

Special Issue

Robustness and Resilience of Complex Networks

Message from the Guest Editors

This translational topic, which is strongly emerging in pure and applied research, calls for multifaceted approaches, integrating techniques from network theory, control engineering, information theory, and more, as well as applied research from single disciplines like ecology, physics, engineering, management, and so forth.

Natural and artificial systems and networks often share the capability to maintain critical functions and properties despite uncertainties, fluctuations, and perturbations, both in their topology and in their dynamics. Multidisciplinary endeavors are dedicated to unraveling the key characteristics, such as structural, mechanical, and dynamical, that guarantee such behavior, to developing comprehensive frameworks to study it, and to detecting and anticipating losses of robustness and resilience. Additional research avenues in the direction of management and control are also warranted.

We thus ask for contributions around this thrilling topic, both theoretical and applied, in order to frame a comprehensive picture of the quantitative theories and techniques to address the question of dynamical networks persisting in their functions despite alterations.

Guest Editors

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Editor-in-Chief

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