

Special session on **Rough Sets in Process Mining: Theory, Technologies and Applications**

In the real-life applications, we deal with different kinds of processes, e.g., reasoning processes, business processes, manufacturing processes, chemical or biological processes, economic processes, etc. They can be continuous or discrete. Some of them are running in parallel or concurrently. An important problem is to model the behavior of such processes and analyze or discover their properties. Another problem, currently examined, covers different aspects of process mining in data. Solving such problems may lead to better understanding the nature of modeled systems of concurrent processes with respect to both their structures, as well as behaviors. One of methodologies used in discovering the process behavior or mining processes in data is rough set theory. A research trend binding rough sets with concurrency was initiated by Prof. Z. Pawlak in 1992 in his paper "Concurrent Versus Sequential the Rough Sets Perspective" (Bulletin of the EATCS, No. 48, pp. 178-190) and continued by a number of others during the last two decades. In general, this trend concerns the following issues:

- discovering concurrent system models (especially in the automatized way) from experimental data represented by information systems, dynamic information systems, or specialized matrices,
- a use of rough set based methods for extracting knowledge from data describing different kinds of processes,
- discovering distributed approximate reasoning models from decision tables,
- a use of different kinds of rules for describing system behaviors,
- modeling and analyzing of systems of concurrent processes by means of different classes of Petri nets.

The above list is not completed and it can be extended to other fields of knowledge discovering and process mining.

This special session seeks to bring together researchers and practitioners interested in both theoretical advances and applications of process discovering, mining and modeling using different techniques based on rough set theory and the related fields. A special attention will be focused on different modeling tools, not restricted only to Petri nets. There are many other process modeling tools based on a graphical representation, e.g., Business Process Modeling Notation, different classes of automata, different classes of UML diagrams, etc. Software demonstration are also highly welcomed. In order to present the state-of-the-art scientific results and to start a fruitful discussion about process mining from the theoretical and practical point of view, the special session on rough sets in process mining will be organized at the conference on "Rough Sets and Knowledge Technology" (RSKT'2011), held in Banff, Canada from October 9-12, 2011.

If you are interested in presenting a paper, please submit a short (1 page maximum) abstract to the organizers of the special session. The authors of accepted abstracts will be invited to write and submit their full papers via our electronic paper submission system. The URL for paper submission system is <https://www.easychair.org/account/signin.cgi?conf=rskt11>. All submitted papers will be reviewed on the basis of technical quality, relevance, significance, and clarity. Each paper should have no more than ten (10) pages in the Springer-Verlag LNCS style, including figures, tables and references. Springer-Verlag author instructions are available at <http://www.springer.com/lncs>. All accepted papers will be published in the main conference proceedings. It is also expected that one of the authors will present their paper at the special session.

Important Dates:

Abstract submission due: February 5, 2011	Paper acceptance/rejection notification: May 20, 2011
Abstract acceptance notification: February 15, 2011	Camera ready submission and registration: July 6, 2011
Full paper submission due: March 20, 2011	Conference: October 9 -12, 2011

Session Organizers:

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Please send your abstract (in PDF) to Krzysztof Pancerz (kpancerz@wsiz.rzeszow.pl) and Zbigniew Suraj (zsuraj@univ.rzeszow.pl) by February 5, 2011.

We look forward to your participation at RSKT 2011.