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# Rough Sets, Fuzzy Sets, Data Mining, and Granular Computing

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## Preface

This volume contains the papers selected for presentation at the 9th International Conference on Rough Sets, Fuzzy Sets, Data Mining and Granular Computing (RSFDGrC 2003) held at Chongqing University of Posts and Telecommunications, Chongqing, P.R. China, May 26–29, 2003. There were 245 submissions for RSFDGrC 2003 excluding for 2 invited keynote papers and 11 invited plenary papers. Apart from the 13 invited papers, 114 papers were accepted for RSFDGrC 2003 and were included in this volume. The acceptance rate was only 46.5%. These papers were divided into 39 regular oral presentation papers (each allotted 8 pages), 47 short oral presentation papers (each allotted 4 pages) and 28 poster presentation papers (each allotted 4 pages) on the basis of reviewer evaluations. Each paper was reviewed by three referees.

The conference is a continuation and expansion of the International Workshops on Rough Set Theory and Applications. In particular, this was the ninth meeting in the series and the first international conference. The aim of RSFDGrC2003 was to bring together researchers from diverse fields of expertise in order to facilitate mutual understanding and cooperation and to help in cooperative work aimed at new hybrid paradigms.

It is our great pleasure to dedicate this volume to Prof. Zdzislaw Pawlak, who first introduced the basic ideas and definitions of rough sets theory over 20 years ago. Rough sets theory has grown to be a useful method in soft computing. It has also been applied in many artificial intelligence systems and research fields, such as data mining, machine learning, pattern recognition, uncertain reasoning, granular computing, intelligent decision-making, etc. Many international conferences now include rough sets in their lists of topics.

The main theme of the conference was centered around rough sets theory, fuzzy sets theory, data mining technology, granular computing, and their applications. The papers contributed to this volume reflect advances in these areas and some other closely related research areas, such as,

- Rough sets foundations, methods, and applications
- Fuzzy sets and systems
- Data mining
- Granular computing
- Neural networks
- Evolutionary computing
- Machine learning
- Pattern recognition and image processing
- Logics and reasoning
- Multi-agent systems
- Web intelligence
- Intelligent systems

We wish to express our gratitude to Profs. Zdzislaw Pawlak, Bo Zhang, and Ling Zhang for accepting our invitation to be keynote speakers at RSFDGrC 2003. We also wish to thank Profs. Hongxing Li, Tsau Young Lin, Sankar K. Pal, Lech Polkowski, Andrzej Skowron, Hideo Tanaka, Shusaku Tsumoto, Shoujue Wang, Michael Wong,

Yiyu Yao, and Yixin Zhong, who accepted our invitation to present plenary papers at this conference.

We wish to express our thanks to the Honorary Chairs, General Chairs, Program Chairs, and the members of the Advisory Board, Zdzislaw Pawlak, Lotfi A. Zadeh, Tsau Young Lin, Andrzej Skowron, Shusaku Tsumoto, Guoyin Wang, Qing Liu, Yiyu Yao, James Alpigini, Nick Cercone, Jerzy Grzymala-Busse, Akira Nakamura, Sankar Pal, James F. Peters, Lech Polkowski, Zbigniew Ras, Roman Slowinski, Lianhua Xiao, Bo Zhang, Ning Zhong, Yixin Zhong, and Wojciech Ziarko, for their kind contribution to and support of the scientific program and many other conference-related issues. We also acknowledge the help in reviewing papers from all reviewers.

We want to thank all individuals who submitted valuable papers to the RSFDGrC 2003 conference and all conference attendees.

We also wish to express our thanks to Alfred Hofmann at Springer-Verlag for his support and cooperation.

We are grateful to our sponsors and supporters: the National Natural Science Foundation of China, Chongqing University of Posts and Telecommunications, the Municipal Education Committee of Chongqing, China, the Municipal Science and Technology Committee of Chongqing, China, and the Bureau of Information Industry of Chongqing, China for its financial and organizational support. We also would like to express our thanks to the Local Organizing Chair, the President of Chongqing University of Posts and Telecommunications, Prof. Neng Nie for his great help and support in the whole process of preparing RSFDGrC 2003. We also want to thank the secretaries of the conference, Yu Wu, Hong Tang, Li Yang, Guo Xu, Lan Yang, Hongwei Zhang, Xinyu Li, Yunfeng Li, Dongyun Hu, Mulan Zhang, Anbo Dong, Jiujiang An, Zhengren Qin, and Zheng Zheng, for their help in preparing the RSFDGrC 2003 proceedings and organizing the conference.

May 2003

Guoyin Wang  
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