HIS'06
Hybrid Intelligent Systems
December 13-15, 2006
Auckland

NCEI2006
Conference on Neuro-Computing & Evolving Intelligence

KEDRI
KNOWLEDGE ENGINEERING & DISCOVERY
RESEARCH INSTITUTE

CALL FOR PAPERS

6th International Conference on Hybrid Intelligent Systems (HIS'06)
and 4th Conference on Neuro-Computing and Evolving Intelligence (NCEI'06)

13-15 December 2006, AUT Technology Park, Auckland, New Zealand

General Chairs:
Nik Kasabov, KEDRI, AUT, New Zealand (nkasabov@aut.ac.nz)
Mario Köppen, Fraunhofer IPK, Germany (mkoeppen@ieee.org)

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Andreas Koenig, University of Kaiserslautern, Germany (Koenig@eit.uni-kl.de)
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Qun Song, KEDRI, AUT, New Zealand (qsong@aut.ac.nz)

AUT
AUCKLAND UNIVERSITY OF TECHNOLOGY
TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

International Programme Committee

Venue: Auckland, the City of Sails. The Auckland region is an antipasto of environments laid out on a huge platter to make one amazing city, boasting three harbours, two mountain ranges, 48 volcanic cones and more than 50 islands. Auckland is by far the largest and most vibrant city of New Zealand.

Objectives:

Hybridization of intelligent systems is a promising research field of computational intelligence focusing on synergistic combinations of multiple approaches to develop the next generation of intelligent systems. A fundamental stimulus to the investigations of Hybrid Intelligent Systems (HIS) is the awareness that combined approaches will be necessary to be able to solve hard problems in artificial intelligence. Neural computing, machine learning, fuzzy logic, evolutionary algorithms, agent-based methods, quantum computing, among others, have been established and shown their strength and drawbacks. Applications span across all disciplines of Science, Business, Engineering, Medicine, Health, Environment, Social Sciences. Neuro-Computing (NC) is an area of computer science and engineering concerned with the development, implementation, realisation and application of computational models that mimic the brain in its main functions of adaptive learning, predictive generalisation, and knowledge discovery. Using NC and hybrid system to build intelligent systems that evolve their structure, their functionality and their knowledge representation over time through interaction with the environment, called evolving intelligence (EI) is a major focus of the conference.

The three days event will include tutorials, invited talks, oral presentations, poster presentations and various demonstrations of neuro-computing and hybrid systems for : bioinformatics and biomedical applications, biometric and security, brain study and cognitive engineering, agriculture, environment, decision support, business and finance, speech-, image- and multimodal information processing, process control, arts and design.

Topics include:

- Novel neurocomputing methods
- Novel methods of soft computing for adaptive modelling and knowledge discovery
- Methods of evolving intelligence (EI)
- Novel methods for Hybrid intelligent systems (HIS)
- Hybrid NN-, fuzzy-, evolutionary- algorithms
- Cellular automata
- Artificial Life systems
- Evolving molecular processes and their modelling
- Evolving processes in the brain and their modelling
- Evolving language and cognition
- Molecular computing
- Quantum information processing
- Quantum inspired computational intelligence
- HIS for neuro-informatics

- HIS for Bioinformatics
- Adaptive speech, image and multimodal processing
- Adaptive decision support systems
- Dynamic time-series modelling
- Adaptive control
- Adaptive intelligent systems on the WWW
- Applications in: Medicine, Health, Information Technologies, Horticulture, Agriculture, Bio-security, Business and finance, Process and robot control, Arts and Design.
- Adaptive integrated/embedded systems for EI
- Agent based systems for EI

Adeli, Hojjat, USA
Angelov Plamen, UK
Arbib Michael, USA
Attikiouzel Yianni, Australia
Bajic Vlad, Singapore
Bang Sung Yang, Korea
Benuskova Lubica, NZ
Berenji, Hamid, USA
Boyanov Kiril, Bulgaria
Cassim Monte, Japan
Chiu David, Canada
Cho Sung-Bae, Korea
Coghill George, NZ
Deb, Suash, India
Defoin-Platel Michael, NZ
Deng Da, NZ
Diederich Joachim, Australia
Dimitrov Dimiter, USA
Duro Richard, Spain
Fedrizzi Mario, Italy
Freeman Walter, USA
Furuhashi Takeshi, Japan
Gedeon Tom, Australia
Giles Lee, USA
Gulyaev Sergei, NZ
Halgamuge Saman, Australia
Havukkala Ilkka, NZ
Hendtlass Tim, Australia
Howell Bill, Canada
Ishibuchi Hisao, Japan
Kacprzyk Janusz, Poland
Koczy Laszlo, Hungary
Korotkikh Galina, Australia
Korotkikh Victor, Australia
Laws Mark, NZ
Ludermir Teresa Bernarda, Brazil
MacDonell Stephen, NZ
Magdalena Luis, Spain
Marcus Gary, USA
Nikravesh Masoud, USA
Nishikawa Ikuko, Japan
Pal Nikhil, India
Palade Vasile, UK
Pang Shaoning, NZ
Pedrycz Witold, Canada
Rajapakse Jagath, Singapore
Rodrigo Allen, NZ
Roy Rajkumar, UK
Tan Clarence, Singapore
Villa Alessandro, France
Watts Mike, NZ
Wermter Stefan, UK
Wright Jim, NZ
Yager Ronald R., USA
Yamakawa Takeshi, Japan
Yoshida Kaori, Japan
Zimmer Uwe, Australia

Invited speakers (preliminary list): Prof. Takeshi Yamakawa, Kyushu Institute of Technology, Prof. Andreas Koenig, University of Kaiserslautern, Prof. Alessandro Villa, Laboratoire de Neuro-heuristique, Université de Lausanne Switzerland, Dr Mario Köppen, Fraunhofer IPK, Prof. Takeshi Furuhashi, Nagoya University.

Submission and Registration: Tutorial and organised session proposals to be sent by email to the co-chairs. Full paper of 4 pages (A4 size) should be submitted to the Programme Co- chairs, by 10 August 2006 following the IEEE Journal format. Up to six additional pages will be permitted for a charge of $100 per page. Final accepted papers are to be submitted by 20 September 2006. Registration fee is US$500 for non-students and US$250 for students.

Publications: Proceedings will be published by IEEE Computer Society Press. Selected and extended papers will be published in several special issues including the Int. Journal of Hybrid Intelligent Systems, Journal of Computational and Theoretical Nanoscience, Int.J. of Neural Systems, Int. J. Comp.-Aided Engineering.

Further Details: http://his-ncei06.kedri.info
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