

## DFG Priority Programme SPP 1881 - 2<sup>nd</sup> Funding Period

### Kick-Off Meeting – Agenda

**Location:** Berg- und Jagdhotel Gabelbach  
Am Gabelbach 1  
98693 Ilmenau  
[www.hotel-gabelbach.de](http://www.hotel-gabelbach.de)

#### Day 1: Tuesday, 10.12.2019

- 09:00 – 09:15 **Welcome and short introduction**  
Jörg Schumacher, TU Ilmenau
- 09:15 – 09:30 **Lagrangian and Eulerian analysis of superstructures in wall-bounded turbulence based on large-scale, time-resolved and volumetric measurements using Shake-The-Box and FlowFit**  
Andreas Schröder, DLR Göttingen
- 09:30 – 09:45 **Lagrangian Coherent Structures in buoyancy-driven turbulence**  
Markus Holzner, ETH Zürich
- 09:45 – 10:00 **Barriers to Active Transport in Turbulence**  
George Haller, ETH Zürich
- 10:00 – 10:15 **Lagrangian aspects of turbulent superstructures: numerical analysis of long-term dynamics and transport properties**  
Kathrin Padberg-Gehle, Leuphana Universität Lüneburg
- 10:15 – 10:30 **DNS and visual analysis of superstructures in turbulent channels with mixing by parallel injection**  
Dominique Thévenin and Holger Theisel, Universität Magdeburg
- 10:30 – 11:10 **Coffee Break**
- 11:10 – 11:25 **Genesis and Features of Dust Devil Like Vortices in Convective Boundary Layers – A Comparative Study using DNS/LES and Laboratory Experiments**  
Sebastian Giersch, Universität Hannover, and Alice Lösch, TU Ilmenau
- 11:25 – 11:40 **Multiscale Visualization of superstructures**  
Rüdiger Westermann, TU München
- 11:40 – 11:55 **Identification of transport-dominated large-scale structures in turbulent wall-bounded flows using a characteristic DMD**  
Jörn Sesterhenn, Universität Bayreuth

- 11:55 – 12:10 **Effective description of turbulent superstructures in Rayleigh-Bénard convection**  
Michael Wilczek, MPI für Dynamik und Selbstorganisation Göttingen
- 12:10 – 13:40 **Lunch Break**
- 13:40 – 14:40 **Plenary Talk: Reynolds Number: How high is high?**  
Alexander J. Smits, Princeton University
- 14:40 – 14:55 **Superstructures and exact coherent states in the asymptotic boundary layer**  
Moritz Linkmann, Phillips-Universität Marburg
- 14:55 – 15:10 **Towards turbulent superstructures in pipe and Taylor-Couette flow: Filter, Fluxes, Data base**  
Marc Avila, Universität Bremen
- 15:10 – 15:50 **Coffee Break**
- 15:50 – 16:05 **Experimental analysis of turbulent superstructures in thermal convection by time-resolved Lagrangian particle tracking up to very high Rayleigh numbers**  
Johannes Bosbach, DLR Göttingen
- 16:05 – 16:20 **Experimental investigations of large-scale motion in fully developed turbulent pipe flow**  
Christoph Egbers, BTU Cottbus - Senftenberg
- 16:20 – 16:35 **Experimental investigation of turbulent superstructures in canonical boundary layers at high Reynolds Number**  
Christian Kähler, Universität der Bundeswehr München
- 16:35 – 16:50 **Experimental investigation of superstructures in turbulent liquid metal convection**  
Tobias Vogt, Helmholtz-Zentrum Dresden-Rossendorf
- 16:50 – 17:05 **Experimental investigation of turbulent superstructures in Rayleigh-Bénard convection**  
Christian Cierpka, TU Ilmenau
- 17:05 – 17:20 **Turbulent superstructures in Rayleigh-Bénard convection at very low Prandtl numbers**  
Jörg Schumacher, TU Ilmenau
- 18:30 – 21:30 **Joint Dinner at Hotel Gabelbach**

**Day 2: Wednesday, 11.12.2019**

- 09:00 – 10:00 **Plenary Talk: Radiatively heated thermal convection: bypassing the boundary layers to achieve the « ultimate » scaling regime**  
Basile Gallet, CEA Saclay
- 10:00 – 10:15 **Superstructures and turbulent heat and momentum transfer in inclined convection cells at low Prandtl numbers**  
Olga Shishkina, MPI für Dynamik und Selbstorganisation Göttingen
- 10:15 – 10:30 **Interaction between superstructures and other scales of turbulent flows**  
Davide Gatti, Karlsruher Institut für Technologie
- 10:30 – 11:10 **Coffee Break**
- 11:10 – 11:25 **The footprint of superstructures in small-scale Rayleigh-Bénard turbulence**  
Dominik Krug, University of Twente
- 11:25 – 11:40 **How do turbulent superstructures interact with wall friction?**  
Bettina Frohnäpfel, Karlsruher Institut für Technologie
- 11:40 – 11:50 **Closing remarks**  
Jörg Schumacher, TU Ilmenau
- 12:00 – 13:00 **Lunch**