

# 2<sup>nd</sup> Annual Meeting – Agenda

Leuphana University Lüneburg, Universitätsallee 1  
Central Building

## Day 1 (25.09.18, Leuphana University, Central Building)

- 13:30 – 13:50      **Welcome & Organizational Aspects**  
Jörg Schumacher, Technische Universität Ilmenau
- 13:50 – 14:10      **“Space-time methods for the computation and analysis of coherent families”**  
Peter Koltai/Martin Plonka, Freie Universität Berlin
- 14:10 – 14:30      **“On the influence of the large scale shear flow on the transition to the ultimate regime”**  
Stephan Weiss/Gabriele Nunnari, MPI für Dynamik und Selbstorganisation Göttingen
- 14:30 – 14:50      **“Superstructures and turbulent heat and momentum transport in inclined low-Prandtl-number convection”**  
Olga Shishkina/Lukas Zwirner, MPI für Dynamik und Selbstorganisation Göttingen
- 14:50 – 15:35      **Coffee break**
- 15:35 – 15:55      **“Scalable Visual Analysis of Superstructures”**  
Rüdiger Westermann/Martin Ender, Technische Universität München
- 15:55 – 16:15      **“Genesis and features of dust devil like vortices in convective boundary layers”**  
Ronald du Puits/Alice Lösch, Technische Universität Ilmenau  
Siegfried Raasch/Sebastian Giersch, Universität Hannover
- 16:15 – 16:35      **“Effective Description of Superstructures in Turbulent Convection”**  
Michael Wilczek/Gerrit Green, MPI für Dynamik und Selbstorganisation Göttingen
- 16:35 – 16:55      **“Understanding and utilizing relationships between coherent superstructures and almost invariant sets in function space”**  
Michael Dellnitz/Raphael Gerlach, Universität Paderborn
- 16:55 – 17:15      **“Detecting spatio-temporal coherent structures on a moving frame of reference in minimal channel flow and fully developed turbulent pipe flow”**  
Christoph Egbers/Amir Shahirpour, Brandenburgische Technische Universität Cottbus
- 17:15 – 17:35      **“Numerical analysis of turbulent superstructures in thermal convection: Dynamics and role for turbulent transport”**  
Jörg Schumacher/Amrith Pandey, Technische Universität Ilmenau
- 19:00                **Joint dinner (at own expense)**  
Brauhaus Mälzer (<https://www.maelzerbrauhaus.de/>)

## Day 2 (26.09.18, Leuphana University, Central Building)

- 09:00 – 10:00      **Keynote talk on Turbulent Convection**  
Charles Doering, University of Michigan, Ann Arbor
- 10:00 – 10:20      **“Convection Cells in Planetary Boundary Layers: Origin and Reduced Modeling”**  
Juan Pedro Mellado/Katherine Fodor, MPI für Meteorologie Hamburg

- 10:20 – 10:40 **“Lagrangian and Eulerian analysis of superstructures in turbulent flows based on largescale, time-resolved and volumetric measurements using Shake-The-Box and PIV”**  
Andreas Schröder/Daniel Schanz, Deutsches Zentrum für Luft- und Raumfahrt Göttingen
- 10:40 – 11:25 **coffee break**
- 11:25 – 11:45 **“Investigations of the origin of turbulent superstructures in a flat-plate boundary layer with pressure gradient”**  
Ulrich Rist/Matthias Weinschenk, Universität Stuttgart
- 11:45 – 12:05 **“Experimental investigation of turbulent superstructures in canonical boundary layers along flat plates with zero pressure gradient”**  
Christian Kähler/Matthew Bross, Universität der Bundeswehr München
- 12:05 – 12:25 **“Horizontal velocity fields in large aspect ratio thermal convection”**  
Christian Kästner/Jörg Schumacher, Technische Universität Ilmenau
- 12:25 – 14:00 **Lunch**
- 14:00 – 15:00 **Keynote talk on Turbulent Boundary Layers**  
Bharathram Ganapathisubramani, University of Southampton
- 15:00 – 15:20 **“Computational methods for coherent sets”**  
Oliver Junge/Daniel Karrasch/Nathanael Schilling, Technische Universität München
- 15:20 – 15:40 **“Trajectory-based Lagrangian approaches for the extraction and characterization of coherent structures in turbulent convection”**  
Kathrin Padberg-Gehle/Christiane Schneide, Leuphana Universität Lüneburg
- 15:40 – 16:00 **“Lagrangian coherent superstructures in stably stratified turbulence”**  
George Haller/Stergios Katsanoulis, Eidgenössische Technische Hochschule Zürich
- 16:00 – 16:45 **Coffee break**
- 16:45 – 17:05 **“Lagrangian coherent superstructures in stably stratified turbulence”**  
Markus Holzner/Marius Neamtu, Eidgenössische Technische Hochschule Zürich
- 17:05 – 17:25 **“Symmetry induced stability modes of the asymptotic suction boundary layer”**  
Martin Oberlack/Alparslan Yalcin, Technische Universität Darmstadt
- 17:25 – 17:45 **“Exact coherent structures in the asymptotic suction boundary layer”**  
Bruno Eckhardt/Moritz Linkmann, Philipps-Universität Marburg
- 17:45 – 18:30 **Meeting of the Steering Committee**

**Day 3 (27.09.18, Leuphana University, Central Building)**

- 09:00 – 10:00 **Keynote talk on Turbulence in Pipe Flow**  
Björn Hof, Institute of Science and Technology Vienna
- 10:00 – 10:20 **“Nonlinear Fluctuating Hydrodynamics as Model for Turbulent Superstructures”**  
Nikolaus Adams/Morgane Borreguero, Technische Universität München
- 10:20 – 10:40 **“Exact coherent superstructures in turbulent pipe flow”**  
Marc Avila/Daniel Feldmann, Universität Bremen

10:40 – 11:25	<b>Coffee break</b>
11:25 – 11:45	<b>“Experiments on Very Large Structures in Fully Developed Turbulent Pipe Flow”</b> Christoph Egbers/El-Sayed Zanoun, Brandenburgische Technische Universität Cottbus
11:45 – 12:05	<b>“How do turbulent superstructures interact with skin friction drag?”</b> Bettina Frohnappel/Davide Gatti, Karlsruher Institut für Technologie
12:05 – 12:25	<b>“Heat transport in sheared turbulent thermal convection”</b> Detlef Lohse/Pieter Berghout, University of Twente
12:25 – 12:45	<b>Closing remarks</b> Jörg Schumacher, Technische Universität Ilmenau

*\* keynote talk, 45 minutes + 15 minutes discussion*

*\*\* project talk, 15 minutes talk + 5 minutes discussion*

*(Whiteboard and beamer available)*