

Call for Book Chapters

Recent Advances of Computational Intelligence in Nonlinear Dynamics and Synchronization

Editors:

K. Kyamakya (Univ. Klagenfurt, Austria); A. Bouchachia (Univ. Klagenfurt, Austria); W. Halang, Univ. Hagen, Germany; J. C. Chedjou (Univ. Klagenfurt, Austria); Z. Li (Univ. Hagen, Germany), H. Unger (Univ. Hagen, Germany)

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Over the last years the appropriateness of computational intelligence (CI) techniques in modeling and optimization tasks pertaining to complex nonlinear dynamic systems has become indubitable as attested by a large number of studies reporting on the successful application of CI models in nonlinear science, e.g., adaptive control, signal processing, medical diagnostic, pattern formation, living systems, etc. This volume is devoted to summarize the state-of-the-art of CI in the context of nonlinear dynamic systems and synchronization. Aiming at fostering new breakthroughs, chapters may focus on theoretical, experimental, and computational aspects of the recent advances in nonlinear science intertwined with computational intelligence techniques. Moreover, chapters are expected to have a tutorial-oriented structure and should be self contained targeting large audience.

Examples of topics to be covered include (but not limited to):

- Modeling nonlinear processes in systems using CI
- CI for dynamical formation and evolution of patterns
- CI and nonlinear dynamics in technological systems and devices
- Computational aspects in nonlinear and complex systems including:
 - Predictability
 - Chaotic dynamics
 - Quantum chaos
 - Living systems
 - Cybernetics
 - Living systems
 - Complex networks
 - Chaos in pattern recognition and soft computing
 - Systems control
 - Robotics
 - Signal processing
 - Decision making
 - Image and video processing
 - Traffic management systems
 - Supply chains and logistics systems
 - Self-reconfigurable systems
 - Self-healing systems
 - Self-testing systems
 - Oscillatory systems
 - Networking systems
 - Bio-computing and bio-chemistry
 - Social sciences, biology, psychology and economics

Prospective authors are kindly invited to submit their proposal including a preliminary title and an abstract (up to 500 words) highlighting the scope of the chapter. For the accepted proposals, the authors will be informed about the formatting requirements in preparing their chapters. All submitted material (proposals and full papers) will be peer reviewed.

Important Dates:

- Chapter proposal due, **September 15th, 2008**
- Proposal acceptance, **September 20th, 2008**
- Full chapter due, **November 20th 2008**
- Notification, **January 31th, 2009**
- Expected date for publication: **First Quarter of 2009**

Contact information: Book editors (email: Abdelhamid.Bouchachia@uni-klu.ac.at)