EPSRC-ERCOFTAC WORKSHOP
Turbulent flows generated/designed in multiscale/fractal ways: fundamentals and applications

27-28 March 2014
Imperial College London
Room ROH252, Department of Aeronautics, South Kensington Campus
Map available on the website of the conference

THURSDAY 27 MARCH 2014

09.00-09.30: Arrival, Registration (free entrance)

First session
Turbulence Decay

09.30-10.00: P. ORLANDI (Università La Sapienza, Rome, Italy)
DNS of transition from anisotropic to isotropic grid turbulence
10.00-10.30: Y. SAKAI (Nagoya University, Japan)
On the evolution of turbulent flow generated by single/fractal-square grid
10.30-11.00: T. USHIJIMA (Nagoya Institute of Technology, Japan)
Dependence of iteration-number on energy decay in turbulence generated through Sierpinski tetrahedron

11.00-11.30: COFFEE BREAK

Second session
Flow Profiles and Statistics

11.30-12.00: F. NICOLLEAU (Sheffield University, UK)
Profiles' evolution of flows generated by fractal orifices
12.00-12.30: I. NEUNABGER & L. KROEGER (Oldenburg University, Germany)
Applications of Multiscale Turbulence Generated with Active and Fractal Grids
12.30-13.00: J. NEDIĆ (Imperial College London, UK)
A different angle of attack: from fractal plates to fractal wings

13.00-14.30: LUNCH BREAK

Third session
Dissipation and Interscale Transfer I

14.30-15.00: C. KEYLOCK (Sheffield University, UK)
Gradual wavelet reconstruction of the velocity increments of turbulent wakes forced in different ways
15.00-15.30: K. NAGATA (Nagoya University, Japan)
The role of fractal iterations on the development of multiscale/fractal generated turbulence
15.30-16.00: R. GOMES-FERNANDES (Imperial College London, UK)
Interscale transfers and -5/3 spectrum in inhomogeneous turbulence

16.00-16.30: COFFEE BREAK

Fourth session
Dissipation and Interscale Transfer II

16.30-17.00: S. GOTO (Osaka University)
Statistics of energy dissipation rate of unsteady turbulence
17.00-17.30: P. LAVOIE (University of Toronto, Canada)
Decay of turbulence downstream of a fractal-element grid:reconciling fractal and classical grid decay
17.30-18.00: J.C. VASSILICOS (Imperial College London, UK)
Dissipation in turbulent flows

Workshop dinner: 19.30 close to Imperial College

FRIDAY 28 MARCH 2014

Fifth session
Combustion and Internal Flow

09.00-09.30: B. GEURTS (Twente University, Netherlands)
Turbulence modulation for intensified combustion
09.30-10.00: P. LINDSTEDT (Imperial College London, UK)
Fractal grid generated turbulence as a bridge to practical combustion applications
10.00-10.30: S. MORRIS (University of Notre-Dame, USA)
Turbulence generation in Internal Flow Applications

10.30-11.00: COFFEE BREAK

Sixth session
Mixing and Heat Transfer

11.00-11.30: Y. ITO (Nagoya University, Japan)
Scalar mixing in fractal/regular grid turbulences with different configurations
11.30-12.00: S. LAIZET (Imperial College London, UK)
Turbulent scalar transfer and stirring in grid-generatedturbulence and SSU mechanism for fractal grids
12.00-12.30: S. DISCETTI (Universidad Carlos III, Madrid, Spain)
Fractal turbulence generation for impinging heat transfer enhancement

12.30-12.45: END OF WORKSHOP with Closing Remarks

Notes:

(i) The 30 minutes allocated to each talk include a minimum of 5 minutes for questions.

(ii) A computer (running Microsoft Office 2010 PowerPoint and a PDF reader) will be available in the conference room. However, you are also more than welcome to bring your own laptop.