

Editorial note

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Intelligent manufacturing systems are facing a global challenge than ever before. Things are changing rapidly and new technologies are emerging. Manufacturing society has therefore being facing major changes. Industrial revolution is becoming knowledge revolution and industrial society is turning into information and knowledge society. Most of manufacturing functions are carried out as much virtually as possible. Over the past two or three decades manufacturing systems have being experiencing great deal of intelligency and the trend along this line continues. As mentioned in our previous notes, the manufacturing industry of the next century will seem to be characterized by intensively concurrent engineering based on digitalization, computer network, artificial intelligence and the like. Agility, intelligence and rapid response are essential requirements for the manufacturing systems to favor high quality products, small batch sizes, individualization requirements, consumer involvement, and environmental consciousness.

By being aware of this global challenge and rapid changes in manufacturing society, a series of symposium on intelligent

manufacturing systems has being carried out biannually by Sakarya University since 1996. The 5th *symposium on intelligent manufacturing systems* was held in 2006 where 151 papers were presented. The main motivation of the symposium was to create a discussion forum among the researchers as well as industrial practitioners to come together and exchange their knowledge and experiences toward integrated intelligent systems. The conference was a successful event yielded a series of valuable discussions. Several papers with high academic quality were selected and sent out for a thorough review and those are qualified to appear in the *Journal of Intelligent Manufacturing Systems* are published in this special issue.

The papers which were selected for this issue covers a wide variety of manufacturing topics including integrated process planning and scheduling optimization, construction of quality control charts using fuzzy logic, project oriented task scheduling, agent based supply chain management, modeling and simulation of fuzzy logic based robot arms, updating routing tables using ant colony optimization, knee optimization for an intelligent robotic system, surface roughness modeling in machining using evolutionary approach, multi-attribute group decision making for technology leverage, detection of bearing defects in inverter fed small induction motors and fuzzy clustering-based hybrid method for facility layout problems.

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