

Announcement

INTERNATIONAL CONFERENCE ON HUMAN FACTORS IN MANUFACTURING (HUMAN-1)

London U.K., April 3–5, 1984

The increasing move towards automation in industry has been described as the 2nd industrial revolution, and certainly the effects on work forces of current manufacturing developments are almost as dramatic as the advent of the machine, as workers learn how to live with the new technologies.

In the rush to introduce and implement automated production methods there has been an almost universal disregard for the human factors involved. But now, as innovations give way to applications and more and more automated manufacturing cells go into full production, the human factors can no longer be ignored.

Now for the first time a major conference is being organised to provide an international forum where industrialists, researchers and sociologists can meet to discuss all human aspects of work. **HUMAN-1** will endeavour to cover in all their complexity the social and economic aspects of new technologies, the long term as well as the short term effects on staff and the advantages of automation.

Topics to be included are: social and economic effects of new technologies, industrial relations implications, the trade union viewpoint, training and retraining, man/machine interface, effects on work/life cycles, new jobs through new technologies, quality of working life, effects on pay structures, changes in working environments, the man/machine/management triangle, physical and mental effects of automation, safety at work and ergonomics. Over 25 papers are expected to be presented.

Enquiries to: Conference Organiser (HUMAN-1) IFS (Conferences) Ltd, 35–39, High Street, Kempston, Bedford, MK42 7BT, U.K. (Tel. 0234–853605; telex 825489)

SYMPOSIUM ON ROBOTICS—DYNAMICS, CONTROL AND ADVANCED PROGRAMMING

Cambridge, England; April, 10–11, 1984

The symposium is organised by the Robotics Panel of The Institute of Measurement and Control (U.K.).

Aim and Scope

The aim of the symposium is to provide a forum for the presentation and discussion of the current situation and future trends in research and applications in the field of dynamics, control and advanced programming in robotics. The development of these interdependent topics is essential if the full promise of robot flexibility, speed, accuracy and economic potential are to be realised.

Contributions are sought which include such aspects as dynamic simulation; control system design methods and application; the application of developing microprocessor techniques; advances in programming, with particular reference to the control problem; robot control as part of the manufacturing or assembly process; trajectory planning, dynamic and static accuracy; control under variations in load; specific industrial applications; manufacturers' concepts of programming developments; manufacturers' and users' control requirements.

Further information from: The Conference Department, The Institute of Measurement and Control, 20 Peel Street, London W8 7PD, U.K. (Telephone: 01-727 0083; Telex 943763 CROCOM G INS.)

TECHNICAL SYMPOSIUM EAST '84 AND INSTRUMENT EXHIBIT

Arlington, Virginia, USA; April 29–May 4, 1984.

Sponsored by SPIE—The International Society for Optical Engineering

A diverse selection of two-day technical conferences on optics and electro-optics, a program of complementary tutorial short courses, and a related technical instrument exhibit comprise the program of SPIE's **TECHNICAL SYMPOSIUM EAST '84**, which continues to be a major optical/electro-optical symposium on the East Coast. The 1984 conference topics will include the second in a series of conferences on **Fiber Optics and Laser Sensors** (No. 3), continuing the precedent established by SPIE's 1983 conference on this technology. Other conferences that have been scheduled to update previous SPIE conferences include **Infrared Optical Materials and Fibers III** (No. 4), **Optical Alignment II** (No. 8), and **Integrated Circuit Metrology II** (No. 2). Several additional topical conferences of current interest which are not updates of recent SPIE conferences have also been scheduled.

The **TECHNICAL SYMPOSIUM EAST '84** will feature another in SPIE's **Critical Reviews of Technology** series. This conference, on **Remote Sensing**, when paired with **Recent Advances in Civil Space Remote Sensing** (No. 10), should provide a solid foundation and overview of remote sensing plus an update of recent advances.

Enquiries to: S.P.I.E. P.O. Box 10, Bellingham WA. 98227, USA (Tel. 206-676-3290; telex 46-7053).

SEVENTH ANNUAL CONFERENCE OF THE BRITISH ROBOT ASSOCIATION

Cambridge, U.K., May 14–17, 1984

This Conference contributes to the advancement of robot technology in both the UK and Europe, by way of an international programme of high quality papers. Papers dealing with industrial case-studies and experience of practical applications are particularly welcome. A suggested, but non-exclusive list of topics is listed below:

- Assembly and machine transfer
- Robot welding
- Materials handling
- Research and development projects
- Robot design
- Programming
- Economics
- Human factors
- Safety
- State-of-the-art
- New equipment

- Robot handling applications
- Management

Enquiries to: British Robot Association, 28–30 High Street, Kempston Bedford, MK42 7AJ U.K. (Tel. 0234–854477.)

INTERNATIONAL CONFERENCE ON MODELLING TECHNIQUES AND TOOLS FOR PERFORMANCE ANALYSIS

Paris, France; May 16–18, 1984

The performance evaluation and quantitative analysis of computing systems have gained a growing interest this last decade; their development became extremely important due to the multiplicity and variety of systems and the complexity of their functioning. The principal target is a constant research for evaluation tools which would allow resource utilization with the maximum of economy and efficiency.

One of the main objectives of the International Conference On Modelling Techniques and Tools for Performance Analysis is to convene Research, University and Industrial teams to exchange their ideas, present their experience and preoccupations and establish the state of the art. This Conference will develop the existing and continuous efforts, both on theoretical and technical levels and will meet the increasing needs to solve different problems associated with system performance. It is hoped that, at the end of this meeting, the efforts could be coordinated in several directions:

- Encouraging the studies, researches and applications in these domains.
- Rationalizing the methods and means.
- Standardizing the tools and techniques

Topics

- Measurement technology
- Simulation
- Analytic methods and modeling
- Packaging
- Evaluation
- ...

These themes cover a wide range of disciplines, techniques and applications, particularly:

- Scheduling
- Managerial – oriented studies
- Capacity planning
- Workload analysis and characterization
- Software and hardware measurement tools
- Simulation and modeling packages
- Experiences and case studies
- Research and development of evaluation-oriented software

Exhibition

- Demonstrations and shows on performance analysis tools will take place during the Conference.

Enquiries to: INRIA, Service des Relations Extérieures, Domaine de Voluceau – Rocquencourt B.P. 105. 78153 Le Chesnay Cedex France (Tel. 954.90.20 ext. 600; telex 697033F)

ANZAAS ANNUAL CONFERENCE, ROBOTICS SECTION

Canberra, Australia; May 15–17, 1984.

The following topics will be tackled:

Inter-Section Symposium: Information engineering and robotics
Microelectronic devices by Professor G. Rigby, Department of Electrical Engineering, University of New South Wales; Very large scale integrated circuit design by Dr. C. Mudge, Division of Manufacturing Technology, CSIRO; Computer science or

Systolic arrays by Professor R. Brent, Department of Computer Science, Australian National University; Large scale and adaptive systems by Professor B. Anderson, Department of Systems Engineering, Australian National University

Inter-Section Symposium: Information engineering and robotics
The Horizons of robots by Dr. M. Kassler, Convener, Australian Robot Association; Robots and dancing by Dr. D. Herbison-Evans, Basser Department of Computer Science, University of Sydney; Computer vision by Dr. R. Jarvis, Department of Computer Science, Australian National University; Home computers and robots by L. Whelan, Machine Dynamics Pty. Ltd., Melbourne

Additional

Whither robotics? by Dr. Y. L. Oh, Department of Robotics and Digital Technology, Chisholm Institute of Technology, Vic.; Robots in industry – CSIRO's experience by Dr. R. W. Gellie, Division of Manufacturing Technology, CSIRO; Demonstration projects in robotics by Speaker from the Department of Science and Technology, Canberra; Computer languages and the real world; (Speaker to be determined); Shearing sheep by robot; (Speaker to be determined)

Enquiries to: Dr M. Wardop, Australian Science & Technology, Council, P.O. Box E439, Queen Victoria Terrace, Canberra, A.C.T. 2600 Australia

INTERNATIONAL MACHINE TOOL CONFERENCE (MACH 84)

Birmingham, U.K.; 26–28 June 1984

MACH 84 will be the 14th Machine Tool Trades Association (MTTA) International Exhibition of Machine Tools and Equipment and in 1984, for the first time, there will be a MACH 84 conference taking place alongside this important international 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. The tasks required from machine tools have changed relatively little but 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.

The MACH 84 conference is intended to offer industrialists an opportunity to explore the new role of machine tools in manufacturing and future trends in the industry. International speakers will present their views on the state-of-the-art worldwide, on unmanned production cells, on financial justifications and on a host of other highly relevant subjects.

Enquiries to: IFS, as above.

NATIONAL CONFERENCE AND EXHIBITION ON ROBOTICS – 1984

Melbourne, Australia; August 20–24, 1984

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. The theme is: Robots – What they will do for us now and tomorrow

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.

Suggested topics for papers

- 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

Enquiries to: The Conference Manager, Institution of Engineers, Australia, 11, National Circuit, Barton A.C.T. 2600, Australia (Tel. 062-73-633; telex AA62758)

SIXTH INTERNATIONAL CONGRESS OF THE WORLD ORGANISATION OF GENERAL SYSTEMS AND CYBERNETICS ORGANISED BY THE COLLÈGE DE SYSTÉMATIQUE OF AFCET (ASSOCIATION FRANÇAISE POUR LA CYBÉNETIQUE, ECONOMIQUE ET TECHNIQUE)

Paris (France); September 10–14, 1984

This triennial congress is sponsored by many international and national bodies. The Congress Committee consists of the following members: Elie Bernard-Weil (CNEMATER, Hôpital de la Pitié, Paris); Pierre Davous (Euroquip, Vaucresson); Alain Dussauchoy (Université Lyon I, Lyon); Jean-Louis Le Moigre (GRASCE, Université d'Aix-Marseille, Aix-en-Provence); Bernard Paulré (Université Paris IX, Paris); Robert Vallée (Université Paris-Nord, Paris); Bernard Walliser (Ecole Nationale des Ponts et Chaussées, Paris). There are also two co-opted members representing the WOGSC, viz. T. C. Helvey (Director for External Affairs of the WOGSC; Norbert Wiener Gold Medallist, USA) and J. Rose (Director-General of the WOGSC, UK).

Aims and Themes

The aim of this interdisciplinary congress, which follows the previous five congresses (London, 1969; Oxford, 1972; Bucharest, 1975; Amsterdam, 1978; Mexico City, 1981) is to present contemporary aspects to Cybernetics and Systems and to examine various developments in these and allied fields.

The following are the proposed themes and topics for the congress: Foundations, Epistemology, Analogy Modelisation, General Methods of Systems, History of Cybernetics and Systems Science Ideas; Information, Organisation, Morphogenesis,

Self-reference, Autonomy; Dynamic Systems, Complex Systems, Fuzzy Sets; Physico-Chemical Systems; Engineering Systems, Automation, Simulation, Robotics, Artificial Intelligence, Learning; Biological Systems, Neurocybernetics, Autogenesis, Physiology, Systemic Therapy, Ethology, Ecology; Human and Social Systems, Anthropology, Economics, Development, Management, Education.

It is to be noted that no topic relevant to cybernetics and systems in the widest sense or type of approach are excluded.

Addenda

1. The official languages of the Congress are French and English. Simultaneous translation facilities will be available (from French into English, and vice versa) during the plenary sessions.
2. The Sixth Congress is held a week before the SICOB CONVENTION in Paris.
3. Please direct all enquiries to AFCET, as below.

Enquiries to: Sixth International (WOGSC) Congress, Comité de Lecture, AFCET, 156 boulevard Péreire, F.75017 Paris, France (Tel. 1-766-24-19; telex 290 163 Eurtel Code 235)

SEVENTH ANNUAL DESIGN ENGINEERING CONFERENCE – DES 84

Birmingham, U.K.; September 25–27, 1984

DES 84 is the place where practising designers will meet to talk about the impact of changing technology on their work.

Creativity is at the heart of design, but today's designers must also have a store of knowledge about the latest developments in process and material technology, in computer aids to design, and perhaps most important of all, in the rapidly developing fields of computer graphics and the all important link with computer aided manufacturing.

Modern designers must also be commercially aware, they must understand their Company's aims and limitations and how investment in the design office must integrate with the overall strategic Company plan.

These and other vital topics will make the DES 84 conference the most important event in the designers calendar.

The conference

DES 83 saw a new look to the Design Engineering Conference with sessions concentrating on the impact of CAD/CAM on the business and on the people within the business, the use of micro-computers for CAD/CAM and the means by which systems are selected and appraised.

Papers on designing to cut the costs, new design techniques and the effect that new manufacturing processes have on product and tooling design, were also presented.

The exhibition

Last year DES 83 lived up to its reputation of being Europe's premier Design Engineering Show with over 12,000 square metres of exhibition space and more than 500 stands covering the widest possible range of components, parts, materials and finishes, design services, draughting equipment and the very latest in computer technology.

25,288 visitors attended the show in 1983 and with DES 84 expected to break all records, the exhibition and conference together, present an impressive combination that designers cannot afford to ignore.

Topics

- CAD/CAM
 - its impact on the business
 - its impact on people

- successful implementation
- system selection and appraisal
- CAD/CAM for increased productivity
- CAD/CAM for the smaller company
- Micros and CAD/CAM
- Designing to cut costs
- Advanced manufacturing processes
 - their effect on product design and quality specifications
- Material developments – their effect on product design
- New joining processes – their effect on product design
- The importance of good industrial design
- Creating good design specifications
- Developments in prototyping and test facilities
 - their influence on design

Enquiries to: IFS, 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 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, as above.

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.

Topics include:

- 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, as above.

7TH INTERNATIONAL CONFERENCE ON AUTOMATED INSPECTION AND PRODUCT CONTROL (AIPC-7)

Zurich, Switzerland; November 6–10, 1984

The last conference in this series took place in the UK in 1982, and since then there have been considerable developments in research and a considerable increase in the number of commercial applications of automated inspection. Entire manufacturing cells have been installed with on-line automated inspection and product control facilities built in. This will be a continuing trend as the integrated factory of the future begins to take shape.

There are several approaches to automated inspection and product control and a variety of techniques are currently being researched and developed. The AIPC-7 conference will endeavour to cover all the developments taking place world-wide and will try to set this increasingly important technology in the context of integrated automated manufacturing in general.

Topics: Approximately 35 papers will be presented which will cover the most relevant aspects in this area. Topics will include: in process gauging industrial systems, quality assurance systems, visual perception, the role of fibre optics, automatic colour sensing, defect recognition, laser scanning, computer aided inspection, non-destructive testing, measuring machines, planning and design of inspection systems, economic justification and social considerations.

Enquiries to: IFS, as above.

INTERNATIONAL CONFERENCE ON ADVANCES IN MANUFACTURING (AIM)

Singapore; November 20–22, 1984

While automated manufacturing and assembly plants are becoming the norm in Europe, Japan and the USA, the process of introducing new technologies into ASEAN industries is only in its initial stages. Yet despite the head start that the major industrialised nations have in terms of practical applications of the new technologies, countries in South East Asia are now looking very seriously at the benefits automation can bring.

The International Conference on Advances in Manufacturing will be the first truly international event in South East Asia on advanced manufacturing technologies and is set against the background of METALASIA 84, the 3rd Asian International Machine Tool and Metalworking Show and AUTOMASIA 84,

the 2nd South East Asian International Automated Manufacturing Technology and Robotics Show. International experts drawn from the industries and research centres of the developed nations will cover all aspects of modern manufacturing technologies. Case studies describing practical applications of high technology should ensure that no element of automation is neglected.

The conference will be aimed primarily at delegates from South East Asia.

Topics will include: impact of robotics, assembly automation, CAD/CAM, automated inspection, flexible manufacturing systems, automated guided vehicle systems, training, case studies in all fields of robotics.

Enquiries to: IFS as above.