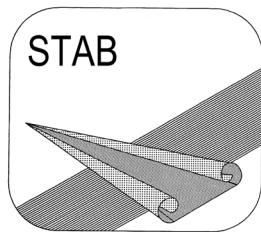


Programm des 24. DGLR-Fachsymposium der STAB

13. und 14. 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">1. Plenarvortrag , A001</p> <p align="center">Titel: "100 years of Prandtl's Mixing Length: falling short for aerodynamic analysis?"</p> <p align="center">C.Rossow, DLR Braunschweig (AS)</p>
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Raum	D001	D002	D003
	S01: Aeroelastik und Strukturdynamik Chair: <i>t.b.a.</i>	S02: Drehflügler Chair: <i>t.b.a.</i>	S03: Multidisziplinäre Optimierung Chair: <i>t.b.a.</i>
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</p> <p align="center"><u>G. Babij</u></p> <p align="center">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</p> <p align="center"><u>E. Brehl</u>, O. Schneider</p> <p align="center">DLR (Braunschweig) - Institute of Flight Systems</p>	<p>Hybrid B-Spline-Targets Airfoil Parametrization with a Direct Link to CAD-based Aircraft Geometry</p> <p align="center"><u>C. Ilic</u>, P. Wegener</p> <p align="center">DLR (Braunschweig) AS-TFZ - Transportflugzeuge</p>
10:10-10:30	<p>Experimental and Numerical Investigation of a Generic Aeroelastic Delta Wing</p> <p align="center"><u>K. Bantscheff</u>, C. Breitsamter</p> <p align="center">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</p> <p align="center"><u>B. van der Wall</u></p> <p align="center">DLR (Braunschweig) - Hubschrauber</p>	<p>Generalized Derivative Enhanced Surrogate Modeling Framework for Aerodynamic Design Optimization</p> <p align="center"><u>E. Özkaya</u>, N. Gauger</p> <p align="center">University of Kaiserslautern-Landau (RPTU)</p>
10:30-10:50	<p>FSTraceInterface: First steps towards coupling TRACE with structure solvers</p> <p align="center"><u>R. Jain</u>, C. Berthold, I. Huismann</p> <p align="center">DLR (Dresden) Institute of Software Methods for Product Virtualization</p>	<p>Propeller-Rotor Interaction in Helicopter Air-to-Air Refueling</p> <p align="center"><u>B. van der Wall</u></p> <p align="center">DLR (Braunschweig) - Hubschrauber</p>	<p>Sobolev Training for BNN Surrogates in Efficient Global Optimization</p> <p align="center"><u>J. Rottmayer</u>, L. Chen, E. Özkaya, N. Gauger</p> <p align="center">University of Kaiserslautern-Landau (RPTU)</p>

10:50-11:20	Kaffeepause, Foyer-D
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Raum	D001	D002	D003
	S04: Strömungsbeeinflussung Chair: <i>t.b.a.</i>	S05: Turbulenz und Transition Chair: <i>t.b.a.</i>	S06: Numerische Aerodynamik Chair: <i>t.b.a.</i>
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. Kärner, 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	Turbulence Model Impact on the Vortices shed by one IEA10MW Blade under Large Angles of Attack <u>N. Manelil</u> , J. Theron, L. Höning, B. Stoevesandt, A. Ahmed, F. Mongrolle, B. Duboc Fraunhofer Institute for Wind Energy Systems	Entropy-stable fluxes for high-order Discontinuous Galerkin simulations of high-enthalpy flows. <u>G. Oblapenko</u> , A. Tamosvkiy, M. Ertl, M. Torrilhon RWTH Aachen
12:40-13:45	Mittagspause, Foyer-D		
12:20-13:45	STAB-Sitzung (Programmleitung/Fachgruppensprecher), Raum A003		

13:45-14:30	2. Plenarvortrag, A001 Titel: "t.b.d." W.Schröder, Aerodynamisches Institut, RWTH Aachen University			
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Raum	D001	D002	D003	A001
	S07: Transportflugzeug-konfigurationen Chair: t.b.a.	S08: Hochagile Konfigurationen Chair: t.b.a.	S09: Aerodynamik bodengebundener Fahrzeuge Chair: t.b.a.	S10: Turbulenz und Transition Chair: t.b.a.
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. Laporte, R. DLR (Göttingen) AS-BOA	Direct Determination of Intermittency Distribution with Fast-Response Temperature-Sensitive Paint <u>B. Dimond</u> , M. Costantini, C. Klein DLR (Göttingen) - AS-EXV
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 DriveAer Model with Ground Simulation <u>L. Knaus</u> , J. Haff, C. Lietmeyer, K. Weinman, U. Fey, K. Ehrenfried, C. Wagner Volkswagen AG	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
15:20-15:40	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	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
15:40-16:00	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. Frohnäpfel Mercedes-Benz AG	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

16:00-16:30	Kaffeepause, Foyer-D			
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Raum	D001	D002	D003	A001
	S11: Hyperschall-aerothermodynamik Chair: t.b.a.	S12: Strömungsakustik Chair: t.b.a.	S13: Allgemeine Strömungstechnik Chair: t.b.a.	S14: Turbulenz und Transition Chair: t.b.a.
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	Fast non-empiric stochastic methods for aircraft surface pressure fluctuations to predict interior and exterior noise excitations <u>G. Ramasawmy</u> , R. Ewert, C. Appel, J. Delfs DLR (Braunschweig) - AS-TEA	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. Kimmelbein, A. Krumbein, C. Grabe, R. von Soldenhoff, H. Lüdeke, K. DLR (Göttingen) - AS-CASE
16:50-17:10	Hypersonic Ablation Modeling using DSMC <u>L. Bott</u> , C. Stemmer TU München	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	PIV-Messung der Ablenkung eines Atemfreistrahl 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	Acoustic measurements and time-resolved traffic-noise simulations in the Graefekiez <u>L. Siegel</u> , T. Müller DLR (Göttingen) AS-BOA	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)	Preliminary validation and stabilization of Reynolds stress models using the CFD Software by ONERA, DLR, Airbus (CODA) <u>K. Jeyanthi</u> , J. Löwe, M. Lühmann, T. Knopp, A. Krumbein DLR (Göttingen) - AS-CASE
17:30-17:50	Validation of Numerical Models for Hypersonic Continuum Flow Analysis <u>P. Seitz</u> , M. Konopka ArianeGroup GmbH	Flow Separation Noise Sources <u>A. Suryadi</u> , 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)	Broadband noise simulation of small coaxial rotor configurations <u>J. Yin</u> DLR (Braunschweig) - AS - HEL	Numerical simulation of the sloshing behavior in aircraft hydrogen tanks for different flight maneuvers <u>A. Goertler</u> DLR (Göttingen) AS-HGK	Modification of the SSG/LRR- ω Model for Separated Shear Flows Using Boundary Layer Sensors <u>T. Knopp</u> DLR (Göttingen) AS-CASE
19:30-23:00	Abendveranstaltung, Herzogsaal in Regensburg			

Uhrzeit

09:00-09:45	3. Plenarvortrag: Preisträger "STAB-Preis für Forschung und Entwicklung 2024", A001 Titel: „In-Line Particle Image Velocimetry“ M. Raffel, DLR Göttingen (AS-HEL)
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Raum	D001	D002	D003
	S15: Turbulenz und Transition Chair: t.b.a.	S16: Multidisziplinäre Optimierung Chair: t.b.a.	S17: Experimentelle Aerodynamik Chair: t.b.a.
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. François</u> , A. Krumbein DLR (Braunschweig) AS-CASE	Optische Deformationsmessung zur Lastbeobachtung an einem skalierten Flugversuchsträger <u>J. Wagner</u> , T. Kirmse, O. Luderer, T. Thielecke, W. Gropengießer, S. Adden DLR (Göttingen) - AS-EXV
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	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

10:50-11:20	Kaffeepause, Foyer-D
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Raum	D001	D002	D003
	S18: Turbulenz und Transition Chair: t.b.a.	S19: Numerische Aerodynamik Chair: t.b.a.	S20: Experimentelle Aerodynamik / Versuchsanlagen Chair: t.b.a.
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	Experimental Investigation of the Aerodynamics of Maple Seeds in Native Free Fall and Controlled Autorotation Condition <u>L. Krenkel</u> , M. Rütten OTH Regensburg
11:40-12:00	Revisiting near-wall modeling of fully developed turbulent flow in concentric annuli <u>N. Naik Burye</u> , J. Medina Méndez, M. Klein, H. Schmidt, Brandenburgische Technische Universität (BTU)	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	Messung des Luftwiderstands eines Zugmodells beim Durchfahren eines Tunnels <u>K. Ehrenfried</u> , D. Heine DLR (Göttingen) - AS-BOA
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	Investigation of different transition models with distributed propulsion over a laminar wing <u>B. Sarikaya</u> , C. Grabe, T. Lutz Universität Stuttgart	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		

13:45-14:30	4. Plenarvortrag, "STAB Fachgruppen stellen sich vor", A001 Titel: "Biofluid Mechanics Across Disciplines: Experimental and Numerical Approaches to Nasopharyngeal Flows, Artificial Lungs, and Lab-on-a-Chip Diagnostics" L.Krenkel, OTH Regensburg, Biofluidmechanik
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Raum	D001	D002	D003
	S21: Turbulenz und Transition Chair: t.b.a.	S22: Windenergie Chair: t.b.a.	S23: Bio- und Mikrofluidmechanik Chair: t.b.a.
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	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
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	Surface measurements in a pressure-induced flow separation around a 3D printed Gaussian bump in an open test section wind tunnel <u>A. Le Floc'h</u> , F. Reuschling, P. Seelemeyer, M. Herr, G. Di Labbio, J. Vétel DLR (Braunschweig)- AS-WEA	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
15:20-15:40	Validation and Analysis of the Reynolds-Stress Model SSG/LRR- ω 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 <u>A. Weiner</u> , J. Geise TU Dresden (Fluid Mechanics)	Evaluating the effect of a leading-edge slat on the aerodynamics of the NACA0018 airfoil <u>J. Theron</u> Fraunhofer Institut für Windenergiesysteme, Oldenburg	
16:00-16:20		Numerical investigation of the tower influence on the tip vortices of a model wind turbine <u>T. Weislein</u> , T. Lutz Universität Stuttgart	

16:20-17:00	Ende Konferenz - Abschiedskaffee, Foyer-D
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