



## International Workshop

### New Challenges in Wall Turbulence

In Honour of Michel Stanislas –

14-16 June 2017, Lille, France



Laboratoire  
Mécanique  
Lille



centralelille



TRANSPORTS  
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Université  
de Lille

## Agenda

### Wednesday June 14th

8h30 Registrations

9h00 -9h30 Welcome by organization committee and EC Lille

**9h30 - 11h10 Session 1 -**

*Chairman :*

9h30 Jean-Marc Foucaut  
Centrale Lille, France  
Characterization of a High Reynolds Turbulent Boundary Layer

10h15 Yoshitsugu Naka  
Meiji University TBL, Japan  
Velocity gradient correlations in a turbulent boundary layer

10h40 Chris Willert  
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany  
Applications of near-wall high-speed PIV

11h05 – 11h40 Coffee break

**11h40 - 12h55 Session 2 -**

*Chairman :*

11h40 Bérengère Podvin  
LIMSI, Paris, France  
On linear estimation of wall-bounded turbulent flows

12h05 Shinnosuke Obi  
Keio University, Japan  
Turbulent boundary layer developing on rotating disks in a cylindrical enclosure

12h30 Marco La Mantia  
Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic  
Particle dynamics in thermal counterflow of superfluid helium close to a wall

13h00 - 14h30 Lunch

**14h30 - 15h55 Session 3 -**

*Chairman :*

14h30 Pierre Sagaut  
Laboratoire de Mécanique, Modélisation et Procédés Propres, Marseille, France  
Simulation of wall-bounded turbulence using Lattice-Boltzmann methods

14h55 Sebastian Robin  
Institut Pprime, Poitiers, France  
Numerical simulation of a compressible channel with impedance boundary condition

15h20 – 15h50 Coffee break

**15h50 – 17h55 Session 4 -**

*Chairman :*

15h50 Jurgen Kompenhans  
ex Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany  
PIV through the European project

- 16h15 Pilar Arroyo  
Zaragoza University, Spain  
Digital Fourier Holography for fluid velocimetry: plane vs volume illumination
- 16h40 Andreas Schroeder  
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR) , Germany  
Turbulent boundary layer investigations using Shake-The-Box.
- 17h05 Michel Stanislas  
Ex LML, France  
Title to be defined

**Cocktail at Centrale Lille 18h15**

## **Thursday June, 15th**

### **8h50 - 10h30 Session 5 -**

*Chairman :*

- 8h50 William K George  
Imperial College London, UK  
What we learned from Wallturb? The value of investing in targeted fundamental, and carefully coordinated research instead of always trying for the 'quick engineering fix'!
- 9h35 Witold Elsner, Artur Drozd,  
Czestochowa University of Technology, Poland  
Amplitude modulation and its relation to streamwise convection velocity in turbulent boundary layer.
- 10h00 Juan Ignacio Polanco  
LMFA, Univ Lyon 1, France  
Lagrangian acceleration statistics in turbulent channel flow
- 10h25 Jonathan F. Morrisson  
Imperial College London, UK  
The inertial subrange in turbulent pipe flow

10h50 – 11h15 Coffee break

### **11h15 - 12h55 Session 6 -**

*Chairman :*

11h15 Julio Soria  
Laboratory for Turbulence Research in Aerospace & Combustion, Monash, Australia  
The structure of a self-similar adverse pressure gradient turbulent boundary layer

11h40 Ivan Maciel  
Université Laval, Canada  
Coherent structures in strong adverse pressure gradient turbulent boundary layers

12h05 A. Drozd  
Czestochowa University of Technology, Poland  
A new formulation of the streamwise fluctuations profiles of turbulent boundary layer with pressure gradient.

12h30 Matthew Bross  
Universität der Bundeswehr München, Germany  
Characterization of Rare Reverse Flow Events in Adverse Pressure Gradient Turbulent Boundary Layers

13h00 - 14h30 Lunch

**14h30 - 15h50 Session 7 -**

*Chairman :*

14h30 Philippe Roche  
Institut Néel, CNRS & Grenoble Alpes University, France  
Array of ultra-miniature hot-films for very high Reynolds number flows

14h55 Laurent Perret  
Ecole Centrale de Nantes, France  
PIV based investigation of roughness effects on the dynamics of turbulent boundary layers over dense canopies

15h20 Laurent David  
Pprime Poitiers, France  
Spectral analysis of Homogeneous Isotropic Turbulence with Time-Resolved PIV

15h55 – 16h20 Coffee break

**16h20 – 18h00 Session 8 -**

*Chairman :*

16h20 Hassan Nagib  
Illinois Institute of Technology, USA  
Secondary motions in spanwise in-phase sinusoidal channels

16h45 Preben Buchhave  
DTU, Danmarks Tekniske Universitet  
A 1D Navier-Stokes Machine – and what it can tell us about turbulence

17h10 Clara Marika Velte  
DTU, Danmarks Tekniske Universitet  
Non-equilibrium turbulence in the developing axisymmetric turbulent jet

17h35 Jean-Philippe Laval  
LML, France  
Turbulence profiles in high Reynolds number turbulent boundary layer and pipe flows.

**Dinner in central Lille 19h30**

## **Friday June, 16th**

**9h00 - 10h40 Session 9 -**

*Chairman :*

9h00 Jean-Paul Bonnet  
Ex Pprime, Poitiers, France  
Large Scale Structures in Turbulent Flows : from free shear flows to boundary layer flows, a tribute to Joel Delville

9h45 Christos Vassilicos  
Imperial College London  
The structure of wall-attached eddies and resulting streamwise turbulence spectra

10h10 Woutijn Baars  
Dept. Of Mech. Eng., University of Melbourne, Australia  
A wall-attached and self-similar structures in turbulent boundary layers

10h35 Koji Iwano Iwano  
Dept. of Mechanical Science and Eng., Nagoya University, Aichi, Japan  
Effect of large scale structures on bursting phenomena in turbulent boundary layer

11h00 – 11h30 Coffee break

**11h30 - 12h45 Session 10 -**

*Chairman :*

11h30 Azeddine Kourta  
Prisme Orléans, France  
Active control of separated wall turbulent flow over a ramp

11h55 Dandan Xiao  
Department of Aeronautics, Imperial College London, UK  
Nonlinear optimal control of bypass transition in a boundary layer flow

12h20 Fulvio Scarano  
Delft University of Technology, Nederland  
Experimental investigations of wall bounded turbulence

13h00 - 14h30 Lunch

**14h30 - 15h45 Session 11 -**

*Chairman :*

14h30 Luminita Danaila  
Université de Rouen, France  
Similarity of anisotropic, variable viscosity flows

14h55 Gioacchino Cafiero  
Department of Aeronautics, Imperial College London, London, UK  
Self similarity and non-equilibrium turbulence in a turbulent planar jet

15h20 Martin Obligado  
Université Grenoble Alpes, LEGI, F-38000 Grenoble, France  
Non-equilibrium turbulent axisymmetric wakes

15h45 – 16h15 Coffee break

16h15 – 17h00 Visit of the wind tunnel