



University of Stuttgart
DFG research unit 2895

FOR 2895 Symposium & Third International Buffet Workshop

21-23 September 2026
Stuttgart, Germany

This two-day event brings together leading researchers and industry experts to explore cutting-edge developments in aerodynamics, with a particular focus on non-linear unsteady flow phenomena, shock-wave boundary-layer interactions, and aircraft behaviour at the limits of the flight envelope. The first day is dedicated to the German Research Foundation (DFG) funded research unit FOR 2895 (www.for2895.uni-stuttgart.de), highlighting recent findings and insights from numerical studies and extensive experimental campaigns conducted at the European Transonic Windtunnel (ETW), that were funded by the Helmholtz Association (HGF) and the German Aerospace Center (DLR). The second day hosts the Third International Buffet Workshop, continuing a successful international series aimed at fostering exchange within the transonic buffet research community.



Day 1 - 21 September: FOR 2895 Symposium

Time: 09:00 (doors open 08:30) – 18:00

Topics:

- Presentations on high-Mach aerodynamic phenomena at the limits of the flight envelope
- Insights from recent experimental campaigns at ETW
- Discussions on unsteady flow interactions and measurement techniques
- Opportunities for exchange and networking

Social dinner: 19:30 at Carl's Brauhaus in Stuttgart city center at own expense



INTERNATIONAL
BUFFET
WORKSHOP

Day 2 - 22 September: Third International Buffet Workshop

Time: 09:00 (doors open 08:30) – 18:00

Topics:

- Buffet mechanisms, including 2D and 3D effects as well as laminar, transitional and turbulent regimes
- Complex, industry-relevant aircraft configurations
- Buffet modelling, prediction, and control strategies

Beer garden: 19:30 at the Sonja Merz Biergarten in Stuttgart city center at own expense

Day 3 - 23 September: Optional Excursion to ETW

Participants attending in person are invited to join an optional excursion to ETW in Cologne. The visit includes a guided tour and networking opportunities, offering a unique insight into large-scale transonic testing facilities. Travel costs are to be covered by participants and a separate registration is required.

Please note that the excursion is subject to operational constraints and may be cancelled due to unforeseen circumstances.

Organisational Details:

Participation & Registration

Participation at the event is free of charge thanks to support from the DFG. In-person attendance is limited to 80 participants and will be allocated on a first-come, first-served basis, while online participation is also available. Registration is open until 16 August 2026 via the provided link: https://eveeno.com/for2895_symposium_buffet_workshop

Recommended Hotels

The event will take place in Stuttgart Vaihingen near the S-Bahn stop "Universität".

A range of accommodation options is available in Stuttgart Vaihingen and the Stuttgart city center, with convenient public transport connections to the venue. There is a direct S-Bahn connection between Stuttgart city center and Stuttgart Vaihingen (10-minute ride).

- **Ibisstyles Stuttgart Vaihingen**, Ruppmannstrasse 20 (near the S-Bahn station "Vaihingen"):
<https://all.accor.com/hotel/A6Q4//index.de.shtml>
- **Holiday Inn - the nui, Kettle Stuttgart Vaihingen**:
<https://the.niu.de/hotels/deutschland/stuttgart/holiday-inn---the-niu-kettle-stuttgart-vaihingen>
- **Motel One Stuttgart Hauptbahnhof**:
<https://www.motel-one.com/en/hotels/stuttgart/hotel-stuttgart-hauptbahnhof/>
- **Motel One Stuttgart-Mitte**:
<https://www.motel-one.com/en/hotels/stuttgart/hotel-stuttgart-mitte/>

For further information on Stuttgart, please visit: <https://www.stuttgart-tourist.de/en>

Local organisation

Thorsten Lutz (lutz@iag.uni-stuttgart.de)

Enquiries regarding the buffet workshop can also be addressed to

Sebastian Timme (sebastian.timme@liverpool.ac.uk)

or Andrea Sansica (sansica.andrea@jaxa.jp)

Agenda 21 September 2026 (FOR 2895 Symposium)

08:30	Registration & Coffee
09:00	Opening and welcome messages V. Stadelmann / M. Lentze (German Research Foundation - DFG); S. Wiesenfeldt (Helmholtz Association - HGF)
09:20	Objectives and research topics of the FOR 2895 T. Lutz (University of Stuttgart)
09:30	Session 1: ETW experiments for edge of flight envelope conditions & selected evaluations
	J. Bosbach, R. Konrath, R. Geisler, F. Philipp, J. Agocs, L. Koop (German Aerospace Center - DLR): Capturing Unsteady Flow Phenomena at the Borders of the Flight Envelope with PIV under Cryogenic Conditions T. Huber, A.-M. Schreyer (Hochschule Munich): Turbulent Structures and Dynamics in Swept Wing Buffet at High Reynolds Numbers
10:20	Coffee break
10:50	Session 2: Buffet simulations – from airfoils to full-aircraft
	T. Lürkens, M. Meinke, D. Krug, W. Schröder (RWTH Aachen University): Effects of Flow and Acoustic Perturbations on Transonic Buffet C. Schauerte*, A.-M. Schreyer** (*RWTH Aachen University, ** Hochschule Munich): Transonic Buffet Properties in the Transition from Airfoils to Finite Wings M. Herr, S. Spinner, R. Rudnik, A. Probst (German Aerospace Center - DLR): A Hybrid RANS-LES Method with Reynolds-Stress- and Wall-Function-Modelling for Aircraft at High-Speed Stall Conditions S. Spinner, R. Rudnik, M. Herr, A. Probst (German Aerospace Center - DLR): Powered UHBR Nacelle Integration: Quantifying Engine Jet Effects on Lower Wing Shock-Boundary Layer Interaction
12:30	Lunch break
13:30	Session 3: Impact of vibrations on transonic buffet and lock-in phenomenon
	Y. Feldner*, J. Geise**, A. Weiner**, A. Beck* (*University of Stuttgart, **TU Dresden): Numerical Investigation of the Shock Buffet Phenomenon for a forced pitching OAT15A Airfoil using Wall Modeled Large Eddy Simulations J. Geise*, Y. Feldner**, A. Beck**, A. Weiner* (*TU Dresden, ** University of Stuttgart): Analysis of Synchronization of a Pitching Airfoil at Buffet Conditions V. Völkl, C. Breitsamter (TU Munich): Prediction of Transonic Buffet Surface Pressure Data at Excitation Conditions via Reduced Order Models S. Kamoun*, A. Weiner**, T. Lutz* (*University of Stuttgart, **TU Dresden): Influence of Inflow Conditions and Small-Scale Vibrations on Transonic Buffet
15:10	Coffee break
15:40	Guest lecture
	A. Sansica*, B. Pomeroy**, B. Stanford** (* Japan Aerospace Exploration Agency, **NASA Langlet Research Center) DPW-8/AePW-4 Buffet Working Group
16:05	Mini-break
16:10	Past and current findings on the buffet mechanism
	S. Timme*, A. Sansica**, D. Lusher** (*University of Liverpool, **Japan Aerospace Exploration Agency): Review on buffet research S. Spinner*, S. Kamoun** (*German Aerospace Center – DLR, **University of Stuttgart): Origin and propagation of buffet cells Round table discussion Moderators: S. Timme (University of Liverpool), A. Sansica (Japan Aerospace Exploration Agency)
17:30	Panel discussion: Joint forces for synergistic numerical and experimental research
	Representatives from Airbus, DLR, ETW and Universities Moderator: T. Lutz (University of Stuttgart)
18:00	Closing Remarks (T. Lutz)
19:30	Social dinner at Carl's Brauhaus (at own expense) (www.carls-brauhaus.de)

Agenda 22 September 2026 (International Buffet Workshop)

08:30-09:00	Registration & Coffee
09:00-09:10	Opening Remarks (Thorsten Lutz, Sebastian Timme, Andrea Sansica)
09:10-10:00	Session 1: Similarities between transonic buffet and low-speed phenomena (Session Chair: Thorsten Lutz, University of Stuttgart)
09:10-09:30	D. Kamenetskiy, J. Crouch (The Boeing Company): Study on the Linkage between Transonic and Low-Speed Buffet on Airfoils
09:30-10:00	K. Fujino*, P. Moise**, T. Himeno* (*The University of Tokyo, **Indian Institute of Technology Kanpur): On the Connection of Separation Bubble Modes on Laminar Transonic Airfoils with Low-Speed Regimes P. Moise, A. Nag, V. Patel, A. Jain, J. Rupini, A. Arulsekar (Indian Institute of Technology Kanpur): Transonic Buffet and Low-Frequency Oscillations in Bluff Body Flows
10:00-10:05	Mini-break
10:05-11:10	Session 2: Extruded wing experiments (Session Chair: Lars Koop, DLR)
10:05-10:25	A. V. George*, H. Bansal*, P. Moise**, S. Rengarajan* (*Indian Institute of Technology Madras, **Indian Institute of Technology Kanpur): Experimental Investigations on Transonic Buffet on a NACA0012 Airfoil at Moderate Reynolds Numbers
10:25-11:10	E. Ibarra, C. J. Kähler, S. Scharnowski (University of the Bundeswehr Munich): Shock Buffet in the Presence of Wind-Tunnel Side-Wall Boundary Layers G. Diehm*, E. Ibarra*, J. Nitzsche**, C. J. Kähler*, Sven Scharnowski* (*University of the Bundeswehr Munich, **German Aerospace Center - DLR): Experimental Investigation of the Influence of Pop-Up Spoilers on Transonic Buffet D. P. Ramaswamy, S. Scharnowski, C. J. Kähler (University of the Bundeswehr Munich): Physics and Control of Transonic Buffet Phenomenon over Finite Wing and Swept Wing Geometries
11:10-11:15	Mini-break
11:15-12:35	Session 3: Simulations of airfoils and infinite wings (Session Chair: Jeffrey Crouch, The Boeing Company)
11:15-11:35	F. Sartor (ONERA): Lesson Learnt during DPW-8 about URANS Simulations on OAT15A Profile
11:35-11:55	G. Soldati (Sapienza Università di Roma): DNS Investigation of Buffet Mechanisms over a Transonic Airfoil
11:55-12:15	K. Kitamura (Yokohama National University): In Pursuit of Appropriate Hybrid RANS/LES Interface for Reproducing OAT15A Transonic Buffet
12:15-12:35	A. Sansica, David Lusher (Japan Aerospace Exploration Agency): High-Fidelity Simulations and Modal Analysis of Transonic Buffet on Infinite Wings: 3D Mechanisms on Wide-Span Wings and Impact of Boundary-Layer States
12:35-13:30	Lunch break
13:30-15:30	Session 4: Investigations on full-aircraft configurations (Session Chair: Andrea Sansica, JAXA)
13:30-13:50	D. Nash, S. Timme (University of Liverpool): Non-Conventional Onset of Transonic Buffet
13:50-14:10	M. Candon (RMIT University): Rigid and Elastic Response of the NASA Common Research Model to Shock Buffet Oscillations
14:10-14:30	Y. Tamaki (University of Tokyo): Predicting 3D Transonic Buffet on the NASA-CRM with Cartesian Grid/Wall-Modeled LES
14:30-14:50	R. F. Vieira (Dassault Systèmes): Simulations of Transonic Buffet on the NASA CRM using PowerFLOW®
14:50-15:10	E. Molina (Embraer): WMLES of Transonic CRM in NTF
15:10-15:30	T. Nahom Jidovetski (Technion): Wind-Tunnel Investigation of the F-16 Transonic Buffet Phenomenon
15:30-15:50	Afternoon Break

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15:50-17:50	Session 5: Modal analysis, modeling and prediction (Session Chair: Sebastian Timme, University of Liverpool)
15:50-16:10	S. Spinner*, A. Weiner** (*DLR, **TU Dresden): Modal Analysis of UHBR-Induced Wing Lower Surface Buffet
16:10-16:30	V. Völkl*, C. Breitsamter*, S. Timme** (*TU Munich, **University of Liverpool): Investigation of Low-Frequency Fluid Mode Characteristics in Experimental and Numerical Buffet related Data
16:30-17:00	S. Maga*, K. Venkatraman** (*Indian Institute of Technology Kanpur, **Indian Institute of Science Bengaluru): Role of Critical Points in 3D Transonic Buffet A. Kallidil, A. Udupa, K. Venkatraman (Indian Institute of Science): Adjoint-Based Transonic Buffet Mitigation on the NASA CRM using Buffet Sensor
17:00-17:30	D. Quero*, C. Kaiser*, T. Vojkovic** (*DLR, **TU Delft): Reduced-Order Modelling of Transonic Buffet from Onset Prediction to Invariant Manifold Dynamics
17:30-17:50	S. Z. Ashtiani, S. Kawai, K. Fukami (Tohoku University): Characterizing Transonic Airfoil Buffet Flows at a High Reynolds Number on a Structured Low-Order Manifold
17:50-18:00	Closing Remarks (Jeffrey Crouch, The Boeing Company)
19:00	Sonja Merz beer garden (at own expense) (www.biergarten-schlossgarten.de)

Venue & Directions:

Internationales Begegnungszentrum der Universität Stuttgart e.V. (IBZ)

Robert-Leicht-Straße 161
70569 Stuttgart

By plane

From the airport, take the S-Bahn S2 or S3 in the direction of the city center to the stop **"Universität"**. (Journey time: 17 minutes). Leave the S-Bahn station in the direction of the **"Schranne"** exit.

By train

From Stuttgart main station take the S-Bahn S1 (Herrenberg/Böblingen/Vaihingen), S2 (Filderstadt/Flughafen/Vaihingen) or S3 (Flughafen/Vaihingen) to the stop **"Universität"**. Leave the S-Bahn station in the direction of the **"Schranne"** exit.

