Robotica (1984) volume 2, pp 249–257

Announcements*

INTERNATIONAL CONFERENCE ON SIMULATION IN MANUFACTURING (SIM-1)

(March 5–7), 1985; Stratford-upon-Avon, U.K.)

Simulation is one of the most powerful and widely used techniques for solving engineering, design, safety and management problems – and the scope is widening all the time. IFS (Conferences) Ltd. are therefore pleased to announce that they will be adding the International Conference on Simulation in Manufacturing to their well-established range of conferences in the field of manufacturing automation. The Conference will be held at Stratford-upon-Avon, England, from 5–7 March 1985, and offers of papers are now invited from anyone with knowledge and experience of simulation in the context of manufacturing.

With new machinery and manufacturing installations costing many thousands of pounds, it is hardly surprising that simulation technology is becoming more and more important to engineering and manufacturing. As a technique it offers the opportunity to test system design, to explore the limitations as well as the potential of any given system, and ideally should ensure that the system installed is fit for the task and not an expensive failure. As the range, and possible combinations, of plant and systems grow, simulation can hardly fail to become an even more important tool for industry.

But the use of simulation extends beyond feasibility and design to training and R & D. Research institutes and colleges which could not hope to have large installations at their disposal, can achieve very significant results using simulation. In many cases it is to these institutes that industry is looking for feasibility studies and system assessments.

Looking beyond manufacturing industry, simulation techniques have been adopted by the oil and chemical industries, in warehouse and shop planning, and not least for flight training. The advances made in all these areas can contribute significantly to developments in the many and varied aspects of modern manufacturing.

Enquiries to: IFS (Conferences) Ltd, 35–39 High Street, Kempston, Bedford MK42 7BT, England (Tel. 0234–853605; telex 825 489).

CONFERENCE ON HARDWARE AND SOFTWARE COMPONENTS AND ARCHITECTURES FOR THE 5TH GENERATION

(March 5–7, 1985; Paris, France)

In most industrial countries, there are currently ambitious R & D projects. They aim at preparing new generations of hardware and software tools with sizable qualitative and quantitative technological jumps over todays tools. Typical of such projects are the Japanese Fifth Generation project, a precursor, the ESPRIT project of the Commission of European Communities, the ALVEY Program in UK, the MCC and SRC in the USA, etc.

The 6th Conference of the AFCET Computer Society is meant to provide a wide panorama of current research related to novel architectures and components for both hardware and software approaches.

The program committee solicits both survey papers showing the state-of-the-art and papers presenting specific R & D projects related to the general scope of the Conference.

While not exclusive, the following list of topics is considered:

1. *Software architectures and components for novel generations*
* knowledge representation and management
* A.I. carry-overs to programming
* A.I. languages, functional and logic programming
* natural language processing and understanding (spoken or written) dialog systems
* image understanding
* inference systems, automatic demonstration
* adaptive systems
* logics and artificial intelligence

2. *Hardware architectures and components for novel generations*
* data-flow machines, distributed systems, functional distribution
* language-oriented machines (functional, relational and object-oriented languages)
* relational machines
* supercomputers and artificial intelligence

3. *Peripheral equipment and ancillary software systems for novel generations*
* editors (sound, speech, image, symbols)

An exhibition of commercial products and research prototypes will be held concurrently with the conference: it will be organized by the Agence de l'Informatique

Enquiries to: AFCET-156, Boulevard Péreire-F. 75017 Paris, France (Tel: (1) 766 24 19 telex: 290 163 Code 235).

SEVENTH INTERNATIONAL CONFERENCE ON AUTOMATED INSPECTION & PRODUCT CONTROL, AIPC-7

The 7th event in this important international series will be held in conjunction with the 11th International Measurement and Inspection Technology Exhibition – INSPEX'85, at Birmingham (U.K.), March 25–29, 1985.

The AIPC-7 conference will be designed to meet the quality needs of everyone in manufacturing industry and will be planned to interact with the INSPEX '85 exhibition providing a forum where all the latest thinking in this rapidly developing field can be given an airing and where researchers and industrialists can share ideas and exchange experiences.

Previous conferences in this series have been held in the USA, the UK and Germany. During these internationally recognised events the concept of integrated systems have been promoted and many new ideas and techniques have been put forward. The three years which have elapsed since AIPC–6 has seen great strides forward in automated inspection techniques and their importance in computer integrated manufacturing systems and it is now fully recognised that money spent on

* No responsibility is accepted by *Robotica* for the information in the Announcements.

automated quality control is both a necessary and a profitable investment.

The conference planning committee now invites authors to submit titles and abstracts on all aspects of automated quality control. Accepted papers will be presented by the author from 26–28 March 1985 in Birmingham, UK, and a suggested, but by no means exclusive, list of topics is as follows:

- Application case studies;
- Economic justification;
- Inspection systems – planning and design;
- Measurement sensors and probes;
- Automated quality control;
- Integrated systems;
- Defect recognition and measurement;
- Co-ordinate measuring machines;
- In-process gauging;
- Non-destructive testing;
- Visual perception;
- Inspection data processing;
- The cost of quality;
- Training and education;
- Management and human factors.

Enquiries to: IFS, as above.

LASERS IN MANUFACTURING, LIM—2

This Conference will be held in Birmingham (U.K.) on March 26–28, 1985.

Lasers, which are already used in medicine, research, telecommunications and for military purposes are rapidly proving their value in the manufacturing industry. Applications such as welding, cutting, drilling, inspection and surface treatment are now commonplace.

In all these applications and in many other actual and potential uses throughout industry, lasers provide a clean, easily controlled, unique, versatile and safe tool. The high powered lasers which have been around for many years have become increasingly accepted because of the laser industry's capability of introducing more reliable systems which are easy to operate and maintain.

The modern laser offers high speed greater reliability, increased efficiency and consequently can be exploited to the full in manufacturing industry. It has become increasingly recognised throughout the world, that the development of laser operated equipment and systems is intensifying both in research establishments and in the work done by the makers and users of laser devices. Lasers are being put to productive work in the manufacturing industry at an encouraging rate. In all its fields of application, lasers are moving steadily into line with the demands of today's manufacturing processes.

The first Conference in this important international series took place in Brighton in November 1983 and included contributions from such companies as: The Western Electric Engineering Research Centre, USA; J.K. Lasers Ltd, UK; Spectra-Physics, West Germany; Control Lasers Ltd, UK; Rolls-Royce Ltd, UK; BL Technology Ltd, UK; and Hewlett-Packard Ltd, UK.

The second international conference on the use of lasers in manufacturing will bring the delegates right up to date with the latest techniques and future developments, and will cover an even wider range of subjects than before.

Clearly the benefits offered by laser technology are already significant – but even now are far from being realised by many potential users.

This is a rapidly developing technology and improvements are occurring all the time making this conference a must for specialists and non-specialists who want to keep up with the latest developments in the field.

This conference contributes to the advancement of lasers in manufacturing 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:

- Cutting
- Welding
- Hardening
- Surface treatment
- Inspection
- Engraving
- Annealing of semi-conductors
- Holographic applications
- Interferometry and other inspection
- Marking and printing
- The role of lasers in flexible manufacturing
- Integration of lasers on the shop floor
- Laser safety
- Social and welfare implications
- Systems planning and design
- Robots and lasers
- Optical discs for computer and video storage
- Future trends in R & D

Enquiries to: IFS, as above.

SECOND INTERNATIONAL SYMPOSIUM ON VLSI TECHNOLOGY, SYSTEMS AND APPLICATIONS

(May 8–10, 1985, Taipei, Taiwan, R.O.C.)

Papers in VLSI technology, systems and applications are solicited. Areas of interest include but not restricted to the following:

1. *Technology*
* Devices and technology
* Modeling and simulation
* Materials and processing
* Logic, memory and analog ICS
* Packaging technology
* Wafer scale integration
* Design automation systems
* Silicon compilation
* Custom VLSI and gate arrays
* Special hardware for simulation

2. *Systems*
* VLSI architectures
* Special-purpose architectures
* VLSI and 5th, Gen, computers
* Microprocessors
* Memory and storage subsystems
* VLSI system designs
* Highly parallel computation
* Fault tolerance
* System testing and diagnosis
* Design for testability

3. *Applications*
* Communication systems
* CAD/CAM and robotics
* Expert systems
* Graphics and vision
* Signal and image processing
* Network and distributed computing
* Personal computing
* Medical systems
* Computer peripherals
* Computer and information systems

Paper submission

Authors should submit 20 copies of a 300–600 word summary, in English and in single-sided, double-spaced typewritten

form, by **December 1, 1984** to Professor H.T. Kung, Technical Program Chairman, or to Dr. Chintey Shih, Symposium Co-Chairman. In addition to the summary, each copy should include:

* Cover page: author name(s) affiliation, address, and telephone number.
* A 35–50 word abstract, which will be published in the advance program announcement if the paper is accepted.

By the submission package, the following statement signed by the author(s) must also be included: "If this paper is accepted, the author(s) will prepare the final manuscript in time for inclusion in the Symposium Proceedings, sign a copyright release form to authorize publication of the paper in the Proceedings, and present the paper at the Symposium."

Submitted papers will be reviewed by an international Technical Program Committee. Notices of acceptance will be sent out to authors by **January 15, 1985**. Authors of accepted papers will be required to submit final manuscripts in English (up to 5 pages including figures) in camera-ready format on special forms for publication in the Proceedings no later than **February 15, 1985**.

Enquiries to: Dr. Hwa-Nien Yu, Symposium Chairman, IBMT. J. Watson Research Center, P.O. Box 218, Yorktown Heights, New York 10598, U.S.A. Phone: (914) 945–1962.

Dr. Chintey Shih. Symposium Co-Chairman, ERSO, ITRI, 195-4, Sec. 4. Chung Hsing Rd. Chu-Tung, Hsinchu, Taiwan 311 Republic of China, Phone: Taiwan (036) 964771.
Professor H.T. Kung, Technical Program Chairman, Department of Computer Science, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213, U.S.A. Phone: (412) 578-2568.
Dr. L.M. Terman, Technical Program Co-Chairman, IBM T.J. Watson Research Center, P.O. Box 218. Yorktown Heights, New York 10598, U.S.A. Phone: (914) 945-2029.

AUTOMAN 85 EXHIBITION & IFS ADVANCED MANUFACTURING SUMMIT

(May 14–17, 1985; Birmingham, U.K.)
The Summit is a totally new concept in information transfer for manufacturing technologies. AMS '85 will offer under one roof and at the same time four of IFS's major international events, as well as the British Robot Association's 8th Annual Conference and the world's most important exhibition in advanced manufacturing – AUTOMAN 85.

The IFS Advanced Manufacturing Summit will be held simultaneously with AUTOMAN 85. This exhibition, first held in 1981, immediately established itself as Europe's definitive advanced manufacturing event. In 1981 the total number of companies exhibiting numbered 144, but by 1983 this had more than doubled to 298. At the same time the exhibition space quadrupled from 2,170 m to 8,680 m. The number of visitors grew from 8,000 in 1981 to 21,000 in 1983 and more than 30,000 are expected in 1985.

AUTOMAN 85 will be the most important manufacturing event in the 1985 calendar. Proof of this can be found in stand bookings. By July 1984, some 12 months before AUTOMAN 85, more space has already been booked than for the combined 1981 and 1983 exhibition areas.

Enquiries to: IFS, as above.

COGNITIVA 85

(June 4–6, 1985; Paris France)
This event is organised by CESTA, Center for the Study of Advanced Systems & Technologies

In its effort to simulate human intelligence, artificial intelligence has largely borrowed techniques and concepts from cognitive sciences, linguistics and psychology (learning, behaviour, perception). Parallel research in neurosciences aims at understanding the physiological mechanisms of intelligence, memory, learning and perception. Finally, diminished costs and progress in VLSI technology enable us to envisage highly parallel and redundant information processing systems closely resembling cerebral processes.

At the frontier of these domains, tomorrow's computer science is possibly building up, deeply modifying the relationship of man and his environment. Facing up these important mutations, it appears timely to bring together the people involved in those fields.

To this end, COGNITIVA 85 will offer a scientific symposium, a forum bringing together professionals and an industrial exhibition. Scientific papers of the symposium will cover both technologies and their applications.

Official languages of the Symposium will be French and English. Poster presentations will also be accepted. The full text of the conferences and of the poster presentations will be published in proceedings which will be available at the Symposium. Papers will be selected by the Steering Committee and a Scientific Committee on the basis of a 200-word abstract. Deadline for submission of abstracts is November 1, 1984.

Enquiries to: SECRETATIAT COGNITIVE 85, CESTA, 1 rue Descartes 75005 Paris (France) (Tel. (1) 634.35.01; Telex Cesta 250795F).

INTERNATIONAL CONFERENCE ON MODELLING TECHNIQUES & TOOLS FOR PERFORMANCE ANALYSIS

This event will be hold at Cerics, Sophia Antipolis (France) on June 5–7, 1985.
The quantitative analysis of computing systems (system: workload, hardware, software) together with the quality evaluation of their functioning have gained a growing interest this last decade. The multiplicity of systems, their functional complexity and the requirement for a high reliability and safety, influence more and more the economic and industrial conditions. Furthermore, the constant research for new tools oriented to performance analysis and evaluation become necessary to obtain the best cost/effective goal. These techniques and tools should facilitate and help in decision making during tactical and strategic planning for management and productivity improvement phases.

State of the art, research and application papers and presentations are sollicited on related topics and particularly:

- capacity planning and management;
- performance measurement, modeling and evaluation;
- workload analysis, characterization and scheduling;
- performance analysis and system life cycle;
- quantitative aspects of software engineering;
- performance administration of: network, distributed and data base systems;
- performance packages, R and D evaluation-oriented software;
- reliability and quality analysis of computer systems and architecture.

Special sessions and/or bird-of-feather will be devoted to quantitative approaches of software quality: ergonomy, testing and validation and reliability. Some discussions dealing with important projects (ESPRIT, etc.) are expected.

Sessions, demonstrations and exhibition will be devoted to related tools and will take place during the conference.

Enquiries to: AFCET, as above.

THIRD INTERNATIONAL CONFERENCE ON AUTOMATED GUIDED VEHICLE SYSTEMS
(June 5–7, 1985, Stockholm, Sweden).

Background
Automated Guided Vehicle Systems have been with us for many years. Their applications are many and varied. Some are free-ranging with laser beam guidance while others follow underfloor or floor-mounted rails, but all have the ability to cut costs dramatically and give more control over the work environment in both small and large companies.

AGVS complete the link between warehouse, manufacture and assembly, making unmanned operations a reality.

This has all been made possible by combining vehicles with automated loading and unloading equipment and integrating them with higher order control systems.

In recent years there has been a rapid increase in interest shown by companies throughout the world, mainly due to labour costs, new truck designs enabling more versatile use and new suppliers creating fresh interest and realism.

The pace of technological change has accelerated tremendously concerning AGVS. It is both exciting and, particularly to those who are not directly involved, perhaps a little daunting.

AGVS
Following the success of the first two conferences in the series held in the United Kingdom (1981) and Germany (1983) IFS now invites you to participate in the 3rd International Conference on AUTOMATED GUIDED VEHICLE SYSTEMS, either as a speaker or a delegate.

AGVS3 under the chairmanship of Sven-Erik Andersson, Managing Director of the Swedish Institute of Production Research (IVF) is expected to attract over 300 senior industrialists from all over the world.

The aim of the conference is to spread a greater understanding of the potential of AGVS both in small companies who are perhaps just thinking about introducing them as well as large companies who probably need to extend current systems. The occasion is an opportunity for participants worldwide to exchange views and keep up to date in this rapidly advancing field of technology.

Delegates will find this a very useful and informative conference, and will gain a much clearer understanding of the value of AGVS.

Study tours
In connection with the 3rd International Conference on Automated Guided Vehicle Systems short tours will be organised by IFS (Conference) Limited.

The tours will include visits to Sweden's most interesting and progressive users and manufacturers of AGVS. The companies visited will be both large and small, showing advanced industrial applications.

The first study tour will be held two days prior to the Conference, 3–4 June 1985, and a post conference study tour will be run from 8–19 June 1985.

Call for papers
The conference planning committee now invites speakers to submit titles and abstracts on all aspects of Automated Guided Vehicle Systems.

Papers dealing with industrial case-studies will be particularly welcome and suggested but non-exclusive list of topics is as follows:

* AGVS in manufacturing
* AGVS for materials handling
* Automation – capital involved
* Manual v automation
* Integration storage and FMS
* Large and small AGVS
* Sensor technology/guidance
* Flexibility and computers
* Education – organisation
* Working environment
* Safety
* User Reviews
* Future possibilities
* Vehicle design
* Systems interfaces
* Applications case studies
* Computer controls
* Market and technical studies

If you have experience and knowledge in these, or any other related areas, and would like to speak at this major international event, please complete the author's form contained in this leaflet and return it as directed. (Leaflet obtainable from I.F.S.).

General information
If you would like to submit the abstract (about 100 words) of a proposed paper please use the form provided. This should be sent to the Conference Organiser by 9th November 1984 and should provide sufficient information to allow assessment of the scope of the paper.

The following information is provided for the benefit of potential speakers:

a. All submitted papers should be in ENGLISH and will be reviewed by the paper selection committee.

b. Instructions as to the preparation of papers will be sent to speakers once their abstract has been accepted.

c. Completed manuscripts in camera-ready form must be submitted by 1st March 1985.

d. Final papers should be approximately 3,000 words in length with a maximum of 10 illustrations.

e. Presentation time for each paper will be a maximum 30 minutes including time for discussion.

f. The use of visual aids is strongly recommended.

g. The official language of the conference is ENGLISH.

h. Papers must be free from commercialism and from damaging comparisons with competitive methods, processes or products.

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

INTERNATIONAL CONFERENCE ON SOFTWARE FOR MANUFACTURING INDUSTRIES (DISCRETE MANUFACTURING) (PROLAMAT 1985)
(June 11–13, 1985; Paris, France)
PROLAMAT 85 is the sixth in a series of triennial meetings of IFIP (International Federation for Information Processing) and IFAC (International Federation of Automatic Control). It has become the recognized forum for the presentation of new developments in computer software for discrete manufacturing.

Papers are invited dealing with advances and new results and applications in Software aspects and computing methods and techniques for the design and planning in discrete manufacturing (from machining to assembly).

Discrete manufacturing includes manufacturing of all products except those made by continuous processes. Discrete manufacturing therefore includes the production of mechanical parts and systems, of electrical parts, of furniture, of clothes, etc.

1. *Themes*
* Design and implementation of CAD/CAM systems
* Computer-Aided Design
* Computer-Aided Process and Production Planning and Optimization
* Robotics and Automated Manufacturing Systems
* Artificial Intelligence in CAD/CAM

2. *Associated event*
An industrial exhibition on production automation will take place during the week of PROLAMAT

Enquiries to: AFCET, as above.

HUMAN FACTORS IN THE FACTORY AND OFFICE OF THE FUTURE (HUMAN-2)
(June 11–13, 1985, Stuttgart, West Germany)
The first conference in this series, HUMAN-1, which took place in London in April 1984, was an eye-opener for many in revealing the extent to which companies had begun to concern themselves with the "people" aspect of high technology manufacturing. These companies were very diverse in the scale of their operations and the nature of their business, but almost all were successful commercially.

Interesting also was the amount of documentation and research being undertaken; and the fact that this was not "ivory tower" research in isolation but research based solidly on numerous industrial cases, which led to meaningful conclusions and lessons for all those concerned with manufacturing and related industries.

Ferranti, IBM, Volvo, Westland Helicopters, Guinness were only a few of the organisations involved in HUMAN-1.

1. *Human-2*
HUMAN-2 will take up where HUMAN-1 left off, concentrating heavily on the relationship of man and high technology in today's industrial world and highlighting new case studies; but it will expand its field of interest to encompass the effects of automation in the office, where a micro or mini computer is now as frequently to be found as a typewriter. Adjustments to new technologies have been as difficult for office staff as for workers on the shop floor and this trend will continue as governments worldwide endeavour to promote Information Technologies.

HUMAN-2 takes place in Stuttgart, West Germany, and is organised jointly by the Fraunhofer Institut fuer Arbeitswirtschaft und Organisation (IAO), Stuttgart, leading experts in this field in West Germany and IFS (Conferences) Ltd, UK. Contributions are now invited from organisations and individuals with experience and knowledge in this and related subject areas.

2. *General information*
Submission of Abstracts
You are invited to submit an abstract of about 100 words for consideration by the Organising Committee. Accepted papers will be presented by the speaker at HUMAN-2 from 11–13 June 1985 in Stuttgart, West Germany.

Please use a form obtainable from IFS or plain, white A4 paper to ensure that your abstract is printed or typed. Please give all the information required on the form. You should post your abstract to arrive before 31 October 1984. Overseas please use airmail.

Prospective speakers should send their abstracts to: The Conference Organiser (HUMAN-2), IFS (Conferences) Ltd., 35–39 High Street, Kempston, Bedford MK42 7BT, UK, Tel: Bedford (0234) 853605, Telex: 825489.

German speakers may prefer to send their abstracts direct to: Fraunhofer Institut fuer Arbeitswirtschaft und Organisation (IAO), zHd, Herrn Huegel, Silberburgstrasse 119A, D-7000 Stuttgart 1, West Germany, Tel: (711) 66480, Telex: 721978.

If you are unable to offer a paper but are interested in attending the conference, please indicate this on the form and send it, with your name and address, to ensure that you receive further announcements.

* Instructions as to the preparation of papers will be sent to speakers once their abstract has been accepted.
* Completed manuscripts in camera-ready form must be submitted by 31 January 1985 at the latest, for final review by the committee. Failure to meet this deadline risks exclusion from the published proceedings.
* All submitted papers should be in ENGLISH but speakers are encouraged to submit a German language version also.
* Final papers should be 2,000 to 4,000 words in length with a maximum of 10 illustrations.
* Presentation time for each paper will be 30 minutes, including time for discussion.
* The use of clear, professionally produced visual aids is strongly recommended.
* The official conference languages are German and English, with simultaneous interpretation.
* Papers should be free from commercialism.

3. *Suggested topics*
* Social and economic effects of new technologies
* Implications for industrial relations (conflicts of interest: unions, entrepreneurs, vendors, users)
* Effects of new technologies on the job market
* Effects on the structure of wages and salaries
* Man/machine interface
* Training and qualification
* Changes in working environment
* Management and new technologies
* Physical and mental effects of automation
* Ergonomics, especially software ergonomics
* Safety at work
* Structure of work; workloads
* Conditions of work
* Organisation of work; organisation of management
* Shaping of technology (e.g. interfaces, chaining networks) with respect to the quality of working life
* Questions of acceptance
* Personnel planning
* Strategies for the introduction of new technologies
* Private and public economic effects
* Human factors in equipment design and office planning

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

FOURTH INTERNATIONAL CONFERENCE ON ENGINEERING SOFTWARE & EXHIBITION – ENGSOFT 85
(June 18–20, 1985; London, U.K.)

1. *Introduction*
The field of engineering software has developed rapidly over the past decade, from the time when computers were only used by a small number of large organisations, to the present day when computer hardware, ranging from personal computers, sophisticated graphics work stations and powerful mini and super computers, are widely available. Nowadays the agonising question facing the engineer is no longer "WHICH COMPUTER?" but "WHICH SOFTWARE?" is needed.

2. *Brief History of the Conference*
The First International Conference and Exhibition on Engineering Software was held in Southampton in 1978 and, following its success, the Second and Third were both held in London where, in 1981 and 1983, participants were attracted from over 20 countries.

The high quality and number of papers presented in the past have contributed to Engsoft's reputation of being not only the first, but also the major international forum for the discussion of developments in the use of computers in engineering.

The next Conference is to be held from June 18–20 1985 in London. In addition to a new larger location in Kensington,

https://doi.org/10.1017/S0263574700009012 Published online by Cambridge University Press

which will dramatically improve the facilities for participants, the Conference format has been changed to provide more time for the presentation and discussion of papers.

3. *Call for papers*
The Engineering Software Conference is multi-disciplinary and welcomes contributions from all branches of engineering including: Civil, Mechanical, Structural, Electrical, Electronic, Marine, Manufacturing and Chemical. The major theme of the Conference is "Computer Aided Engineering" and we are particularly interested in receiving papers on the following subjects:

Mathematical Modelling
- Finite and Boundary Elements
- Computational Techniques
- Modelling of Processes of Systems
- Modelling of Fluids, Solids and Hydraulics
- New Analysis Techniques

Software Development
- Workstations
- Interactive Graphics
- Using Advanced Computers: Supercomputer, Vector Processors, Attached Processors for Simulation etc.

Modelling Systems
- Geometric Modelling
- Solid Models, Links with Mathematical Modelling and Drafting
- Engineering Databases
- System Integration, Standards, Communication
- Implementing CADCAM
- Control of Manufacturing Processes

Microcomputer Applications
- Control Applications
- Engineering Networks
- Design

Applications of Artificial Intelligence
- Computer Assisted Decision Making
- Engineering Design

Papers are invited on any of the above topics, or others of direct relevance. Intending authors are requested to send to the Conference Director a summary of not more than 300 words before 1 November 1984. Notice of provisional acceptance will be given by 1 January 1985 and complete manuscripts should be submitted by 15 February 1985. Final acceptance, based on a review of the full manuscript by the Organising Committee, will be given by 1 March 1985. All accepted papers will be published in the Conference proceedings.

4. *Time schedule for papers*
Date
1 November 1984: Submit Abstract
1 January 1985: Preliminary acceptance
15 February 1985: Submit full paper
1 March 1985: Final acceptance

Exhibition
In conjunction with the Conference, an Exhibition will also be held in the Kensington Centre, allowing delegates to view the large range of products and services available, and to assess current and furure developments. As well as providing facilities for larger and better-known software companies, the Exhibition will also aim to accommodate the many smaller firms which have been originators of much of today's innovative software.

Enquiries to: Dr R. Adey, Computational Mechanics Centre, (Ashurst Lodge, Ashurst, Southampton SO4 2AA, England, (Tel: 042 129 3223; Telex: 47388 COMPMECH).

CONFERENCE ON (CONTROL-85)
(July 9–11, 1985; Cambridge, U.K.)
The Conference will cover a broad range of topics relating to present trends in the theory and practice of automatic control. A balance will be sought so that the various aspects of this wide subject are properly represented with emphasis being placed on current industrial applications of theoretical procedures which have emerged in the last decade or so. The scope of the conference will be wide, to permit the interchange of information between academics and industrialists in the control field.

The following topics will be covered:

Computer aided control system design
Nonlinear feedback systems
Robust control systems design
Self-tuning and adaptive control
Large scale systems
Optimisation
Numerical methods in system design
Offshore and underwater applications
Digital and computer control system,
Distributed control
Instrumentation/control in the process industry
Power systems applications
Nuclear Industry
Robotics
Automotive/mechanical applications
Aerospace
Environmental systems

Contributions
Those intending to offer a contribution should submit an extended synopsis of 2–3 A4 pages to the IEE Conference Services Department on, or before, 14 May 1984. The synopsis should include the main points of the paper and, where possible, indicate where the emphasis will be placed. Authors whose synopses are selected will be requested to provide full typescripts of not more than 4,800 words, including illustrations, for assessment by 25 February 1985.

The material should be original and must not have been published before. Neither should the same material be offered to both Control 85 and IFAC 85.

2. *Deadlines*
Intending authors should note the following deadline dates:

Receipt of synopsis	14 May 1984
Notification of provisional acceptance of synopsis	July 1984
Receipt of full text for final review	25 February 1985

3. *Working language*
The working language of the Conference is English which will be used for all printed material, presentations and discussion. Simultaneous translation will not be provided.

4. *Tutorials*
It is planned to arrange tutorial sessions during the Conference. Details of the topics to be discussed will be included in the provisional programme which will be sent to those who complete and return the attached reply-form.

Enquiries to: Conference services department, IEE, Savoy Place, London WC2R 0BL, U.K. (Telephone: 01-240 1871 (ext 222) Telex: 261176 IEE LDNG).

EIGHT INTERNATIONAL CONFERENCE ON PRODUCTION RESEARCH
(August 20–22, 1985; Stuttgart, West Germany)
The objectives of this conference, which is concerned with factories of the future, are to support international experience exchange about outstanding industrial solutions and the results in production research.
The Conference Topics are scheduled as to be:
Highly Automated Flexible Manufacturing Systems
New Manufacturing Technologies
Production Planning and Control
CAD/CAM
Assembly Automation
New Concepts in Work Organization
Design of Work Stations
Industrial Robots
Sensors and Quality Control
Corporate Strategies
Industrial Engineering Methodologies
Human Factors and Ergonomics
Office Automation

Acceptance of contributions will be determined on the basis of abstracts. These abstracts should not exceed a singled spaced page. They have to contain the author(s), the affiliation, the title and the text (in English). The conference topic in which the paper should be presented must be specified. Deadline for submission of the abstracts was June 30th, 1984. Authors will be notified about the acceptance of their contribution no later than October 1st, 1984. They will be provided with detailed instructions for the preparation of the final paper in a camera ready form. Final papers have to arrive before February 15th, 1985.

Enquiries to: ICPR Secretary, c/o IPA, Eierstraße 46, 7000 Stuttgart 1, F.R. Germany (Tel.: 0711/60 20 64; Telex: 7 255 166 iapa d; Telefax: 0711/60 71 202).

1985 INTERNATIONAL CONFERENCE ON ADVANCED ROBOTICS ('85 ICAR)
(September 9–10, 1985; Tokyo, Japan)

and

1985 INTERNATIONAL INDUSTRIAL ROBOT EXHIBITION
(September 12–16, 1985; Tokyo, Japan).

1. *Call for papers*
It is our pleasure to announce to you the Second International Conference on Advanced Robotics (ICAR), which will be held in Tokyo on September 9–10, 1985.

This conference is a sequel to the first conference held in Tokyo in September, 1983. The objective of this conference is to provide a place for presentations and discussions on basic research as well as application research in the newly developed application fields of advanced robotics, namely intelligent robots, mobile robots and sensory control robots, which are undergoing rapid advancement in many countries throughout the world. It also aims at providing an opportunity of exchanging state-of-the-art information on various national projects in each country, large-scale research and development projects, cases of international cooperation, and other items of interest. We believe that these objectives will serve to greatly contribute to strengthening the industrial constitution, vitalizing industrial economy as well as helping the humanization of working life, all of which are mutually required by all nations. A national project of "R & D on Advanced Robot Technology" in Japan is one example.

We invite papers which are appropriate to the times summarized in the suggested topics not only from robotic specialists but also many people from various professional fields. We also hope to see people representing various nations participate in this conference, discuss and promote worldwide mutual understanding, and further diffuse the research results.

We believe the time, as well as the site of the 2nd ICAR, is very suitable for an understanding of the advancement in not only robotics but also the scientific technology developments as well as for nurturing future.

Following the 2nd ICAR, the 15th International Symposium on Industrial Robots (ISIR) will be held from September 11 to 13, 1985 at the same place and the '85 International Industrial Robot Exhibition from September 12–16, 1985 in Tokyo. In addition. TSUKUBA EXPO '85, an international exposition on science and technology, will be held from March, 1985 until September 16, 1985 in Tsukuba, in outskirts of Tokyo. Also, a post-conference tour is being planned for the participants. We are very pleased to host this international event and invite you to submit a paper to the committee. The following material is provided for your reference.

2. *Suggested topics for papers*

a. Overviews on Advanced Robotics
National projects
International collaboration
Other R & D activities

b. Robots for the Unstructured Environment
System design and implementation
Man-robot interface
Teleoperation
Telecommunication

c. Intelligent Manipulation and Locomotion
World model representation
Knowledge data based systems
Problem solving
Robot languages
Spatial planning
Trajectory generation
Task description

d. Sensory systems
Image understanding
Design of sensors and sensor systems
Algorithms for sensing data acquisition
End effector sensors

e. Mechanics of Manipulator
Arms, wrists, hands, and fingers
Actuators
Kinematics
Dynamics and control

f. Mechanics of Locomotive Robots
Design and structure
Kinematics
Dynamics and control

3. *Abstracts*
The official languages are English and Japanese (simultaneous translation will be provided); however, papers must be submitted in English.

The maximum time for one lecture is 30 minutes (including questions and answers).

Prior to submission of papers, an abstract must be submitted

to

The Working Committee of the '85 ICAR
c/o Japan Industrial Robot Association
Kikai Shinko Kaikan Bldg.
3—5—8, Shiba-Koen, Minato-ku
Tokyo, 105 Japan
Telephone: 03 (434) 2910

for review and approval by **December 31, 1984**.

The abstract must be in English (approximately 200 words) and must be headed as follows:

Title of the paper;
Author's Nane or Names;
Affiliation(s);
Speaker's Name;
Name and Address for correspondence;

Completed papers in camera-ready form must be submitted by April 30, 1985.

Special manuscript papers and detailed instruction on how to prepare the papers will be mailed by January 31, 1985.

All accepted papers will be published in the Proceedings of the '85 ICAR which will be available for distribution at the Symposium.

Abstracts and full papers will be checked by the Screening committee. All accepted papers will be published in the Proceedings.

The Proceedings will be published by JIRA, who will hold the copyright.

Any enquiries relating to the Symposium should be sent to: Mr. A. Yasutake, Organizing Secretary, 85 ICAR, Japan Industrial Robot Association, Kikai Shinko Kaikan Bldg., 3—5—8, Shiba-Koen, Minato-ku, Tokyo, 105 Japan.

INTERNATIONAL CONFERENCE & EXHIBITION ON MATERIALS IN COMPUTERS, ROBOTICS AND COMMUNICATION INDUSTRY

This Conference, which will be held at Monterey, California (U.S.A.), on September 23–27, 1985, is to promote trade, education, research & development in the subject area and is being arranged by the American Society for Metals. The sessions planned for the Conference will include the following topics:

Magnetic Coating Materials for Tapes and Memory Discs
Bubble Memory Devices and Materials
Hard Disk Base Materials and their Thermal and Mechanical Stability
Soft Disk and Magnetic Tape Polymeric Base Materials
IC's and Core Memory Materials and Processing
Materials and the Dimensional Stability of Read-Write Heads
Optical Fibers
Opto Electronic Devices
Laser Beam Read-Write Systems
Photo-Lithography
Electronic Devices for Optical Communication
Materials in Photo-Magnetic Read-Write Systems
Capston Servo Systems, Optic Magnetic Code Wheels
Solar Cells for Communication Relay Systems
Single Crystal Growth, Slicing Impurity Measurement, Quality Control and Reliability
Joining Technology for Lead Wires to Integrated Circuit Chips and Inspection Methods
Integrated Circuit Chips, Quality Control and Inspection
Silicon Device Fabrication
Statistical Quality Control Inspection and Testing of Materials and Processing Procedures
CAD/CAM for Devices
Magneto-Strictive and Electro-Strictive Materials for Printer Heads and other Applications
Materials for Spray Jet Printers
Statistical Analysis for Quality Control during Manufacture, and Reliability during Service
Materials, Electroplating, Design Stability and Reliability of Electrical Connectors
Non-Destructive Evaluation (NDE) Methods for Materials Devices, Assemblies and Procedures

Low Inertia Motors
Sensing Devices for Robot Controls
Environmental Effects and Testing of Assemblies and Components
Microprocessor Materials
Panels, Boards, Cards and Connector Materials
Wire & Cable Materials
Sensors, Transducers
Solid State Relays
Electromechanical Relays & Opto Isolators
Crystal Growth
Crystal Splicing Lapping and Polishing
Chemical Vapour Deposition of Silicon
Thin Metallic Films and Silicides
Plasma and Reactive Ion Etching
Transient Thermal Annealing of Semi Conductors
Packaging Devices
Reliability Testing
Optical Communication
Growth of Device Structures
Liquid Phase Epitaxy
Vapour Phase Epitaxy
Organo Metallic Chemical Vapour Deposition
Failure Mechanisms

Participation in the above Conference and Exhibition would provide international personal contacts, publicity to a select targeted audience and awareness of the state-of-the-art in the development of materials and processes in this technical area.

The Conference will have both invited and contributed papers. The Organizing Committee invites papers for the above Conference.

Please submit I copy of abstracts (200 words maximum) in English by 1 February 1985, with complete name, address, and telephone number, to the following address:

Peg Ternovacz
Conference Coordinator
American Society for Metals
Metals Park, Ohio 44073 USA

Completed papers typed on camera-ready mats (to be provided) will be due at the time of the Conference. Proceedings of the Conference will be published by ASM.

Enquiries to: The ASM Conferences and Expositions Department, Metals Park, OH 44073 (U.S.A.); tel. 216/338-5151.

AFCET AUTOMATION CONGRESS - "THE TOOLS FOR TOMORROW"

(October 23–26, 1985; Toulouse, France).

The AFCET-AUTOMATIQUE, one of the societies of the French Computer Association (Association Française pour la Cybernétique Economique et Technique) is organizing its biennial conference in Industrial Electronics, Control and Instrumentation, with emphasis on the application of advanced theory and models to new fields.

The Conference, entitled THE TOOLS FOR TOMORROW will be held in Toulouse (France) on October 23–26, 1985, simultaneously with SITEF exhibition, which is devoted to the future technologies.

The main purpose of this conference is to provide a platform for scientific and technological exchange of information to enhance the dissemination of knowledge on relevant topics through communications of high quality papers. The topics within the scope of the conference are:

1. *Methods*
- optimization, modelization, identification
- control structures
- control architecture and operational security
- expery systems and artificial intelligence
- industrial local area network
- instrumentation, sensors
- human factor engineering
- education and training

2. *Applications*
- energetic systems, continuous process
- computer integrated manufacturing (productics)
- aeronautics and space
- biotechnology, medical and biological engineering
- communication network

Papers written in French or English language will be accepted. Four copies of the summary, *not exceeding two pages*, of the proposed paper, describing work that relates to the above topics and not generally published previously should be addressed to the AFCET headquarters before December 1, 1984.

Enquiries to: AFCET, as above.

NINETEENTH INTERNATIONAL SYMPOSIUM & EXPOSITION ON ROBOTS

(November, 1988; Sydney, S.S.W., Australia)

These events will form part of Australia's national Bicentennial celebrations. It will be the first time an International Symposium on Industrial Robots has been held outside of the USA, Western Europe or Japan.

More than 1000 delegates from home and overseas will attend the November Symposium at Sydney's Hilton Hotel and thousands of people will have the opportunity to explore the world of robot technology at the Exposition in Centrepoint.

The Australian Bicentennial Authority, the organisation coordinating the national celebrations, has endorsed the Symposium and Exposition and congratulated the Association and its co-sponsor, the Institution of Engineers (Australia), on their initiative in staging an event of such great public appeal for the year-long commemoration.

Papers presented at the Symposium will discuss the complex applications and implications of robot technology in modern society and the Exposition will provide a fascinating range of practical demonstrations of robots at work in industry, the home and educational institutions.

Dr Michael Kassler, convenor of the Association's steering committee, says: 'Robots are already at work in industry and perform a number of tasks such as welding, spray painting and transferring objects from one machine, or place, to another.

'They have even been used, on an experimental basis in Australia, to shear sheep. We anticipate that by the later part of this decade robots equipped with visual sensors will be used for automatic assembly in industry' Dr Kassler said.

Enquiries to: Ellen McArthur, Information Officer, The Australian Bientennial Authority, GPO Box AUS 1988 Sydney 2001 Australia (Tel. (02) 236 1988) or Dr Michael Kassler, The Australian Robot Association, 9 Queens Ave, McMahons Pt, Sydney 2060 Australia (Tel. (02) 922 5026).