

## Announcements

### 1983 EXPERT SYSTEM WEEKEND

London (U.K.); September 10–11, 1983

Knowledge-based Expert Systems have burst into the limelight recently – partly inspired by news of the Japanese Fifth Generation Computer initiative. For those who have glanced with interest at the glossy brochures but could not afford the jet-setting conference fees, The Polytechnic of North London has organised a low-cost alternative, on 10 and 11 September 1983. The aims of the course are:—

- (1) to provide a perspective on the dramatic rise to commercial success of Expert Systems;
- (2) to show how Expert Systems are built.

At least four currently operational Expert Systems will be analyzed in detail and demonstrated in action, some running on mainframes, others on microcomputers.

The point is that one does not need expensive hardware to benefit from the techniques used in intelligent systems. Anyone can use an Expert System; and with a little help from the 'experts' one could build one oneself.

Speakers include Peter Laurie (Southdata Ltd.), Dr. Ronnie Burton and Richard Forsyth (The Polytechnic of North London), Masoud Yazdani (Exeter University), Annie Brooking (Polytechnic of the South Bank), Peter Jones (Tymshare U.K.), Phil Cox (ISIS Systems) and Arnold Arnold. All have recent experience of designing and implementing Expert Systems.

Among the systems on show or under discussion will be one for diagnosing cardiac illness, one that interprets infra-red spectrometer results, one that forecasts football results and several general-purpose Expert Systems. The course is intended for Computer Professionals, Software Managers, Educators and System Designers.

*Enquiries to:* Richard Forsyth, Dept. of Mathematics, Statistics and Computing, The Polytechnic of North London, Holloway Road, London N7 8DB, U.K. (Tel: 01-607 2789 Ext. 2316 or 2309)

### AUTOFACT EUROPE CONFERENCE AND EXHIBITION

New Palexpo Exhibition and Conference Center, Geneva (Switzerland); September 13–15, 1983

This event is a combined conference and exhibition dedicated to advancing the technologies of computer-integrated manufacturing and the automated factory.

The use of computers for design, engineering, manufacturing, assembly, material handling, inspection, scheduling and shipping are well-known. Industrial robots also play a key role in the automated factory. At AUTOFACT EUROPE, one could learn how the effective application of these computer-based technologies and systems will significantly improve manufacturing productivity and product quality.

Since 1977, the AUTOFACT Conferences have provided company management, design engineers, manufacturing engineers, industrial engineers and production engineers, with the expertise to integrate each component into the automated factory. Similarly, the Exhibitions have demonstrated "in ac-

tion" how equipment and systems are computer-integrated in the factory network.

### ... "CAD/CAM, ROBOTICS, AND FMS—THE KEYS TO COMPETITIVE MANUFACTURING"

Automated, computer-integrated factories continue to multiply in the industrialized countries. There are no alternatives to increased industrial automation in the changing world of manufacturing.

For those companies . . . and countries . . . now moving to automate their production facilities, the rewards will be far-reaching: increased productivity; better product quality and materials usage; lower operational, labor and improved profits and market share in a highly competitive world marketplace. As one leading manufacturing research scientist explains: "Systems integration is the key to survival for industrial nations".

*Enquiries to:* AUTOFACT EUROPE, Society of Manufacturing Engineers, One SME Drive, P.O. Box 930, Dearborn, Michigan 48121, USA (Tel. 313 271-1500, ext. 365; telex 810-221-12132 SME DRBN)

### INTERNATIONAL SYMPOSIUM ON AUTOMOTIVE TECHNOLOGY AND AUTOMATION

Cologne (F.R. Germany); September 19–23, 1983

Cologne in the Federal Republic of Germany will be the venue for the 1983 ISATA Symposium. The Symposium is being held in co-operation with Ford-Werke AG and will run from the 19th to the 23rd September, 1983.

The technical sessions of the symposium will be held in the Conference Hall of the Intercontinental Hotel, Cologne. The papers will cover the whole range of automotive technology and automation, including automation of manufacturing processes, diagnostics, quality control, vehicle and engine management systems, speech recognition, sensors, emissions, lubricant testing, fuel economy and safety. PARTICULAR EMPHASIS WILL BE PLACED ON ELECTRONICS AND ENERGY SAVING IN THE AUTOMOTIVE INDUSTRIES: PRODUCT AND PROCESS. The official language of the symposium will be English.

Once again the symposium will have the backing and support of the ISATA Co-ordinating Committee which is responsible for the vetting and approval of the papers submitted.

A special space in the Intercontinental Hotel will be used to provide a static exhibition area. Car manufacturers, suppliers of equipment and any other organisation interested in exhibiting should make enquiries with the symposium organisers as soon as possible. Organisations may also advertise in the Symposium Programme which is distributed to 15,000 named experts and in the Symposium Proceedings which are distributed to all delegates and used as standard works of reference on a worldwide basis. Those wishing to advertise should contact the organisers as soon as possible.

One day of the symposium, Friday, 23rd September, is set aside for technical visits to the manufacturing and development facilities at Ford-Werke AG.

Visits are planned to the Cologne Engineering and Design Centre, which is an integral part of Ford's European Product Development activity, the new Parts Centre with its electronically controlled stock handling system, the Sierra production line at Genk and the Ford European Proving Ground at Lommel, Belgium.

*Enquiries to:* Secretariat, ISATA, 42 Lloyd Park Avenue, Croydon CR0 5SB, England (Tel. 01-680-8659; telex 28 905 Monoref 2592)

### 23rd FALL SYMPOSIUM ON MICROIMAGING TECHNOLOGY

The Hyatt Regency Crystal City, Arlington, Virginia (USA); November 14–17, 1983

The technologies and applications for microimaging have grown steadily in the past decade. Advanced document storage and retrieval systems have contributed greatly to this growth. This conference will focus on: 1. the state of the art in microimaging with respect to materials, processes, stand alone systems, and integrated electronic/computer systems used in today's applications and 2. the impact of technologies and needs upon future information capture, storage, and retrieval systems.

The conference will encompass recent advances in the broad fields of microimaging technologies. The preliminary session outline given below is suggested as a guide for submission of papers.

#### I. Recording Materials Technology

Microimaging materials review and trends in image capture, storage, duplication, and hard copy printing.

- \* Silver Halide
- \* Thermally Processed Silver
- \* Wet or Dry Diazo
- \* Photoreceptors
- \* Liquid & Dry Developers
- \* Color Materials
- \* Others (e.g., Optical disc)

#### II. Microimaging Systems

The physics and mechanics of the recording processes and hardware technologies integrated with the recording materials.

- \* Optics, Lenses
- \* Exposure & Control Systems
- \* Laser/laser Diode Devices
- \* Indexing Systems
- \* Film Handling Systems
- \* Processing
- \* Cameras/Camera Processors
- \* Duplicators
- \* Reader/Printers

#### III. Microimaging technology and Electronic Systems

The integration of microimaging systems with other devices to create an information storage and retrieval system.

- \* COM Recorders
- \* CAD/COM
- \* Computer Assisted Retrieval (CAR)
- \* Mass Image Storage Devices (Microfilm, Optical Disc) Magnetic Disk
- \* Document Scanning, Retrieval
- \* Microfacsimile

#### IV. Challenge/Opportunity for Microimaging

The applications and needs for information storage and retrieval in the future. What opportunity does microimaging technology have to satisfy these needs?

*Enquiries to:* Robert H. Wood, Executive Director, SPSE, 7003 Kilworth Lane, Springfield, VA 22151, USA

### ROBOTIC INTELLIGENCE AND PRODUCTIVITY CONFERENCE

Wayne State University, Detroit, Michigan (USA); November 18–19, 1983

This Conference will cover various aspects of the development and application of more intelligent robotic systems. In particular, the emphasis will be on robot world model representation, robot programming languages, kinematics, locomotion, sensors and applications.

The conference immediately follows AUTOFACT V, also in Detroit. The keynote speakers will be:

- M. Brady Massachusetts Institute of Technology
- E.W. Kent National Bureau of Standards
- K.S. Fu Purdue University
- L.R. Ross Ford Motor Company

*Enquires to:* Professor M. Shaw, or Professor F. Westervelt, Electrical and Computer Engineering, College of Engineering, Wayne State University, Detroit, MI 48202, USA, (Telephone: 313/577-3920)

### INTERNATIONAL SYMPOSIUM ON APPLIED AUTOMATION

Hotel Méridien, Nice (France); May 23–25, 1984

The symposium is concerned with progress and prospects of digital techniques applied to automation of industrial processes; it is organised by the SOCIÉTÉ DES ELECTRICIENS ET DES ELECTRONICIENS (S.E.E.), whose aim is to promote science and technology by spreading knowledge, bringing together research teams, instructors, industrial engineers, and specialists from all countries. Patrons include AFRI, IEEE, etc.

The theme chosen for the symposium stresses the following development factors:

- the growing interdependence of controls, automation and data processing,
- the development of communication buses,
- the growing use of microprocessors,
- new requirements linked with technical and economic factors, and progress in maintenance techniques, safety precautions and ergonomics of systems.

#### Themes of the symposium

Proposals for papers should develop in particular the following themes:

- **Digitalisation of control devices and elements:** design, integration means and methods in industrial systems,
- **digital control of processes:** modelling, optimization, control laws, multivariable control,
- **functional organisation of control systems:** structure, processing dialogue and communication means. Distribution of software and data, integration of production management functions,
- **safety, reliability, testing** of the systems and processes (application software and hardware),
- **application software:** specification, creation, maintenance, programming methods, languages,
- **man-machine dialogue,**
- **application** illustrating one or more of the above-mentioned themes and showing methodology used and results obtained (in all industrial fields, including nuclear power, space and aeronautic projects . . .).

#### Official Languages

French and English are the two official languages of the symposium. There will be simultaneous translation.

#### Presenting the Papers

The authors must submit a synopsis **BEFORE 30 NOVEMBER 1983**; these must be sent to the symposium

secretary:

**S.E.E. - 48, rue de la Procession  
75743 PARIS CEDEX 15 - FRANCE**

They must be two-page synopsis (in French or English) of an original unpublished article — 3 copies must be submitted.

The following information should be given:

- the title of the paper,
- the first name and surname of the author,
- his job and a short biography,
- the name, address and telephone number etc. of the company or organisation he works for.

Authors whose papers are accepted, will be informed of this before the end of the year.

The papers must be submitted to the symposium secretary **BEFORE 1 MARCH 1984**. The complete text, in French or English must be submitted, with a 100 word synopsis in both languages at the beginning, it should be typed on a special form with a specific layout; forms and layout instructions will be sent to the authors.

These texts are reprinted just as they are when received and a copy of the complete collection will be given to each participant.

*Enquiries to:* S.E.E., 48, rue de la Procession, 75743 Paris Cedex 15, France

#### **FIFTH CISM-IFTToMM SYMPOSIUM ON THE THEORY AND PRACTICE OF ROBOTS AND MANIPULATORS RO.MAN.SY '84**

Udine (Italy); June, 1984

The sponsors of this Symposium are the International Centre for Mechanical Sciences – CISM and the International Federation for the Theory of Machines and Mechanisms – IFTToMM. These organizations have a common interest in furthering the mechanical sciences as applied to the theory of machines.

In this connection they have organized this Fifth Symposium to bring together the world's leading experts on the theory and practice of Robots and Manipulators technology. In order to encourage extensive interchanges between all participants, the attendance will be limited. As a focal point for the exchange of knowledge and experience, a limited number of high caliber papers are now being solicited.

These papers will be preprinted and will be available at the Symposium. It is anticipated that they will be later published in a book form.

The Symposium will welcome discussion on any topics which are included in one of the categories listed below.

A paper may treat an entire system or a subsystem, but should be mainly concerned with the mechanical aspects of the problem.

#### *Topics*

In connection with this Symposium the terms Robots and Manipulators are intended to include also such areas as locomotion systems (predipulators and walking machines) and exoskeletal and prosthetic devices. Within this broad framework the topics for this Symposium are the following aspects of Robots and Manipulators:

1. Mechanics
2. Control of Motion
3. Sensing and Machine Intelligence
4. Synthesis and Design
5. Man-Machine systems
6. Computer Enhanced Teleoperation
7. Biomechanics of Motion
8. Applications and Performance Evaluation

#### *Call for Participants*

A limited number of high quality papers are hereby solicited. In addition, the attendance of a limited number of experts able to contribute at informal discussions is solicited.

Those desiring to participate in the Symposium must contact a member of the Organizing Committee, CISM or the National IFTToMM organization, for application procedures and conference rules.

All papers must be written in English.

Attendance is by invitation only. In order to be considered applications for attendance and abstracts must be submitted before **March 31, 1983**. Abstracts should be 400 words or more and should accurately reflect the contents of the paper. On the basis of these abstracts selected authors will be invited to submit full length papers.

Complete papers must be submitted before **January 1, 1984**. In the event the paper is accepted, notification will be sent to the author by **March 31, 1984**.

#### *Proceedings of previous Symposia*

The Proceedings of the First, Second and Third CISM-IFTToMM Symposia on Theory and Practice of Robots and Manipulators are available in the final form.

The Proceedings of the First Symposium (2 volumes) may be obtained from Springer Verlag, Vienna. Those of the Second and Third Symposia may be purchased from Elsevier, Scientific Publishing Company (Amsterdam), PWN (Polish Scientific Publishers, Warsaw) or scientific bookshops.

The Proceedings of the Fourth Symposium are now being printed.

*Enquiries to:* Professor G. Bianchi, C.I.S.M., Pia 22A Garibaldi 18, 33100 Udine, Italy

#### **FOURTEENTH INTERNATIONAL SYMPOSIUM ON INDUSTRIAL ROBOTS – ISIR AND TRADE FAIR**

Swedish Trade Fair, Gothenburg (Sweden); October 2–5, 1984  
The 1st International symposium on Industrial Robots – ISIR was arranged as early as 1970 for a small but exclusive group of specialists. This minor arrangement has now developed into a really large international symposium with a trade fair. Each year specialists, end-users and suppliers from all over the world gather together to see the very latest technological features, to study new industrial equipment and to discuss experience acquired in connection with new forms of utilization.

- In 1982 ISIR was held in Paris and attracted 750 participants from 33 countries.
- In 1983 ISIR is being arranged in Chicago for 2000 participants and 150 exhibitors.
- In 1984 Gothenburg will be hosting the event. The symposium is to be held in the Congress Centre of the Swedish Trade Fair and is to be organized by the largest trade association in Sweden – MEKAN and the Swedish Trade Council. Parallel with the symposium, the trade fair Robot 84 is being held in the adjoining exhibition halls.

#### *The Symposium*

ISIR is now being held for the very first time in Sweden – the country with the greatest concentration of robots in the world with respect to population. This means that the participants will have many opportunities to study industrial robot automation at advanced levels, as well as all types of handling, supply and storage equipment. Before and after the symposium, visits for purposes of study are being made to the leading manufacturers and utilizers of robots in Sweden.

#### *The Trade Fair*

The robot and automation industry has a market that is growing extremely quickly. At the moment, particular interest is being concentrated on spreading this technology to small and medium-sized companies. A concentrated campaign during a limited period is focusing interest on the robot theme and thereby providing greater impact than other forms of information. As an exhibitor at ROBOT 84 in Gothenburg, you will

have unique possibilities

- to present your products to an international expert public
- to establish international contacts
- to consolidate your international market position.

#### *Scientific corner*

We will arrange a special corner for researchers. Research teams can exhibit free of charge.

#### *Parallel*

With ROBOT 84 there is SCANAUTOMATIC 84 – an international trade fair concerned with other means of automation using hydraulics, pneumatics, industrial electronics and computer technology. Both these events are being arranged under the same roof and in adjoining exhibition halls. Together they provide an extremely interesting combination of products:

- Industrial robots
- Auxiliary equipment
- Handling equipment
- Hydraulics
- Pneumatics
- Industrial electronics
- Industrial computer technology

#### *Exhibition Committee*

The members of the EXHIBITION COMMITTEE are:

Mats Annborn,  
 AB Bygg- & Transportekonomi  
 Olle Claesson,  
 SMT Machine Company AB  
 Lennart Djupmark,  
 Chairman ISIR 14th  
 Karl M Haugan,  
 Atlas Copco Tools AB  
 Rolf Johansson, Volvo Car  
 Lennart Karåker, Ehn & Land AB  
 Bo Lagerlöf, ESAB  
 Bengt Göran Nilsson, ASEA,  
 Chairman, exhibition committee

#### *Venue*

The 14th ISIR and ROBOT 84 are being held in the exhibition halls of the Swedish Trade Fair in Gothenburg. The Swedish Trade Fair Congress Centre with modern premises for up to 900 people is located adjacent to the exhibition halls. Furthermore, the Swedish Trade Fair is located in the centre of Gothenburg within easy walking distance of most of the downtown hotels.

There is plenty of space for parking round the Trade Fair including a parking deck close by.

*Enquiries to:* Svenska Mässan Stiftelse, Box 5222, 402 24 Gothenburg, Sweden (Tel. 0 31/20 00 00; telex 20 600)

## **SPECIAL ANNOUNCEMENT**

### **THE AUSTRALIAN ROBOT ASSOCIATION**

The Australian Robot Association is Australia's national professional society concerned with robots, their applications and their implications. Membership is open to interested individuals and organisations. On 18 July 1983, the Association had 52 organisational and 250 individual members from all States of Australia.

The Association's activities are carried out on several levels. Chapters of the Association which sponsor frequent meetings are active in Sydney and Melbourne and forming in Brisbane, Canberra and Perth. The Association publishes a *Newsletter* (to which overseas persons can subscribe at an annual prepaid rate of \$A30, including postage – this provides information about robot-related events in Australia (the latest best estimate is that about 250 industrial robots are installed in this country). The Association sponsors overseas study tours – the next will be in September to Japan to visit the 1983 International Industrial Robot Exhibition and to inspect automated factory operations.

In 1984, the Association is co-sponsoring a national robot conference and exhibition in Melbourne. In 1988, the Association will be principal sponsor of the 19th International Symposium on Industrial Robots in Sydney. This will be the first time that an ISIR has come to the Southern Hemisphere. An associated exposition of robot technology is planned.

Further information about the Association, subscription orders for the *Newsletter*, and the membership application forms, gladly will be given, taken, and given respectively.

*Inquiries to:* Dr Michael Kassler, Convener, Steering Committee, Australian Robot Association, c/- Michael Kassler and Associates Pty Limited, 9 Queens Avenue, McMahons Point NSW 2060. Australia.

## **SPECIAL ANNOUNCEMENT**

The Editor and Publishers regret that, due to a misunderstanding, the article by Dr. R.A. Jarvis entitled "Expedient Range Enhanced 3-D Robot Colour Vision" was published in *Robotica* Volume 1, Part 1, 25–31 1983 when it had previously appeared in substantially the same form in *The Proceedings of the Second International Conference on Robot Vision and Sensory Control* (November 1982). Apologies are offered to the publishers of the Proceedings IFS (Publications) of Kempston, Bedford.