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EDITORIAL

Advanced models and optimization in manufacturing and logistics systems

Mitsuo Gen · Hark Hwang

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Model design and optimization is one of the most important and frequently encountered classes of the combinatorial problems for the manufacturing and logistics systems. Applications of models and optimization can be seen in all areas including applied mathematics, engineering, computer science, industry, automation & robotics, business & finance, medicine & biomedicine, bioinformatics, cyberspace, and man-machine interactions. Among these areas, manufacturing and logistics have gained increasing attention of researchers. Integration of manufacturing and logistics brings together different functional areas of an enterprise into a unified manufacturing and logistics systems. With the introduction of new technologies and the advance of equipment intelligence capability, manufacturing and logistics systems are facing ongoing transformational changes. In the increasingly turbulent environment, design and management of manufacturing and logistics systems has become a necessity for achieving competitive advantage. Consequently, various solution techniques are evolving to respond to various needs of manufacturing and logistics systems. In real world, many practical applications impose on complex issues such as complex structures, complex constraints and multiple objectives to be handled simultaneously, make the problem intractable by the traditional solution approaches and accordingly more practically solvable by recent heuristics and metaheuristics. This special issue in *Journal of Intelligent Manufacturing* aims to address the critical issues involved in *Advanced Models and Optimization in Manufacturing and Logistics Systems*.

The purpose of this special issue is to promote exchange and disseminate information and research results on advanced models and optimization in manufacturing and logistics systems. The intent of the special issue is to enable the researchers and practitioners in this field to keep up with these fast advanced techniques and to promote a better understanding and collaboration among them. The special issue presents insightful, comprehensive, and up-to-date theoretical, practical and real-world applications of network models and optimization in manufacturing and logistics systems.

Original, high quality papers and empirical research papers with scientific novelty were invited from scholars and practitioners to address this subject. This special issue was addressed to participants of *Asia Conference on Intelligent Manufacturing & Logistics Systems* (IML2008), February 25–27, 2008 at the Kitakyushu, Japan. We received initially 17 manuscripts recommended by session chairs of the conference. Other papers were also directly submitted for review and publication from researchers related to the subject. All submitted manuscripts were carefully blind peer-reviewed by at least two referees, in accordance with *Journal of Intelligent Manufacturing* procedure and finally 12 manuscripts were selected for this special issue. The quality of the paper was decided upon several features such as the originality, technical depth, significance of results, and adequacy of priori works referenced, overall organization, clarity and readability.

The publication of this special issue is depended on the cooperation of the authors, reviewers, and editors. We, as the guest editors, would like to take this opportunity to express our sincere appreciation to all of the authors, reviewers, Dr. Lin Lin of Waseda University and the Editor-in-Chief Dr. Andew Kusiak of *Journal of Intelligent Manufacturing*.

M. Gen (✉)
Graduate School of Information, Production and Systems,
Waseda University, Kitakyushu 808–0135, Japan
e-mail: mitsuogen@gmail.com

H. Hwang
Department of Industrial and Systems Engineering, Korea Advanced Institute of Science and Technology, Taejeon, South Korea
e-mail: harkhwang@kaist.ac.kr