Fourth International Workshop on Wall-Bounded Turbulent Flows

Ettore Majorano Foundation and Center for Scientific Culture (EMFCSC)
Erice, Italy, Sep. 30 - Oct. 3, 2006

“Long” talks are 20 minutes with 15 minutes of discussion (time slot indicated with underline)
“Short” talks are 15 minutes with 10 minutes discussion

Friday, September 29
Accommodation available at EMFCSC

Saturday, September 30
Registration 13:00-15:00
Welcome and Announcements: Lex Smits 15:00-15:10
Summary and re-cap of previous workshops (K.R. Sreenivasan) 15:10-15:40

Session 1: Structure and Scaling (Co-Chairs: Ivan Marusic, Michael Schultz) 15:40-18:45
Hassan Nagib & Kapil Chauhan, IIT Chicago, & Peter Monkewitz, EPFL 15:40-16:25
Complete representation of boundary layer properties
Joe Klewicki, University of New Hampshire 16:25-16:50
On scaling the mean momentum balance and its solutions
Coffee Break 16:50-17:20
Martin Oberlack, TU Darmstadt 17:20-17:45
Reynolds number dependent near wall scaling laws from approximate symmetries
Nicholas Hutchins, University of Melbourne 17:45-18:10
Large-scale influences in near-wall turbulence
Peter Davidson, University of Cambridge 18:10-18:45
A refined interpretation of the logarithmic structure function law
Reception 19:15-20:45
**Sunday, October 1**

**Session 2:** (Co-Chairs: Hassan Nagib, Martin Oberlack)

Lex Smits, Princeton University
*Experiments on rough pipes and submarine wakes at high Reynolds number* 09:00-09:25

Jason Monty, University of Melbourne
*Turbulent pipe flow development* 09:25-09:50

Alessandro Talamelli, Universita di Bologna
*Status and developments of the CICLoPE project* 09:50-10:25

**Coffee Break** 10:25-10:55

Paolo Gualtieri, Carlo Massimo Casciola, and Renzo Piva
*Universita di Roma "La Sapienza"
DNS, LES and resolution issues for the experiments in CICLoPE* 10:55-11:20

Boris Jacob, Elisabetta De Angelis, Renzo Piva,
*Universita di Roma "La Sapienza"
The dynamics of wall turbulence in drag reducing flows* 11:20-11:45

Henrik Alfredsson, KTH Stockholm
*The effects of symmetry breaking on axially rotating pipe flow* 11:45-12:10

Ron Panton, University of Texas at Austin
*Streamwise Reynolds stress correlated as active and inactive components* 12:10-12:35

**Lunch** 12:35

---

**Monday, October 2**

**Session 3:** (Co-Chairs: Lex Smits, Tim Nickels)

Per-Åge Krogstad, NTNU Trondheim
*Response of a boundary layer to a step change in surface roughness* 08:25-9:00

Mike Schultz and Karen Flack, U.S. Naval Academy
*Roughness effects on turbulent boundary layers* 09:00-09:35

Meredith Metzger, University of Utah
*Spectral characteristics of the near-neutral atmospheric surface layer* 09:35-10:00

Ivan Marusic, University of Minnesota
*Lessons from six years in the desert* 10:00-10:25

**Coffee Break** 10:25-10:55

Bharathram Ganapathisubramani, University of Texas at Austin
*Effects of upstream turbulent boundary layer on the unsteadiness of shock induced separation* 10:55-11:20

Pino Martin, Princeton University
*DNS of supersonic and hypersonic turbulent wall-bounded flows* 11:20-11:45
Jean-Paul Dussauge, IUSTI Marseille  
*Oblique shock reflection on a flat plate: unsteadiness of the interaction*

Yvan Maciel, Laval University  
*Scaling and self-similarity in the outer region of turbulent boundary layers*

**Lunch**  
12:35-14:15

**Session 4:**  
*(Co-Chairs: Karen Flack, Chris White)*

Javier Jiménez, Universidad Politecnica, Madrid  
*Pressure effects on wall-bounded turbulence*  
14:15-14:50

Jens Fransson, KTH Stockholm  
*Pressure statistics in high Reynolds number turbulent boundary layer, Part II*  
14:50-15:15

Yoshiyuki Tsuji, Nagoya University  
*Scaling of pressure and acceleration in high-Reynolds number shear flow*  
15:15-15:40

**Coffee Break**  
15:40-16:00

Jerry Westerweel, TU Delft  
*Finite lifetime of turbulence in shear flows*  
16:00-16:25

K.R. Sreenivasan, ICTP  
*Polymer drag reduction effects*  
16:25-16:50

Garry Brown, Princeton University  
*Physical aspects of the structure and Reynolds stress in near-wall turbulent channel flow*  
16:50-17:15

**Reception**  
18:00-19:30

---

**Tuesday, October 3**  
*(Co-Chairs: K. R. Sreenivasan, Javier Jimenez)*

**Session 5: Summary and Future Directions**  
*09:00-12:15*

Session 1 Summary and Discussion  
09:00-09:30

Session 2 Summary and Discussion  
09:30-10:00

Session 3 Summary and Discussion  
10:00-10:30

**Coffee Break**  
10:30-11:00

Session 4 Summary and Discussion  
11:00-11:30

Discussion, Future Directions  
11:30-12:00

Closing remarks  
12:00-12:15

**Adjourn Workshop**  
*12:15*