

AIRBORNE  24-26 June 2026
WIND ENERGY 2026 **PORTO**
CONFERENCE Universidade do Porto
AWEC2026.COM

PROGRAM





About the conference

The 11th international Airborne Wind Energy Conference (AWEC 2026) is jointly organized by the University of Porto, Airborne Wind Europe, and Delft University of Technology. The event will take place on 24, 25 and 26 June 2026 in Porto, hosted by the Faculty of Engineering, Universidade do Porto (FEUP).

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The scientific program will take place at the Faculty of Engineering, Universidade do Porto (FEUP) and include

- six plenary keynote talks by selected experts from international agencies, industry and academia, and
- eighteen contributed talk sessions in three parallel tracks with altogether 68 oral presentations, and
- two poster sessions, preceded by two plenary spotlight presentations, with altogether 24 poster presentations, and
- an OEM panel with seven pitches by industry leaders of the AWE sector, and
- an AWETRAN panel with 12 pitches by PhD candidates of the EU Marie Skłodowska Curie Doctoral training network.

Organizing committee

- Fernando A. C. C. Fontes, University of Porto, Portugal
- Stefanie Thoms (chair), AWEurope, Belgium
- Roland Schmehl, TU Delft, Netherlands

Program committee

- Cristina Archer, University of Delaware, USA
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- Po Wen Cheng, University of Stuttgart, Germany
- Alessandro Croce, Politecnico di Milano, Italy
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- Tarek Dief, United Arab Emirates University, UAE
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- Michael McWilliam, DTU, Denmark
- Dieter Moorman, RWTH Aachen, Germany
- Duc Nguyen, University of Bristol, United Kingdom
- Espen Oland, Kitemill, Norway
- Roland Ortt, TU Delft, Netherlands
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- Stephanie Uhrig, Munich University of Applied Sciences, Germany
- Chris Vermillion, University of Michigan, USA
- Jochem Weber, NLR, USA
- Hong Yue, University of Strathclyde, UK

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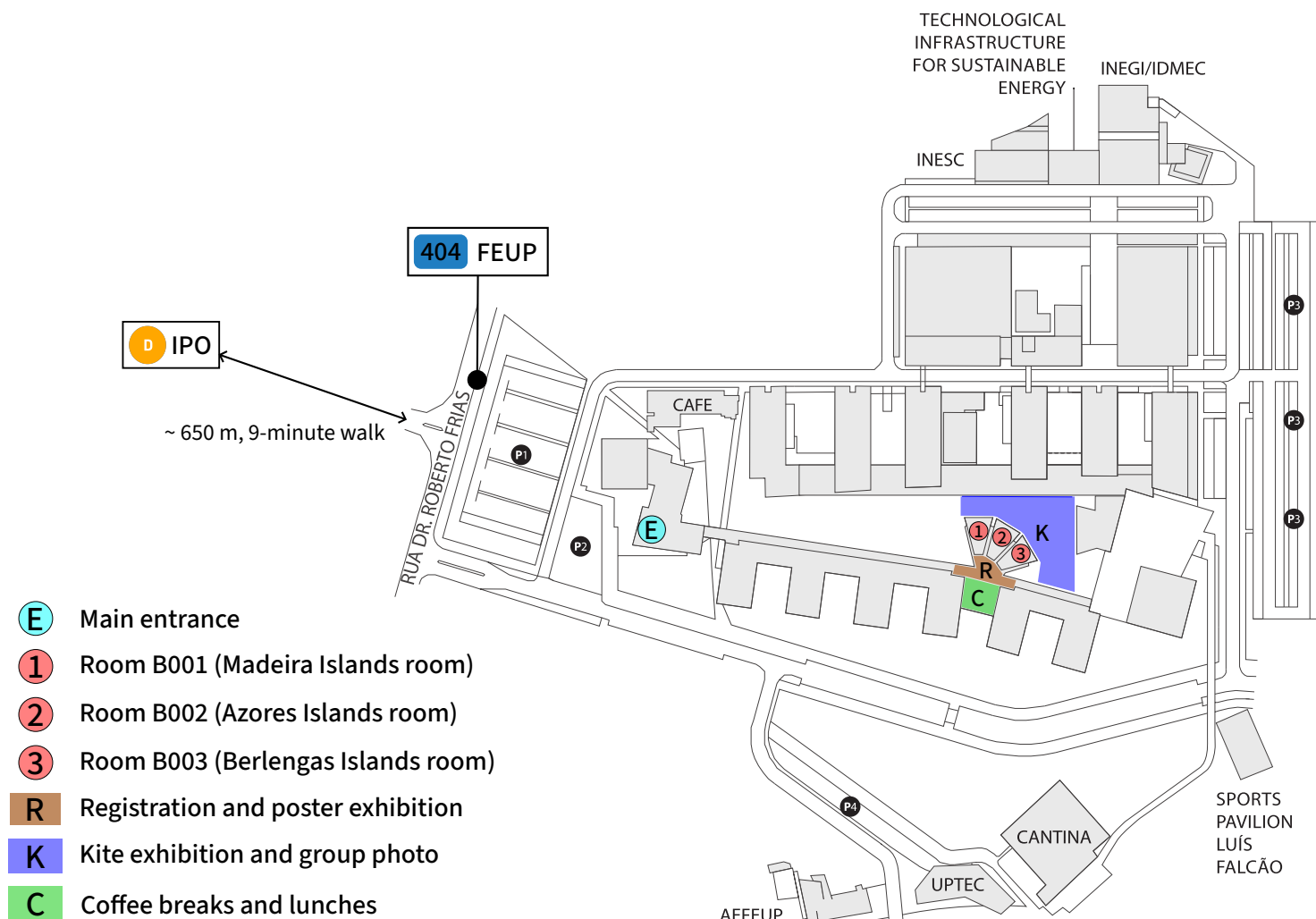
Technical Program - Thursday, 25 June 2026

Time			
8:00	REGISTRATION [HALL]		
9:00	CONFERENCE OPENING Fernando A. C. C. Fontes, <i>University of Porto</i> [AZORES] Roland Schmehl, <i>TU Delft</i>		
9:20	PLENARY TALK I Enrico Degiorgis, <i>European Commission</i>		
9:45	PLENARY TALK II Moritz Diehl, <i>University of Freiburg</i> Vertical Airborne Wind Energy Farms Based on Dual-Wing Systems		
10:05	POSTER SPOTLIGHTS I		
10:20	POSTER SESSION I & COFFEE BREAK poster abstracts listed on the following page [COFFEE LOUNGE]		
10:40	OEM PANEL moderated by Kristian Petrick, <i>Airborne Wind Europe</i> , with: [AZORES]		
	Kristian Petrick, <i>Airborne Wind Europe</i> Securing socio-political support for AWE	Sweder Reuchlin ⁷ , <i>Kitepower</i> Operational Validation of Containerized Airborne Wind Energy Systems in Behind-the-Meter Applications	Florian Breipohl, <i>EnerKite</i> Transition from Development to Demonstration: Status and Technical Progress of EnerKite
	Thomas Hårklau, <i>Kitemill</i> Airspace Sovereignty as an Accelerator for the Energy Transition: Security-Driven Deployment Pathways for Airborne Wind Energy	Giorgio Sella, <i>Kitenergy</i> From Torino to Osaka EXPO: listen to the market	Luís Tiago Paiva, <i>UPWIND Energy</i> UPWIND Energy: First Steps from Lab to Business
	Garrett Smith, <i>Wind Fisher</i>		
11:40	BREAK		
11:45	MODELLING & SIMULATION I [MADEIRA]	SECTOR DEVELOPMENT I [AZORES]	AERODYNAMICS & STRUCTURES I [BERLENGAS]
	Alessandro Genoni, <i>Wind Fisher</i> Flight Dynamics of Magnus Effect-based AWES	Kristian Petrick*, <i>Airborne Wind Europe</i> Introducing AWE-specific standards into the IEC 61400 series	Tom Lories, <i>FAIR aéro</i> Multi-Fidelity FSI Simulation Strategy for the design of Ram-Air parafoil wings
	Matthieu Duponcheel, <i>UCLouvain</i> Validation using Flight Test Data of an Actuator Line Model of AP2 for LES	Eiji Itakura, <i>Toyota Motor Corporation</i> 'Mothership' Project Current Development Progress	Grégoire Winckelmans ⁶ , <i>UCLouvain</i> Large eddy simulation of an Airborne Wind Energy System flying in the wake of a wind turbine
	Oriol Cayon*, <i>TU Delft</i> Operational Optimisation of Soft Kites for Pumping Airborne Wind Energy	Michael McWilliam, <i>DTU</i> Airborne Wind Energy TRAINing for INdustrialization Network (AWETRAIN) EU Marie Curie Doctoral Network	Thomas Haas*, <i>VUB</i> Wake analysis of the figure-of-8 flight pattern
	Roystan Castelino, <i>NOA</i> Physics Informed Machine Learning for Full Cycle Power Prediction in Pumping Kite Airborne Wind Energy Systems	Reinhard Paelinck, <i>Mozaero</i> Bridging the Gap: Deploying Proven Estimation and Control for Institutional Airborne Wind Energy Research	Omid Heydarnia, <i>Ghent University</i> Wake Steering in Horizontal-Axis Wind Turbines Using Airborne Wind Energy Systems
13:00	CONFERENCE GROUP PHOTOGRAPH [LAWN BEHIND AMPHITHEATRES]		
13:15	LUNCH [COFFEE LOUNGE]		
14:30	CONTROL & OPTIMIZATION I [MADEIRA]	TESTING & OPERATIONS I [AZORES]	SYSTEM DESIGN & PROTOTYPING I [BERLENGAS]
	Duc H. Nguyen*, <i>University of Bristol</i> Controlling Rigid-Wing AWES Flying Circular Reel Out Trajectories Using Only PID	Taewoo Nam ¹ , <i>TRINA</i> Development and Testing of an Attitude Estimation Method based on Infrared Images	Jakob Harzer, <i>University of Freiburg</i> Multi-Wing AWE Research Project: Goals and Progress
	Johannes Waibel, <i>EPFL</i> Cyclic Control of a Centrifugally-Stiffened Dual-Kite System	Achim Kuhn, <i>University of Stuttgart</i> Experimental investigation of a four-line ground steered soft kite system to evaluate kite properties and its application in a design process	Christof Beaupoil*, <i>someAWE Labs</i> Autogyro pumping mode rotary AWE system – design and control of a Servo Flap Cyclic Pitch actuated rotor
	Sérgio Vinha, <i>University of Porto</i> A Motion Primitive Framework addressing all Operating Phases in AWES	Yang Wolong ⁵ , <i>CPECC</i> Research on 5000 m ² Power Generating Parachute Deployment Test and Aerodynamic Performance Verification	Leonardo Cecchin, <i>Politecnico di Milano</i> Identification and Hardware-In-The-Loop Testing of a Tail-Sitter UAV
	Amit Shivam, <i>University of Porto</i> Vector Field Guidance for AWES	Sofia Trombini*, <i>Politecnico di Milano</i> Experimental Validation of an Offshore Floating Airborne Wind Energy Platform Using a Hardware-in-the-Loop Framework	Jacob Fine, <i>Exponent</i> Optimal Design of an Adaptive Kite for Uncertain and Time-Varying Environmental Conditions
15:45	BREAK		
15:50	PLENARY TALK III Gerdien de Vries, <i>TU Delft</i> Beyond technology: The role of social science in renewable energy innovation		
16:10	POSTER SPOTLIGHTS II		
16:25	POSTER SESSION II & COFFEE BREAK poster abstracts listed on the following page [COFFEE LOUNGE]		
16:45	MODELLING & SIMULATION II [MADEIRA]	SENSING, ESTIMATION & WIND RESOURCE [AZORES]	NOVEL CONCEPTS [BERLENGAS]
	Espen Oland*, <i>Kitemill</i> UniSimAWE: Kitemill's Airborne Wind Energy Simulator	Sam Kaufman-Martin*, <i>USCB</i> Using Experimental Measurements of Annular Wakes to Validate Wake Models for Airborne Wind Energy Systems	Yue Zhang, <i>Zhonglu Co.</i> A Mobile Airborne Wind Energy Prototype Utilizing Parachute-Ladder System
	Andrea Bertozzi, <i>Politecnico di Milano</i> Floating Airborne Wind Energy Farms with Shared Mooring Lines	Monika Pasquali, <i>Bordeaux INP</i> Data-Driven Prediction of High Tether Force Events in Airborne Wind Energy Systems	Yuan Wei, <i>NWEPDI</i> Ground Generation topography of Parachute-Based Airborne Wind Energy System
	Joren Bredael, <i>TU Delft</i> awesIO: a Standard Input/Output Framework for Airborne Wind Energy Systems	Henry Pinedo, <i>Universidad Nacional de Jaén</i> Experimental RPAS-Based Vertical Wind Profiling for Wind Resource Assessment in Remote Mountainous Regions	Jean-Sébastien Brouillon*, <i>ETH Zurich</i> Passive Stability in Centrifugally-Stiffened Airborne Wind Energy Systems
	Alessandro Croce, <i>Politecnico di Milano</i> A preliminary Techno-Economic Evaluation of AWE for Offshore Applications in Italy	Jelle Poland ³ , <i>TU Delft</i> In-flight experimental measurements of large-scale deformations on a leading-edge inflatable kite	Antonin Bavoil, <i>Université Côte d'Azur</i> Benchmarking the KEEP Project Rocking Arm using AWEbox
18:00	END-OF-DAY		
19:30	CONFERENCE DINNER [BARÃO FLADGATE RESTAURANT, RUA DO CHOUPELO 250, 4400-088 - VILA NOVA DE GAIA, PORTO]		

Poster Presentations - Thursday, 25 June 2026

Time	[COFFEE LOUNGE]		
10:20	POSTER SESSION I & COFFEE BREAK		
	Kim Selina Polkläser, <i>RWTH Aachen</i> Multi-Wing Airborne Wind Energy Systems: Challenges	Bah Oum Selema Hind, <i>Grenoble INP</i> Addressing Nonlinearities in Airborne Wind Energy Systems	Muhammad Amjad, <i>University of Strathclyde</i> Scalability Analysis of a Rotary Kite Airborne Wind Energy System with Tensile Rotary Power Transmission
	Nasouh Alrayyes, <i>Université Lyon 1</i> Modeling and observation of tethers for AWE systems	Ziwei Chen, <i>University of Strathclyde</i> Power Efficiency Analysis of a Rotary Kite Airborne Wind Energy System	Duc H. Nguyen, <i>University of Bristol</i> Sensitivity Study of Circular Reel-Out Parameters in Rigid-Wing AWES
	Yidi Huang, <i>Shanghai Jiao Tong University</i> Stability Enhancement of a Thin-Walled Trapezoidal Kite for Airborne Wind Energy	Yahya Khurshid, <i>UAEU</i> Trajectory and Tether Optimization in Multi-Aircraft Airborne Wind Energy System for Enhanced Pumping-Cycle Performance	Leming Li, <i>Tsinghua University</i> Numerical Simulation Model of Parachute-Based Airborne Wind Energy System
Rui C da Costa, <i>University of Porto</i> What-If Analysis and Sensitivity Analysis of NLP-Based AWE Power Estimation Models	Conrado G. da Costa, <i>University of Porto</i> Collision Avoidance Risk Mitigation of Aircraft with AWE using Software-Defined Radio	Gabriel M. Fernandes, <i>University of Porto</i> Identification of Aerodynamic Parameters using a Tethered Aircraft in a Rotational Motion under Varying Operational Conditions	
16:25	POSTER SESSION II & COFFEE BREAK		
	Timon Schulze, <i>CargoKite</i> Fusing Model Predictive Kite Control with Vessel Performance Models to Generate Hull-Aware Optimal Trajectories for Ship Propulsion	Hiroki T Endo, <i>Tsuruoka KOSEN</i> Design and Educational Implementation of a Transportable Airborne Wind Energy System	Jamie Pickar, <i>Swarthmore College</i> Electrical Conversion and Control System Prototype Using FOC
	Hongmiao Zhou, <i>UC3M</i> Nonlinear Dynamics and Bifurcation Analysis of Parachute-Based Airborne Wind Energy Systems	Junhao Wang, <i>Tsinghua University</i> Numerical Simulation on Aerodynamic Characteristics of Wind Capture Structures in an Airborne Wind Energy System	Miguel Alonso Resta, <i>UC3M</i> Reinforcement Learning-Based Flux Control for Electrical Efficiency Optimization in Airborne Wind Energy Systems
	César Eduardo Perdomo Díaz, <i>UC3M</i> Comparative Analysis of Classical and Reinforcement Learning-Based Flight Control for Airborne Wind Energy Systems	Xiaoyu Li, <i>CPECC</i> Wind Resource Analysis for Airborne Wind Energy Systems	Marco Ghivarello, <i>GHIVA Progettazione CAD</i> Low-altitude airborne wind energy as a density-driven power system: continuous operation, compact architectures and preliminary experimental evidence
Thijs van Lith, <i>TU Delft</i> Aerodynamic analysis of a two-dimensional rigid leading edge inflatable airfoil	Jelle Poland, <i>TU Delft</i> Machine learning for leading-edge inflatable kite profile aerodynamics		

Floorplan of conference location



Technical Program - Friday, 26 June 2026

Time			
9:00	OPENING DAY 2 [AZORES] Fernando A. C. C. Fontes, <i>University of Porto</i>		
9:10	PLENARY TALK IV Nicolas Gonzales Casares, <i>European Parliament</i> Airborne Wind Energy		
9:30	PLENARY TALK V Alessandro Croce, <i>Politecnico di Milano</i> From Towers to Tethers: Lessons Learned, Lessons Ahead		
9:50	PLENARY TALK VI Simon Watson, <i>TU Delft</i> Synergies between Terrestrial and Airborne Wind Energy		
10:10	COFFEE [COFFEE LOUNGE]		
10:30	CONTROL & OPTIMIZATION II [MADEIRA]	TESTING & OPERATIONS II [AZORES]	AERODYNAMICS & STRUCTURES II [BERLENGAS]
	Zakeye Azaki, <i>Grenoble INP</i> Energy-Optimized Control of a Magnus-Effect Winged Quadcopter and Its Application to Tethered Airborne Wind Energy Systems	Taewoo Nam*, <i>TRINA</i> Development and Testing of an Airborne Wind Energy System	Niels Pynaert, <i>Ghent University</i> AWESim: A Geometry-Resolved Aero-Servo-Elastic Framework for Airborne Wind Energy
	Taewoo Nam ² , <i>TRINA</i> Wind Adaptive Path Planning for Airborne Wind Energy System	Camille Marrel, <i>Wind Fisher</i> Development and Flight Testing of a Magnus-Effect Airborne Wind Energy System	Maxim Notable, <i>Ghent University</i> Fuselage influence on aerodynamic coefficients captured with geometry-resolved computational fluid dynamics
	Luís Roque*, <i>Politecnico do Porto</i> Optimisation and Control in Airborne Wind Energy Systems: A PRISMA Systematic Review	Filip Korzekwa, <i>Njord Energy</i> Iterative Development and Field-Testing of a Compact AWES Prototype: Design Upgrades, Operational Challenges, and Quantified Performance Impacts	Mojtaba Kheiri*, <i>Concordia University</i> Aerodynamic shape optimization of box-wing crosswind kites
	Lorenzo Fagiano, <i>Politecnico di Milano</i> Disturbance-Learning MPC for Wave-Induced Motion Rejection in Offshore Airborne Wind Energy Systems	Kartik Anand Pant, <i>Purdue University</i> KITELab: A Low-cost Mobile Iron bird for Test and Evaluation of Tethered-Kite Systems	Bart van de Lint, <i>Open Source AWE</i> Validation of a coupled aero-structural kite model using SymbolicAWEModels.jl
11:45	BREAK		
11:50	AWETRRAIN PANEL moderated by Lorenzo Fagiano, <i>Politecnico di Milano</i> , and introduced by project lead Michael McWilliam, <i>DTU</i> , with: [AZORES]		
	Huilin Liu, <i>TU Delft</i> Navigating the Innovation Phase: A Technological Innovation System Analysis of Airborne Wind Energy	Agustí Porta, <i>Kitemill</i> Development of a site-specific wind model for AWES	Andrea Bertozzi, <i>Politecnico di Milano</i> A Perspective on Fully Autonomous Control of Airborne Wind Energy Systems
	Anastassia Saving, <i>DTU</i> Acceptance and Legitimacy of Airborne Wind Energy	Amirhosein Farmani, <i>DTU</i> System-Ready Techno-Economic Inputs for Airborne Wind Energy in Pan-European Electricity System Optimization	Dario dos Santos Rocha, <i>Kitepower</i> Operational and Grid Integration Framework for Airborne Wind Energy Systems
	Hanna Yousef, <i>TU Delft</i> Optimal Scaling and Clustering for Airborne Wind Energy	Alessandro Cappellari, <i>Politecnico di Milano</i> Robust Autonomous Control of Onboard-Generation AWE Systems	Karanvir Singh Grewal, <i>Politecnico di Milano</i> AWE Wind Farm Optimization and Operation
	Rather Laasani Sanya Shabir, <i>DTU</i> Investigation of the impacts of Unsteady Atmospheric conditions on Airborne Wind Energy Systems	David Tapia Pino, <i>HM</i> Reliable and Functional Electrical Systems for AWE	Ugwuanyi Sylvanus Ugochukwu, <i>HM</i>
13:20	LUNCH [COFFEE LOUNGE]		
14:20	MODELLING & SIMULATION III [MADEIRA]	SECTOR DEVELOPMENT II [AZORES]	SYSTEM DESIGN & PROTOTYPING II [BERLENGAS]
	Robert Selje II, <i>Baylor University</i> Optimizing Pumping Cycle Energy Yield in Airborne Wind Energy Systems Using Deep Reinforcement Learning	Rudo Enserink, <i>shapewave</i> Taking Off: shapewave Inflatable 3D Printing Technology For Wing Design And Manufacturing	Simon Tanguy, <i>Université Lyon 1</i> Design of a 1.5kW ground station for autonomous takeoff and landing
	Carolina Nicolás-Martín, <i>UC3M</i> A Unified Dynamic Simulation Framework for Electromechanical Efficiency Analysis of AWES	Eric Lang*, <i>E3-Design</i> Comparing Hybrid Energy Systems in Hurricane/Typhoon Prone Locations using Airborne Wind Energy Systems or Tilt-Tower Wind Turbines	Jonas Keplinger, <i>University of Freiburg</i> A small-scale and low-cost testbed for the control of multi-wing AWE systems
	Uwe Fechner*, <i>TU Delft</i> Design, Iterative Correction, and Integration of Airborne Wind Energy System Models for Hardware-in-the-Loop Testing	Florian Schuster, <i>Enerkite</i> A Multi-Layered Safety Concept for Airspace Integration of Tethered AWE Systems	Matteo Bordignon*, <i>Politecnico di Milano</i> Control Co-Design for Takeoff and Landing of Tailsitter VTOL AWES
	Jelle Poland, <i>TU Delft</i> Dynamic aero-structural coupled circular flight simulations of soft kites	Sander Schroeder, <i>Kitedynamics</i> Kite Dynamics – Going offshore	
15:35	BREAK		
15:40	CONTROL & OPTIMIZATION III [MADEIRA]	TESTING & OPERATIONS III [AZORES]	AERODYNAMICS & STRUCTURES III [BERLENGAS]
	Mattia Alborghetti, <i>Politecnico di Milano</i> A Mid-Level Feedback Control Strategy for Crosswind Fly-gen AWES	Will Kennedy Scott*, <i>Swift Airgen</i> Experimental test results on rotational launch and recovery for a fixed wing kite	Rigo Bosman, <i>RigoRopes</i> Holding Capacity method, An engineering approach for bending fatigue in a AWE tether
	Yan Pang, <i>Dalian University of Technology</i> Offshore Airborne Wind Energy: Resonance Aware Control for Vibration Resilient Operation	Jorge González García, <i>UC3M</i> Benchmarking NASA parafoil, Single-Skin Foil, and Leading Edge Inflatable Kites for Airborne Wind Energy Applications	Roland Schmehl ⁴ , <i>TU Delft</i> Fast finite element modelling of bridled leading-edge inflatable kites
	Rachel Leuthold*, <i>University of Freiburg</i> Trajectory Tracking in AWE Optimal Control with a Rigidly-Convected, Lifting-Line Vortex Model	Dirk Heutelbeck, <i>HAW Hamburg</i> Harnessing Higher Altitude Winds for Mobile Renewable Energy Systems	Filippo Trevisi*, <i>Politecnico di Milano</i> Concurrent aerodynamic design of the wing and the turbines of airborne wind energy systems
16:40	BREAK		
16:45	POSTER AWARDS & FAREWELL [AZORES]		
17:00	CONFERENCE CLOSING [AZORES]		
	Fernando A. C. C. Fontes, <i>University of Porto</i>		

Short notice program changes

1. Taewoo Nam replaces Yufei Zhu, TRINA, for “Wind Adaptive Path Planning for Airborne Wind Energy System.”
2. Taewoo Nam replaces Xintong Deng, TRINA, for “Development and Testing of an Attitude Estimation Method based on Infrared Images.”
3. Jelle Poland replaces Pim Haanen, TU Delft, for “In-flight experimental measurements of large-scale deformations on a leading-edge inflatable kite”
4. Roland Schmehl replaces Patrick Roeleveld, TU Delft, for “Fast finite element modelling of bridled leading-edge inflatable kites”
5. Yang Wolong replaces Bixiong Luo, CPECC, for “Research on 5000 m² Power Generating Parachute Deployment Test and Aerodynamic Performance Verification”
6. Grégoire Winckelmans replaces Jean-Baptiste Crismer, UCLouvain, for “Large eddy simulation of an Airborne Wind Energy System flying in the wake of a wind turbine”
7. Sweder Reuchlin replaces Pieter Willems, Kitepower, for “Operational Validation of Containerized Airborne Wind Energy Systems in Behind-the-Meter Applications”

