Special Issue

Modeling and Control of Flapping-Wing Vehicles

Message from the Guest Editors

Researchers and engineers often look to nature for inspiration when solving or improving challenges. Flapping-wing vehicles (FWVs) are obvious examples of such bioinspired systems, taking their lead from the flight mechanics of natural flyers like birds, bats, and insects. These vehicles have shown advantages over conventional aerial vehicles like fixed-wing or rotary-wing drones specifically in terms of versatility. Designing FWVs requires advanced techniques in aerodynamics, dynamics, and control strategies. So, it is essential to develop robust models and control systems that ensure precise maneuverability, energy efficiency, and autonomous operation.

This Special Issue aims to recent advances in the modeling and control of flapping-wing vehicles. The focus is on novel approaches to aerodynamic modeling of flapping wings, dynamic stability, control, and system design. Papers that present practical implementations, experimental validation, or simulation-based results are encouraged. Contributions that address the challenges of scaling up or down FWV systems, as well as insights into future trends and innovations in the field, are also welcome.

Guest Editors

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

Editor-in-Chief

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