

# Preface

This book constitutes the proceedings of the International Symposium on Neural Networks (ISNN 2004) held in Dalian, Liaoning, China during August 19–21, 2004. ISNN 2004 received over 800 submissions from authors in five continents (Asia, Europe, North America, South America, and Oceania), and 23 countries and regions (mainland China, Hong Kong, Taiwan, South Korea, Japan, Singapore, India, Iran, Israel, Turkey, Hungary, Poland, Germany, France, Belgium, Spain, UK, USA, Canada, Mexico, Venezuela, Chile, and Australia). Based on reviews, the Program Committee selected 329 high-quality papers for presentation at ISNN 2004 and publication in the proceedings. The papers are organized into many topical sections under 11 major categories (theoretical analysis; learning and optimization; support vector machines; blind source separation, independent component analysis, and principal component analysis; clustering and classification; robotics and control; telecommunications; signal, image and time series processing; detection, diagnostics, and computer security; biomedical applications; and other applications) covering the whole spectrum of the recent neural network research and development. In addition to the numerous contributed papers, five distinguished scholars were invited to give plenary speeches at ISNN 2004.

ISNN 2004 was an inaugural event. It brought together a few hundred researchers, educators, scientists, and practitioners to the beautiful coastal city Dalian in northeastern China. It provided an international forum for the participants to present new results, to discuss the state of the art, and to exchange information on emerging areas and future trends of neural network research. It also created a nice opportunity for the participants to meet colleagues and make friends who share similar research interests.

The organizers of ISNN 2004 made great efforts to ensure the success of this event. We would like to thank Dalian University of Technology for the sponsorship, various IEEE organizations (especially the IEEE Circuits and Systems Society) for the technical co-sponsorship, and the members of the ISNN 2004 Advisory Committee for their spiritual support. We would also like to thank the members of the Program Committee and additional referees for reviewing the papers and the Publication Committee for checking and compiling the papers in a very short period of time. We would also like to thank the publisher, Springer-Verlag, for their agreement and cooperation to publish the proceedings as a volume of the Lecture Notes in Computer Science. Finally, we would like to thank all the authors for contributing their papers. Without their high-quality papers, this symposium would not have been possible.

August 2004

Fuliang Yin  
Jun Wang  
Chengan Guo



# ISNN 2004 Organization

ISNN 2004 was organized and sponsored by Dalian University of Technology in cooperation with the Chinese University of Hong Kong. It was technically cosponsored by the IEEE Circuits and Systems Society, IEEE Computational Intelligence Society (Beijing, Hong Kong, and Singapore Chapters), and IEEE Control Systems Society and Robotics and Automation Society (Hong Kong Joint Chapter).

## Committees

### General Co-chairs

*Fuliang Yin*, Dalian, China  
*Jun Wang*, Hong Kong

### Advisory Committee Co-chairs

*Gengdong Cheng*, Dalian, China  
*Yixin Zhong*, Beijing, China  
*Jacek M. Zurada*, Louisville, USA

### Advisory Committee Members

*Shun-ichi Amari*, Tokyo, Japan  
*Zheng Bao*, Xi'an, China  
*Guoliang Chen*, Hefei, China  
*Ruwei Dai*, Beijing, China  
*Anthony Kuh*, Honolulu, USA  
*Chunbo Feng*, Nanjing, China  
*Toshio Fukuda*, Nagoya, Japan  
*Zhenya He*, Nanjing, China  
*Kararo Hirasawa*, Fukuoka, Japan

*Frank L. Lewis*, Fort Worth, USA  
*Yanda Li*, Beijing, China  
*Erkki Oja*, Helsinki, Finland  
*Zong Sha*, Beijing, China  
*Tzyh-Jong Tarn*, St. Louis, USA  
*Shoujue Wang*, Beijing, China  
*Zhongtuo Wang*, Dalian, China  
*Youshou Wu*, Beijing, China  
*Bo Zhang*, Beijing, China

### Program Committee Co-chairs

*Chengan Guo*, Dalian, China  
*Andrzej Cichocki*, Tokyo, Japan  
*Mingsheng Zhao*, Beijing, China

### Program Committee Members

*Sabri Arik* (Istanbul, Turkey), *Amit Bhaya* (Rio de Janeiro, Brazil), *Jinde Cao* (Nanjing, China), *Yijia Cao* (Hangzhou, China), *Laiwan Chan* (Hong Kong), *Ke Chen* (Manchester, UK), *Luonan Chen* (Osaka, Japan), *Tianping Chen* (Shanghai, China), *Yiu Ming Cheung* (Hong Kong), *Chuanyin Dang* (Hong Kong), *Wlodzislaw Duch* (Torun, Poland), *Mauro Forti* (Siena, Italy), *Jun Gao* (Hefei, China), *Shuzhi Sam Ge* (Singapore), *Xinping Guan* (Qinhuangdao, China), *Dewen Hu* (Changsha, China), *DeShuang Huang* (Hefei, China), *Donald L. Hung* (San Jose, USA), *Danchi Jiang* (Canberra, Australia), *Licheng Jiao* (Xi'an, China), *H.K. Kwan* (Windsor, Canada), *Xiaoli Li* (Birmingham, UK), *Yuanqing Li* (Tokyo, Japan), *Xue-Bin Liang* (Baton Rouge, USA), *Lizhi Liao*

(Hong Kong), *Xiaofeng Liao* (Chongqing, China), *Chin-Teng Lin* (Hsingchu, Taiwan), *Derong Liu* (Chicago, USA), *Baoliang Lu* (Shanghai, China), *Hongtao Lu* (Shanghai, China), *Fa-Long Luo* (San Jose, USA), *Qing Ma* (Kyoto, Japan), *Zongyuan Mao* (Guangzhou, China), *Xuemei Ren* (Beijing, China), *Rudy Setiono* (Singapore), *Peter Sincak* (Kosice, Slovakia), *Jianbo Su* (Shanghai, China), *Fuchun Sun* (Beijing, China), *Johan Suykens* (Leuven, Belgium), *Ying Tan* (Hefei, China), *Dan Wang* (Singapore), *Lipo Wang* (Singapore), *Wei Wu* (Dalian, China), *Yousheng Xia* (Hong Kong), *Zhongben Xu* (Xi'an, China), *Simon X. Yang* (Guelph, Canada), *Hujun Yin* (Manchester, UK), *Jianwei Zhang* (Hamburg, Germany), *Liming Zhang* (Shanghai, China), *Liqing Zhang* (Shanghai, China), *Yi Zhang* (Chengdu, China), *Weixin Zheng* (Sydney, Australia)

**Organizing Committee Chair**

*Min Han* (Dalian, China)

**Publication Co-chairs**

*Hujun Yin* (Manchester, UK)  
*Tianshuang Qiu* (Dalian, China)

**Publicity Co-chairs**

*Tianshuang Qiu* (Dalian, China)  
*Derong Liu* (Chicago, USA)  
*Meng Joo Er* (Singapore)

Advances in Neural Networks - ISNN 2004

International Symposium on Neural Networks, Dalian,  
China, August 19-21, 2004, Proceedings, Part I

Yin, F.; Wang, J.; Guo, C. (Eds.)

2004, LXX, 1044 p., Softcover

ISBN: 978-3-540-22841-7