

The 9th International Conference on CAD/CAM, Robotics & Factories of the Future - CARs & FOF '93

Gabriel Neagu was born in Bucharest, Romania, in 1949. In 1973 he received his M.Sc. in Control Engineering from the Energetic Institute of Moscow and joined the Research Institute for Informatics in Bucharest. His major R&D activities have been dedicated to complex information systems development for steelworks and aluminium plants, pipe factories, electronic industry; real-time discrete production systems development at the shopfloor level; MIS development at micro and macroeconomic levels. He is author/co-author of some 25 papers, mainly discussing industrial information systems design. Currently he is senior researcher and advisor to the Director-General of the Research Institute for Informatics. He is a candidate to doctoral degree in Applied Informatics. His research interests include knowledge-based production control systems, modelling and qualitative simulation of discrete processes, DSS, societal informatization, advanced information systems engineering.

The 9th CARs & FOF Conference was the major event on the annual events agenda of the International Society for Productivity Enhancement (ISPE). The conference was organized by the New Jersey Institute of Technology (NJIT) and was held in Newark, NJ, USA, from August 17 to August 20, 1993. The General Conference Chair person was Dr. Raj S. Sodhi (NJIT). The International Program Committee had Professor MengChu Zhou (NJIT) as Chairperson and Professor R. Gill (Middlesex University, London, UK), Dr. J.M. Proth (INRIA-Lorraine, Metz, France), and Professor R. Radharamanan (Marquette University, Milwaukee, WI, USA) - as Vice-chairs.

The conference topic was "Manufacturing Systems: Design, Modelling, and Analysis for Productivity Enhancement". Its primary objective was to bring together researchers and practicing engineers from government, industry and academia with the purpose of sharing knowledge on the multidisciplinary aspects of computer aided manufacturing systems. product design and prototyping, machine intelligence, robotics, information systems design and management, and the total quality manufacturing.

There were 232 papers presented by authors coming from 30 countries, covering the following topical tracks and session topics:

A: MANUFACTURING SYSTEMS: DESIGN, MODELING AND ANALYSIS FOR PRODUCTIVITY ENHANCEMENT

- Simulation and Rapid Prototyping
- Modeling and Simulation
- Petri Nets Modelling
- Statistical Applications in Manufacturing
- Computer Integrated Manufacturing
- Enterprise Integration
- Flexible Manufacturing Systems
- Expert Systems

B: MANUFACTURING SCHEDULING AND CONTROL

- Manufacturing Scheduling (3 sections)
- Planning, Scheduling & Control Using Petri Nets
- Production Control
- Process Planning
- Control Using Neural Networks
- Neural Networks in Manufacturing Applications
- Advanced Computer Control

C: ROBOTICS

- Sensing and Vision
- Robotics Applications
- Robotic Path Planning
- Methods in Robot Design (2)
- Intelligent Control in Robotics
- Robot Development
- Robot Control
- Assembly Automation

D: DESIGN

Concurrent Engineering
Issues in System Design
Design Optimization
FMS Design and Development
Tolerances in Engineering Design
CAD/CAM (2)
Finite Element Modelling
Feature Based Design

E: MANUFACTURING APPLICATIONS

Management Issues
Quality Control (2)
Materials in Manufacturing
Non-Traditional Machining
Manufacturing Processes/Metal Working
Industrial Inspection
Inspection and Monitoring
Machining and Tools

Three plenary sessions were convened:

- a. Virtual companies and agile manufacturing: the 21st century vision - by Dr. R. Nagel, Professor of Manufacturing Systems Engineering, Lehigh University, Bethlehem, PA,
- b. Manufacturing research in an university environment - by Dr. A.S. Soni, Director of Center for Advanced Manufacturing Systems, University of Cincinnati, OH,

- c. Silicon picocircuits - by M.P. Lepselter, Lepton Inc., Murray Hill, NJ.

During the conference the ISPE general body meeting was also held. ISPE was founded in 1984 with the goal to accelerate the international exchange of ideas and scientific knowledge in different fields of technological applications. The main objective of ISPE is to foster cross-fertilisation of technology, strategy and 4M resources (man power, machine, money and management) to enhance productivity, to increase profitability and competitiveness. ISPE aims to provide opportunities for contact between members through national and international conferences, seminars, training courses and workshops, and also to create a channel of communication between academic researchers, industrial users and corporate managers.

The participants were invited to visit NJIT, the largest technological university in the New York metropolitan area, with significant contribution to the economic development of the region, particularly in the fields of manufacturing, environment, biotechnology, and technology management. The total university enrollment is of approx. 7,700 students. One remarkable moment was the establishment of the Center for Manufacturing Systems - an Advanced Technology Center of the New Jersey Commission on Science and Technology.

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