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Transactions on Rough Sets X

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Preface

Volume X of the *Transactions on Rough Sets* (TRS) provides evidence of further growth in the rough set landscape, both in terms of its foundations and its applications.

This volume of the TRS reflects a number of research streams that were either directly or indirectly begun by the seminal work on rough sets by Zdzisław Pawlak (1926-2006)¹. This seminal work started with Zdzisław Pawlak's early 1970s work on knowledge description systems prior to his discovery of rough sets during the early 1980s. Evidence of the growth of various rough set-based research streams can be found in the rough set database².

This volume includes articles that are part of a special issue on "Foundations of Rough Sets" originally proposed by Mihir Chakraborty. In addition to research on the foundations of rough sets, this volume of the TRS also presents papers that reflect the profound influence of a number of other research initiatives by Zdzisław Pawlak.

In particular, this volume introduces a number of new advances in the foundations of rough sets. These advances have significant implications in a number of research areas such as entailment and approximation operators, extensions of information systems, information entropy and granulation, lattices, multicriteria attractiveness evaluation of decision and association rules, ontological systems, rough approximation, and rough geometry in image analysis.

This volume of the TRS has been made possible thanks to the laudable efforts of a great many generous persons and organizations. We extend our thanks to the following reviewers: Cheng Ching-Hsue, Martine De Cock, Ivo Düntsch, Jianwen Fang, Anna Gomolińska, Salvatore Greco, Jerzy W. Grzymała-Busse, Masahiro Inuiguchi, Szymon Jaroszewicz, Jouni Järvinen, Piero Pagliani, Sankar Kumar Pal, Lech Polkowski, Yuhua Qian, Jarosław Stepaniuk, Wojciech Ziarko and Yiyu Yao.

The editors and authors of this volume also extend their gratitude to Alfred Hofmann, Ursula Barth, Christine Reiss and the LNCS staff at Springer for their support in making this volume of the TRS possible. In addition, the editors extend their thanks to Marcin Szczuka for his consummate skill and care in the compilation of this volume.

¹ See, e.g., Peters, J.F., Skowron, A.: Zdzisław Pawlak: Life and Work, *Transactions on Rough Sets* V, (2006), 1-24; Pawlak, Z., A Treatise on Rough Sets, *Transactions on Rough Sets* IV, (2006), 1-17. See, also, Pawlak, Z., Skowron, A.: Rudiments of rough sets, *Information Sciences* 177 (2007) 3-27; Pawlak, Z., Skowron, A.: Rough sets: Some extensions, *Information Sciences* 177 (2007) 28-40; Pawlak, Z., Skowron, A.: Rough sets and Boolean reasoning, *Information Sciences* 177 (2007) 41-73.

² <http://rsds.wsiz.rzeszow.pl/rsds.php>

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May 2009

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LNCS Transactions on Rough Sets

The *Transactions on Rough Sets* series has as its principal aim the fostering of professional exchanges between scientists and practitioners who are interested in the foundations and applications of rough sets. Topics include foundations and applications of rough sets as well as foundations and applications of hybrid methods combining rough sets with other approaches important for the development of intelligent systems. The journal includes high-quality research articles accepted for publication on the basis of thorough peer reviews. Dissertations and monographs up to 250 pages that include new research results can also be considered as regular papers. Extended and revised versions of selected papers from conferences can also be included in regular or special issues of the journal.

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