

Monday, 8th August 2011

17:00 – 18:30 Welcome reception, registration & champagne

Tuesday, 9th August 2011

8:00 – 8:30 Registration

8:30 – 9:00 Conference opening

Plenary talk

9:00 – 10:00 Experiments in turbulence
Prof Eberhard Bodenschatz

10:00 – 10:20 Coffee break

Session I: Turbulent flows

10:20 – 10:35 Degrees of Freedom and Energy Spectra for SQG Turbulence
L. A. K. Blackbourn, C. V. Tran and R. K. Scott

10:35 – 10:50 Energy spectrum power-law decay of linearized perturbed shear flows
S. Scarsoglio, F. De Santi, M. Mastinu, G. Barletta, K. Weaver and D. Tordella

10:50 – 11:05 Exploring turbulence using renormalization methods
S. R. Yoffe and A. Berera

11:05 – 11:20 On friction velocity in turbulent channel flow over wind waves
A. Zavadsky

11:20 – 11:30 Coffee break

Session II: Turbulence - Particles and stratification

11:30 – 11:45 Two-dimensional shearless turbulent mixing: kinetic energy self diffusion, also in the presence of a stable stratification
F. De Santi, D. Tordella and J. Riley

11:45 – 12:00 Numerical Study of Particle-Turbulence Interaction in a homogeneous Flow
T. Doychev and M. Uhlmann

12:00 – 12:15 3D turbulence modelling extended to thermal stratification
P. Torma

12:15 – 12:30 Pipe flow of shear-thinning fluid
N. Lopez Carranza Santiago, M. Jenny and C. Nouar

12:30 – 13:30 Lunch break

Session III: Temperature and buoyancy driven flows

13:30 – 13:45 Velocity structures in turbulent Rayleigh-Bénard convection
L. Li and R. du Puits

13:45 – 14:00 Investigation of convection in a rotating cavity
W. Wu and R. Pitz-Paal

14:00 – 14:15 Buoyancy driven, multi-phase flow simulations with the Smoothed Particle Hydrodynamics
K. SzeWC

14:15 – 14:30 The rise heights of fountains
H. C. Burridge and G. R. Hunt

14:30 – 14:40 Coffee break

14:40 – 16:40 Guided lab-tour at DLR and MPI-DS

Poster session

16:40 – 17:00 Preparation

17:00 – 17:30 Short talks

17:30 – Discussion and BBQ

Wednesday, 10th August 2011

Plenary talk

9:00 – 10:00 A new test facility for the study of unsteady aerodynamics and aeroacoustics of high speed trains
Dr Klaus Ehrenfried

10:00 – 10:20 Coffee break

Session IV: Applied aerodynamics

10:20 – 10:35 Flow over a wind turbine: simulation and validation
I. Herraez, H. Plischka, B. Stoevesandt and J. Peinke

10:35 – 11:50 Cross-wind investigation for a simplified high-speed train model using Large Eddy Simulation
S. Schiffer and C. Wagner

10:50 – 11:05 Experimental studies on the "Phantom Yaw Effect" at maneuvering slender bodies
O. Wysocki and E. Schuelein

11:05 – 11:20 Improved Mathematical Model for Hydroelastic Vibrations of Partially Filled Shell
I. Kononenko and U. Ogorodny

11:20 – 11:30 Coffee break

Session V: Environmental and engineering applications

11:30 – 11:45 The excitation of internal waves by a submerged turbulent round jet
E. Ezhova, D. Sergeev, A. Kandaurov and Yu. Troitskaya

11:45 – 12:00 A new hydro-morphodynamic solver for the shallow waters
M. Postacchini and M. Brocchini

12:00 – 12:15 Finite element/boundary element coupling for airbag deployment
M. van Opstal and E.H. van Brummelen

12:15 – 12:30 Numerical Simulation of Free-Surface Flow in a Single-Screw Extruder
M. Lübke and O. Wunsch

12:30 – 13:30 Lunch break

Session VI: Flow control

13:30 – 13:45 Stability and control of the flow in a plane channel with a sudden expansion
A. Fani, S. Camarri and M. V. Salvetti

13:45 – 14:00 Experiments on the drag of superhydrophobic surfaces & interface visualisation
B. R. K. Gruncell, I. M. Campbell, N. Shirtcliffe, N. D. Sandham and G. McHale

14:00 – 14:15 Adjoint-based control of turbulent jets
D. Marinc and H. Foyi

14:15 – 14:30 Passive control of boundary layer separation in a two-dimensional symmetrical diffuser
A. Mariotti, A. N. Grozescu, G. Buresti and M. V. Salvetti

14:30 – 14:40 Coffee break

Session VII: Transition to turbulence

14:40 – 14:55 Numerical study and modelling of laminar-turbulent oblique bands in plane Couette flow
J. Rolland

14:55 – 15:10 Statistics of turbulent transitional flow structures in a pipe flow at low Reynolds number
J. Krauss, Ö. Ertunc, Ch. Ostwald, H. Lienhart and A. Delgado

15:10 – 15:25 The Spreading of Turbulence in Pipe Flow
Baofang S., M. Avila and B. Hof

15:25 – 15:40 Edge States for the Turbulence Transition in the Asymptotic Suction Boundary Layer
T. K. Madré and B. Eckhardt

15:40 – 18:30 Guided city tour

Thursday, 11th August 2011

Plenary talk

9:00 – 10:00 Absorbing boundary conditions for 3D fluid-structure interaction problems to model blood flow in compliant vessels
Prof Adélia Sequeira

10:00 – 10:20 Coffee break

Session VIII: Biofluid dynamics

10:20 – 10:35 The Hydrodynamics of Swimming Microorganisms
D. Brumley

10:35 – 10:50 Dynamics of the vitreous humour and stress on the retina generated during eye rotations
J. Meskauskas, R. Repetto and J.H. Siggers

10:50 – 11:05 An analytical model of a side-to-side anastomosis
A. Setchi, J. Mestel and K. Parker and J. Siggers

11:05 – 11:20 Global stability analysis of flow through an aneurysm
S. S. Gopalakrishnan, B. Pier and A. Biesheuvel

11:20 – 11:30 Coffee break

Session IX: Numerical methods for hydrodynamic stability

11:30 – 11:45 Low order time-stepping methods for global instability analysis
F. Gómez, R. Gómez and V.Theofilis

11:45 – 12:00 Theoretical aspects of High-Order Finite Difference Methods for Global Flow Instability
S. Le Clainche Martínez, M. Hermanns and V. Theofilis

12:00 – 12:15 Three-dimensional parabolized stability equations applied to the nonparallel Batchelor vortex
P. Paredes, V. Theofilis and D. Rodriguez

12:15 – 12:30 Computer Extended Series Solution for Dean Flow
F. Tettamanti and A.J. Mestel

12:30 – 13:30 Lunch break

Session X: Hydrodynamic stability

13:30 – 13:45 Modulated Thermocapillary Patterning of Nanoscale Polymer Film Melts
M. Dietzel and S. M. Troian

13:45 – 14:00 Trapped Modes of the Helmholtz equation
C. Sargent

14:00 – 14:15 Onset of Sustained Turbulence in Couette Flow
L. Shi, M. Avila and B. Hof

14:15 – 14:30 Influence of disk aspect ratio on wake behaviour
T. Bobinski, S. Goujon-Durand and J. E. Wesfreid

14:30 – 14:40 Coffee break

Session XI: Taylor-Couette flow and turbulent transport

14:40 – 14:55 Torque Calculations for Taylor-Couette Flow
H. Brauckmann and B. Eckhardt

14:55 – 15:10 Dimensionality influence on the passive scalar transport observed through experiments on the turbulence shearless mixing
S. Di Savino, M. Iovieno, L. Ducasse and D. Tordella

15:10 – 15:25 Torque scaling in turbulent Taylor-Couette flow with co- and counter-rotating cylinders
S. G. Huisman, D.P.M. van Gils, G.-W. Bruggert, C. Sun and D. Lohse

15:25 – 15:40 Hydrodynamic instabilities in the eccentric Taylor-Couette-Poiseuille flow
C. Leclercq, B. Pier and J. Scott

15:40 – 18:30 Guided lab tour MPI-DS Fassberg including bus transfer and coffee break

18:30 – Conference dinner at Burgschänke-Plesse

Friday, 12th August 2011

Plenary talk	
9:00 – 10:00	Theory of liquid metal experiments in rotating cylinders and spheres <i>Prof Rainer Hollerbach</i>
10:00 – 10:20	Coffee break
Session XII: Geophysical flows	
10:20 – 10:35	Life Cycles of Periodic Salt Fingers <i>M. J. Andrade</i>
10:35 – 10:50	The effects of capillary forces on two-phase gravity currents in porous media <i>M. Golding</i>
10:50 – 11:05	Rain in a test-tube? <i>T. Lapp, M. Rohloff, B. Hof, M. Wilkinson and J. Vollmer</i>
11:05 – 11:20	Temperature and salinity microstructure of a double-diffusive staircase <i>T. Sommer, J. Carpenter, M. Schmid and A. Wüest</i>
11:20 – 11:30	Coffee break
Session XIII: Waves and stability	
11:30 – 11:45	Finite Rossby deformation radius V -states and their stability <i>H. Plotka and D. G. Dritschel</i>
11:45 – 12:00	Stabilizing effect of cyclonic rotation on waves sustained by a strongly-stratified columnar vortex <i>J. Park and P. Billant</i>
12:00 – 12:15	Experimental time reversal of water wave <i>A. Prasadka, A. Maurel, V. Pagneux and P. Petitjeans</i>
12:15 – 12:30	Shock structure in He-Ar mixture and its comparison with experimental results <i>D. Madjarević</i>
12:30 – 13:30	Lunch break
13:30 – 14:30	Closing session