatte & F. Baj**  
(EDF-LaMSID, France - IMFT, France)  
Numerical Simulation of Fluid-Structure Interaction in Square Normal Cylinder Arrays

16:20 – 16:50  Coffee Break

Friday 21 June 2013

**09:00 – 09:50**  
**Key Note Lectures:**  
Christophe Brücker, Technische Universität Bergakademie Freiberg, Germany  
C. Brücker & C. Weidner  
*Separation control via self-adaptive hairy flaplet arrays*

**09:50 – 10:40**  
**Session V.1 – Chairman : Julien Favier**  
**Control of Unsteady Separated Flows**

09:50 – 10:15  
**D. Venkataraman, A. Bottaro & R. Govindarajan**  
(University of Genova, Italy – Tata Institute of Fundamental Research, India)  
Minimal Modeling for Flow Control via a Poro-Elastic Coating

10:15 – 10:40  
**A. Jain & Y. Modarres-Sadeghi – presented by J. Scheller**  
(University of Massachusetts, USA)  
An experimental study of vortex-induced vibrations of flexibly mounted inclined cylinders

10:40 – 11:10  Coffee Break

11:10 – 12:25  **Session V.2 – Chairman : Alessandro Bottaro**  
**Control of Unsteady Separated Flows**

11:10 – 11:35  
**A. Revell, J. Favier & A. Pinelli**  
(University of Manchester, UK – Aix-Marseille Université, France – Unidad de Modelización y Simulación Numérica, Spain)  
Drag reduction of flow around a cylinder with attached flexible filaments

11:35 – 12:00  
**M. Carini, J.O. Pralits & P. Luchini**  
(Politecnico di Milano, Italy – Università degli Studi di Genova, Italy – Università degli Studi di Salerno, Italy)  
Cylinder Wake Stabilization Using a Minimal Energy Compensator

12:00 – 12:25  
**E. Konstantinidis & D. Bouris**  
(not presented [urgent reasons] full paper provided)  
(University of Western Macedonia, Greece)  
Controlling Unsteady Separation from a Cylinder by Nonharmonic Perturbations

12:25 – 12:35  Closing Address

12:35 – 14:00  Lunch