**INTERNATIONAL**

## INVITED SESSION SUMMARY

**Title of Session:**
Intelligentdecisionsupportandprocessoptimizationunderuncertainty

**Name, Title and Affiliation of Chair:**
1. Dr Aleksandra Radomska-Zalas, Gorzow Technology Center Science and Industry Park, GorzówWielkopolski
2. Prof. Andrzej Perec, Faculty of Technology, The Jacob of Paradies University, Gorzów Wielkopolski
3. Prof. Paweł Ziemba, Institute of Management, University of Szczecin,
4. Prof. Jarosław Becker, Faculty of Technology, The Jacob of Paradies University, Gorzów Wielkopolski
5. Dr Łukasz Lemieszewski, Faculty of Technology, The Jacob of Paradies University, Gorzów Wielkopolski

**Details of Session (including aim and scope):**
Decision making is an integral part of the organization and production management. Wrong decisions cause losses to the organization and wrong strategic decisions can even lead to the collapse of the company. In almost every case, the nature of the decision-making problem makes it a multi-criteria problem. Multi-criteria Decision Making (MCDM) methods allow us to solve such a decision-making problem by considering: the complexity of the decision process, conflicting criteria, different scenarios, decision-maker preferences, sources of uncertainty and timeframes. Recently, the importance of optimizing production processes from preparation of production to its implementation has also increased. Optimization process methods takes into account not only organizational aspects, but also the design of devices, the quality and the automation of production processes. One of the forms of integration of the above factors are information systems based on methods and algorithms based on MCDM methods. It should be noted that decision-making and optimization problems are usually characterized by uncertainty and imprecision. This uncertainty comes from the following reasons: the decision or optimization model is only a simplification of reality, values changeover time, data are not always results of accurate measurements, are often imprecise, uncertain or ill-defined. Intelligent information systems, such as decision support systems, expert systems and production systems have found wide application indecision-making and optimization of production processes. One of the most important elements of such systems is knowledge that allows us to make conclusions and indicate optimal solutions even in conditions of uncertainty. The aim of this special session is to present new methods and approaches to decision making and optimization. These approaches and methods should take into account uncertainty. The area of interest of this special session is also the application of methods indecision-making and process optimization problems in which some features are uncertain or imprecise. In the submitted manuscripts it is important to characterize the problem, as well as to present its solution using MCDM or optimization method appropriate for the given problem. Weinviteresearcherstosubmitpapersandresearchaddressingtheissuespresented.   Potential   topics include but are not limited to the following:
  – Fuzzy MCDA and optimization methods
  – Stochastic MCDA and optimization methods
  – Approaches to process optimization under uncertainty
  – Methods of optimizing production processes based on imprecise information
  – Uncertain or imprecise decision-making and optimization problems

**Main Contributing Researchers / Research Centres (tentative, if known at this stage):**

**Website URL of Call for Papers (if any):**

**Email & Contact Details:**
a.radomska-zalas@gotechnology.pl
aperec@ajp.edu.pl
pawel.ziemba@usz.edu.pl
jbecker@ajp.edu.pl
llemieszewski@ajp.edu.pl