



ICIPS'97 

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**Proceedings of the 1997 IEEE  
International Conference on  
Intelligent Processing Systems**

October 28-31, 1997  
Beijing, China

Endorsed by

The State Science and Technology  
Commission of China  
Chinese Electronics Ministry  
Beijing Government

Sponsored by

The IEEE Industrial Electronics Society

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Volume 1 of 2

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Japanese Society of Instruments and Control Engineers  
Japan Society for Fuzzy Theory and Systems  
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# **1997 IEEE International Conference on Intelligent Processing Systems**

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## WELCOME MESSAGE FROM GENERAL CO-CHAIRS

On behalf of the ICIPS'97 Organizing Committee, it is our pleasure to welcome you to the first ICIPS conference to be held in Beijing, China.

The very fast pace of modernization of the industry of China has created prospects for the introduction of intelligent techniques to various industries to improve product quality and production process efficiency, as well as to reduce production costs. In recent years, we have witnessed an upsurge in the works reported by Chinese researchers and practitioners on the computational intelligence techniques and their industrial applications. This particular development and the growing prominence of Chinese research in this area were dominant factors for the ICIPS'97 conference to be held in China.

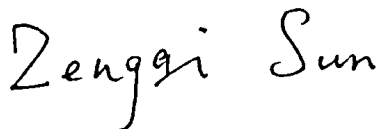
The aim of the ICIPS conference series is to provide researchers and practitioners from industry and academia with a platform to report on recent developments in the area of intelligent systems. Unlike other conferences on computational intelligence, ICIPS'97 focuses on the applications of the computational intelligence techniques to systems, with emphasis on engineering systems.

It is our pleasure to announce that ICIPS'97 has been endorsed by The State Science and Technology Commission of China, Chinese Electronics Ministry, and Beijing Government. Technically co-sponsored by Tsinghua University, Northwestern Polytechnic University, International Technology and Economy Institute, The State Council of China, National Natural Science Foundation of China, Chinese Association of Automation, Japanese Society of Instrument and Control Engineers (SICE), Japan Society for Fuzzy Theory and Systems, Beijing Association for Science and Technology Exchange with Foreign Countries, and IEEE Control System Society Beijing Chapter.

The conference location is Beijing. Beijing is one of the greatest cities of the world, and a treasure house of Chinese culture. Beijing is also much more than a living museum, it is an exciting modern metropolis. We hope you take advantage of the tours of Beijing included in the conference program.

We want to thank a large number of volunteers who have contributed tremendous time and effort to bring ICIPS'97 to you. Especially, we want to acknowledge the effort of the Technical Program Co-Chairs, and Committee members, and all those persons responsible for the background activities from local arrangements to conference secretariat run by volunteers from Tsinghua University.

We hope that all in attendance at ICIPS'97 will find this event intellectually stimulating and professionally rewarding.



Zengqi Sun  
China



Richard Zurawski  
Japan

## WELCOME MESSAGE FROM PROGRAM CO-CHAIRS

On behalf of the Program Committee, we welcome you all to the first IEEE International Conference on Intelligent Processing Systems and welcome you all to Beijing, one of the most charming cities in the world for her thousands years of history, and in 1997 for the return of Hong Kong to China.

We are honored to serve as the Program Co-Chairs for this conference. This is the first time IEEE holds a conference with a single focus on intelligent systems that are actually used in the real world. We and all the Program Committee members are firmly confident that the conference will have impressive impact on the development and application in the area of intelligent processing systems.

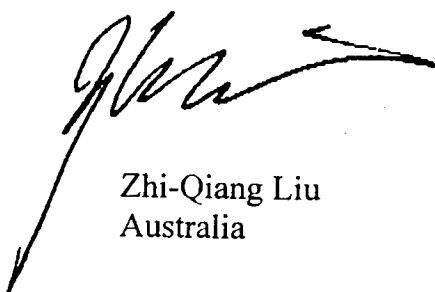
The program contains both contributed and invited sessions. In addition, three plenary speakers have been invited to deliver key talks with balanced topics on the central theme of this conference: Evolutionary Intelligent Systems. The program is also nicely complemented by two tutorials given by world leading experts in the area of evolutionary systems.

In response to our call for papers, over 700 contributions were submitted, of which 400 were accepted. Each contribution was reviewed by three referees. The members of Program Committee and numerous reviewers have done a superb job and made valuable comments to improve the quality of the conference.

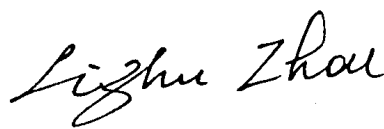
We would like to take this opportunity to thank IEEE Industrial Electronics Society for sponsoring this conference. In addition we would like to thank the General Co-Chairs, Richard Zurawski and Zengqi Sun for an excellent work in leading the activities related to the conference organization. Thanks also to many people who have been involved in the organizational works of the conference. Their effort is essential in making ICIPS'97 a conference at international level.

Finally the diversity and the high quality of the technical program have been made possible by you for your excellent contributions that we are sure will make this first conference a great success.

We are looking forward to seeing you in Beijing and trust that you will have many good memories of this conference and this beautiful city.



Zhi-Qiang Liu  
Australia



Lizhu Zhou  
China



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