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Engineering : Complexity

In, V., Palacios, A., Longhini, P. (Eds.), Spawar Systems Center, San Diego, CA, USA

International Conference on Theory and Application in Nonlinear Dynamics (ICAND 2012)

- Presents recent research spanning between theory and device-oriented applications of nonlinear science and methods in complex systems
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- Brings together the work of scientists and engineers who are applying ideas and methods from nonlinear dynamics to design and fabricate complex systems

A collection of different lectures presented by experts in the field of nonlinear science provides the reader with contemporary, cutting-edge, research works that bridge the gap between theory and device realizations of nonlinear phenomena. Representative examples of topics covered include: chaos gates, social networks, communication, sensors, lasers, molecular motors, biomedical anomalies, stochastic resonance, nano-oscillators for generating microwave signals and related complex systems. A common theme among these and many other related lectures is to model, study, understand, and exploit the rich behavior exhibited by nonlinear systems to design and fabricate novel technologies with superior characteristics. Consider, for instance, the fact that a shark's sensitivity to electric fields is 400 times more powerful than the most sophisticated electric-field sensor.

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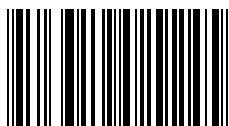
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