

Special Issue on New Trends on Modeling, Design, and Control of Chaotic Systems

CALL FOR PAPERS

Nowadays, one of the most studied phenomena is chaos into the nonlinear dynamical systems. Particularly, chaotic systems are mainly characterized by its behavior complex and like random. Their significance has been increased during the last decade because of several applications in diverse fields ranging from living systems, such as synchronization in neurobiology, chemical reactions among pancreatic cells, and social events to nonliving systems including robotics, low power high-speed data transceivers for medical applications, chaotic electrochemical oscillators, encrypted communications, control algorithms for motor drivers in electric vehicles, and so on. However, in order to exploit all the possible engineering applications, the open problems about chaotic systems need to be addressed by proposing novel theoretical and practical approaches focused on modeling, simulation, synthesis, design, control, and circuit implementation. The overall purpose of this special issue lies in gathering the latest scientific trends on the topics of chaotic systems with emphasis on real-world engineering applications.

We invite researchers to contribute original research articles as well as review articles that will stimulate the continuing efforts to improve the current state of art on the aforementioned fields.

Potential topics include but are not limited to the following:

- ▶ Advances on modeling techniques for chaotic systems
- ▶ Stability analysis, robustness, and fragility
- ▶ Latest numerical algorithms and computational simulations
- ▶ Modern developments on synchronization and control techniques
- ▶ Anticontrol of chaos
- ▶ Chaos-based path planning for robots
- ▶ Progresses in fractional-order chaotic systems
- ▶ Boolean chaotic systems
- ▶ Advances in memristor emulator circuits
- ▶ Chaotic systems with hidden attractors
- ▶ Latest neuromorphic chaotic circuits and systems
- ▶ Bioinspired chaotic systems
- ▶ Chaos in optical systems
- ▶ CMOS-like chaotic circuits and systems
- ▶ Recent advances on synthesis of chaotic systems using CFOAS, OTAS, CCII+, OTRAS, SETs, FPGAs, FPAAAs, and so on
- ▶ Random number generators
- ▶ Encrypted communications schemes using chaos
- ▶ Reconfigurable logic gates based on chaos
- ▶ Chaos-based modulations schemes (PWM, PPM, SVPWM, etc.) for communications or electric motors drivers
- ▶ Cutting-edge applications of chaotic systems in engineering

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