

Monday, July 2nd, morning

08:00-09:00	Registration		
	Room A		
09:00-09:15	Welcome by the President of the Universität der Bundeswehr München Prof. Merith Niehuss and Conference Chair Prof. Christian J. Kähler		
09:15-10:00	Keynote Lecture: Prof. Donald O. Rockwell, Lehigh University, USA, "Visualization of Vortex-Wing Interactions" Chairman: Prof. Cameron Tropea		
10:00-10:30	Coffee break		
	Room A	Room B	Room C
	Session 1.1.A: Aerodynamics I Chairman: S. Yarusevych	Session 1.1.B: Heat Transfer Chairman: M. Pfitzner	Session 1.1.C: Flow Instability Chairman: V. Kozlov
10:30-10:45	Coherent structures within the Laminar Separation Bubble on a NACA 0015 hydrofoil M Miozzi, A Capone, M Costantini, C Klein, F Di Felice	Temperature Dependence of Heat and Mass Transfer in a Forced Convective Duct Flow with and without Condensation on one Wall C Brückner, A Westhoff, C Wagner	On Unsteadiness of a Laminar Junction Flow J Liu, S Zhai, F Hong, K Yan
10:45-11:00	Wake/shear layer interaction in the low-Reynolds-number flow over multi-element airfoil J Wang, J Wang, T Li	Experimental Investigation of Flow Pulsation in Rectangular Mesochannels for High Heat Flux Electronics Cooling J McEvoy, S Alimohammadi, T Persoons	Experimental investigation of the vortex flow instability in closed polygonal containers I Naumov, I Podolskaya, B Sharifullin
11:00-11:15	Gust Effect on a Plunging Flexible Wing I Kal, O Son, B Zaloglu, O Cetiner	Isothermal PIV Measurement of Parallel Film Injection with Regard to Reactive Film Cooling R Dalshad, M Straußwald, T Sander, M Pfitzner	Investigation of Stationary-Crossflow-Instability Induced Transition with Temperature-Sensitive Paint Method J Lemarechal, M Costantini, C Klein, M Kloker, W Würz, HBE Kurz, S Schaber
11:15-11:30	On the aerodynamic behavior of an airfoil under tailored turbulent inflow conditions D Traphan, TTB Wester, J Peinke, G Gülker	The turbulent velocity and temperature field in a heated duct P Scholz, H Rochlitz	Instability of thick liquid film under strong gas shear SV Isaenkov, AV Cherdantsev, MV Cherdantsev, DM Markovich, SV Alekseenko
11:30-11:45	Measurement of the pressure waves generated in a high-speed train-tunnel model D Kim, T Ko, T Kim, H Kim	Studies on the simultaneous measurement of velocity and temperature fields in Rayleigh-Bénard convection using thermochromic liquid crystals J König, S Moller, C Cierpka	On flow instability in the developing region of pulsating pipe flow JJ Miao, QH Nguyen
11:45-12:00	Laminar separation bubble on an SD7003 airfoil under large-scale turbulent inflow conditions S Herbst, CJ Kähler, R Hain	Experimental characterization of thermal Marangoni flows in water sessile evaporating droplets by means of 3D-PTV M Rossi, A Marin, CJ Kähler	Attractors for the motion of finite-size particles in a two-sided anti-parallel lid-driven cavity H Wu, F Romanó, H Kuhlmann
12:00-13:00	Lunch		

Monday, July 2nd, afternoon

Room A			
13:00-13:45	Keynote Lecture: Prof. Huihe Qiu, The Hong Kong University of Science & Technology, China, "Contact Line Dynamics, Heat Transfer and Fluid Flow on Micro/Nanostructured Surfaces" Chairman: Prof. Kyung Chun Kim		
	Room A	Room B	Room C
	Session 1.2.A: Compressible Flows Chairman: F. Schrijer	Session 1.2.B: Environmental Flows Chairman: S. Watkins	Session 1.2.C: Transition Chairman: R. Hain
14:00-14:15	Impact of sensor housing geometries onto transient stagnation pressure measurement in supersonic flows M Giglmaier, Z Wang, T Hopfes, NA Adams	Aerodynamic performance scaling of vertical-axis wind turbine models with Reynolds number and rotor solidity S Duvvuri, M Miller, M Hultmark	Time resolved PIV visualization of the generation of coherent structures and their effect on the transition process in narrow rectangular channels L Moruz, J Kitzhofer, D Hess, M Dinulescu
14:15-14:30	Hypersonic Simulation of Mars Entry Atmosphere Based on Gun Tunnel J Hainan, L Xiuting, H Guoxiang, C Xing	Study of swirling in the simplified turbine model under different operating conditions S Skripkin, M Tsoy, P Kuibin, S Shtork	Experimental study of bump effects on boundary-layer transition in compressible high Reynolds number flow M Costantini, S Risius, S Koch, C Fuchs, U Gerhard, S Hein, C Klein
14:30-14:45	Compressible Flow Measurements Using Nano-scale Thermal Anemometry Probes K Kokmanian, S Duvvuri, S Scharnowski, M Bross, CJ Kähler, M Hultmark	Tomographic PIV analysis of water tornado flow for environmental system application K Ohmi, S Tuladhar	Influence of suction on step-induced boundary-layer transition B Dimond, M Costantini, S Risius, C Fuchs, C Klein
14:45-15:00	Experimental study on multiple shock waves in a rectangular duct JK James, HD Kim	Effects of the configuration characteristics on the motion parameters of autorotating flight of plant seeds MH Sohn	On isolated roughness elements embedded into the laminar boundary layer DK Puckert, U Rist
15:00-15:30	Coffee break		
	Session 1.3.A: Flow Control I Chairman: P. Scholz	Session 1.3.B: Measurement Techniques I Chairman: C. Cierpka	Session 1.3.C: Turbulence I Chairman: J. Wang
15:30-15:45	Experimental investigation of active control in turbulent boundary layer using uniform blowing G Hasanuzzaman, S Merbold, V Motuz, C Egbers, C Cuvier, JM Foucaut	Aerothermal properties of gaseous flows by filtered Rayleigh scattering velocimetry U Doll, G Stockhausen, C Willert	Boundary layer control using porous lamination AK Nair, A Sameen
15:45-16:00	Active Flow Control of Laminar Separation Bubbles on a Rectangular Wing Using Micro Synthetic Jets W Zuo, Y Gu	Development of an experimental setup applying rainbow schlieren deflectometry for visualization and quantification of heat and mass transfer in multiphase systems JM Schulz, L Böhm, M Kraume	Influence of leading edge tripping devices on supersonic turbulent boundary layer characteristics M Bross, S Scharnowski, CJ Kähler
16:00-16:15	Control of Separated Flows over Membrane Wings using Adaptive Membrane Compliance J Bohnker, K Breuer	Design of a High-Speed Focusing Schlieren System for complex three-dimensional flows C Schauerte, A-M Schreyer	Scale interaction in a turbulent boundary layer perturbed by a cylindrical element Z Tang, N Jiang
16:15-16:30	The Influence of Boundary-Layer Turbulence on Gust-Response Transfer Functions N Wei, J Kissing, T Wester, K Schiffmann, C Tropea	PIV-based Load Estimation in Three-Dimensional Flow J McClure, S Yarussevych	Experimental investigation on the boundary layer transition characteristics of the blunt body Z Shao, F Ji, S Xie
16:30-16:45	Experimental investigations of the straight wing boundary layer disturbances, generated by finite surface vibrations M Katasonov, A Pavlenko, V Kozlov	PIV noise estimation derived from spectrum analyses C Cuvier, JM Foucaut	A method for coherent structure identification and extraction in two dimension turbulent wall flows K-J Wang, ZQ Tang, N Jiang
16:45-17:00	Generation of disturbances in a swept wing boundary layer by localized surface vibrations A Pavlenko, M Katasonov, V Kozlov	Estimations of Turbulence Dissipation Rate and Other Statistics from Ensemble PTV Data L Ding, R Adrian	Optical feedback for closed-loop flow control systems A Spohn, V Parezanovic
17:30-23:00	Dinner at the Universität der Bundeswehr München		

Tuesday, July 3rd, morning

Room A

09:00-09:45

Keynote Lecture: Prof. Keisuke Asai, Tohoku University, Japan, "Enhancing the experimental capabilities for unsteady aerodynamics research"
Chairman: Prof. Jinjun Wang

09:45-10:15

Coffee break

Room A

Room B

Room C

Session 2.1.A: Aerodynamics II
Chairman: S. Scharnowski

Session 2.1.B: Measurement Techniques II
Chairman: M. Costantini

Session 2.1.C: Turbulence II
Chairman: A. V. Boiko

10:15-10:30

Investigation of transonic buffet using high speed PIV
F Schrijer, RS Perez, B van Oudheusden

Experimental Validation of Unsteady Pressure-Sensitive Paint for Acoustic Applications
J Gößling, T Ahlefeldt, A Mumcu, M Hilfer

Characterization of a high Reynolds number turbulent boundary layer by means of PIV
JM Foucaut, C Cuvier, J Soria, C Willert

10:30-10:45

Tomographic PTV measurements of a rectangular body wake using spatio-temporal information
GR Cho, DK Kong, JH Kim, DH Doh

Direct measurement of skin friction using TSP data
M Miozzi, A Capone, M Costantini, L Fratto, C Klein, F Di Felice

Some advances in forcing the turbulent boundary layer
VI Kornilov, AV Boiko

10:45-11:00

Rectilinear surge as a canonical model of reverse flow dynamic stall
A Jones, P Kirk

Assessing quantitative heat transfer with Temperature Decline Thermography
S von Hößlin, J Gründmayer, A Zeisberger, CJ Kähler

Turbulent boundary layer over a wall roughened by pyramidal elements
GM Di Cicca, M Onorato

11:00-11:15

Influence of length ratio on trailing edge cutback wake
L Shi, S Yao, R Dai

Development Elastic Sensor for Wall Shear Stress by MCF Rubber
S Miyachi, Y Kubota, O Mochizuki, K Shimada

Scaling of adverse-pressure-gradient turbulent boundary layers
R Örlü, CS Vila, R Vinuesa, A Ianiro, S Discetti, P Schlatter

11:15-11:30

Investigation of Aerodynamic Characteristics of a Multi-element Wing under Propeller Slipstream
G Cui, L Feng

Development of sensors for ambient temperature measurement
V Ondrus, M Hilfer, U Henne, M Constantini, A Weiss, C Klein, U Beifuss

Flow reversal in turbulent boundary layers with varying pressure gradients
C Willert, C Cuvier, J Soria, JM Foucaut, JP Laval

11:30-11:45

Experimental study of wing shape and kinematic effects on aerodynamic performance of a dragonfly
X Liu, C Hefler, J Fu, W Shyy, H Qiu

Unsteady PSP Measurement in Shock Tube
RH Zhao, HJ Zhong, P Wang

Analysis of an APG turbulent boundary layer with 2D and 3D time-resolved particle tracking
M Bross, T Fuchs, CJ Kähler

11:45-12:45

Lunch

Tuesday, July 3rd, afternoon

12:45-13:30	Poster Session		
	Room A		
13:30-14:15	Keynote Lecture: Prof. Rolf Radespiel, Technische Universität Braunschweig, Germany, "Active Flow Control for High-Lift of Transport Aircraft" Chairman: Prof. Christian J. Kähler		
14:15-14:45	Coffee break		
	Room A	Room B	Room C
	Session 2.2.A: Flow Control II Chairman: M. Klaas	Session 2.2.B: Multi Phase I Chairman: F. Peters	Session 2.2.C: Micro Flows I Chairman: M. Rossi
14:45-15:00	Three-dimensional bluff body flow: bridging instantaneous and averaged flow structures with highly pulsatile flow JA Carr, N Beratlis, E Balaras, MW Plesniak	The Sherwood number of a bubble rising in oil F Peters, M Nüllig	Visualization on selective evaporation of binary mixture droplets H Kim, HA Stone
15:00-15:15	Experimental Investigation of the effect of a surface protuberance on the surface heat transfer in a high speed boundary layer DP Ramaswamy, F Schrijer, F Avallone	Fluid dynamics of single bubbles in different continuous phases measured with two high-speed cameras carried on a real-time controlled linear guidance D Merker, L Böhm, F Enders, M Kraume	Incipient particle motion at low particle Reynolds numbers J Agudo, S Dasilva, M Wensing, C Illigmann, N Topic, A Wierschem
15:15-15:30	An experimental study on the flow characteristics over a micro rib-dimple structured surface W Tian, K Zheng, Y Rao, P Zhang, H Hu	Dynamics of (highly) deformable air bubbles rising in water K Haase, J Haßlberger, M Klein, CJ Kähler	Oscillation of adhering droplets in shear flow S Burgmann, B Barwari, U Janoske
15:30-15:45	Adaptive drag reduction using a new passive device S Chae, S Lee, J Kim, JH Lee	Experimental and numerical investigation of bubble dynamics rising through a rectangular confinement R Azadi, H Soltani, R Sabbagh, DS Nobes	Developing quantitative information of oil droplets rising through a rectangular confinement H Soltani, R Azadi, A Baldygin, S Ansari, DS Nobes
15:45-16:00	Implementation and Experimental Verification of Active Flow Control by Jet Injection over a Coanda Surface in a Multi-Stage High-Speed Axial Compressor L Schwerdt, JR Seume	Gas bubble formation and velocity measurements inside the narrow gap flow of a journal bearing model M Nobis, P Reinke, M Schmidt	Flow visualization of a droplet penetration through a porous media in SAGD process using μ SPIV S Ansari, R Sabbagh, H Soltani, DS Nobes
16:00-16:15	Optimization of Profile Polars for Wind Turbine Rotor Blades with the Use of Leading-Edge Vortex Generators T Terreblanche, O Meyer, M Klein	Deformation and movement of adhering droplets in shear flow B Barwari, S Burgmann, U Janoske	3D temperature and velocity measurements in microfluidics J Massing, CJ Kähler, C Cierpka
19:00-23:00	Dinner at "Herzogliches Bräustüberl Tegernsee". Busses will leave at 16:45 o'clock from the conference location.		

Wednesday, July 4th, morning

Room A			
09:00-09:45	Keynote Lecture: Prof. Tommaso Astarita, University of Naples Federico II, Italy, "Fractal generated turbulence in round jets: flow topology and heat transfer" Chairman: Dr. Chris Willert		
09:45-10:15	Coffee break		
	Room A	Room B	Room C
	Session 3.1.A: Jet Flow Chairman: D. Nobes	Session 3.1.B: Micro Flows II Chairman: J. König	Session 3.1.C: Turbulence III Chairman: M. Bross
10:15-10:30	Experimental investigation of the vortex dynamics in circular jet impinging on rotating disk M El Hassan, AJ Hunt, DS Nobes	PIV measurement and dimensionless number of electrothermally-induced fluid motion J-S Kwon	Measurements of the wall-shear stress and detection of rare backflow events in turbulent channel flow using the micro-pillar shear stress sensor technique MPS ³ Y Liu, M Klaas, W Schröder
10:30-10:45	Heavy Particles in the Near Field of a Turbulent Jet F Condorelli, A Perrotta, GP Romano	Relation between platelet adhesion and shear stress around micro stenotic channel E Yeom	Stereoscopic-PIV and Hot Wire Measurements in Pipe Flow at Relatively High Reynolds Number E-S Zanon, V Motuz, C Egbers, J Keller, K Dörner
10:45-11:00	Experimental investigation of parameter influence on synthetic jet vortex rings impinging onto a solid wall Y Xu, JJ Wang	3D Flow measurement using particle tracking velocimetry (PTV) in porous media MA Kazemi, R Sabbagh, L Kinsale, H Soltani, DS Nobes	Torque in turbulent Taylor-Couette flow for small radius ratios S Merbold, A Froitzheim, C Egbers
11:00-11:15	Simultaneous measurement of 3D velocity field and wall temperature distribution of an impinging chevron jet M Contino, CS Greco, T Astarita, G Cardone	The study of flow through porous media within the near-slot region of SAGD operations using PSV L Kinsale, DS Nobes	Turbulence characteristics generated by 3D sparse grids SM Usama, JM Kopec, J Tellez, K Kwiatkowski, JM Redondo, NA Malik
11:15-11:30	Flow and pressure field measurement of turbulent round jet impinging on a circular cylinder M Kim, Y Li, E Yeom, KC Kim	Study of Flow Convergence in Rectangular Slots using Particle Shadowgraph Velocimetry Y Yusuf, S Ansari, M Bayans, R Sabbagh, M El Hassan, DS Nobes	Turbulent wake of a fractal square grid: effects of the fractal iteration A Omilion, J Turk, W Zhang
11:30-11:45	Effects of the Coaxial-Assistant Air Stream on High-Pressure Submerged Water Jet M Yaga, M Shioiri, HD Kim	Experimental Study on the Characteristics of Liquid Film Driven by High Speed Airflow Q Shi, S Chang, M Leng	Large scale motions behind a spinning rough sphere Z Li, N Gao
11:45-12:45	Lunch		

Wednesday, July 4th, afternoon

Room A		Room B		Room C	
Session 3.2.A: Acoustics Chairman: A. Volk		Session 3.2.B: Multi Phase II Chairman: S. Burgmann		Session 3.2.C: Measurement Techniques III Chairman: T. Astarita	
12:45-13:00	Experimental Study of Acoustic Streaming Flow Patterns Induced by Triangular-Shape Obstruction YS Liou, WH Tien	Dynamics of collapsing multi-bubble arrangements T Hopfes, Z Wang, M Giglmaier, NA Adams		Experimental study of heat and mass transfer in convective flows of moist air with droplet condensation as a function of surface roughness and wetting properties A Westhoff	
13:00-13:15	Measurement of sound source intensity around a D-shaped cylinder by particle image velocimetry T Yamagata, Y Nakata, N Fujisawa	Effect of taper on cavitation in a 2D flow channel M Hosbach, T Sander, U Leuteritz, M Pfitzner		Freezing Characteristics of Water Drop on Different Wettability Surfaces S Chang, S Zhou, H Zheng	
13:15-13:30	Ultrasound flow investigations at a zinc-air flow battery model C Kupsch, L Feierabend, R Nauber, L Büttner, J Czarske	Energies of laser-induced cavitation bubbles and emitted shock waves using Differential Interferometry S Kordel, J Hussong		Micro Planes Used As Flying Anemometers S Watkins, M Abdulghani, S Prudden, A Fisher, D Tennet, M Marino, S Morrison	
13:30-13:45	Particle Aggregation and Flow Patterns Induced by Ultrasonic Standing Wave and Acoustic Streaming XJ Kang, WH Tien	Influence of non-Newtonian gelatinous fluids on bubble collapse dynamics Z Wang, T Hopfes, M Giglmaier, NA Adams		Turbulent convective heat-transfer measurements in boundary layers with ribs F Mallor, M Raiola, CS Vila, R Örlü, A Ianiro, S Discetti	
13:45-14:00	Flow and acoustic characteristics measurements in the canine larynx model L Oren, CF De Luzan, S Khosla, E Gutmark	Experimental investigation of the bubble distribution and chemical reactions induced by hydrodynamic cavitation inside a reactor - a preliminary study J Nöpel, P Zedler, M Deggelmann, P Braeutigam, J Fröhlich, F Rüdiger		On the difficulties for reliable measurements of convection in large aspect ratio Rayleigh-Bénard cells C Kästner, C Resagk, C Cierpka, J Schumacher	
14:00-14:15	Interaction of a Real Seal Whisker with the Surrounding Flow: Vortex Shedding and Vortex Induced Vibration J Turk, SJ Lee, W Zhang	MRI Flow Lab: A Dedicated MRI Laboratory for Quantitative Flow Measurements and Method Development K John, M Bruschewski, S Grundmann		Narrow gap rotational rheometer H Dakhil, M Do, H Do, J Daehn, A Wierschem	
14:15-14:45	Coffee break				
Session 3.3.A: Applications Chairman: M. Giglmaier		Session 3.3.B: Complex Flows Chairman: T. Fuchs		Session 3.3.C: Combustion Chairman: C. Cierpka	
14:45-15:00	Optimized Experimental Environment for Wing Profile Investigations in the Low Speed Wind Tunnel O Meyer, T Terreblanche, M Klein	Experimental Investigation of a Single-Vortex Inlet Distortion Across Scales T Guimarães, K Todd Lowe, WF O'Brien		Laser-optical characterization of the flow field behind the NGV cascade of a three-sector combustor simulator using filtered Rayleigh scattering M Dues, U Doll, T Bacci, A Picchi, G Stockhausen, C Willert	
15:00-15:15	Flow visualization of the Newtonian and non-Newtonian behavior of fluids in a Tesla-diode valve S Ansari, M Bayans, F Rasimarzabadi, DS Nobes	Sloshing phenomena on a water in a cylindrical tank over a rotating bottom K Iga		Instantaneous 3D imaging of turbulent stratified methane/air flames using computed tomography of chemiluminescence J Menser, A Unterberger, A Kempf, K Mohri	
15:15-15:30	Experimental study on fluid-structure interaction of a fish-like model at high angle of attack X He, J Wang	Numerical and experimental investigation of mechanical stress in the processing of chunky fruit preparations L Vulprecht, T Wölken, C Rauh		Drag reduction of squared-back body using continuous jets differently positioned on the rear base JJ Cerutti, C Sardu, G Iuso	
15:30-15:45	The influence of a spanwise periodic inlet perturbation on turbulent boundary layer evolution R Baidya, CM de Silva, L Castillo, I Marusic, N Hutchins	Drop break-up investigations in a scaled high pressure homogenization unit B Mutsch, CJ Kähler		Visualization of conventional and combusting subsonic jet instabilities VV Kozlov	
Room A					
15:55-16:10	Closing remarks				

Poster Session

1	A calibration-free wall shear stress measurement technique using hot-film sensors XH Liu, ZY Li, N Gao
2	A non-linear transport model for flow in tight porous media I Ali, NA Malik
3	Directional sensitivity of a heat pipe under periodic thermal loading H Stapountzis, S Makridis, P Episkopou, C Filokostas, G Charalambous
4	Drag coefficient of a circular plate with holes in bubbly flow Y Kubota, M Kosuda, O Mochizuki
5	Effects of nitrogen film cooling on flame structures in ignition transition W Song, J Koo
6	Enhancement of aerodynamic performance of a wing model using an array of slotted synthetic jets P Salunkhe, H Tang, Y Wu
7	Experiments and Computations on the Compression Process in the Free Piston Shock Tunnel FD-21 Z Bi, B Zhang, H Zhu, X Chen, J Shen, C Li, R Sun
8	Improved performance of a micro oscillator for micro-mixing B Dennai, R Khelifaoui, A Abdenbi
9	Investigation of liquid-gas surface tension and boiling bubble size of alumina nanofluids SY Jung, HW Park, JH Woo
10	Measurements of Tunnel Noise in the CAAA hypersonic wind tunnel S Xie, F Ji, X Chen, Q Shen
11	On the wakes behind series of disks in axial configurations I Litvinov, R Yusupov, I Naumov, V Okulov, R Mikkelsen
12	Physics of Rotating Fluids: Overview on DFG Core Facility Center at BTU Cottbus S Merbold, U Harlander, C Egbers
13	Reliability Improvement of the Piston Compressor in FD-21 Free-piston Shock Tunnel C Li, R Sun, Y Wang, X Chen, Z Bi
14	Research on angular motion of hypersonic non-spinning blunt cones with wind tunnel free-flight test Z Jiang, W Song, F Xue, Y Wang, W Lu
15	Research progress of hypersonic quiet wind tunnel and flow field visualization technology S Yi, H Ding, X Zhao, Y Ge, L He
16	Shear Layer Cavitation Phenomena Behind A Sharp-edged Triangular Wedge T Moullick, D Chatterjee
17	Study on water absorption of cactus K Komine, Y Kubota
18	Tunnel Experiment on Retro-Rocket Beveling Nozzle W Jiang, R Ye, T Zhang
19	Turbulent pair diffusion of inertial particles using kinematic simulations SM Usama, NA Malik
20	Vortex Breakdown in a Closed Cylinder with Rotating Bottom Disk K Poddar, N Kumar, DM Sharma
21	Wind tunnel experiment research on geometrical nonlinear effect of high-aspect-ratio aircraft X Yuntao, S Wei, L Jinan