1st Annual Meeting – Agenda

MPI for Dynamics and Self-Organization Göttingen, Am Faßberg 17
Manfred-Eigen-Saal

Day 1 (04.12.17)

13:00 – 13:30 Welcome & Organizational Aspects
Jörg Schumacher, Technische Universität Ilmenau

13:30 – 14:00 “Roughness in turbulent Taylor-Couette flow”
Detlef Lohse/Richard Stevens/Pieter Berghout, University of Twente

14:00 – 14:30 “Large-scale contribution to Reynolds shear stress in drag-reduced flows”
Bettina Frohnapfel/Davide Gatti, Karlsruher Institut für Technologie

14:30 – 15:00 a) “Experiments on Very Large Structures in Fully Developed Pipe Flow, Achievements and Ongoing Progress”
Christoph Egbers/El-Sayed Zanoun, Brandenburgische Technische Universität Cottbus

b) “A Dynamic Mode Decomposition on a moving frame of reference to capture large scale coherent structures”
Christoph Egbers/Amir Shahirpour, Brandenburgische Technische Universität Cottbus

15:00 – 15:30 Coffee break

15:30 – 16:00 “Towards exact coherent superstructures in turbulent pipe flow”
Marc Avila/Daniel Feldmann, Universität Bremen

16:00 – 16:30 “Incompressible dissipative particle dynamics using a Lagrange-multiplier based algorithm”
Nikolaus Adams/Morgane Borreguero, Technische Universität München

16:30 – 17:00 “Exact coherent structures for high Reynolds numbers and boundary layers”
Bruno Eckhardt/Moritz Linkmann, Philipps-Universität Marburg

17:00 – 17:30 “Symmetry induced stability modes of the asymptotic suction boundary layer”
Martin Oberlack/Judith Kahle, Technische Universität Darmstadt

19:00 Joint dinner (at own expense)
Restaurant Bullerjahn, Altes Rathaus Göttingen

Day 2 (05.12.17, MPI Göttingen, Manfred-Eigen-Saal)

09:00 – 10:00 Keynote talk on Dynamical Systems
Steven L. Brunton, University of Washington

10:00 – 10:30 “Lagrangian coherent structures in stably stratified turbulence”
Markus Holzner/Marius Neamtu, Eidgenössische Technische Hochschule Zürich

10:30 – 11:00 “Lagrangian coherent structures in stably stratified turbulence”
George Haller/Stergios Katsanoulis, Eidgenössische Technische Hochschule Zürich

11:00 – 11:30 Coffee break

11:30 – 12:00 “Network theory and coherent structures”
Kathrin Padberg-Gehle/Christiane Schneide, Leuphana Universität Lüneburg
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<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>12:00 – 12:30</td>
<td>“Lagrangian Coherent Structures and almost-invariant sets”</td>
<td>Oliver Junge/Daniel Karrasch/Nathanael Schilling, Technische Universität München</td>
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<td>12:30 – 13:00</td>
<td>“Horizontal velocity fields in large aspect ratio thermal convection”</td>
<td>Christian Kästner/Jörg Schumacher, Technische Universität Ilmenau</td>
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<td>13:00 – 14:00</td>
<td>Lunch</td>
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<td>14:00 – 14:30</td>
<td>“Mach Number effects on turbulent superstructures in wall bounded flows”</td>
<td>Christian Kähler/Matthew Bross, Universität der Bundeswehr München</td>
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<td>14:30 – 15:00</td>
<td>“DNS of spatially evolving turbulent boundary layers with focus on adverse pressure gradients and turbulent inflow boundary condition”</td>
<td>Ulrich Rist/Matthias Weinschenk, Universität Stuttgart</td>
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<td>15:00 – 15:30</td>
<td>“Large scale volumetric flow measurement on a turbulent boundary layer”</td>
<td>Andreas Schröder/Daniel Schanz, Deutsches Zentrum für Luft- und Raumfahrt Göttingen</td>
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<td>15:30 – 16:00</td>
<td>Coffee break</td>
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<tr>
<td>16:00 – 16:30</td>
<td>“Conditional Analysis Near the Surface of the Atmospheric Boundary Layer”</td>
<td>Juan Pedro Mellado/Katherine Fodor, MPI für Meteorologie Hamburg</td>
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<td>16:30 – 17:00</td>
<td>“Finite-time coherent sets for aperiodic flows”</td>
<td>Peter Koltai/Martin Plonka, Freie Universität Berlin</td>
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<td>17:00 – 17:30</td>
<td>“Set Oriented Numerics and Embeddings”</td>
<td>Michael Dellnitz/Raphael Gerlach, Universität Paderborn</td>
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<td>17:30 – 18:30</td>
<td>Meeting of the Steering Committee</td>
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**Day 3 (06.12.17, MPI Göttingen, Manfred-Eigen-Saal)**

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<tr>
<td>09:00 – 10:00</td>
<td>Keynote talk on Turbulence</td>
<td>Eberhard Bodenschatz, MPI für Dynamik und Selbstorganisation Göttingen</td>
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<tr>
<td>10:00 – 10:30</td>
<td>“Effective Description of Superstructures in Turbulent Convection”</td>
<td>G. Green, D. Vlaykov, M. Wilczek, MPI für Dynamik und Selbstorganisation Göttingen</td>
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<tr>
<td>10:30 – 11:00</td>
<td>“Interactive feature-based visualization of Rayleigh-Bénard convection”</td>
<td>Rüdiger Westermann/Martin Ender, Technische Universität München</td>
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<td>11:00 – 11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30 – 12:00</td>
<td>“Inclined Thermal Convection in Slender Containers Filled with Small-Prandtl-Number Fluids”</td>
<td>Olga Shishkina/Lukas Zwirner, MPI für Dynamik und Selbstorganisation Göttingen</td>
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<td>12:00 – 12:30</td>
<td>“Experimental investigation of the heat transport across a sheared thermally unstable boundary layer”</td>
<td>Stephan Weiss/Gabriele Nunnari, MPI für Dynamik und Selbstorganisation Göttingen</td>
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<td>12:30 – 13:00</td>
<td>“Turbulent superstructures in Rayleigh-Bénard convection”</td>
<td>Jörg Schumacher/Ambrish Pandey, Technische Universität Ilmenau</td>
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<td>13:00 – 13:15</td>
<td>Closing remarks</td>
<td>Jörg Schumacher, Technische Universität Ilmenau</td>
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* keynote talk, 45 minutes + 15 minutes discussion
** project talk, 25 minutes talk + 5 minutes discussion
(Whiteboard and beamer available)