The 3nd International Conference on Natural Computation
The 4rd International Conference on Fuzzy Systems and Knowledge Discovery
24- 27 August 2007, Haikou, China

Call for Papers

The 3nd International Conference on Natural Computation (ICNC'07) and the 4rd International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'07) will be jointly held in Haikou, China. Haikou, the capital city of Hainan Province, is a pleasant modern city with a number of historical and cultural sights to see and to hold you for a few days before heading off to Hainan's beautiful beaches and inland villages. ICNC'07-FSKD'07 aims to provide a high-level international forum for scientists and researchers to present the state of the art of computational algorithms inspired from nature, including biological, ecological, and physical systems. It is an exciting and emerging interdisciplinary area in which a wide range of techniques and methods are being studied for dealing with large, complex, and dynamic problems.

Submissions of papers describing original work in, but not limited to, the following topics are enthusiastically encouraged.

• **ICNC'07**

Neural Network Models
Learning algorithms
Neural network architectures
Neuro dynamics & spiking neuron
Statistical neural network models and support vector machines
Cognitive Science
Learning and memory
Neurobiological systems
Perception, emotion, and cognition
Selective attention
Vision and auditory models
Evolutionary Learning
Learning algorithms
Bayesian evolutionary algorithms
Classifier systems
Adaptive behavior & Self-adaptation
Artificial immune systems
Evolutionary Theory
Coding methods
Genetic operators
Fitness evaluation
Convergence
Computational complexity
Nicking and clustering
Dynamic environment
Co-evolution

Models of evolutionary computation
Optimization
Evolutionary Methodology
Evolution strategies
Genetic algorithms
Evolutionary programming
Genetic programming
Molecular evolutionary algorithms
Simulated evolution
Evolutionary agents
Multi-objective optimization
Parallel evolutionary algorithms
Other Types in Natural computation
Quantum Computing
Molecular & DNA computing
Membrane Computing
Artificial life
Cultural algorithms
Artificial Immune Systems
Swarm Intelligence
Ants Colony
• **FSKD'07**
Fuzzy Theory and Foundations
Fuzzy theory and models
Stability of fuzzy systems
Uncertainty management in data mining
Statistical and probabilistic methods of data mining
Machine learning

Fuzzy Methods and Algorithms
Fuzzy classifiers & clustering
Fuzzy database mining
Information retrieval
Information fusion
Fuzzy control
Fuzzy hardware architectures
Sequential data analysis
Rough sets
Parallel and distributed data mining
Decision trees
Inductive logic Programming
Data warehousing
Data cleaning
Dimensionality reduction
• **Hardware Implementation**
Analog, digital, & hybrid neuro-chips
Artificial retina & cochlear chips
DSP & software implementation
• **Hybrid Systems**
Evolutionary neural systems
Fuzzy neural systems
Symbolic-neural hybrid systems
Computational intelligence
Soft computing
Evolutionary neural systems
Evolutionary reinforcement learning
Evolutionary fuzzy systems
Evolutionary neuro-fuzzy systems

Granular Computing
Pattern recognition and trend analysis
• **Applications**
Aerospace
Bioinformatics
Circuit design
Computer security
Computer vision
Data mining
Expert system   Forecasting
Finance & electronic commerce
Homeland security
Human-computer interaction
Image Processing
Intelligent control
Intelligent transportation systems
Internet
Machine Learning
Natural language processing
Operations research
Optimization
Parallel and distributed processing
Pattern recognition   Robotics
Route and network planning
Scheduling
Sensorimotor systems
Signal processing
Speech recognition
Time series prediction

Deadlines:

Paper Submission	15 December 2006 - 15 March 2007
Decision Notification	15 April 2007
Final Versions / Author Registration	15 May 2007

Submission of Papers:

Prospective authors are invited to submit manuscripts written in English. The submission of a paper implies that the paper is original and has not been submitted to elsewhere for possible publication. All submissions will be peer-reviewed by experts in the field based on originality, significance, quality and clarity. Authors should use the Latex style files or MS-Word templates provided by the Spring Lecture Notes to format their papers. All papers accepted by ICNC'07-FSKD'07 will be indexed by EI. Furthermore, the extended versions of selected high-quality papers from ICNC'07 and FSKD'07 will be published in Springer's Lecture Notes in Computer Science (LNCS) and Lecture Notes in Artificial Intelligence (LNAI), respectively (indexed in SCI-Expanded). Authors should submit a soft copy of their manuscripts with the **pdf** format only to the conference via the online submission system. There is no page limit for the submission. For more details, please visit the conference website:

http://www.hainu.edu.cn/htm/icnc-fskd2007