

Thursday 19th September

08.00 - 08.30	Arrival & Coffee
08.30 - 08.45	Conference Opening and Welcome
08.45 - 09.15	Keynote: Professor Graham Taylor, Head of the Oxford Flight Group, University of Oxford, UK. <i>Bio-informed Guidance and Control: From Birds to Morphing Air Vehicles.</i>
Session 1: Bioinspiration	
09.15 - 09.30	Enhancing Perching Capabilities of Flapping Wing Robots with Silicone-based Electromagnetic Claws. <i>Ahmad Hammad, Muhammet Demir and Sophie Armanini.</i> Technical University Munich, Germany.
09.30 - 09.45	Flight control of an insect-like tailless flapping wing nano-robot around hover. <i>Bart Helsen, Thomas Roelandt, Merijn Floren and Dirk Vandepitte.</i> KU Leuven, Belgium.
09.45 - 10.00	A Bio-Inspired Micro Air Vehicle and the Experimental Setup for Aerodynamic Testing. <i>Woei-Leong Chan, Hung-Yu Chen, Chia-Le Chin and Chia-Hsiang Huang.</i> National Cheng Kung University, Taiwan.
10.00 - 10.15	Bumblebees Exhibit Adaptive Flapping Responses to Air Disturbances. <i>Timothy Jakobi, Alex Fisher, Simon Watkins and Sridhar Ravi.</i> UNSW, Australia.
10.15 - 10.30	Regulatory Compliant UAS Navigation Based on a Bitmap Grid Local Path Planning Algorithm. <i>Pablo De Porcellinis Pascau, Jesus Villadangos, Daniel Alaez and Manuel Prieto.</i> Public University of Navarre, Spain.
10.30 - 11.00	Meet and Coffee Break
Session 2: Machine Learning	
11.00 - 11.15	Robust Heading Estimation from Polarization Images by Deep Neural Networks. <i>Lohithsai Yadala Chanchu, Ruben Zuidgeest, Daphne Stam and Guido De Croon.</i> Delft University of Technology, Netherlands.
12.00 - 12.15	Pose Estimation with a Lightweight Visual-Inertial Neural Network for Agile UAV Flights. <i>Kevin Guzman Duran, Alejandro Giles and José Martínez.</i> Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico.
11.30 - 11.45	Evolving Spiking Neural Networks to Mimic PID Control for Autonomous Blimps. <i>Tim Burgers, Stein Stroobants and Guido de Croon.</i> Delft University of Technology, Netherlands.

11.45 - 12.00	Accelerating Swarms : Harnessing Hardware Acceleration and Parallelization in Multi-Agent Reinforcement Learning. <i>Timothée Gavin, Simon Lacroix and Murat Bronz</i> . Thales, LAAS-CNRS and ENAC, France.
11.15 - 11.30	Adaptive Neural Network Quadrotor Trajectory Tracking Controller Tolerant to Propeller Damage. <i>Mauro Villanueva Aguado, Christophe De Wagter and Guido de Croon</i> . Delft University of Technology, Netherlands.
12.15 - 12.30	Binary Networks and Continual Learning for Pose Estimation from a Single Aerial Image. <i>Aldrich Alfredo Cabrera Ponce, Leticia Oyuki Rojas Pérez, Manuel Isidro Martin Ortiz and Jose Martinez Carranza</i> . Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico.
12.30 - 13:30	Lunch Break
13:30 - 14:00	Keynote: Dr Richard Green, Head of the Computer Vision Research Lab, University of Canterbury, NZ. <i>Enabling UAVs to use tools in complex dynamic environments</i> .
Session 3: Platform Design	
14:00 - 14:15	Feasibility Study of a Solar Powered Hybrid Micro-Aerial Vehicle. <i>Burhan Saeed and Peter Thomas</i> . Imperial College London, UK.
14:15 - 14:30	A nonlinear autopilot for a piloted Quad-plane. <i>Diego Alexis Martínez-Velasco, Marco Antonio Martínez-Ramírez and Hugo Rodríguez-Cortés</i> . CINVESTAV-IPN, Mexico.
14:30 - 14:45	Spherical Aerial Manipulator Robot for Exploration in Complex Forest Environments. <i>Daniel Olivares-Figueroa, Israel Cruz-Vega, Alejandro Gutierrez-Giles and Jose Martinez-Carranza</i> . Instituto Nacional de Astrofísica, Optica y Electronica, Mexico.
14:45 - 15:00	Dexterity Assessment of Fully-Actuated UAVs. <i>Chantelle Singh, Shahab Kazemi, Joao Buzzatto and Karl Stol</i> . University of Auckland, New Zealand.
15:00 - 15:15	Design of a Tapered-Wing Tiltrotor UAV for Multi-Mission Applications. <i>Edgar Ulises Rojo Rodríguez, Erik Gilberto Rojo Rodríguez, Sergio Araujo Estrada and Octavio García Salazar</i> . Universidad Autónoma de Nuevo Leon, Mexico.
15:15 - 15:30	Effect of Aerodynamic Summation on Multirotor UAV Hover Performance. <i>Nicholas Kay, Peter Richards, Karl Stol, Rory Buchanan and Jérémie Bannwarth</i> . The University of Auckland, New Zealand.
15.30 - 16:00	Meet and Coffee Break
Session 4: Sensing	

16:00 - 16:15	Swarm based airborne wind measurement. <i>Sebastian Kean, Matthew Marino, Simon Watkins and Abdulghani Mohamed</i> . RMIT University, Australia.
16:15 - 16:30	Landing Zone Detection for MAVs using Depth Images and Vision Transformers. <i>Victoria Vazquez and Jose Martinez-Carranza</i> . INAOE, Mexico.
16:30 - 16:45	Crossing Gate Detection Using Audio Frequency Pitch Tracking. <i>Caleb Rascon, L. Oyuki Rojas-Perez, Victoria Eugenia Vazquez-Meza, Aldrich A. Cabrera-Ponce and Jose Martinez-Carranza</i> . Instituto de Investigaciones en Matematicas Avanzadas y en Sistemas, Universidad Nacional Autonoma de Mexico, Mexico.
16:45 - 17:00	Comparative Analysis of Cameras for ArUco Marker Recognition in Unmanned Aerial Vehicles. <i>João Vitor Nascimento Souza, João Vitor Nascimento Souza, Leandro Goncalves dos Santos, Rafael Gomes Oliveira, Sávio Pessoa Afonso, Jeovana Miranda Souza, Gustavo da Silva Nascimento Costa and Fábio Santos Lima</i> . Instituto Federal de Educação, Ciência e Tecnologia Baiano, Brazil.
17:00 - 17:15	Photovoltaic plant monitoring and inspection through synergic integration of UAVs and IoT. <i>Javier Melero-Deza, Rafael Perez-Segui, Pedro Arias-Perez, Miguel Fernandez-Cortizas, David Perez-Saura, Guillermo Gp-Lenza, Miguel Tradacete-Ágreda, Carlos Santos Pérez, Francisco Javier Rodríguez Sánchez and Pascual Campoy-Cervera</i> . Universidad Politécnica de Madrid, Spain.
17:15 - 17:30	Flying a Quadrotor with Unknown Actuators and Sensor Configuration. <i>Till M. Blaha, Ewoud J.J. Smeur, Bart D.W. Remes and Coen C. de Visser</i> . Delft University of Technology, Netherlands.

Friday 20th September

08.00 - 0.8.30	Arrival & Coffee
08.30 - 09.00	Keynote: Dr Simon Watson, Robotic Systems, University of Manchester, UK. <i>MIMRee: Multi-Robot Inspection and Maintenance of Offshore Wind Turbine Blades</i> .
Session 5: Flight Operations	
09.00 - 09.15	Novel Flapping Wing Micro Aerial Vehicle Design Featuring a Bio-inspired Abdomen Mechanism. <i>Jiaxun Leng, Steven Ng and Shun Tang</i> . Imperial College London, UK.
09.15 - 09.30	A method for determining the safe separation to an unknown-model uncooperative UAV in U-space. <i>Ivan Panov, Jes Jepsen, Mirko Presser and Kjeld Jensen</i> . Aarhus University, Department of Business Development and Technology, Denmark.

09.30 - 09.45	A Detect And Avoid concept for UAS operations near Hospital Emergency Medical Services helipads in uncontrolled urban airspace. <i>Kjeld Jensen, Klavs Andersen and Jes Jepsen</i> . University of Southern Denmark, Denmark.
09.45 - 10.00	Extended Reception Coverage and Spoofing Localization of Direct Remote ID utilizing Ad-Hoc Mesh Networking. <i>Mads Fogh Høffer, Victor Dahl Herlev, Guy Maalouf, Jes Jepsen and Kjeld Jensen</i> . University of Southern Denmark, Denmark.
10.15 - 10.30	Effects of Simultaneous Turbulence and Ice Accretion on Small Fixed-Wing UAV Performance. <i>Nicholas Carlier, Trista Yuting Ma, Nicholas Kay, Amir Pirooz and Cesar Azorin-Molina</i> . The University of Auckland, New Zealand.
10.00 - 10.15	Gen4jectory algorithm: 4-D trajectory planning with minimised flight time for multiple rotary-wing UAVs. <i>Ivan Panov, Mouad Boumediene, Henrik Skov Midtiby and Kjeld Jensen</i> . SDU Drone Center University of Southern Denmark, Denmark.
10.30 - 11.00	Meet and Coffee Break
Session 6: Control	
11.00 - 11.15	Control of the DarkO Tail-Sitter Drone through an LMI-Based Static Output Feedback Design. <i>Armand-Ioan Curpanaru, Fabrice Demourant and Florian Sansou</i> . ONERA, Toulouse, France.
11.15 - 11.30	A Study of Gain Tuning for Prolonged Physical Contact of Fully-Actuated UAVs. <i>Chantelle Singh, Shahab Kazemi, Jonty Kirk, Katrina Chan and Karl Stol</i> . University of Auckland, New Zealand.
11.30 - 11.45	Restricted Model Control applied to the Quanser Aero with uncertain parameters. <i>Amelie Carrierou, Cedric Join and Jean-Philippe Condomines</i> . Universite de Lorraine, France.
11.45 - 12.00	On the Lateral Non-Stabilizability of PID Controllers for Vision-Based Line-Following Multicopters through Roll Angle Setpoints. <i>Pieter Van Holm, Apoorva Busunur Mallikarjuna, Carmelo Simon Soria and Leandro Lustosa</i> . ISAE-SUPAERO, France.
12.00 - 12.15	Swarm-in-Blocks: Simplifying Drone Swarm Programming with Block-Based Language. <i>João Aires Marsicano and Agnes Almeida</i> . Swarm-in-Blocks: Simplifying Drone Swarm Programming with Block-Based Language, Brazil.
12.15 - 12.30	Comparative analysis of ESC and Flight Controller Communication Protocols and their impact on brushless motor response and drone control. <i>Vitor Garcia Ribeiro, André Carmona Hernandes, Guilherme Barros Villela and Marcelo Becker</i> . University of São Paulo, Brazil.

12.30 - 13:30	Lunch Break
13:30 - 14:00	Keynote: Professor Ulrik Pagh Schultz Lundquist, Head of the Drone Center, Southern Denmark University. <i>The WildDrone Project</i> .
Session 7: Aircraft Performance and Conservation.	
14:00 - 14:15	Exploring the potential of UAV collaborative 3D mapping in Kenyan savanna for wildlife research. <i>Vandita Shukla, Luca Morelli, Pawel Trybala, Fabio Remondino, Wentian Gan, Yifei Yu and Xin Wang</i> . Fondazione Bruno Kessler (FBK), Italy.
14:15 - 14:30	Effects of Wind Speed on Quadcopter Ceiling Effect. <i>Rhiannon Elliott-Roe</i> . University of Manchester, UK.
14:30 - 14:45	Drone Swarms for Animal Monitoring: A Method for Collecting High-Quality Multi-Perspective Data. <i>Edouard Rolland, Lucie Laporte-Devylder, Ulrik Pagh Schultz Lundquist and Anders Lyhne Christensen</i> . University of Southern Denmark, Denmark.
14:45 - 15:00	WildBridge: Conservation Software for Animal Localisation and Scale Measurement using Commercial Drones. <i>Kilian Meier, Arthur Richards, Matthew Watson, Caspian Johnson, Duncan Hine and Tom Richardson</i> . University of Bristol, UK.
15.00 - 15:30	Conference Closing