Guest Editorial

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The automotive industry is one of the most competitive and technologically challenging industries. The new technologies for computer integrated product development systems are needed to produce technologically advanced automobiles with a wide range of options. Today, the automotive industry is faced with fierce competition. In order to meet today's global market requirements, there is a need to introduce advanced production and information technologies to produce higher quality products at less cost with shorter lead times. It has been recognized by both academic and industrial environments that the introduction of new technologies and integration are key factors towards the successful implementation of the automated production process.

In the 1980s, there was a strong trend towards computer integrated product development and automation, so automotive companies invested heavily in CIM (computer integrated manufacturing) systems. In the 1990s, it was seen that effectiveness of traditional computer integrated systems is not at a satisfactory level to ensure competitiveness and high productivity. Although many research efforts have been made, effectiveness of these systems in the real industrial environment are not satisfactory and shortcomings are not yet solved.

In the production environment, there is a growing intent to implement successful organization-wide integration systems and computing technology to overcome the drawbacks of traditional computer integrated production systems. Efficient use of new approaches and computing technology will reduce the time to market and production cost while improving product quality.

Recently, neural network and feature approach with computing technologies have been introduced to overcome the barriers for the effective integration and automation of design and downstream applications such as machining, process planning, analysis, assembly, inspection etc. To conclude, the use of neural network and feature approach with computing technologies provide better support than other techniques in design and downstream activities of the automotive industry.

This Special Issue consists of eleven papers and addresses the central issues associated with neural network, computing technology and feature-based applications in design and downstream activities of the automotive industry.

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