Workshop

"Models versus physical laws/first principles, or why models work?"

Wolfgang Pauli Institute, Vienna, Austria, February 2-5, 2011

All lectures in Seminarraum C714, 7th floor Nordbergstrasse 15

Wednesday, February 2, 2011

9:00-9:30		***Registration and Welcome***
9:30-10:20	**Igor Esau**	**Turbulence numerical model as a research tool**
10:20-10:50		**Coffee Break**
10:50-11:40	**Gregory P. Chini**	**Exploiting Structure: Asymptotically-Reduced and Low-Order Models of Convective and Shear Turbulence**
11:40-12:20	**Peter P. Sullivan**	**High Reynolds Number Large Eddy Simulation: Where Real and Virtual Turbulence Meet**
12:20 – 13:00	**Harmen Jonkers**	**Modeling, validation and physics of turbulent flows: opportunities offered by petascale Direct Simulation**
13:00-14:30		**Lunch**
14:30-15:20	**Fernando F. Grinstein**	**Simulating vortex dynamics and transition to turbulence in complex high-Re flows**
15:20-16:10	**Michael Leschziner**	**Single-point second-moment turbulence models – why, where and where not?**
16:10-16-50	**Alex Mahalov**	**3D Dynamics and Turbulence Induced by Mountain and Inertia-Gravity Waves in the Upper Troposphere and Lower Stratosphere**
16:50 - 18:20		**Discussions and Coffeee**

Thursday, February 3, 2011

9:00-9:50	Robert L. Street	Real flows have walls
9:50 -10:40	Ivan Marusic	Toward incorporating organized eddy structures in the modelling of wall-bounded turbulence
10:40 -11:10		Coffee break
11:10-11:50	Bettina Frohnapfel	Flow Control and Turbulence Modelling
11:50-12:30	Christer Fureby	Can Modeling of Reactive Flows Describe Reality?
12:30- 13:10	Allan R. Kerstein	Turbulence Still Surprises: Explorations Using a 1D Model
13:10 -14:40		Lunch
14:40 -15:20	William K. George	Does turbulence need God?
15:20 -16:00	Christos Vassilicos	Decay of homogeneous turbulence: theory, modeling, experiments
16:00 -16:40	Robert Rubinstein	A perturbation theory approach to turbulence modeling
16:40 - 18:20		Discussions and coffee

Friday, February 4, 2011

9:00 - 9:50	Charlie Doering	Bounds on turbulence: what does it mean when they exist, and what does it mean when we don't know if they exist?
9:50 -10:30	Claude Bardos	Boundary effect in the Euler limit
10:30 - 11:00		Coffee Break
11:00 -11:50	Vladimir Zeitlin	Rotating shallow water turbulence
11:50 -12:30	Charles Meneveau	"Managing" turbulence theory instead of "curing" turbulence theory – and a case study: the wind turbine array boundary layer
12:30 - 13:10	Anrdeas Muschinski	Vertical Fluxes of Local Structure Parameters in the Convective Boundary Layer
13:10 -14:40		Lunch
14:40- 17-30		***General Discussion***
14:40 -15:10	Arkady Tsinober	Introductory notes for the general discussions
15:10 – 17:30		General Discussions and Coffeee