Advanced Nonlinear and Learning-Based Control Techniques for Complex Dynamical Systems

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Deadline for manuscript submissions:
closed (15 September 2023)

Message from the Guest Editors

Dear Colleagues,

There has been a great deal of excitement during the recent past over the emergence of new mathematical techniques for the modeling and analysis of complex dynamical systems. Nonlinear and learning-based control system theory and various design techniques are used widely in the robotics arena, especially in developing nonlinear robust control algorithms. The design of these systems involves advanced techniques including nonlinear optimization, machine learning, adaptive estimation, and nonlinear observer and control design methodologies. In this context, this Special Issue welcomes the submission of papers from a wide range of researchers in applied mathematics and various engineering disciplines.

Potential topics include, but are not limited to:

- Nonlinear optimization techniques;
- Nonlinear observer design;
- Nonlinear adaptive estimation;
- Nonlinear robust control;
- Reduced-order modeling and control;
- Learning-based/intelligent control;
- Neuro-adaptive control;
- Gaussian-process-based control methods;
- Real-time learning-based control;
- Multi-agent systems control;
- Formation/flocking control;
- Geometric control theory and applications.

Special Issue

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Message from the Editor-in-Chief

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