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Editorial

Dynamics of Delay Differential Equations with Their Applications

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Delay differential equations have attracted a rapidly growing attention in the field of nonlinear dynamics and have become a powerful tool for investigating the complexities of the real-world problems such as infectious diseases, biotic population, neuronal networks, and even economics and finance. When employing delay differential equations to solve practical problems, it is very crucial to be able to completely characterize the dynamical properties of the delay differential equations. In spite of the amount of published results recently focused on such systems, there remain many challenging open questions. The basic purpose of this special issue is to extend the applications of the relatively new approaches and theories for delay differential equations and to see the latest developments. The authors were invited to submit original research articles as well as review articles that stimulated the continuing efforts in delay differential equations and related theories. The topics included in this special issue are invariant sets and attractor; boundedness analysis; stability and bifurcation analysis; asymptotic analysis and synchronization; the existence and uniqueness or nonexistence of equilibrium point, periodic solutions, and almost periodic solutions; impulsive and stochastic control; and modeling and simulation analysis.

The response to this special issue on dynamics of delay differential equations with their Applications was beyond our expectation. We received 49 papers in the interdisciplinary research fields. This special issue includes twenty-six high-quality peer-reviewed articles. These articles contain several new, novel, and innovative techniques and ideas that may stimulate further research in every branch of pure and applied sciences.

Acknowledgments

The authors would like to express their deepest gratitude to the reviewers, whose professional comments and valuable suggestions guaranteed the high quality of these selected papers. The editors would like to express their gratitude to the authors for their interesting and novel contributions. The interested readers are advised to explore these interesting and fascinating fields further. The authors hope that problems discussed and investigated in this special issue may inspire and motivate discovering new, innovative, and novel applications in all areas of delay differential equations.

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