Call for Papers

Journal of Computational and Theoretical Nanoscience

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Special Issue on

Cognitive Informatics: Theory and Applications

Cognitive informatics (CI) is a new discipline that studies the natural intelligence and internal information processing mechanisms of the brain, as well as the processes involved in perception and cognition. CI provides a coherent set of fundamental theories, and contemporary mathematics, which form the foundation for most information and knowledge based science and engineering disciplines such as computer science, cognitive science, neuropsychology, systems science, cybernet-ics, computer/software engineering, and knowledge engineering.

The objective of this special issue is to bring researchers from academia and industry together to report and review the latest progresses in this field, and to explore future directions. Relevant topics include, but are not limited to, the following:

- **Natural Intelligence(NI):** Quantum information processing; Quantum information processing; Artificial intelligence; Fuzzy logic; Neural networks; Web-based information systems; Intellectual foundations of informatics; Internal information processing; Information models of brain; Informatics foundations of software engineering; Expressive mathematics; Intellectual roots of computing; Extension of human memories; Natural computation; Knowledge representation.
- **Autonomic Computing(AC):** Imperative vs. autonomous computing; Reasoning and inferences; Cognitive informatics foundations of AC; Memory models; Self configuration, optimization, healing, and/or protection; Fuzzy and rough sets and logic; Knowledge engineering; Pattern recognition; Agent technologies; Autonomic intelligence; Software agent systems; Decision theories; Problem solving; Machine learning; Intelligent Internet; Web contents cognition; Nature of software.
- **Neuroinformatics(Nel):** (1) The development of tools and databases for management and sharing of neuroscience data at all levels of analysis; (2) The development of tools for analyzing and modelling; (3)The development of computational models of the nervous system and neural processes. For example, Neuroscience foundations of information processing; Cognitive models of the brain; Functional modes of the brain; Neural models of memory; Neural networks; Neural computation; Cognitive linguistics; Neuropsychology; Bioinformatics; Biosignal processing; Cognitive signal processing; Gene analysis and cognition; Gene expression; Neural signal interpretation; Visual information representation; Visual information interpretation; Sensational cognitive processes, etc.

All papers are refereed through a peer review process. Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere.

Guest Editors:

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Manuscript must be prepared according to Journal's guidelines, available at http://www.aspbs.com/ctn. Submitted manuscripts should in the form of PDF directly email to: Prof. Zhihua Cui
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- **Submit article:** 1 July 2009,
- **Acceptance Notification:** 1 November 2009,
- **Submit (in Latex, or MS Word) revised, final paper:** 1 December 2009,
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