

## Announcements

### **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, 156, Boulevard Péreire, F-75017 Paris, France (Tel. (1)766 2419; telex 290 163 Code 235)

### **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. 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., 35–39 High Street, Kempston, Bedford, MK42 7BT, England. (Tel: 0234-853605; Telex 825 489).

### **ENGINEERING SOFTWARE—ENG SOFT 85; FOURTH INTERNATIONAL CONFERENCE AND EXHIBITION (18–20 June 1985, Southampton (U.K.))**

(Sponsored by the International Journals: ‘Advances in Engineering Software’ and ‘Engineering Analysis’)

#### *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.

#### *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, 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.

#### *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 or 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 CAD/CAM
- 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.

#### *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 future 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.

## **Xth IFAC SYMPOSIUM ON AUTOMATIC CONTROL IN SPACE**

(Toulouse, June 25–29, 1985)

#### *Sponsored by*

International Federation of Automatic Control Technical Committee on Space

#### *Co-sponsored by*

A.F.C.E.T. (Association Française pour la Cybernétique Economique et Technique)

#### *Organized by*

C.E.R.T. (Centre d'Etudes et de Recherches de Toulouse) a division of O.N.E.R.A. (Office National d'Etudes et de Recherches Aérospatiales)

#### *Purpose*

This Symposium will consist of presenting formal papers during the week, followed by questions and discussions. In addition, a Round Table of 1 1/2 hours will offer the opportunity for participants to share their experiences and exchange their ideas.

#### *Topics*

Stabilization of large structures through selection of sensors, actuators; appropriate use of passive damping, and control laws; space robotics and teleoperators including rendez-vous, docking and automatic assembly; shuttle launch operations; control and guidance of low-cost boosters; control of tethered satellites; specialized control requirements of science, navigation, communication, weather and other mission-oriented satellites; standardization and spacecraft attitude control; distributed control; control problems in active optics in space.

*Enquiries to:* C.E.R.T., 2, Av. Edouard-Belin, B.P. 4025, 31055 Toulouse, Cedex, France.

## **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

#### *1. 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.

#### *2. 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).

### **IFAC SYMPOSIUM ON AUTOMATION FOR MINERAL RESOURCE DEVELOPMENT**

(Brisbane, Queensland, Australia; July 9–11, 1985)

#### *Scope of the meeting*

The theme of The AusIMM Annual Conference is "The Competitive Challenge" and will include sessions on "Markets, Money, Mines and Management". Within the context of the theme and in conjunction with the Annual Conference, the IFAC Symposium will address "Automation for Mineral Resource Development". This Symposium will consider some of the technical problems expected in the mining industry in the 1990's and beyond and the role of automation in the solution of these problems.

#### *Venue*

The meeting is being conducted in the Sheraton-Brisbane Hotel, Queensland, Australia. July is winter in Australia and the Brisbane temperature at this time of the year averages 20°C maximum and 10°C minimum. Centres further north can be expected to be warmer and southern areas cooler.

#### *Organisers and sponsors*

The meeting is being organised and conducted by The Australasian Institute of Mining and Metallurgy. The IFAC Symposium is sponsored by the IFAC Technical Committees on Applications and on Systems Engineering and by The Institution of Engineers, Australia, the National Member Organisation of IFAC.

#### *Language*

The official language of the meeting will be English. There will be no facilities for simultaneous translations.

#### *Technical sessions*

The technical sessions for The AusIMM Annual Conference and the IFAC Symposium overlap but there will be a number of joint sessions and some parallel sessions within each stream. Delegates are entitled to attend any of the technical sessions in either of the two meetings.

In total, it is anticipated that there will be 90 papers delivered by speakers from 17 different countries.

The bound volumes of preprints will be sent to all delegates prior to the meeting. The volume for The AusIMM Conference will be available to those not attending at A\$30 including surface mail. Copyright provisions prevent the sale of the IFAC preprints to other than delegates but the majority of papers will be available to the public in a volume of proceedings to be published by Pergamon Press, the official IFAC Publishers.

Plenary addresses will be given by

Dr. Miklos Salamon

Director General, Chamber of Mines Research Organisation, South Africa

Dr. Evert Hoek

Senior Principal and Chairman, Golder Associates

Sir James Foots

Deputy Chairman, M.I.M. Holdings Limited

Mr. Richard Austen, AO

Chairman and Managing Director, Austen and Butta.

A number of the technical sessions will be led by keynote speakers.

The final session on Thursday 11 July, will take the form of a panel discussion on the theme, "The Impact of Automation in the Mineral Industry on Capital, Government and Manpower".

The panel will consist of senior representatives from the mineral industry, the trade union movement and government.

*Enquiries to:* Chief Exec. Officer, A.I.M.M., P.O. Box 310, Carlton South, Victoria 3053, Australia (Tel. 03-347-3166; Telex AUSIM AA 33552).

### **INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES**

VLDB (Stockholm, Sweden; August 21–23, 1985)

VLDB Conferences are intended to identify and encourage research, development and applications of database systems. Their objectives are the promotion of an understanding of current research, the furthering of exchanges of information and experience gained in the design, construction and use of databases, and the provision of a forum for the discussion of future research and development.

The eleventh VLDB Conference will emphasize the contribution of database technology to evolving areas like artificial intelligence, software engineering, CAD/CAM, graphics, office information systems and the new challenges that the interaction with those areas presents to the field of database management.

#### *Topics*

Engineering Databases  
Office Information Systems  
Knowledge Based Data Management  
Distributed Databases  
Concurrency Control  
Intelligent User Interfaces  
Design Methodology and Tools  
Hardware Architectures  
Data Models  
Database Theory  
Performance  
Query Optimization

*Enquiries to:* Lars Söderlund, Dept. of Computer Science, University of Stockholm, S-106 91, Stockholm, Sweden.

### **EIGHTH INTERNATIONAL CONFERENCE ON PRODUCTION RESEARCH "TOWARDS THE FACTORY OF THE FUTURE"**

(Stuttgart, F.R. Germany; August 20–22, 1985)

The objectives of the Conference are to support the international exchange of experience about outstanding industrial developments and the latest results of production research.

#### *Topics*

1. Highly Automated Flexible Manufacturing Systems
2. New Manufacturing Technologies
3. Production Planning and Control
4. Computer Aided Design and Computer Aided Manufacturing
5. Assembly Automation
6. New Concepts in Work Organization
7. Design of Work Stations
8. Industrial Robots
9. Sensors and Quality Control
10. Corporate Strategies
11. Industrial Engineering Methodologies
12. Human Factors and Ergonomics
13. Office Automation
14. Applications of Fuzzy Set Theory in Production Research

Outstanding personalities representing the field of production research on an international level are members of the programme committee which works together with the organizing committee (Chairman: Prof. Dr.-Ing. habil. H.-J. Bullinger, University of Stuttgart) to prepare the sessions. Each session

will cover some of the above mentioned topics and will be opened by an "invited lecture". The following contributions of each session will contain the research aspects as well as the advantages for the production itself.

*Enquiries to:* ICPR Secretary, c/o IPA, Eierstrasse 46, 7000 Stuttgart 1, West Germany.

**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 items 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 as well, as for nurturing future developments.

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

*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, Shibakoen, Minato-ku, Tokyo, 105 Japan.

**INTERNATIONAL SEMINAR ON COMPUTER  
NETWORKING AND PERFORMANCE EVALUATION**

(September 18–20, 1985; Tokyo, Japan)

*Sponsors*

IBM Japan  
INRIA  
Kyoto University  
IFIP WG7.3  
ITC

*Seminar coverage*

- Queueing Applications
- Performance Evaluation Tools
- Performance of Parallel Processing Systems
- Network Architecture
- Local Area Networks
- Metropolitan Area Networks
- Wide Area Networks
- Satellite Communications
- Simulation Methodologies
- Case Studies
- Other Related Areas

*Official language*

English

*All correspondence should be addressed to:* Dr. Yutaka Takahashi, Dept. of Applied Math. and Phys., Kyoto University, Kyoto 606, Japan (Phone: (075)751-2111 ext. 5513; Telex: 5422693LIBKYU J).

**SIXTH INTERNATIONAL CONFERENCE ON  
AUTOMATIC WAREHOUSING – ICAW 6**

(Stockholm, Sweden; October 15–17, 1985)

'... the warehouse has changed and will continue to change. It will be increasingly dynamic, not static, and it will require the best available management talent. Furthermore, the contribution of the warehouse to the performance of the total system will be much better understood and will result in increased attention from upper management'. This was how John White, Director of the Material Handling Research Center, Georgia, summarised his paper as Chairman of the 5th ICAW.



The 6th International Conference on Automated Warehousing will continue the investigation into new ideas and developments in machinery and controls and the management of transportation. The success of any automated warehousing system depends largely on its ability to function without breakdown or delay. The Conference will consider actual operating experiences of downtime, maintenance, control systems and economics.

6th ICAW returns to Europe after meetings in the USA and Japan. In the past the ICAW Conferences have each attracted some 250 delegates from around 20 countries. It is hoped that once again delegates will join in a truly international exchange of expertise at the 6th ICAW.

#### *Suggested topics*

- \* Control systems: design software support
- \* Hardware: rack structures conveyor systems
- \* Automated Warehouse design: use of simulation  
level of automation
- \* Justification of automated storage: financial  
management  
social
- \* Automated identification and order picking
- \* New developments in equipment
- \* Case studies

*Enquiries to:* IFS as above.

#### **FOURTH INTERNATIONAL CONFERENCE ON FLEXIBLE MANUFACTURING SYSTEMS**

(October 15–17, 1985; Stockholm, Sweden)

##### *A successful series*

When FMS-1 – the world's first conference devoted to flexible manufacturing systems – took place in Brighton in 1982, there was tremendous interest in what was essentially an emerging technology. With each successive year the conference series has expanded its scope of interest. Each year it has become increasingly international, as more countries send their leading FMS experts to participate as speakers or delegates.

##### *The technology*

It is now clear that FMS is not a technology in isolation, but is an integration of many technologies, skills and disciplines; in short, a manufacturing strategy. At its most sophisticated, FMS encompasses computer-integrated manufacturing (CIM); rather less ambitiously, it can begin with a single manufacturing cell or the first new machine in a step-wise implementation. As the complexity of the subject develops, the areas for learning and discussion diversify. FMS has moved a long way in a short time; from machining into complicated assembly systems, from metalworking into a host of varying industries. And interestingly, the reasons for implementing FMS and the ways of justifying the investment, now differ from company to company.

##### *FMS-4 in Sweden*

Sweden is one of the leading exponents in Europe of FMS technology. There are historical reasons for this, notably changes in the labour market and in production requirements. At any rate, Sweden is now heavily committed to FMS for the continuing expansion of its industrial sector. The active participation of many of Sweden's leading establishments is expected to give FMS-4 a very distinct character, although the programme will, of course, be as comprehensive and international as on past occasions.

The main theme of the conference is 'making FMS work' – reflecting the practical bias of the conference. Particular emphasis will be given to techniques, organisation and economy.

A number of technical visits designed to complement the conference sessions will be arranged to show the best in Swedish FMS.

FMS users, suppliers and researchers worldwide are once again invited to share their knowledge and experience in this field, by actively participating in the conference programme.

#### *Suggested topics*

- \* Case study applications of FMS
- \* Human factors
- \* Management of FMS
- \* Economic evaluation and justification of FMS
- \* FMS simulation
- \* Development trends in FMS software and hardware
- \* CIM: FMS integration with CAD/CAM, MRP and business information systems  
: integrated inspection and maintenance
- \* Systems design
- \* Preparation for new technologies
- \* Adaptation of production planning to FMS from traditional methods
- \* Product design for FMS

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

#### **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
- expert 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.

*Enquiries to:* AFCET, as above.

#### **FIFTH INTERNATIONAL CONFERENCE ON ROBOTVISION AND SENSORY CONTROLS**

RoViSeC 5 (Amsterdam, The Netherlands, October 29–31, 1985)

The RoViSeC Conferences are now well established as an important forum for the fields of Robot Vision and Sensory Controls. The Conferences are truly international: previous conferences have been held in the UK, Germany and the United States. This year RoViSeC moves to The Netherlands, the home of much innovative engineering.

The technology of robot sensory control is expanding rapidly with robot vision becoming more and more advanced. The aim of the RoViSeC 5 Conference is to explore the capabilities of robot vision and sensory systems for use in the efficient, productive and profitable factories of the future.

RoViSeC 5 will provide a platform for both the end user and the developer. Production engineers from manufacturing industry will explain their own requirements, and describe how they have achieved results. Equipment manufacturers will demonstrate the advances that have been made over the last few years and illustrate the scope of future innovations. Research scientists will describe their current work and indicate the path of future developments. The presence of all sides of the technology from so many countries represents a great deal of experience, from which everyone can benefit.

Delegates will meet in Amsterdam, under the chairmanship of Professor Zimmerman of the University of Technology at Delft, to discuss the present technology and its applications and to explore the future of this exciting and vital field. On this occasion the Conference is being sponsored by three major Dutch societies: The Royal Institution of Engineers in the Netherlands (KIVI), the Dutch Society of Informatics (NGI) and the Society of Production Engineering. We anticipate that yet again another facet will be added to this important international event.

*Enquiries to:* IFS, as above.

### **SYMPOSIUM ON ROBOT CONTROL '85**

(November 6–8, 1985; Barcelona, Spain)

#### *Purpose*

The Symposium is aimed to focus mainly in the control aspects, in a broad sense, of robots, as automatic devices or as forming part of a system. The influence of the applications field in the conception and design of the robotic system will also be of interest.

#### *Topics*

The main topics of the Symposium on Robot Control will be the following:

- kinematics and dynamics
- control synthesis and implementation
- sensor based control (force, torque, compliance, . . .)
- programming languages
- man-machine communication
- cooperation between robots and machines
- artificial intelligence in robotics (visual and tactile perception, plan generation, task planning, error recovery)
- simulation and CAD

#### *Invited sessions*

Special sessions based on invited papers dealing with specific topics will be organized by members of the IPC.

*Enquiries to:* ONC Chairman: Prof. G. Ferraté, Secretariat of SYROCO'85, Institut de Cibernètica, Diagonal, 647, 08028 Barcelona, Spain (Phone: (3) 249 28 42, telex 52821) or IPC Chairman: Prof. G. N. Saridis, Robotics and Automation Lab., Electr., Comp. & Systems Eng. Dpt., Rensselaer Polytechnic Institute, Troy, New York 12180-3590 (Phone: (518) 266-6076, telex 646542).

### **BRITEC 1986—BRITISH INFORMATION TECHNOLOGY EXHIBITION AND CONFERENCE ON ENGINEERING SOFTWARE**

(July 14–16, 1986; at the Hilton at Colonial, Route 128, Wakefield, MA 01880 (USA))

#### *Objectives of the Conference*

To provide a forum for the presentation and discussion of new and advanced ideas in engineering software.

To encourage and enhance the role of engineering software and other related disciplines by providing an opportunity for the presentation of the work of engineers, mathematicians and computer scientists involved in solving problems closely related to engineering disciplines.

#### *Call for papers*

Papers are invited on the topics outlined below and other topics which fit within the general scope of the Conference. Abstracts of not more than 300 words should be submitted to the Conference Director, Dr. C. A. Brebbia, by November 1985. Abstracts should clearly state the purpose, results and conclusions of the work to be described in the final paper. Authors will be notified of the preliminary acceptance by December 1st, 1985. Final acceptance will be based upon review of the full length paper which must be received by March 1st, 1986. Papers presented at the meeting will be published in the Conference Proceedings.

#### *Time schedule*

- Submit Reply Form
- Submit Abstract (300 words): November 1st, 1985
- Preliminary acceptance: December 1st, 1985
- Submit Full Paper: March 1st, 1986

#### *Conference themes*

- CAD Systems
- Software Development and Architecture
- Software Maintenance and Support
- Integration of Software Packages
- Finite and Boundary Element Packages
- Application Software for Civil and Structural Engineering
- Application Software for Mechanical Engineering
- Geometric Modelling
- Real Time Simulation
- Interfacing Experiments and Computer Codes
- Control of Manufacturing Processes
- Engineering Databases
- Workstations and Networks
- Implementing CAD/CAM
- Artificial Intelligence Applications

#### *BRITEC Exhibition*

The Conference will take place at the same time as the British Information Technology Exhibition, also to be held at the Hilton at Colonial. This will give participants the opportunity of viewing a large range of products and services available through British companies. The Exhibition will accommodate some of the more innovative products with emphasis on those related to Engineering Software.

*Enquiries to:* Dr. C. A. Brebbia, Computational Mechanics Inc., Suite 6200, 400 West Cummings Park, Woburn, MA 01801, USA (Tel. (1) 617-933-7374) or Dr. C. A. Brebbia, Computational Mechanics, Ashurst Lodge, Ashurst, Southampton SO4 2AA, U.K. (Tel. 44-(0)421-293223).

### **43rd FID CONFERENCE AND CONGRESS (INTERNATIONAL FEDERATION FOR DOCUMENTATION)**

(Montréal, Canada; September 14–18, 1986)

Information, Communications and Technology Transfer will be the theme of the events. Proposed topics include new techniques for information handling and information transfer, advances in communication systems, advances in computer systems, electronic publishing, electronic document delivery systems and all aspects of technology transfer. The conference language will be English and French. Original papers in either language are requested.

Authors are requested to submit six copies of a summary of a proposed paper to the conference chairman: Mr. E. V. Smith,

Director, CISTI, National Research Council of Canada, Ottawa, Ontario, Canada K1A 0S2.

*Deadline: June 30, 1985*

*Enquiries to:* Local Organising Committee, 43rd FID Conference, Succursale Place, Destardins, Montréal, Canada H5B 1B3 (Tel. 514-288-8524; telex 055-60944).

### **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, convener 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 Bicentennial 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).

### **LABORATORY ROBOTICS**

Beverly Humphrey Scientific Symposia Ltd, 33-35 Bowling Green Lane, London EC1R ODA, U.K.

### **COMPUTER GRAPHICS CONFERENCE AND EXHIBITION**

National Computer Graphics Association, April 14-18, 1985, Dallas TX, USA, Contact: 703/698-9600

### **CIMCOM: INDUSTRIAL SOFTWARE CONFERENCE AND EXPOSITION**

Computer and Automated Systems Association of SME/Society of Manufacturing Engineers, April 16-18, Anaheim CA. . . Contact: 313/271-1500 (ext 374)

### **INDUSTRIAL PRODUCTIVITY CONFERENCE AND EXPOSITION**

Society of Manufacturing Engineers, April 30 - May 2, 1985, Columbus OH, USA, Contact: 313/271-0023

### **INDIRECT COST REDUCTION AND CONTROL SEMINAR AND WORKSHOP**

Saville Associates Inc/IITRI Manufacturing Productivity Center, April 9-11, 1985, Chicago IL; April 22-24, 1985, Crystal City (Arlington) VA, USA, Contact: 312/234-6360 or 312/567-4800

### **ADVANCED FACILITATOR TRAINING COURSE**

Quality Circle Institute, April 15-19, 1985, Chicago IL (USA) Contact: 916/527-6970

### **INTERNATIONAL TOOL AND MANUFACTURING ENGINEERING CONFERENCE AND EXPOSITION**

Society of Manufacturing Engineers/American Machine Tool Distributors' Association, May 6-9, 1985, Detroit MI. . . Contact: 313/271-0777

### **VOICE PROCESSING**

Online Conferences Ltd, U.K., May 8-9, 1985, Contact: 01-868-4466

### **PRECISION ENGINEERING SEMINAR**

CIRP: The International Institution for Production Engineering Research, May 13-16, 1985, INTERLAKEN SWITZERLAND. . . Contact: Precision Engineering, Butterworth Scientific Ltd, P.O. Box 63, Westbury Homes, Bury Street, Guildford Surrey GU2 5BH, U.K.

### **ADVANCED FACILITATOR TRAINING COURSE**

Quality Circle Institute, May 13-17, 1985, Memphis TN, USA, Contact: 916/527-6970

### **COMPUTER INTEGRATED MANUFACTURING PRINCIPLES AND APPLICATIONS FOR FACTORIES AND SMALLER PLANTS . . .**

North Carolina State University, May 13-17, Raleigh NC, USA Contact: 919/737-2356

### **ADVANCED MANUFACTURING SUMMIT '85**

IFS (Conferences) Ltd, U.K. May 14-17, 1985, BIRMINGHAM ENGLAND Contact: (England) Phone (0234) 853605 or Telex 825489

### **INTELLIGENCIA INTERNATIONAL CONGRESS AND EXHIBITION**

AFISA/Society of Manufacturing Engineers, May 21-24, 1985, PARIS, FRANCE Contact 313/271-0777

### **ROBOTS 9 CONFERENCE**

Robotics International of SME, June 3-6, 1985, Detroit MI, USA Contact: 313/271-0777

### **ROBOTS 9 EXPOSITION**

Robotic Industries Association, June 3-6, 1985, Detroit MI, USA, Contact: 313/271-7800

### **TELEMAT 85**

Ecole National Supérieure de Physique de Marseille June 4-6, 1985, Marseille, France, Contact: 91-98-17-67

**AMERICAN PRODUCTIVITY MANAGEMENT  
ASSOCIATION MEETING**

June 5–6, 1985, Minneapolis MN, USA, Contact: 313/677–9141

**SECOND INTERNATIONAL CONFERENCE ON  
ROBOTICS AND ARTIFICIAL INTELLIGENCE  
(AIRCON2)**

ITTRI/RIA/SME/IFS Ltd, June 10–11, 1985, Crystal City (Arlington) VA, USA, Contact: 312/567–4542

**HUMAN FACTORS IN MANUFACTURING  
CONFERENCE**

IFS (Conferences) Ltd, U.K., June 11–13, 1985, STUTTGART WEST GERMANY Contact: (England) Phone (0234) 853605 or Telex 825489

**CORRECTION**

In the Report of the Conference on *Advanced Software in Robotics* (*Robotica* 2, Part 4, 237–240, October–December 1984) it was wrongly stated that permission to reprint the

**CANADIAN ROBOTICS SHOW**

Robotic Industries Association, June 18–20, 1985, TORONTO, CANADA Contact: 313/271–7800 or (Ontario) 416/491–9656

**INDUSTRIAL PRODUCTIVITY CONFERENCE AND  
EXPOSITION**

Society of Manufacturing Engineers, June 18–20, 1985, Milwaukee WI, USA, Contact: Phone 313/271–0023 or Telex 297742 SME UR (VIA RCA)

**ADVANCED FACILITATOR TRAINING COURSE**

Quality Circle Institute, June 24–28, 1985, San Francisco CA, USA, Contact: 916–527–6970

**NETWORKS '85**

Online Conferences Ltd, U.K. June 25–27, 1985, Contact: 05–868–4466

summaries of the papers in *Robotica* had been granted by the University of Liege. In fact, permission had been granted by North-Holland Publishing Company from whom the book may be obtained. This error is deeply regretted. (Editor)