



**MUNICH
AEROSPACE**



MUNICH AEROSPACE SUMMER SCHOOL

URBAN AIR MOBILITY

8-9 July 2019

Day 1: Lectures & Discussions

Day 2: Research Group Meetings & Pitches

Georg-von-Vollmar-Akademie
Kochel am See
Bavaria, Germany

Technische
Universität
München



der Bundeswehr
Universität  München



Deutsches Zentrum
für Luft- und Raumfahrt



Bauhaus Luftfahrt
Neue Wege.

Munich Aerospace Summer School 2019
URBAN AIR MOBILITY

DAY 1

8 JULY

09:00 AM

Arrival

Check-in / Registration

09:30 AM

Welcome

Professor Mirko Hornung
Munich Aerospace Executive Board

VOLLMAR SAAL

09:45 AM

Welcome

Professor Wolfgang Koschel
Munich Aerospace Scientific Advisory Board

VOLLMAR SAAL

Munich Aerospace Summer School 2019

URBAN AIR MOBILITY

DAY 1

8 JULY

10:00 AM

Introduction

Professor Mirko Hornung
Executive Director Bauhaus Luftfahrt

VOLLMAR SAAL

10:30 AM

Urban Air Mobility Initiative Ingolstadt

Dr Reinhard Brandl
Member of the Bundestag

VOLLMAR SAAL

11:00 AM

The Local Character of Urban Air Mobility - Opportunities and Challenges

Professor Brian German
Georgia Institute of Technology

VOLLMAR SAAL

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URBAN AIR MOBILITY

DAY 1

8 JULY

12:00 PM

Lunch

01:00 PM

**Urban Air Mobility and Urban Planning -
Integrating a Disruptive Transport
Technology with Conventional Land Use
and Transport Planning**

Professor Rolf Moeckel
Technical University Munich

VOLLMAR SAAL

02:00 PM

Silent Air Taxi - The Future of Intercity Mobility

Professor Eike Stumpf
RWTH Aachen

VOLLMAR SAAL

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URBAN AIR MOBILITY

DAY 1

8 JULY

03:00 PM

Coffee Break

03:30 PM

Urban Air Mobility - Creating an Industry from Scratch

Dr Markus May

Airbus Urban Mobility GmbH

VOLLMAR SAAL

04:30 PM

Over 150 Teams are Building Aerial Taxis - so What's the Problem?

Dr Matthias Bittner

AutoFlightX

VOLLMAR SAAL

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DAY 1

8 JULY

05:15 PM

Electric Flight - Opportunities and Challenges

Dr Andreas Klöckner

German Aerospace Center

VOLLMAR SAAL

06:15 PM

Dinner

08:00 PM

**Fireside Chat: Magnetic Fields Measured in
Space - New Insights**

Professor Hermann Lühr

GFZ Potsdam

TONI PFÜLF SAAL

Munich Aerospace Summer School 2019
URBAN AIR MOBILITY

DAY 2

9 JULY

07:30 AM

Breakfast

08:30 AM

Research Group Meeting

Coffee Break

VOLLMAR SAAL

- Group Reißig
TAGUNGSRAUM 2
- Group Knopp
KAPELLE
- Group Moll
Speiseesaal
- Group Haidn
TURMZIMMER
- Group Kramer
KNOERINGEN SAAL
- Group Zhu
TAGUNGSRAUM 5
- Group Mundt
TONI PFÜLF SAAL
- Group Plötner
VOLLMAR SAAL

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DAY 2

9 JULY

10:30 AM

**On-board Digital Predistortion for Next-
Generation High Throughput Satellites**

VOLLMAR SAAL

11:00 AM

**Efficient Coding and Modulation for Satellite
Links with Severe Delay Constraints**

VOLLMAR SAAL

11:30 AM

**Certifiable Autonomy in Unmanned Aerial
Vehicles**

VOLLMAR SAAL

12:00 PM

Lunch

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URBAN AIR MOBILITY

DAY 2

9 JULY

01:00 PM

Re-entry Optimisation to Minimise Heating of Infrared Signature

VOLLMAR SAAL

01:30 PM

Eco-efficient Airport - Framework and Development Perspectives for Ecologically and Economically Sustainable Air Traffic

VOLLMAR SAAL

02:00 PM

Fusion of Remote Sensing and Social Media Data

VOLLMAR SAAL

02:30 PM

Coffee Break

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DAY 2

9 JULY

03:00 PM

**Propulsion Technologies for Green In-Orbit
Spacecrafts**

VOLLMAR SAAL

03:30 PM

**Modelling, Simulation and Concepts of Urban
Air Mobility Transport Systems**

VOLLMAR SAAL

04:00 PM

Summary

Professor Wolfgang Koschel

Munich Aerospace Scientific Advisory Board

VOLLMAR SAAL

Munich Aerospace Summer School 2019
URBAN AIR MOBILITY

DAY 2

9 JULY

04:30 PM

Information Exchange

- Research Group Leaders
- Munich Aerospace Executive Board
- Munich Aerospace Scientific Advisory Board

VOLLMAR SAAL

04:30 PM

Team Event

for Scholarship Recipients Only

TONI PFÜLF SAAL

07:00 PM

End of Event

Munich Aerospace Summer School 2019 URBAN AIR MOBILITY

SPEAKERS



Matthias Bittner studied mechanical engineering at Technical University of Munich, and received his Diploma in 2010. Beginning of 2011 he joined the Institute of Flight System Dynamics at TUM, where he finished his PhD on aircraft trajectory optimization in 2017. Since 2018 he is working for AutoFlightX - a startup company developing an aerial taxi - and is taking care for all organizational issues there.



Reinhard Brandl is a member of the German Bundestag, representing Ingolstadt. He is a member of the Defence Committee and the Budget Committee, where serves as his parliamentary group's rapporteur on the budget of the Federal Ministry of Defence. Brandl is Vice-President of the parliamentary group "Aerospace" and a founding-member of Ingolstadt's Urban-Air-Mobility-Initiative.



Brian German is the Langley Associate Professor in the Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology and Director of the Center for Urban and Regional Air Mobility (CURAM). His work is focused on aircraft design and operations for electric flight.

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SPEAKERS



Mirko Hornung is Professor for Aircraft Design at the Technical University of Munich and received his doctorate in aeronautical engineering from Bundeswehr University. In a joint effort he acts as the executive director research and technology of Bauhaus Luftfahrt, an international think tank on the long term developments in aviation. He is member of the Munich Aerospace Executive Board.



Andreas Klöckner coordinates DLR's activities in electric flight since 2017. In the Programme Strategy Aeronautics, he steers DLR's research and cooperations in the field on behalf of the executive board. Andreas received his PhD in engineering for his work on autonomous high-altitude platforms at the DLR Institute of System Dynamics and Control. He holds an engineering degree from RWTH Aachen University.



Wolfgang Koschel is University Professor at the University of Technology of Aachen (RWTH Aachen), chair for "Jet Propulsion". In 1994 he was delegated to the German Aerospace Center (DLR) and was until Dec. 2007 director of the Institute for Space Propulsion in Lampoldshausen. He is member of the Scientific Advisory Board of Munich Aerospace.

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SPEAKERS



Hermann Lühr is Senior Scientist at Deutsches GeoForschungsZentrum, GFZ Potsdam (since 2017 Guest Status) and faculty member at TU Braunschweig (now emeritus). He has been deeply involved in satellite missions like AMPTE (1984), CHAMP (2000), and ESA's mission Swarm (2013), devoted to plasma physics and Earth observation. He received several awards, e.g. Wernher-von-Braun Medal, Fellow of the American Geophysical Union, Julius-Bartels Medal of the EGU.



Markus May is Managing Director at Airbus Urban Mobility GmbH. In this role he is responsible for the setup of this Airbus subsidiary that is focusing on the future market of Urban Air Mobility. Markus started his career at the German Aerospace Center DLR after having completed a Franco-German double degree in engineering and management. He joined Airbus in 2012 and has been working in Future Projects & Strategy, Corporate Innovation as well as the Cabin Program before his current assignment.

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SPEAKERS



Rolf Moeckel is an Assistant Professor in the Department of Civil, Geo and Environmental Engineering at the Technical University of Munich in Germany. He leads a research group called Modeling Spatial Mobility that focuses on travel behavior research and transport modeling. He conducted research as a PostDoc at the National Center for Smart Growth at the University of Maryland and worked as a consultant with Parsons Brinckerhoff in New York and Albuquerque. He holds a doctorate in spatial planning from the University of Dortmund in Germany.



Eike Stumpf is full professor and head of the Aerospace Systems Institute of RWTH Aachen University. Professor Stumpf received his Diploma in Aerospace Engineering from the Technical University of Berlin and his Ph.D. from RWTH Aachen University. His primary research interests are conceptual and preliminary aircraft design, vortex dynamics and system analysis

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DIRECTIONS

Georg-Vollmar-Akademie e.V.
Am Aspensteinbichl 9-11
82431 Kochel am See

FROM MUNICH BY TRAIN

- hourly from Munich main station to Kochel train station
- 10-15 min walk to the guest house
- **ALTERNATIVELY:** Taxi from Kochel station to guest house
tel: **0049 8851-1315** (reservation needed)

FROM MUNICH BY CAR

- follow A95 until Großweil, exit 10 Murnau/Kochel
- follow Kocheler Str. until Schlehdorfer Str. in Kochel am See

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DIRECTIONS

