

Announcements

INTERNATIONAL MACHINE TOOL CONFERENCE AND EXHIBITION MACH 84

NEC, Birmingham (U.K.), June 26-28, 1984

1. THE CONFERENCE

PRODUCTIVITY: THE ANSWER TO COMPETITION - the theme of the MACH 84 conference which is the first ever to be held alongside the MTTA International Machine Tool Exhibition.

Productivity and competition have never been more important and all manufacturers need to take active steps to keep abreast of developments in the machine tool and related industries. More and more often machine tools are being integrated into automated and flexible manufacturing systems and, under the stimulus of automation, the machine tool industry has seen some quite dramatic changes in recent years.

The conference has been designed to cater for the needs of everyone in manufacturing industry.

2. THE EXHIBITION

MACH 84, the 14th in a series of exhibitions organised by the MTTA is the largest machine tool exhibition to be seen in the UK for four years.

Already many major exhibitors have intimated that FMS will be a predominant feature of their display and visitors looking forward to significant displays of FMS hardware will not be disappointed.

For most production engineers moving into FMS, however, the starting point will be a stand alone machining cell with all the facilities for extended periods of unmanned operation. There will be plenty of these in evidence at MACH 84. Machining Centres with increased pallet storage capability provided by pallet pools or guided vehicles; CNC lathes with robot and gantry loading systems and CNC turret presses with automatic sheet handling equipment will all be on show.

The 'unmanned machining' capability also demands tool monitoring, automatic gauging and production scheduling systems - all these will be evidenced at MACH 84.

Finally, the overall performance of even the most sophisticated machining system is still governed by the ubiquitous tool-tip, and cutting tool manufacturers will be taking the wraps off some of their latest developments designed to boost both cutting speed and tool life.

Addresses for Enquiries:

1. Conference . . . IFS (Conferences) Ltd, 35-39 High Street, Kempston, Bedford MK42 7BT, U.K.
(Tel. 0234 853605; telex 825489)
2. Exhibition . . . MTTA, 62 Bayswater Road, London W2 3PH, U.K.
(Tel. 01 402 6671; telex 27829)

IFAC WORLD CONGRESS - 1984

2-6 July, 1984, Budapest, Hungary

1. CONGRESS COLLOQUIA

Besides the six keynote addresses announced earlier, the 569 accepted papers from over 40 countries will be organized into 37 colloquia by their subject and into 10 strings by time and place of their presentation. The theme for each string is as follows:

- a. Power stations and systems, control for the utilization of energy and materials.
- b. Traffic control, biomedical control, computer components and instruments.
- c. Space applications, industrial systems engineering, industrial process control.
- d. Developing countries, international stability, environmental control, educations, water resources, energy systems.
- e. Mathematical systems theory, singular perturbations, team and game theory, decision support techniques.
- f. Social effects of automation, manufacturing technology, man-machine systems.
- g. Adaptive and stochastic control.
- h. Analysis and structural properties, CAD of control systems.
- i. Synthesis of control, applications of nonlinear programming.
- j. Identification, theory and methodology of large scale systems.

2. PANEL DISCUSSIONS

Important practical problems in industry will be the subject of a series of 11 panel discussions, organized as an 11th string. In addition, 27 more panel discussions will be held on different subjects, related mainly to paper sessions.

3. CASE STUDIES, TECHNICAL VISITS

Seven case studies are inserted in between paper sessions, mostly in close connection to their context. Technical visits are arranged for those taking interest in

- looking at the research and development sites below:

- Central Research Institute for Physics
 - Computer and Automation Institute
 - Budapest Technical University
- how new science and technology works in practice in farming:
- Production Cooperative for Maize and Industrial Crops
- manufacturing process control instrumentation and systems:
- MMG Automation Works.

4. PREPRINTS, PROCEEDINGS

All the papers presented at the congress will be published and distributed to participants in 10 preprint volumes, plus an additional one containing the keynote speeches and case studies. Proceedings covering the panel discussions will be available after the congress as a Pergamon Press edition.

5. CULTURAL ACTIVITIES, POST-CONGRESS TOURS

For accompanying guests and participants, a wide variety of social programs is offered. These include tours of Budapest, the

Pusztá (the Great Plain), Lake Balaton, the Danube Bend, and various other parts of the Hungarian countryside. The above tours are available during the week of the congress, as well as afterwards.

Enquiries to: Congress Secretariat, Computer and Automation Institute, Hungarian Academy of Sciences, Budapest, P.O.B. 63, H-1502, HUNGARY (Tel. 361 253 442; telex 22-5066 akibp h; cable IFAC Budapest)

NATIONAL CONFERENCE AND EXHIBITION ON ROBOTICS - 1984

Melbourne, Australia, August 20-24, 1984

1. THE CONFERENCE

The Conference promises to be the most important national robotic event held to date. It will have a strong application and education emphasis. Leading Australian Robot users, developers and researchers will present their experience and views on this important high technology area.

2. THEME

Robots - What they will do for us now and tomorrow

3. AIMS

- To inform potential users of robot technology of the principles, capabilities and limitations of industrial robots;
- to develop an awareness within the manufacturing sector of the necessity to exploit this high technology approach;
- to provide case studies of successful robot applications in Australia and overseas;
- to enable forward planning by describing current R & D in robotics.

4. TOPICS

- Application and Development
 - Material Handling
 - Welding
 - Finishing
 - Assembly
- Human Factors
 - Labour Viewpoint
 - Social Implications
 - Management/Manufacturers Viewpoint
 - Safety
 - Design
- Implementation and Justification
 - Cost
 - Limitations
 - Education and Training
- Robot Control Systems
- Robot Languages and Programming
- Robot Kinematics
- Machine Interfacing
- End Effectors
- Sensors
- Maintenance
- The Role of Government in High Technology
- Case Studies

5. WORKSHOP AND EXHIBITION

A tutorial workshop will be held on August 20, which will allow attendees without detailed knowledge of robotics, to obtain

some background information prior to attending the Conference proper.

An exhibition will be run in conjunction with the Conference. This will include robots, accessory equipment and educational material.

Enquiries to: The Conference Manager, National Conference and Exhibition on Robotics 1984, The Institution of Engineers, Australia, 11 National Circuit, Barton A.C.T. 2600, Australia (Tel. 062 73 3633; Cable ENJOAUST Canberra)

ELECTRONIC IMAGING 84

International Electronics Imaging Exposition and Conference Boston, U.S.A., September 11-13, 1984

Electronic Imaging '84 will be held in Boston, MA September 11-13, 1984, at The Westin Hotel. This conference will focus on: (1) The state of the art in electronic imaging devices and systems; (2) Impact of this new technology on present and future applications.

Combined with this Conference will be an outstanding exposition comprised of up to 100 exhibitors who will be displaying the latest in electronic imaging components and systems.

This conference will encompass recent advances in electronic imaging and its applications. It is planned to hold sessions on the following subjects:

1. STATE-OF-THE-ART AND FUTURE TRENDS IN PHOTO SENSORS

Visible	X-Ray
Infrared	UV-Sensors
Pyroelectric	

2. TRENDS IN IMAGE PROCESSING

3. DISPLAYS AND HARD COPY OUTPUT

4. REVIEW AND PREVIEW OF APPLICATIONS

Facsimile
High Definition Television
Electronic Photography
Scientific Applications
Medical Imaging
Graphic Arts

Enquiries to: SPSE, 7003 Kilworth Lane, Springfield, Virginia 22151, U.S.A. (Tel. 703 642 9090)

INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE, METHODOLOGY AND SYSTEMS APPLICATIONS

Varna, Bulgaria, September 17-20, 1984

The aim of the Conference is to highlight the latest advances in the field of artificial intelligence and to outline the new trends of application and their possible impact on technological and social areas.

TOPICS

- a. Methodology
 - Expert systems
 - Image and scene recognition
 - Natural language processing
 - Speech analysis/synthesis
 - CAD/CAM/CAE systems
 - Intelligent robots
 - Computer assisted instruction
 - Personal computers

b. Systems

- Functional and logical programming languages
- Intelligent program environment
- Meta-systems
- Fifth generation computer systems

c. Applications

- Philosophical aspects
- Social and psychological aspects
- Economic aspects
- Cognitive models and learning
- Knowledge engineering
- Problem solving
- Formal methods
- Concepts for fifth generation computers

Enquiries to: Mr C. Ditchev, ITKR-Ban 2 "Ac. G. Bonchev" STR., AIMS '84 1113 SOFIA, BULGARIA' (TEL. 71-401, ext. 275', telex 22836)

SEMINAR ON FLEXIBLE MANUFACTURING SYSTEMS: DESIGN AND APPLICATIONS

Sofia, Bulgaria; September 24-28, 1984

At its third session, the Working Party on Engineering Industries and Automation of the Economic Commission for Europe gratefully acknowledged the invitation extended by the Government of Bulgaria to host a seminar on flexible manufacturing systems (FMS). The main objective of the Seminar is to provide a forum for exchanging experiences and for discussing the techno-economic and social aspects of the manufacture and use of FMS in order to assure quality and reliability of the products and increase productivity in the engineering industries.

It is intended that the Seminar should adopt an interdisciplinary approach in order to bring together Government officials, directors of industrial enterprises and companies supplying FMS and their components, leading specialists of research institutes, main users and foreign trade specialists. Conclusions and recommendations resulting from the Seminar are expected to help to make more effective use of existing knowledge on an international scale. They might encompass the evaluation of innovation trends and existing experience in the use of FMS, international co-operation, international trade and division of labour, and standardization. The Seminar may also serve to acquaint participants with the activities of relevant international governmental and non-governmental organizations.

Participation in the Seminar is open to interested persons from countries members of the Economic Commission for Europe and, under the relevant articles of the terms of reference of *ECE*, to representatives of other States Members of the United Nations - in both cases participants should have the endorsement of their Governments - as well as to representatives of specialized agencies and intergovernmental and non-governmental international organizations normally participating in the activities of *ECE*. Participants are responsible for their travel and hotel expenses, but no fee is charged for taking part in the Seminar itself.

Enquiries to: The Industry and Technology Division, UN, ECE, Palais des Nations, CH-1211 Geneva 10, Switzerland (Tel. 022 34 60 11, ext. 3254, 3258 or 3296; telex 28 96 96 UNATIONS CH)

SYMPOSIUM 'ANALYSIS 84' - ADVANCED MICROCOMPUTING AND ROBOTICS

London, U.K.; October 23-24, 1984.

This conference will deal with current developments in practical microcomputing, including the application of robots in analytical laboratories.

Enquiries to: Beverley Humphrey, Scientific Symposia Ltd, 33/35 Bowling Green Lane, London EC1R ODA, U.K.

INTERNATIONAL CONFERENCE ON MACHINE CONTROL SYSTEMS, MACON-1

Brighton, U.K.; October 23-25, 1984

Developments in electronics and in computer hardware and software are bringing rapid changes to the equipment and systems for control of manufacturing operations and processes.

Higher capability and lower costs in micro-processors and micro-computers are making possible the distribution of more control and more intelligence to the local work station, which can handle not only the control of the machine or process but also in-process measurement with automatic correction, adaptive control to meet changing working or environmental conditions, interfacing of machines, robots and other elements in work cells, diagnostic systems for error and fault detection, and automatic reporting for production scheduling, quality control, maintenance and other purposes.

At a higher level, steps are being taken to link major functions, such as design, process planning, manufacturing and inspection with integrated software, to allow direct and speedy transfer of design information into products and processes. Engineers will be looking to intelligent, knowledge-based systems to assist in the complex overall management tasks in product manufacturing and process control.

Vital to the growth in applications of control systems at all levels is the acceptance, at least, of minimal standards to allow interfacing between different types of control equipment.

The aim of MACON 1 will be to provide an international forum where users and suppliers of equipment, services and software can meet to exchange experiences and ideas on current facilities, applications and future trends.

PROPOSED TOPICS (NOT EXCLUSIVE)

- Microprocessor and computer developments related to machine control
- Machine and process control systems
- Programmable controllers
- CNC and DNC systems
- Software for machine and process control
- Interface standards
- Product reliability
- Communications hardware and software
- Manufacturing control software
- Economics of automatic control systems
- Managements aspects
- Industrial case studies
- Human factors

Enquiries to: IFS (Conferences) Ltd, as above.

INTERNATIONAL CONFERENCE ON SPEECH TECHNOLOGY

Brighton, U.K.; October 23-25, 1984

Speech technology is currently on the brink of discovery - discovery not by research scientists, but by industry, for whom it can become an important new manufacturing tool. The concept of using speech synthesis and recognition in industry today may seem rather futuristic, but this has been the case in the initial stages for many of the technologies on which industry now heavily relies. We need only think of computer systems and robotics and their rapid implementation over the past decade.

It is true that research into speech technology was not originally industry-orientated. Many of the potential applications now envisaged are by-products of sound systems research rather than original aims. However, they are no less valuable to industry for that. And equipment is already on the market which, for those who are aware both of its potential and its limitations, can pay its way in a great variety of applications.

Speech recognition and synthesis offer a natural means of communication with computers and automatic equipment where keyboard entry and visual displays are inconvenient, difficult or impossible. Equipment has found use in applications as diverse as motor car assembly line inspection, environmental control for disabled persons, data entry and control in helicopter cockpits, and Post Office mail sorting. In the long term, speech technology will have a profound influence on our working (and not only our working) lives.

The International Conference on Speech Technology will offer a unique introduction to this emerging technology. International experts will be assembled to describe the results of their research and experience, in what is intended to be an easily digestible, easily accessible capsule of information. Associated with the conference will be a small exhibition of currently available systems.

TOPICS

Topics to be covered in the conference will include:

- trends in equipment design
- user experience in industry, commerce and telecommunications
- evaluation and standardisation
- human factors in speech technology
- economics of speech recognition and synthesis
- future applications, to encompass users' needs and research trends.

Enquiries to: IFS (Conferences) Ltd, as above.

1984 MEETING OF THE AMERICAN SOCIETY FOR CYBERNETICS

Philadelphia, Pennsylvania (U.S.A.); November 1-4, 1984.

Recent developments in the "new" or "second order" cybernetics have focussed on, among other things, principles of autonomous systems. With George Orwell's (that earlier cybernetic thinker) vision of 1984 being a timely focal point, the concept of autonomy, as well as related ideas of dependence and intervention, call out to be reexamined from a cybernetic perspective. The conference theme will focus on AUTONOMY, INTERVENTION AND DEPENDENCE as they relate to cybernetics and:

- Family Systems/Family Therapy
- Organizations/Management Consulting
- International Development
- Artificial Intelligence

- Cognitive Systems
- Architectural Systems
- Information Systems
- Biological Systems
- Planning/Evaluation
- Ecosystems
- Education
- Science Fiction

Cross-pollination of these areas is also encouraged. (This list is merely suggestive and not exhaustive.)

In conjunction with the above, an underlying theme throughout the conference will be the development of concepts of second order cybernetics, including cybernetic epistemology and methodology.

A variety of formats of presentation are encouraged, including, but not limited to papers, symposia, workshops, tutorials.

Awards will be given for outstanding student papers.

Enquiries to: Dr. Frederick Steier, Annenberg School of Communications, University of Pennsylvania, Philadelphia, PA 19104, U.S.A. (Tel. 215 898-5233 or 215 243-2794)

ROBOTICA/84... FIRST INTERNATIONAL SHOW OF ROBOTS, HANDLERS AND COMPONENTS

Zaragoza, Spain; November 13-17, 1984.

In addition to the exhibition there will be a number of technical sessions involving international participation.

Enquiries to: Institucion Feria Oficial y Nacional de Muestras, Palacio Ferial, Apartado Correos 108, Zaragoza, Spain (Tel. 358150; telex 58185 FEMU E).

INTERNATIONAL CONFERENCE ON ROBOTICS AND FACTORIES OF THE FUTURE

The University of North Carolina at Charlotte, U.S.A. December 4-8, 1984

SUGGESTED TOPICS:

- Overview and Planning for Automated Factories
- Robotics and Their Applications
- Effect of Automation and Robots on Factory Design
- Social and Economic Effects
- Educational Interface

Enquiries to: Dr Surendra Dwivedi or Dr William V. Wright, College of Engineering, The University of North Carolina at Charlotte, Charlotte N.C. 28223, U.S.A. (Tel. 704 597 4190)