

# Agenda

22 November / 9:00 – 11:00 (CET)

Online - Teams

## PhD Webinar: Drone technology innovation to ensure transport safety

### 9:00 – 9:10 Webinar Welcome

**9:10 – 9:20 Drones4Safety. Project Overview and advances.** Emad Samuel Malki Ebeid, University of Southern Denmark (SDU)

9:20 – 9:25 Lea Matleковиć, University of Southern Denmark. *Multi-UAV path planning for continuous linear infrastructure inspection*

9:25 – 9:30 Viet Duong Hoang, University of Southern Denmark. *Magnetic energy harvesting for charging drones from overhead power lines*

9:30 – 9:40 Q&A

**9:40 – 9:50 Rapid. Project Overview and advances.** James Riordan, University of the West of Scotland (UWS)

9:50 – 9:55 Alexander Dow, University of the West of Scotland. *An MLOPs Approach to Deploy Trustworthy AI for Drone-Drone Detection & Localisation.*

9:55 – 10:00 Hector Arroyo-Gonzalez, University of the West of Scotland. *Intelligent Drone Perception using Airborne RADAR*

10:00 – 10:05 Ben Bartlett, University of Limerick. *Automated High-Resolution Inspection. Workflow for Unknown Structures.*

10:05 – 10:10 Matheus Cardoso Santos, University of Limerick. *Automated Landing System for M300 drone to ASV*

10:10 – 10:20 Q&A

**10:20 – 10:30 Labyrinth. Project Overview and advances.** Concepción A. Monje, Carlos III of Madrid University (UC3M)

10:30 – 10:35 Blanca López, Carlos III of Madrid University. *Performance analysis of path planning and conflict management strategies for multi-UAV systems.*

10:35 – 10:40 Fernando Quevedo, Carlos III of Madrid University. *Path planning network service: design and architecture.*

10:40 – 10:45 Victor Sánchez, Carlos III of Madrid University. *Communication infrastructure manager for fully connected RPAS.*

10:45 – 10:50 Q&A

**10:50 – 11:00 Webinar closure**

# Speakers & Talks

## DRONE 4 SAFETY



**Lea Matleković, University of Southern Denmark (SDU)**

Lea Matleković graduated in Control Engineering at the University of Zagreb. She is currently pursuing a PhD in Computer Science at the University of Southern Denmark (SDU) where she works on the Drones4Safety project. Her research interests encompass mission planning and path planning for autonomous UAVs inspection.

***Talk: Multi-UAV path planning for continuous linear infrastructure inspection***



**Viet Duong Hoang, University of Southern Denmark (SDU)**

Viet is the first year PhD Student at UAS center, University of Southern Denmark. He took a bachelor's and a master's degree from Hanoi University of Science and Technology (HUST) in Vietnam. His research interests include energy harvesting and power line inspection using drones.

***Talk: Magnetic energy harvesting for charging drones from overhead power lines***

## RAPID



**Alexander Dow, University of the West of Scotland**

Alexander has a passion for artificial intelligence and robotics, with previous studies in the fields of Sound Engineering and Digital Signal and Image Processing. His research interests include Artificial Intelligence, Robotics, Aerospace, Computer Vision and Machine Learning Ops.

***Talk: An MLOPs Approach to Deploy Trustworthy AI for Drone-Drone Detection & Localisation***



**Hector Arroyo González, University of the West of Scotland**

Originally from Spain studied Civil Engineering and then moved to Scotland 10 years ago, where I worked 6 years as a Civil Engineer before getting interested in Data Science. After completing a Masters in this area, I moved on to a PhD in computer vision, in particular the use of radar sensor applied to drones at UWS Alameda Research Lab, and in collaboration with DataLab and Codeplay.

***Talk: Intelligent Drone Perception using Airborne RADAR***



**Ben Bartlett, University of Limerick**

Ben graduated with first class honours in Electronic & Computer Engineering, from the University of Limerick in 2021. Ben is currently pursuing a PhD in aerial robotics with the Centre for Robotics and Intelligent Systems (CRIS) in the University of Limerick.

***Talk: Automated High-Resolution Inspection Workflow for Unknown Structures.***



**Matheus C. Santos, University of Limerick**

Matheus C. Santos holds a bachelor's degree in Computer Engineering (2019) and a master's degree in Electrical Engineering (2021), both from the Federal University of Sergipe. Currently, Ph.D.'s student of Electrical Engineering at the University of Limerick and a member of the Centre for Robotics & Intelligent Systems (CRIS).

***Talk: Automated Landing System for M300 drone to ASV***

## **LABYRINTH**



**Blanca López, University Carlos III**

Blanca López Palomino studied Electronic and Automatic Engineering at the School of Industrial and Aerospace Engineering of Toledo, where she received the B.S. degree in 2019. She is currently collaborating with the University Carlos III (Madrid, Spain) Robotics Lab as a PhD candidate, where she got the M.S. in Robotics and Automation in 2021. Her research interests focus on path planning strategies for multi-robot systems, mainly aimed at multi-UAV swarms and mobile bimanipulator robots.

***Talk: Performance analysis of path planning and conflict management strategies for multi-UAV systems.***



**Fernando Quevedo, University Carlos III**

FERNANDO QUEVEDO is a PhD student in Electric, Electronics and Automatic Engineering at University Carlos III (UC3M) where he is researching about 4D path planning and network control schemes for multi-UAV systems under the Labyrinth project. Other research interests include soft robotics, and nonlinear modelling techniques.

***Talk: Path planning network service: design and architecture.***



**Victor Sanchez-Aguero, University Carlos III**

Victor Sanchez-Aguero received the Ph.D. in Telematics Engineering in 2022 from the University Carlos III of Madrid (UC3M), where he is currently a postdoctoral researcher. His research interests include UAVs, SDN, NFV, and 5G. He has been involved in international and national projects, including the H2020 Labyrinth and TRUE5G.

***Talk: Communication infrastructure manager for fully connected RPAS.***