Preface

Hybridization of intelligent systems is a promising research field concerned with the development of the next generation of intelligent systems.

A fundamental stimulus to the investigations of Hybrid Intelligent Systems (HIS) is the awareness in the academic communities that combined approaches will be necessary if the remaining tough problems in artificial intelligence are to be solved. Recently, hybrid intelligent systems are getting popular due to their capabilities in handling several real world complexities involving imprecision, uncertainty and vagueness. Current research interests in this field focus on integration of the different computing paradigms like fuzzy logic, neurocomputation, evolutionary computation, probabilistic computing, intelligent agents, machine learning, other intelligent computing frameworks and so on. The phenomenal growth of hybrid intelligent systems and related topics has created the need for this International conference as a venue to present the latest research. HIS'03 builds on the success of last year's. HIS'02 was held in Santiago, Chile, 01-04, December 2002 and attracted participants from over 26 countries.

HIS'03, the Third International Conference on Hybrid Intelligent Systems, took place in Melbourne, Australia, December 14-17, 2003, addressing the following eight important themes:

- Hybrid Intelligent Systems Architectures and Applications
- Soft Computing for Image and Signal Processing
- Intelligent Internet Modeling, Communication and Networking
- Intelligent Data Mining
- Intelligent Business Systems
- Soft Computing for Control and Automation
- Multi-agent Systems
- Knowledge Management

HIS'03 is technically co-sponsored by IEEE Systems Man and Cybernetics Society, International Fuzzy Systems Association, The World Federation on Soft Computing, ENNS (European Neural Network Society), EUSFLAT (European Society for Fuzzy Logic and Technology), EVONET (European Network of Excellence in Evolutionary Computing), Australian Computer Society, IEEE Region 5 and IOS Press. HIS'03 program committee represented 21 countries on 5 continents and authors submitted over 200 papers from 32 countries on 5 continents. This certainly attests to the widespread, international importance of the theme of the conference. Each paper was peer reviewed by at least two independent referees of the program committee and based on the recommendation of the reviewers 114 papers were finally accepted. HIS'03 also received 3 technical sessions and 8 tutorial proposals addressing different aspects of intelligent systems and applications.

HIS'03 was blessed to have the following plenary speakers:

- David B. Fogel, *Hybrid Computational Intelligence with Evolutionary Computation and Object Neural Networks*

- Graham Williams, *Mining the Data Stream*

- David Corne, *Bioalgorithmics: Evolutionary and Other Algorithms ex Silico*

- Nikhil Pal, *On-Line Feature and Sensor Selection - The Way to Go*

- Liz Sonenberg, *Agent Deliberation in a Sensor Rich World*

- Rajkumar Roy, *Integrating Quantitative and Qualitative Information in Design Optimisation: A Soft Computing Approach*

We would like to express our sincere gratitude to all the authors and members of the program and local organizing committees that has made this conference a success. Our special thanks also to the plenary speakers and tutorial presenters for their effort in preparing the lectures.

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Ajith Abraham and Mario Köppen (General Chairs)   September 2003
Kate Smith and Lakhmi Jain (Program Chairs)

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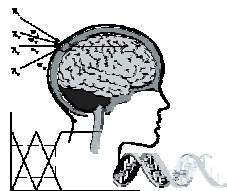
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