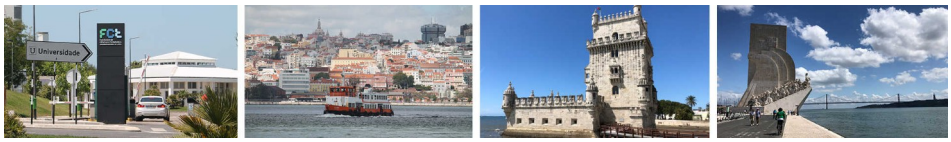

CONTROLO'2022

15TH APCA INTERNATIONAL CONFERENCE ON AUTOMATIC CONTROL AND SOFT COMPUTING

JULY 6-8, 2022, CAPARICA, LISBON REGION, PORTUGAL

HTTPS://CONTROLO2022.DEEC.FCT.UNL.PT/

Special Session on

The importance of sensing and perception in autonomous vehicles

Organized by

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Call for Papers

Brief description of the theme:

In the occasion of celebrating the first centenary of the first transatlantic crossing of the South Atlantic by air in 1922 from Lisbon, Portugal, to Rio de Janeiro, Brazil, where the navigation instruments used by the Portuguese naval aviators Gago Coutinho and Sacadura Cabral allowed to precisely locate in the ocean the position of specific islands where the airplane needed to be refueled, for the first time without any support from any type of beacons (namely ships along the path), this Special Session will cover topics related with the importance of sensing and perception in autonomous vehicles. Unmanned vehicles, either ground (UGV), aerial (UAV) or underwater (UUV), can be seen as cyber-physical systems where situational and self-awareness are important aspects to allow a safe navigation. They are normally equipped with a rich set of sensors and perception and control algorithms, including localization modules, gyroscopes, accelerometers, compass, Inertial Measurement Unit (IMU), image processing modules, LIDAR, sonar, just to mention some.

Topics of interest include, but are not limited to:

- Sensor data processing
- Intelligent sensors
- Sensor fusion
- Aggregation of sensor data for perception
- Automated vehicles
- Autonomous/Unmanned aerial vehicles (UAV)
- Autonomous/Unmanned ground vehicles (UGV)
- Autonomous/Unmanned surface vehicles (USV)
- Autonomous/Unmanned underwater vehicles (UUV)
- Modeling, simulation and control of vehicles
- Assisted driving
- Autonomous driving
- Autonomous navigation
- Path planning
- SLAM (Simultaneous Localization and Mapping)
- Cooperative Localization
- Connected Autonomous Vehicles