Special Issue

Flight Control and Collision Avoidance of UAVs

Message from the Guest Editors

This Special Issue focuses on flight control and collision avoidance in two scenarios. The first scenario involves small-to-large UAVs operating in airspace way above buildings and into airspace where manned aircraft operate. In such a scenario, UAVs need to avoid each other, tall structures, terrain, and even manned aircraft. The second scenario involves micro and mini UAVs operating among buildings and vegetation. In this setting, UAVs need to avoid static obstacles such as trees, vehicles, buildings, lamp posts and even other UAVs. In both cases, flight control and collision avoidance are critical for safe operations. This Special Issue will welcome manuscripts that address the following themes:

- detection of obstacles and other aircraft in challenging conditions.
- prediction of other aircraft motion via determining attitude and flight direction of other UAVs
- multiple aircraft tracking
- precise maneuvering to avoid collision such as tight sensor–controller integration
- safety verification
- safe flight control decision under uncertainty from sensors, other aircraft actions
- achieving near human flight performance and safety

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Deadline for manuscript submissions

closed (15 April 2025)

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About the Journal

Message from the Editor-in-Chief

Drones is the only international open-access journal about the science, policy and technology of drones and its applications. Nowadays, the proliferation of drones is a reality for local policy makers, regulatory bodies, mapping authorities, startups and consolidated companies. There are many uses and benefits of drones: from the emergence of new sensors and the evolution of new platforms; to the development of specific software and the emergence of new applications. *Drones* publishes reviews, regular research papers, communications and short notes, without restriction on the length of papers. *Drones* seeks to provide a central forum for scholars engaged in drones' research and applications.
There is a need for high quality papers in this area and the *Drones* Editorial Board are widely recognized international leaders. *Drones* journal guarantees a serious peer review and a rapid publication across the whole discipline of drones.

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