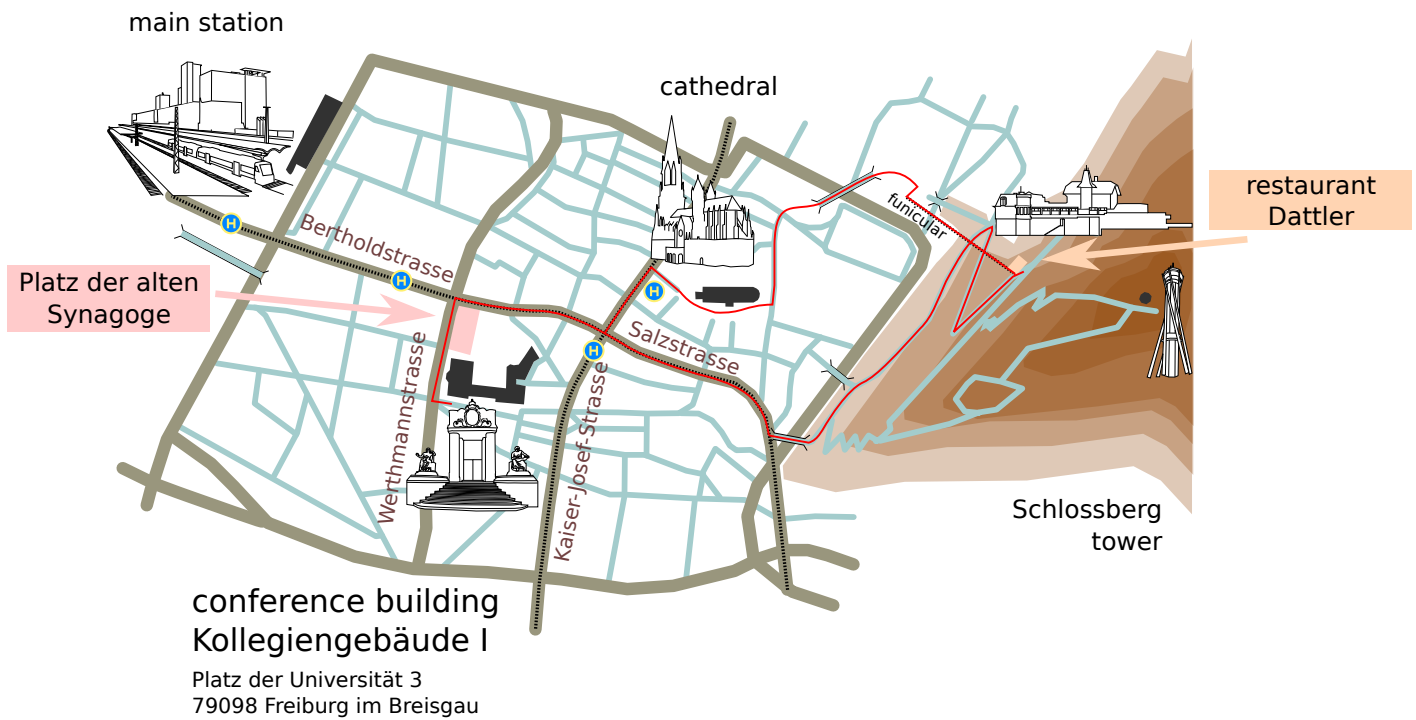


## Maps, Local Information, and Program

### Map of Freiburg Conference Locations



### Local Contacts

AWEC 2017 is hosted by the Systems Control and Optimization Laboratory of the University of Freiburg.

Systems Control and Optimization Laboratory  
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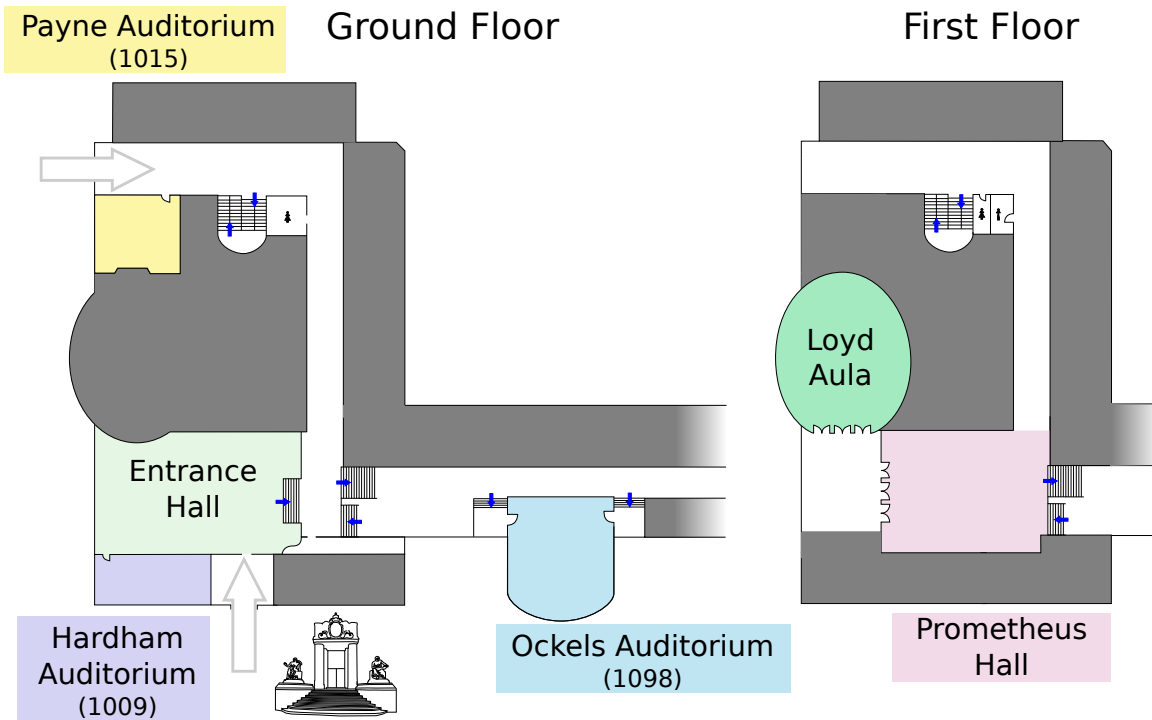
### Public Transportation

Public transportation in Freiburg is all run by VAG (Freiburg Verkehrs AG). The tram, bus, and local rail system all have the same tickets. A one-way ticket within the city costs Euro 2,20. A cheaper option if you are planning on taking multiple trips is to buy 2 x 4FahrtenKarte. This costs Euro 14,40 and gives you 2 tickets with 4 rides possible on each. You must punch the Fahrkarte in the machine once you board the vehicle. Transfers are allowed on the same ticket within a one hour period. Tickets can be bought on buses or at ticket machines around the city.

### Internet

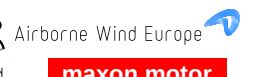
Wifi in the conference building is available through the network eduroam, which can be accessed either with a host university account, or through the network (SSID) AWEC, which can be accessed with the password *uf-560Jahre*.

# Map of Conference Building



## Program - Wednesday, 4 October 2017

Time	Activity	Location
	<b>OUTDOORS EXHIBITION</b>	<i>Beyond the Sea, Enerkite, ETH Zurich, TwingTec, Uni Bonn, Uni Freiburg, Wind Drones, and Windswept and Interesting</i>
13:00	PRESS MEETING	
14:00	PUBLIC EXHIBITION	
16:00	REGISTRATION	[ENTRANCE HALL]
	<b>CITY TOURS (1.5 HOURS, EACH)</b>	meet in [ENTRANCE HALL]
16:30	ENGLISH TOUR 1	
16:45	GERMAN TOUR	
17:00	ENGLISH TOUR 2	
18:30	<b>WELCOME RECEPTION</b>	[ENTRANCE HALL]



## Program - Thursday, 5 October 2017

Time			
8:30	REGISTRATION		[ENTRANCE HALL]
9:00	<b>CONFERENCE OPENING</b>		[LOYD]
9:20	<b>KEYNOTE</b>	Fort Felker, <i>Makani / X</i> Progress and Challenges in Airborne Wind Energy	
10:10	<b>POSTER SPOTLIGHTS 1</b>	Poster Presenters Session 1	
10:30	COFFEE		[PROMETHEUS]
11:00	<b>POSTER SESSION 1</b>		[PROMETHEUS]
	Christoph Sieg, <i>Kiteswarms Ltd.</i> AWESome: An affordable standardized open-source test platform for AWE systems	Dominic Keidel, <i>ETH Zurich</i> Challenges of Morphing Wings for Airborne Wind Energy Systems	Lars Bäckström, <i>Umeå Uni</i> Fusing Kite and Tether into one Unit
	Benoît Python, <i>Kitepower B.V.</i> Methodology Improvement for Performance Assessment of Pumping Kite Power Wing	Gonzalo Sánchez-Arriaga, <i>Uni Madrid</i> Kite Flight Simulators Based on Minimal Coordinate Formulations	Jochem de Schutter, <i>Uni Freiburg</i> Inertia-Supported Pumping Cycles with a Roto-Kite
	Ricardo Borobia Moreno, <i>Uni Madrid</i> Application of the Estimation-Before-Modeling Method to the Aerodynamic Characterization of Power Kites	Helmut Araujo, <i>UF Santa Catarina</i> Tether Traction Control in Pumping-Kite Systems	Bernard van Hemert, <i>Ampyx Power B.V.</i> The Sea-Air-Farm project
	Prabu Sai Manoj Mandru, <i>TU Delft</i> Multiple-Wake Vortex Method for Leading Edge Inflatable tube kites used in Airborne Wind Energy Systems	Yashank Gupta, <i>Grenoble INP</i> Modeling and control of Magnus effect-based AWE systems	Jonathan Dumon, <i>GIPSA-lab / CNRS</i> A Study on wind power evolutions
	Sören Sieberling, <i>Ampyx Power B.V.</i> An Optimal Sizing Tool for Airborne Wind Energy Systems	Roderick Read, <i>Windswept &amp; Interest.</i> Daisy & AWES Networks: Scalable, autonomous AWES with continuous power output	Thomas Hårklau, <i>Kitemill AS</i> Policy Recommendation for Airborne Wind Energy
	Chloé Duport, <i>ENSTA Bretagne</i> Kite as a Beam Modelling Approach: Assessment by Finite Element Analysis	Oliver Tulloch, <i>Uni Strathclyde</i> Modelling and Simulation Studies of a Networked Rotary Kite System	
	<b>COMMERCIALIZATION 1</b> [OCKELS]	<b>GROUND STATIONS</b> [PAYNE]	<b>SAFETY</b> [HARDHAM]
11:30	Johannes Peschel, <i>Kitepower B.V.</i> Kitepower – Commercializing a 100 kW mobile wind energy system	Hisham Eldeeb, <i>TU Munich</i> Highly Efficient Fault-Tolerant Electrical Drives for Airborne Wind Energy Systems	Volkan Salma, <i>ESTEC-ESA / TU Delft</i> Systematic Reliability and Safety Analysis for Kite Power System
11:50	Gustaf Kugelberg, <i>KiteX</i> Policy Development and Roadmapping for Kite Energy	Mahdi E. Salari, <i>Uni Limerick</i> Operation of Direct Interconnected AWE Systems under Normal and Fault Conditions	Fernando Fontes, <i>Uni Porto</i> Guaranteed Collision Avoidance in Multi-Kite Power Systems
12:10	Lode Carnel, <i>Kitemill AS</i> From prototype engineering towards commercialization	Frederic Bourgault, <i>New Leaf Mngt.</i> Efficient and Power Smoothing Drive-Train Concept for Pumping Kite Generators using Hydraulics	Carlos Perez Damas, <i>MIT</i> Safety Analysis of Airborne Wind Energy Systems
12:30	LUNCH		[ENTRANCE HALL]
	<b>COMMERCIALIZATION 2</b> [OCKELS]	<b>SYSTEMS CONTROL</b> [PAYNE]	<b>WIND RESOURCE</b> [HARDHAM]
14:00	Rolf Luchsinger, <i>TwingTec AG</i> Off-grid, Off-shore and Energy Drones: TwingTec's Roadmap to Wind Energy 2.0	Andrea Zanelli, <i>Uni Freiburg</i> Nonlinear Model Predictive Control of a Large-Scale Quadrotor	Ilona Bastigkeit, <i>Fraunhofer IWES</i> High Altitude LiDAR Measurements of the Wind Conditions for Airborne Wind Energy Systems
14:20	Alexander Bormann, <i>EnerKite GmbH</i> Airborne Wind Energy – a game changing technology and a global success?	Eva Ahbe, <i>ETH Zurich</i> Stability Certificates for a Model-Based Controller for Autonomous Power Kites	Markus Sommerfeld, <i>Uni Victoria</i> LES generated turbulent inflow fields from mesoscale modeling driven by LiDAR measurements
14:40	Peter Harrop, <i>IDTechEx Ltd.</i> Commercialisation of AWE 2017–2037	Sebastian Rapp, <i>TU Delft</i> Towards Robust Automatic Operation of Rigid Wing Kite Power Systems	Thomas Haas, <i>KU Leuven</i> Large Eddy Simulation of Airborne Wind Energy Systems in the Atmospheric Boundary Layer
15:00	Simon Heyes, <i>Kite Power Systems Ltd.</i> Kite Power Systems – Update & Progress on the Development of A 500kW Kite Energy System At West Freugh, Scotland	Petr Listov, <i>EPF Lausanne</i> Nonlinear Model Predictive Path Following Control of a Fixed-Wing Single-Line Kite	David Wölfle, <i>EWC Weather Consult</i> Long-term corrected wind resource estimation for AWE converters
15:20	COFFEE		[PROMETHEUS]
	<b>SYSTEM OPTIMIZATION</b> [OCKELS]	<b>CONCEPT DESIGN</b> [PAYNE]	<b>POLICY DISCUSSION</b> [HARDHAM]
15:50	Durk Steenhuizen, <i>Ampyx Power B.V.</i> Design Automation in the Conceptual Design of Airborne Wind Energy Systems	Ahmad Hably, <i>Grenoble INP</i> AWE systems in an innovation course	Kristian Petrick, <i>Airborne Wind Europe</i> AWE Policy Initiative – preparing the grounds for AWE-specific incentive schemes
16:10	Florian Bauer, <i>TU Munich</i> Power Curve and Design Optimization of Drag Power Kites	Lorenz Affentranger, <i>ETH Zurich</i> fero – On the Development of an Airborne Wind Energy System	
16:30	Jonas Koenemann, <i>Ampyx Power B.V.</i> OpenAWE: An Open Source Toolbox for the Optimization of AWE Flight Trajectories	Manfred Quack, <i>SkySails Power GmbH</i> Recent Advances in Automation of Tethered Flight at SkySails Power	
16:50	<b>PLENARY</b>	Lorenzo Fagiano, <i>Politecnico Milano</i> On autonomous take-off of tethered rigid wings in compact space for airborne wind energy	[LOYD]
17:15		Michiel Kruijff, <i>Ampyx Power B.V.</i> AP-3, a safety and autonomy demonstrator for utility-scale Airborne Wind Energy	
17:40	END-OF-DAY		
18:30	<b>RECEPTION</b>		[RESTAURANT DATTLER]
19:30	<b>DINNER and SHORT DOCUMENTARY</b>	Andrea Dunlap, <i>Makani / X</i> Pulling Power from the Sky: Makani and the Collective Ideal of Airborne Wind	

# Program - Friday, 6 October 2017

Time			
8:30	REGISTRATION <span style="float: right;">[ENTRANCE HALL]</span>		
9:00	<b>KEYNOTE</b>	Henrik Stiesdal, <i>DTU</i> Airborne Wind Energy – Challenges and Opportunities Based on Experiences From the Conventional Wind Industry	[LOYD]
9:50	<b>POSTER SPOTLIGHTS 2</b>	Poster Presenters Session 2	
10:10	COFFEE <span style="float: right;">[PROMETHEUS]</span>		
10:40	<b>POSTER SESSION 2</b>		[PROMETHEUS]
	<p>Jonas Schlagenhau, <i>Uni Freiburg</i> Non-linear modeling with learned parameter refinements for NMPC on a real-world aerodynamic system</p> <p>Manuel Soler, <i>Uni Madrid</i> Determination of Optimal Control Laws in Airborne Wind Energy Scenarios With a Self-Consistent Kite Dynamics Model</p> <p>Burkhard Rieck, <i>EnerKite GmbH</i> Comparison of Launching &amp; Landing Approaches</p> <p>Johannes Oehler, <i>TU Delft</i> Experimental Characterization of a Force-Controlled Flexible Wing Traction Kite</p> <p>Jan Hummel, <i>TU Berlin</i> Automatic Measurement and Characterization of the Dynamic Properties of Tethered Flexible Wings</p> <p>Julia Steiner, <i>TU Delft</i> High fidelity aeroelastic analysis of a membrane wing</p>	<p>Mojtaba Kheiri, <i>Concordia Uni</i> A Wake Model for Crosswind Kite Systems</p> <p>Antonello Cherubini, <i>Sant'Anna Uni</i> Preliminary test on automatic take-off and landing of a multi-drone low-drag Airborne Wind Energy System</p> <p>Christof Beupoil, <i>someAWE.org</i> Rotary airborne wind energy systems with ground based power generation: Overview and practical experiences</p> <p>KyoungHo Cha, <i>Chosun Uni</i> Pumping Cycle Based on Elastic Tether</p> <p>Uwe Fechner, <i>Aenarete – Smart Wind</i> On the Way to Small-Scale Wind Drones – A Networked Approach</p> <p>Hiroshi Okubo, <i>Kanagawa IT</i> High-Sky Wind Energy Generation on Tethered System</p>	<p>Paul Williams, <i>Ampyx Power B.V.</i> GNSS Jamming Mitigation for Large-Scale Airborne Wind Energy Systems Using Cable Measurements</p> <p>Kurt Hallamasek, <i>Makani / X</i> A low-cost Fiber Optic Avionics Network for Control of an Energy Kite</p> <p>Matheus Winter, <i>UF Santa Catarina</i> An Open-source Software Platform for AWE systems</p>
11:10	<b>AERO-STRUCT. MODELLING</b> [OCKELS]	<b>TESTING &amp; EXPERIMENTATION</b> [PAYNE]	<b>DESIGN &amp; ENVIRONMENT</b> [HARDHAM]
	<p>Paul Thedens, <i>Uni Freiburg</i> Ram-Air Kite Reinforcement Optimisation for Airborne Wind Energy Applications</p> <p>Axelle Viré, <i>TU Delft</i> Direct numerical simulations of flow past a leading-edge inflatable wing</p> <p>Mikko Folkersma, <i>TU Delft</i> Fluid-Structure Interaction Simulations on Kites</p> <p>Maximilian Ranneberg, <i>viiflow</i> Fast Aero-elastic Analysis for Airborne Wind Energy Wings using Viscous-Inviscid Interaction</p>	<p>Mitchell Cobb, <i>UNC Charlotte</i> Evolution of a Lab-Scale Platform for Dynamically-Scalable Characterization of Airborne Wind Energy System Flight Dynamics and Control</p> <p>Hiroki T. Endo, <i>Kyushu Uni</i> Experimental setup to study airborne wind energy generation using a train of kites</p> <p>Tore Meinert, <i>Lista AWE Center AS</i> The establishment of an airborne wind energy test center in Lista, Norway</p> <p>Joep Breuer, <i>Kitepower B.V.</i> Unmanned Valley Valkenburg – Drone and Airborne Wind Energy Testing in the Netherlands</p>	<p>Rachel Leuthold, <i>Uni Freiburg</i> The effect of realistic wind profiles on multiple-kite system optimal control</p> <p>Elena Malz, <i>Chalmers</i> AWE Optimization on Big Wind Data</p> <p>Gabriele Bedon, <i>ECN</i> Offshore Airborne Wind Energy TKI Sea-Farm Aerodynamic Performance, Installation and Operation and Maintenance</p> <p>Sil Drenth, <i>Ampyx Power B.V.</i> Limiting wave conditions for landing airborne wind energy aircraft on a floating platform</p>
12:30	LUNCH <span style="float: right;">[ENTRANCE HALL]</span>		
14:00	<b>AERO-STRUCT. OPTIMIZATION</b> [OCKELS]	<b>SENSORS AND IDENTIFICATION</b> [PAYNE]	<b>AWE OUTLOOK</b> [HARDHAM]
	<p>Gael de Oliveira, <i>TU Delft</i> Multiobjective Airfoil Design for Airborne Wind Energy</p> <p>Urban Fasel, <i>ETH Zurich</i> Aerostructural Analysis and Optimization of Morphing Wings for AWE Applications</p> <p>Richard Leloup, <i>Beyond the Sea®</i> Kite profile optimization using Reynolds-Averaged-Navier-Stokes flow simulations</p> <p>Ashwin Candade, <i>EnerKite GmbH</i> Structural Analysis and Optimization of an Airborne Wind Energy System</p>	<p>Giovanni Licitra, <i>Ampyx Power B.V.</i> System Identification of a Rigid Wing Airborne Wind Energy Pumping System</p> <p>Fabian Girrbaach, <i>Xsens Technologies</i> On Robust Sensor Fusion of GNSS and IMU for Airborne Wind Energy Systems</p> <p>Tarek Dief, <i>Kyushu Uni</i> System Identification, Adaptive Control, and Experimental Measurements of a Pumping Kite Power System</p> <p>Eduardo Schmidt, <i>UF Santa Catarina</i> Radio-Frequency Positioning for Airborne Wind Energy Systems</p>	<p>Roland Schmehl, <i>TU Delft</i> EU Horizon 2020 projects AWESCO and REACH – Advancing Airborne Wind Energy Technologies by Systematic Research and Development</p> <p>Udo Zillmann, <i>Airborne Wind Europe</i> Do We Still Need Airborne Wind Energy?</p> <p>Nicholas Tucker, <i>Makani / X</i> A Techno-Economic Analysis of Energy Kites</p> <p>Henrik Wall, <i>E.ON GmbH</i> An Energy Utility Perspective on and Approach to Airborne Wind</p>
15:20	COFFEE <span style="float: right;">[PROMETHEUS]</span>		
15:50	<b>POSTER PRIZE AWARD</b>	Lorenzo Fagiano, <i>Politecnico Milano</i> , Fort Felker, <i>Makani / X</i> , and Roland Schmehl, <i>TU Delft</i> (Jury)	[LOYD]
16:10	<b>PANEL DISCUSSION - "AWE IN 2025"</b>		
17:20	<b>CONFERENCE CLOSING</b>		
17:30	END-OF-DAY		

