

## Invitation

Drones and other small air mobility vehicles are emerging as key players in the future of urban transport. The transition from ground to air transportation is exciting, not least of all because it offers opportunities to reshape urban soundscapes.

At the same time, integrating airborne vehicles into city environments presents significant acoustic challenges, especially with respect to propulsion noise and its impact on communities.

This two-day symposium highlights current research and development in the acoustics of urban air mobility. Topics include psychoacoustics, noise source characterization, advanced measurement techniques, and noise mitigation strategies.

By bringing together experts from diverse fields, the event underlines the importance of interdisciplinary approaches in shaping quieter and more livable urban environments.

Organized by the DEGA technical committees "Aeroacoustics" and "Physical Acoustics", and hosted by Stefan Schoder, Thomas Geyer and Stefan Jacob, the symposium provides the possibility for knowledge exchange and in-depth discussion. Generous breaks between sessions provide space to encourage dialogue and collaboration.

The organizing team invites everyone with a professional or personal interest in the acoustic challenges and opportunities of urban air mobility to join the symposium.

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## Venue (new!)

Deutsches Zentrum für Luft- und Raumfahrt e.V.  
(DLR), Building 107, Room 16  
Rutherfordstraße 2  
12489 Berlin-Adlershof, Germany

The nearest tram & bus station is  
"Magnusstraße" (400 m walk to venue),  
see also site plan on  
<https://www.dega-akustik.de/18-symposium>

## Registration

Please use the **online form** on  
<https://www.dega-akustik.de/18-symposium>

Participation fees:

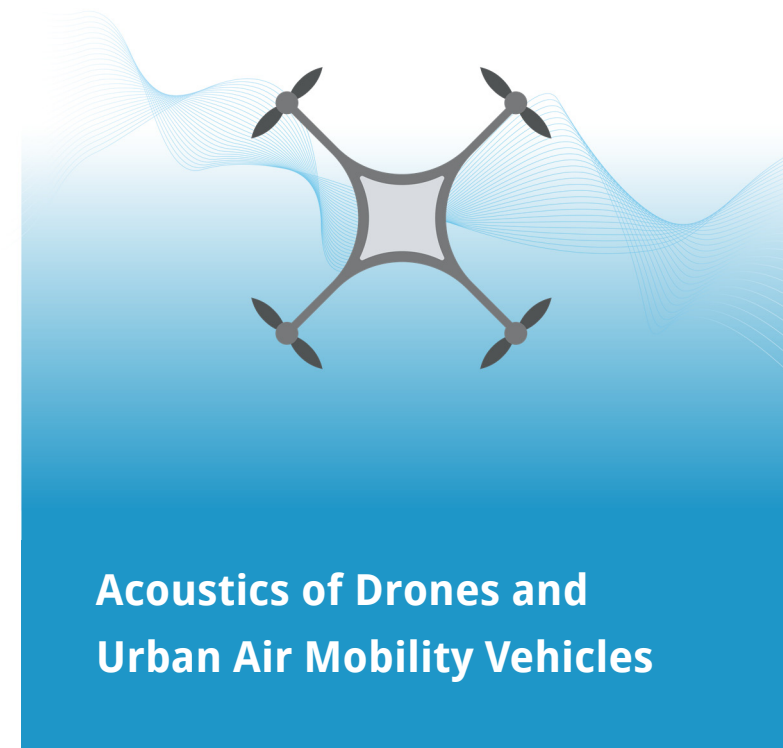
- 125 € for DEGA members
- 140 € for non-members
- 75 € for students



Please register by 01 September 2025.

## Contact

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(German Acoustical Society)  
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## Acoustics of Drones and Urban Air Mobility Vehicles

### 18th DEGA Symposium

08 – 09 September 2025 in Berlin

Deutsche Gesellschaft  
für Akustik e.V.



## Monday, 08 September 2025

13:00 Arrival and welcoming coffee

13:30 **Welcome Address and Introduction**  
Stefan Becker, President of DEGA and the organizing team

14:00 **Simulation of Tonal Noise of a Low-Pressure Fan with Inlet Distortions**  
Tobias Blaschke, Sébastien Guerin, Antoine Moreau, Lukas Klähn, DLR, Institute of Propulsion Technology

14:30 **Experimental Investigation of the Aeroacoustics of Small Rotors in Hover and Forward Flight**  
Felix Löble, Rainer Schmid, Anna Kostek, Daniel Ernst, Clemens Schwarz, Johannes Braukmann, Christian Wolf, DLR, Institute of Aerodynamics and Flow Technology

15:00 **On the Impact of Maneuvers and Turbulent Inflow on Noise Generated by Propellers**  
Francesco Avallone, Mario Ali, Marco Picillo, Andrea Piccolo, Mattia Barbarino, Daniele Ragni, Riccardo Zamponi, Politecnico di Torino

15:30 Coffee break

16:10 **Aerodynamic and Aeroacoustic Analysis of Lift+Cruise eVTOL in Transition Phase**  
Paruchuri Chaitanya, Oliver Westcott, Robert Entwistle, Swathi Krishna, ISVR, University of Southampton

16:40 **Advanced Aircraft Architectures for Green Mobility: An Overview of Recent Research Activities at Roma Tre University**  
Roberto Camussi, Alessandro Di Marco, Roma Tre University

17:10 **Acoustic Metamaterials for Electric-Vertical-Take-Off-and-Landing Aircraft**  
Marcus Maeder, Mert Dogu, Johannes D. Schmid, Steffen Marburg, Technical University of Munich  
Maaz Farooqui, formerly Lilium Aerospace  
Daniel Redmann, Kopter Germany GmbH

17:40 **Electric Motor Noise**  
Erik W. Schneehagen, Sebastian Hakansson, Philipp Schulze, Ralf Burgmayer, Vivek Gupta, Thomas F. Geyer  
DLR, Institute of Electrified Aero Engines

19:30 Dinner (not included, venue to be announced)

## Tuesday, 09 September 2025

09:00 **Psychoacoustic Research on Advanced Air Mobility Noise**  
Roberto Merino Martinez, Technical University Delft

09:30 **Measurement-Informed Auralization for a Distributed Propulsion System of an Urban Air Mobility Vehicle**  
Stephen Schade, Sébastien Guerin, Lukas Klähn, Karl-Stéphane Rossignol  
DLR, Institute of Propulsion Technology

10:00 **Development of a Psychoacoustic Modelling Framework for Drone Noise Assessment**  
Antonio J Torija Martinez, Carlos Ramos-Romero, Michael Lotinga, Marc Green, University of Salford

10:30 Coffee break

11:00 **Future Soundscapes: A Soundscape Approach to Drone Noise Assessment**  
Marc Green, Antonio J Torija Martinez, University of Salford

11:30 **Noise Annoyance Prediction: Integration of Experimental Data and Numerical Models for Drone Noise Assessment**  
Carlos Ramos-Romero, Furkat Yunus, Mirjam Snellen, Antonio J Torija Martinez, University of Salford

12:00 Lunch break

13:00 **Acoustic Detection and Localization of Drones using Microphone Arrays in Real-Time**  
Martin Blass, Franz Graf, Johanneum Research

13:30 **Analysis of Aerodynamic Flow Conditions of a Quadcopter in Different Flight Situations for the Evaluation of Microphone Windscreens**  
Julian Benz, Christoph Heigl, Felix Czwielong, Andreas Gründer, Jörg Franke, Stefan Becker, University of Erlangen-Nuremberg

14:00 **Application of Drones in Low-Frequency Sound Source Characterisation**  
Ramesh Raja Subramanyam, Criostoir Gerasch, Volker Wittstock, Stefan Jacob, Physikalisch-Technische Bundesanstalt

14:30 Coffee break

15:00 **Toward Standardized UAV Noise Assessment via Accessible Measurements and Meaningful Metrics**  
Gert Herold, Technical University of Berlin

15:30 **Use of AI in CAA of Drones**  
Paul Maurerlehner, Claudio Colangeli, Korcan Kucukcoskun, Siemens Digital Industries Software

16:00 Closing (until 16:20)