Special Seminar

Dr. AMIR HEKMATPOUR

IBM Manufacturing Technology Center

Austin, Texas

"Efficient Manufacturing Operation Support"

Knowledge intensive and cost sensitive enterprises such as manufacturing, process industry, and industrial training are continually searching for efficient and low cost alternatives for operation support and work force training. Down–sizing, shorter product life cycle, and automation have brought upon the need for the employee workstation ownership. Workstation ownership requires proficiency across several discipline in order for one to be able to respond to many aspect of his/her duties and workplace. Multimedia and knowledge–based systems are recognized as efficient means for rapid information dissemination, timely access to critical expertise, improved decision support, need–based training, and on–line documentations.

This seminar is divided into two parts. In part I, topics listed below are presented. In part II, a demo of several sample KBMMS for semiconductor manufacturing, as well as some knowledge engineering exercises and KBMMS development tools/techniques are presented.

Part I:

An overview of the following manufacturing operations;

– Production control and management
– Facility operation and maintenance
– Personnel training and placement
– Logistic management

Knowledge–based systems (KBS) for:

– Solving problems requiring intelligent reasoning
– Real–time decision support
– Procedural and rule–based reasoning
– Knowledge capture and transfer
– Operation management modeling and simulation

Multimedia systems for providing:

– Need–based training
– Interactive testing and certification
– on–line manufacturing procedures/manuals/docs

Overall goal/measurement of deploying KBMMS in manufacturing – Optimize production:

– Reduce mean–time–off–line
– Increase mean–time–between–failure
– Reduce mean–time–to–repair
– Improve product quality
– Enhance responsiveness (ECs, shorter product cycle)
– Lower operating cost (reduce scraps, reworks, tool downtime,...)
– Improve safety

Part II: *KBMMS demo & KE exercises*

Monday, May 8, 1995
3:00 to 6:00 p.m.
UCSD, EBU1, Room 4307
This Seminar is Free to Faculty, Students and Industry Members

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For more information call Vivian Shinmoto at 619–534–7398