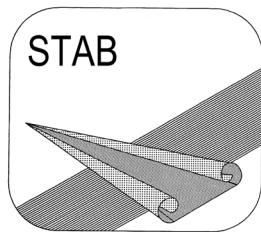


# Programm des 24. DGLR-Fachsymposium der STAB

13. November 2024

**OTH Regensburg | Galgenbergstr. 30 | 93053 Regensburg**



**Deutsche Gesellschaft  
für Luft- und Raumfahrt  
Lilienthal-Oberth e.V.**

**OTH** REGENSBURG

**Uhrzeit**

ab 08:00	Registrierung, Foyer-D
08:45-09:00	Begrüßung, A001

09:00-09:45	<p align="center"><b>1. Plenarvortrag , A001</b></p> <p align="center"><b>Titel:</b> "100 years of Prandtl's Mixing Length: falling short for aerodynamic analysis?" C.Rossow, ehem. DLR Braunschweig (AS)</p>
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Raum	D001	D002	D003
	<p align="center"><b>S01: Aeroelastik und Strukturodynamik</b> <b>Chair: V. Böhm</b></p>	<p align="center"><b>S02: Drehflügler</b> <b>Chair: A. Gardner</b></p>	<p align="center"><b>S03: Multidisziplinäre Optimierung</b> <b>Chair: M. Hepperle</b></p>
09:50-10:10	<p>Comparison of a Strong and a Weak Coupling Scheme for Aeroelastic Computations of the Dynamic Stall on a Rotor with Double-Swept Blades <u>G. Babij</u> DLR (Göttingen) AE-SIM Aeroelastische Simulation</p>	<p>Evaluation of wind tunnel test data from a helicopter model with novel fuselage geometry and additional passive lift devices <u>E. Brehl</u>, O. Schneider DLR (Braunschweig) - Institute of Flight Systems</p>	<p>Hybrid B-Spline-Targets Airfoil Parametrization with a Direct Link to CAD-based Aircraft Geometry <u>C. Ilic</u>, P. Wegener DLR (Braunschweig) AS-TFZ - Transportflugzeuge</p>
10:10-10:30	<p>Experimental and Numerical Investigation of a Generic Aeroelastic Delta Wing <u>K. Bantscheff</u>, C. Breitsamter Universität München</p>	<p>Comprehensive Code Modeling Impact on Maximum Thrust, and Beyond, of an Isolated Rotor in Hover: Application of a Free-Wake Method <u>B. van der Wall</u> DLR (Braunschweig) - Hubschrauber</p>	<p>Generalized Derivative Enhanced Surrogate Modeling Framework for Aerodynamic Design Optimization <u>E. Özkaya</u>, N. Gauger University of Kaiserslautern-Landau (RPTU)</p>
10:30-10:50	<p><del>FSTraceInterface: First steps towards coupling TRACE with structure solvers</del> <u>R. Jain</u>, C. Berthold, J. Huisman DLR (Dresden) Institute of Software Methods for Product Virtualization</p>	<p>Propeller-Rotor Interaction in Helicopter Air-to-Air Refueling <u>B. van der Wall</u> DLR (Braunschweig) - Hubschrauber</p>	<p>Sobolev Training for BNN Surrogates in Efficient Global Optimization <u>J. Rottmayer</u>, L. Chen, E. Özkaya, N. Gauger University of Kaiserslautern-Landau (RPTU)</p>

10:50-11:20	Kaffeepause, Foyer-D
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Raum	D001	D002	D003
	<b>S04: Strömungsbeeinflussung</b> <b>Chair: S.Koch</b>	<b>S05: Turbulenz und Transition</b> <b>Chair: A.Krumbein</b>	<b>S06: Numerische Aerodynamik</b> <b>Chair: T.Knopp</b>
11:20-11:40	Numerical Study for Active Flow Control on High-Lift Configurations by Oscillating Dropped-Hinge Flaps  <u>P. García-Guillén</u> , J. Kämer, C. Breitsamter  TU München	Numerische Untersuchungen zur selektiven Detektion charakteristischer Strömungsfeldmuster mittels Fasersensoren in einer turbulenten Grenzschichtströmung  <u>L. Bagdenand</u> , C. Wenzel, U. Rist  Universität Stuttgart	A Simplified Actuator Line Implementation for the DLR TAU-Code  <u>M. Firmhaber Beckers</u> , M. Schollenberger, T. Lutz  Universität Stuttgart
11:40-12:00	Aktive Böenlastabminderung am hochgestreckten Tragflügel mittels statischer und dynamischer Lastumverteilung  <u>M. Hillebrand</u> , T. Lutz  Universität Stuttgart	Comparing Assimilation Techniques for Pressure and Temperature Fields in Turbulent Rayleigh-Bénard Convection  <u>R. Barta</u> , M. Mommert, C. Bauer, M. Volk, C. Wagner  DLR (Göttingen) AS-BOA	Turbulence-resolving simulations of a coaxial jet based on Reynolds stress modelling  <u>M. Herr</u> , A. Probst  DLR (Göttingen) AS-CASE
12:00-12:20	POD analysis of shock-wave / turbulent-boundary-layer interactions under separation control  <u>D. Ramaswamy</u> , A. Schreyer  RWTH Aachen	Computational study of transient plasma actuator-induced wall-jet flow  <u>T. Čorbo</u> , S. Jakirlic  TU Darmstadt	Robustness, accuracy and efficiency of the discontinuous Galerkin spectral element method under local mesh refinement in an industrial CFD solver  <u>M. Herrera</u> , R. Hartmann  DLR (Braunschweig) - AS- CASE
12:20-12:40	Finding an optimal control strategy to restrict flow separation in an experimental backward-facing ramp flow by means of reinforcement learning  <u>A. Müller</u> , T. Schesny, V. Schilling, B. Steinfurth, J. Weiss  TU Berlin		Entropy-stable fluxes for high-order Discontinuous Galerkin simulations of high-enthalpy flows.  <u>G. Oblapenko</u> , A. Tarnosvkiy, M. Ertl, M. Torrilhon  RWTH Aachen
12:40-13:45	<b>Mittagspause, Foyer-D</b>		
12:20-13:45	<b>STAB-Sitzung (Programmleitung/Fachgruppensprecher), Raum A003</b>		

13:45-14:30	<b>2. Plenarvortrag, A001</b> <b>Titel: "Wavy Drag Reduction"</b> W.Schröder, Aerodynamisches Institut, RWTH Aachen University			
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Raum	D001	D002	D003	A001
	<b>S07: Transportflugzeug-konfigurationen</b> <b>Chair: H.Lüdeke</b>	<b>S08: Hochagile Konfigurationen</b> <b>Chair: R.Höld</b>	<b>S09: Aerodynamik bodengebundener Fahrzeuge</b> <b>Chair: A.Wäschle</b>	<b>S10: Turbulenz und Transition</b> <b>Chair: W.Schröder</b>
14:40-15:00	Erweiterung des inversen 3D Flügel Entwurfsverfahrens für Anwendungen im Bereich der Verschneidung Flügel-Rumpf <u>T. Gruner</u> , T. Streit TU Braunschweig	Numerical Investigations of Vortex-Breakdown Induced Tail Buffet on the DLR-F23 Configuration with Vertical Tail <u>P. Hartl</u> , M. Konz, M. Braune, H. Mai DLR (Göttingen) - AE	Wind tunnel calibration methodology for measuring aerodynamic loads on operational high-speed trains <u>A. Buhr</u> , J. Bell, L. Siegel, A. Henning, M. Köppel, M. Härter, D. Lauer, M. DLR (Göttingen) AS-BOA	Transition and Separation on a Spinning Projectile Subjected to Subsonic Flow at High Angles of Attack <u>B. Dutschke</u> , C. Rey, C. Mundt French-German Research Inst. of Saint-Louis
15:00-15:20	Gust Impact of a non-linear Folding Wing Tip <u>A. Molz</u> , C. Breitsamter TU München	Limits of quasiconical symmetry in 3D shock-boundary layer interaction at a single fin on a flat plate <u>W. Lühder</u> , E. Schülein DLR (Göttingen) - AS-HGK	Experimental Investigation of the Flow Field of a Notchback and Estate-Back FullScale DrivAer Model with Ground Simulation <u>L. Knaus</u> , J. Haff, C. Lietmeyer, K. Weinman, U. Fey, K. Ehrenfried, C. Volkswagen AG	Experimental Design for the Validation of Extended Hybrid Laminar Flow Control and Transition Prediction in Complex 3D Flows <u>L. Fohlmeister</u> , R. Radespiel, S. Helm, C. Grabe TU Braunschweig
15:20-15:40	On the Shifting of Wingtip Vortices due to Wingtip-Mounted Propellers <u>M. Schollenberger</u> , T. Lutz, E. Krämer Universität Stuttgart	Experimental and numerical investigation of the vortical flow on the transonic missile LK6E2 <u>C. Schnepf</u> , S. Weiss, U. Henne, E. Schülein DLR (Göttingen) - AS-HGK	The influence of upstream wind variations on the aerodynamic drag of a model cargo train <u>K. Weinman</u> , T. Müller, U. Fey, K. Ehrenfried DLR (Göttingen) AS-BOA	Analysis of Separated Shear Flow and Reattachment over a Backward Facing Step using the DLR ADaMant Experiment <u>M. Guerin</u> , T. Knopp, C. Grabe, M. Costantini, A. Schröder, D. Schanz, R. DLR (Göttingen) - AS-CASE
15:40-16:00	Numerical transonic buffet analysis for the XRF1 transport aircraft at forced wing oscillations <u>V. Völkl</u> , C. Breitsamter TU München	Development of Leading-Edge Vortices in Subsonic and Transonic Conditions <u>E. Tangermann</u> , E. Schmidt, K. Rajkumar, M. Klein Universität der Bundeswehr München	Aerodynamische Strömungsphänomene an Radantriebseinheiten in modernen 1:1 Fahrzeugwindkanälen <u>M. Willmann</u> , A. Wäschle, P. Dannhäuser, B. Frohnapfel Mercedes-Benz AG	

16:00-16:30	<b>Kaffeepause, Foyer-D</b>			
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Raum	D001	D002	D003	A001
	<b>S11: Hyperschall-aerothermodynamik</b> <b>Chair: B.Reimann</b>	<b>S12: Strömungsaustik</b> <b>Chair: L.Siegel</b>	<b>S13: Allgemeine Strömungstechnik</b> <b>Chair: P.Bahavar</b>	<b>S14: Turbulenz und Transition</b> <b>Chair: C.Wenzel</b>
16:30-16:50	Comparison of Different Fidelity Approaches for the Coupled Aerothermodynamic Heating of High Lift Reentry Vehicles <u>F. Barz</u> , M. Franze DLR (Braunschweig) - AS-RFZ	Acoustic measurements and time-resolved traffic-noise simulations in the Graefekiez <u>L. Siegel</u> , T. Müller DLR (Göttingen) AS-BOA	Particle transport predictions in a generic room: Comparison of URANS and RANS with experiments <u>F. Webner</u> , A. Kohl, D. Schmeling, C. Wagner DLR (Göttingen) AS-BOA	Modeling Approaches for Boundary Layer Suction in Transition Transport Models <u>S. Helm</u> , N. Krimmelbein, A. Krumbein, C. Grabe, R. von Soldenhoff, H. DLR (Göttingen) - AS-CASE
16:50-17:10	Hypersonic Ablation Modeling using DSMC <u>L. Bott</u> , C. Stemmer TU München	Flow Separation Noise Sources <u>A. Suryadi</u> , M. Herr DLR (Braunschweig) AS-WEA	PIV-Messung der Ablenkung eines Atemfreistrahls durch einen Luftvorhang <u>A. Kohl</u> , D. Schmeling, C. Wagner DLR (Göttingen) - AS-BOA	Correlating the internal encoding of boundary-layer profiles - Insights in neural networks used for boundary-layer stability prediction <u>P. Hoffmann</u> , A. Theiß, S. Hein DLR (Göttingen) AS-HGK
17:10-17:30	DNS of an oblique-breakdown transition in an oblique-shock/flat-plate-boundary-layer interaction flow <u>J. Kuhnlein</u> , A. Theiß, C. Schnepf, C. Stemmer DLR (Göttingen) - AS-HGK	Broadband noise simulation of small coaxial rotor configurations <u>J. Yin</u> DLR (Braunschweig) - AS - HEL	Investigating modifications of the heat transfer by velocity boundary conditions in turbulent thermal convection using an off-lattice Boltzmann method <u>S. Polasanapalli</u> , M. Klein, H. Schmidt Brandenburgische Technische Universität (BTU)	Modification of the SSG/LRR- $\omega$ Model for Separated Shear Flows Using Boundary Layer Sensors <u>T. Knopp</u> DLR (Göttingen) AS-CASE
17:30-17:50	Validation of Numerical Models for Hypersonic Continuum Flow Analysis <u>P. Seitz</u> , M. Konopka Ariane Group GmbH	Characterizing Airflow Turbulence in the Aeroacoustic Wind Tunnel Braunschweig (AWB) using Turbulence Grids <u>S. Sharma</u> , A. Suryadi, M. Herr DLR (Braunschweig) AS-WEA	Confluence of Wall Shear Stress and its Relation to Vorticity Surface Flux <u>M. Rütten</u> DLR (Göttingen) - AS-HGK	Towards physics-based nowcasting of the instantaneous wind velocity profile using a stochastic modeling approach <u>M. Klein</u> , J. Medina Méndez, M. Schöps, H. Schmidt, C. Glawe Brandenburgische Technische Universität (BTU)
17:50-18:10	Parametric grid fin design study for the T3 vehicle within SALTO <u>J. Neumann</u> DLR (Braunschweig)	<del>Fast non-empiric stochastic methods for aircraft surface pressure fluctuations to predict interior and exterior noise excitations</del> <u>G. Ramasawmy</u> , R. Ewert, C. Appel, J. Delfs DLR (Braunschweig) AS-TEA	Numerical simulation of the sloshing behavior in aircraft hydrogen tanks for different flight maneuvers <u>A. Goertler</u> DLR (Göttingen) AS-HGK	Preliminary validation and stabilization of Reynolds stress models using the CFD Software by ONERA, DLR, Airbus (CODA) <u>K. Jevanthi</u> , J. Löwe, M. Lühmann, T. Knopp, A. Krumbein DLR (Göttingen) - AS-CASE

19:30-23:00

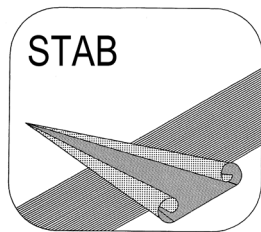
Abendveranstaltung, Herzogsaal in Regensburg

Version 8 vom 12.11.2024

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**Uhrzeit**

09:00-09:45	<b>3. Plenarvortrag: Preisträger "STAB-Preis für Forschung und Entwicklung 2024", A001</b> <b>Titel: „In-Line Particle Image Velocimetry“</b> M.Raffel, DLR Göttingen (AS-HEL)
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Raum	D001	D002	D003
	<b>S15: Turbulenz und Transition</b> <b>Chair: C.Wagner</b>	<b>S16: Multidisziplinäre Optimierung</b> <b>Chair: N.Gauger</b>	<b>S17: Experimentelle Aerodynamik</b> <b>Chair: C.Breitsamter</b>
09:50-10:10	Verhalten kritischer N-Faktoren bei Laminarhaltung durch Absaugung  <u>H. Lüdeke</u> , P. Weigmann, R. von Soldenhoff  DLR (Braunschweig) AS-TFZ	Parametric Aerodynamic Shape Optimization with Latent Diffusion  <u>L. Chen</u> , J. Rottmayer, T. Kortus, E. Özkaya, N. Gauger, Y. Ye  University of Kaiserslautern-Landau (RPTU)	Underwater Investigation of Stall Onset on an Elliptic Profile via Temperature-Sensitive Paint  <u>M. Costantini</u> , B. Dimond, C. Klein, S. Sattler, M. Miozzi  DLR (Göttingen) AS-EXV
10:10-10:30	Hitzdrahtmessungen in sequentiell abgesaugten Grenzschichten  <u>R. von Soldenhoff</u> , P. Weigmann, H. Lüdeke, K. Thamm  DLR (Braunschweig) - AS-TFZ	Adjoint-based aerodynamic shape optimization with free laminar-turbulent transition  <u>D. Francois</u> , A. Krumbein  DLR (Braunschweig) AS-CASE	Hot-Film Measurements on Rotor Tip Vortices in the High Pressure Wind Tunnel Göttingen (HDG)  <u>E. Galli</u> , H. Bartzsch, A. Zanotti, C. Wolf, A. Gardner  DLR (Göttingen) AS-HEL
10:30-10:50	Assessment and Adaptation of Transition Criteria for Non-Self-Similar Flows  <u>N. Krimmelbein</u> , S. Helm, A. Krumbein  DLR (Braunschweig) AS-CASE	Multidisciplinary Design Methods for Fixed-Wing UAVs and the Application to the Air Cargo Challenge 2024  <u>J. Frank</u> , Y. Schäfer, T. Stadel, G. Zwickl  Universität Stuttgart	Experimental Investigation of the Aerodynamics of Maple Seeds in Native Free Fall and Controlled Autorotation Condition  <u>L. Krenkel</u> , M. Rütten  OTH Regensburg

10:50-11:20	Kaffeepause, Foyer-D
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10:50-11:20	Kaffeepause, Foyer-D
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Raum	D001	D002	D003
	<b>S18: Turbulenz und Transition</b> <b>Chair: R.von Soldenhoff</b>	<b>S19: Numerische Aerodynamik</b> <b>Chair: C.Rossow</b>	<b>S20: Bio- und Mikrofluidmechanik / Versuchsanlagen</b> <b>Chair: L.Krenkel</b>
11:20-11:40	A tracer particle's path through the turbulent energy spectrum  <u>M. Mommert</u> , T. Käufer, C. Cierpka, C. Wagner  DLR (Göttingen) AS-BOA	Development and assessment of an Immersed Boundary Method in an unstructured flow solver for steady and scale-resolving simulations  <u>R. Sanchez-Ortiz</u> , J. Sánchez Gil, A. Probst, A. Schwöppe  DLR (Göttingen) AS-CASE	High-resolution flow investigations in native membrane lungs for understanding shear-induced blood clot formation  <u>M. Kranz</u> , D. Pointner, M. Wagner, M. Lubnow, K. Lehle, L. Krenkel  OTH Regensburg, Department of Biofluid Mechanics
11:40-12:00	Investigation of different transition models under disturbed inflow over a laminar wing  <u>B. Sarikaya</u> , C. Grabe, T. Lutz  Universität Stuttgart	Numerical investigation of wall curvature effect on air cooling lines with tilted heat exchanger for Electrified Aero Engines  <u>P. Singh</u> , S. Merbold  DLR (Cottbus) - EL-ARA	Towards Experimental Validation of Models for Shear-Induced Aerosol Generation in the Human Respiratory System  <u>J. Michel</u> , L. Krenkel  OTH Regensburg, Department of Biofluid Mechanics
12:00-12:20	A spectral investigation of the transitional boundary layer flow during free flight in the convective atmosphere  <u>U. Deck</u> , W. Würz  Universität Stuttgart	The physics of spanwise gaps between lifting and control surfaces: An analysis using RANS and hybrid RANS/LES methods  <u>L. Streher</u> , A. Probst  DLR (Braunschweig) - AS-CASE	Entwicklung eines Kleinwasserkanals zum Einsatz optischer Messtechnik für Lehrzwecke  <u>S. Risius</u> , A. Schaffarczyk, J. Kemper, W. Thielicke  FH Kiel
12:20-12:40	Revisiting near-wall modeling of fully developed turbulent flow in concentric annuli  N. Naik Burye, J. Medina Méndez, <u>M. Klein</u> , H. Schmidt, Brandenburgische Technische Universität (BTU)	Coupled CFD-FM Wing Unfolding with Chimera  <u>F. Wilden</u> , M. Semprich  MBDA Deutschland GmbH	Windkanal mit Sensor – Vergleich Experiment und CFD-Rechnung  <u>W. Send</u>  ANIPROP GbR

12:40-13:45	Mittagspause, Foyer-D
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13:45-14:30	<b>4. Plenarvortrag, "STAB Fachgruppen stellen sich vor", A001</b> <b>Titel: "Biofluid Mechanics Across Disciplines: Experimental and Numerical Approaches to Nasopharyngeal Flows, Artificial Lungs, and Lab-on-a-Chip Diagnostics"</b> L.Krenkel, OTH Regensburg, Biofluidmechanik
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Raum	D001	D002	D003
	<b>S21: Turbulenz und Transition</b> <b>Chair: M.Rütten</b>	<b>S22: Windenergie</b> <b>Chair: T.Lutz</b>	
14:40-15:00	Numerical analysis of boundary-layer transition on a high-aspect ratio backward-swept laminar wing considering different mass cases  <u>M. Schmalz</u> , M. Ritter, M. Fehrs  DLR (Göttingen) AE-SIM	LES Investigation on Wind Turbine Trailing Edge Noise Modelling Parameters of the TNO-based Prediction Tool IAGNoise+  <u>S. Haubold</u> , T. Lutz, A. Beck  Universität Stuttgart	
15:00-15:20	Quantitative comparison of results from DNS and nonlinear parabolized stability equations for the subharmonic transition process  <u>F. Tocci</u> , S. Hein, P. Ströer  DLR (Göttingen) AS-HGK	Evaluating the effect of a leading-edge slat on the aerodynamics of the NACA0018 airfoil  J. Theron, L. Höning, <u>N. Manelil</u>  Fraunhofer Institut für Windenergiesysteme, Oldenburg	
15:20-15:40	Validation and Analysis of the Reynolds-Stress Model SSG/LRR- $\omega$ for Wall-Bounded Flows with Mean-Streamline Curvature  <u>S. Vellala</u> , T. Knopp DLR (Göttingen) AS-CASE	FSI simulations of IEA-15MW wind turbine under gust conditions  <u>N. Manelil</u> , J. Theron, L. Höning, B. Stoevesandt Fraunhofer Institute for Wind Energy Systems	
15:40-16:00	Robust dynamic mode decomposition for the analysis of coherent flow structures  A. Weiner, <u>J. Geise</u>  TU Dresden (Fluid Mechanics)	Numerical investigation of the tower influence on the tip vortices of a model wind turbine  <u>T. Weislein</u> , T. Lutz  Universität Stuttgart	

16:00-17:00	Ende Konferenz - Abschiedskaffee, Foyer-D
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