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Joint Societies Chapter



ONLINE Virtual Mini-Seminar on Drone Operations

DATE: Monday Sept 21st 2020, Houston TIME(10:00-11:30 AM -US-CDT)

TOPIC: “Drone Operations in Maritime Environments”

Speaker: Dr Geert De Cubber, Senior Researcher

Robotics & Autonomous Systems. Royal Military Academy, Belgium

Presentation: As the robustness and flight and perception capabilities of drones are increasing, they are being used more and more for tough and difficult operations that used to be performed using manned helicopters. In this talk, we will focus on the maritime domain and explore a number of remaining bottlenecks that need to be solved before a widespread adoption of maritime drones can be envisaged. We will start by investigating the safety issue and will explore how virtual reality can be used to incorporate human factors in the drone pilot accreditation system, in order to reduce the risk of incidents. Then, we will cover what actual useful ‘work’ the maritime drone can do once it’s in the air: from maritime surveillance and structural inspection of offshore windmill parks to search and rescue. However, the drone will not be the only actor in this environment, and an important factor is therefore not only data gathering, but also data sharing with other actors. This will bring us to the topic of interoperability where we will discuss how the drone can be encapsulated as one ‘edge’ device in a much wider maritime Internet – of – Things or Maritime Situational Awareness framework. Finally, the drone has to land as well. Landing drones on maritime platforms is a delicate operation, which is also for human pilots very difficult and risky. We will therefore discuss how the landing procedure of drones on vessels can be automated.

Speaker: Geert De Cubber is the team leader of the Robotics & Autonomous Systems unit of the department of Mechanics of the Belgian Royal Military Academy. He is also a senior researcher at this institute with a research focus on developing robotic solutions for solving security challenges like crisis management, the fight against crime and terrorism and border security.

He received his Diploma in Mechanical Engineering in 2001 from the [Vrije Universiteit Brussel](#) (VUB) and his Doctoral Degree in Engineering in 2010 from the [Vrije Universiteit Brussel](#) and the [Belgian Royal Military Academy](#) (RMA).

He is and was the coordinator of multiple European and national research projects, like [FP7-ICARUS](#) (on the development of search and rescue robots) and [H2020-SafeShore](#) (on the development of a threat detection system). Next to this, he is the principal investigator for RMA for multiple international research projects like [PADR-SOLOMON](#) and [ASSETs+](#).

His research interests include methodologies for perceiving and control of multi-agent robotic systems, across the air, land and maritime domain. His major goal is to find new ways to make multiple robotic systems capable of understanding their environment and decide on optimal collaborative strategies. Prominent application examples are crisis management robots, humanitarian demining robots, robots for surveillance applications, and generically robotics for tough environments.

Geert is active as a reviewer for the European Commission and other funding agencies and is a member of the organizing committee of several conferences and workshops in the field of robotics and computer vision. He has published around 100 scientific papers, including books and chapters in books

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This complimentary Seminar is a global event hosted by IEEE Galveston Bay Section, Joint Societies Chapter.

Registration will be required in order to receive the login information.

PLEASE send your name, country, email for registration to Dr Zafar Taqvi at Z.Taqvi@IEEE.ORG by COB Saturday Sept 19th, 2020. All registrants will be provided ZOOM login information after the registration deadline.

Coordinator of Mini-Seminar -Dr Zafar Taqvi

Information is also available on host section website <https://site.ieee.org/gb/>