IFIP newsletter
International Federation for Information Processing

Editor:
Dr. Jack L. Rosenfeld

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WELCOME TO IFIP CONGRESS '86

On behalf of IFIP, I take great pleasure and honor in welcoming all participants to IFIP Congress '86, the Tenth World Computer Congress, held in Dublin this year. Among all the international technical conferences and seminars we sponsor (56 such conferences were held in 1985), we consider our triennial World Computer Congresses as the most important events.

The IFIP General Assembly carefully selects the site of the event, considering international needs for improving the world's computer technology. The first Congress was held in Paris (1959), followed by Munich (1962), New York (1965), Edinburgh (1968), Ljubljana (1971), Stockholm (1974), Toronto (1977), Tokyo/Melbourne (1980), and Paris (1983). The next one is scheduled for San Francisco in 1989.

Papers and panels responding to the theme of this Congress, "Informatics—a New Awareness," will suggest what we should be aware of for the future. The technical programme contains four major streams: System Design, Component Design, Applications, and Informatics for Developing Countries, covering ten technical areas. It aspires to bridge the gap between theory (academia) and practice (industry). IFIP steadfastly believes that our effort will eventually help increase the understanding of people of the world, professionals as well as non-professionals, who have to face the information-oriented society of the future.

I earnestly hope that you will enjoy the Congress, technically as well as socially, in the historical, beautiful country of Ireland.

Dr. Kaoru Ando
President of **IFIP**

A COMPUTER FOR EACH STUDENT

TC3/WG3.2 Working Conference

IFIP's Technical Committee on Education (TC3) and its Working Group on Advanced Curriculum Projects in Information Systems (WG3.2) announce a Working Conference on A *Computer for Each Student and its Impact on Teaching and Curriculum in the University,* to be held in Delft, The Netherlands 21-23 April 1987. Since the use of computers is expanding so rapidly, it is expected that five years from now 70% to 80% of university students, particularly in the natural sciences will have their own personal computers. This clearly will have an impact on the curriculum and the teaching in most subjects. The purpose of this Working Conference is to determine and evaluate this impact.

The first day will be devoted to *Changes in Traditional Classroom Teaching and Examinations.* This will cite new methods of teaching in areas such as science and engineering, medical science, library and information science, and the management sciences. The approaches include the use of simulation and modeling, data bases, artificial intelligence (including the use of expert systems), text processing, and the use of diskettes for assignments and tests. Classroom and student management will clearly be important. For example, examinations can be automated, and student evaluation can be done in new ways.

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A COMPUTER... cont. from page 1

Students with computers at their command need to be given more autonomy. This puts a premium on the development of student motivation and, thus, the development of better teaching methods. Attention will be given to the minimum amount of knowledge about computers needed in a given subject to effectively use the computer in this subject.

The second day will be devoted to *Changes in the Content of Lectures.* Lectures should reflect the fact that the computer is having a profound effect on problem solving approaches, and the instructors should display this in their presentations. The student environment should be enhanced by newer and more up-to-date approaches.

The current use of automatic formal mathematical manipulation packages raises the question of just how much and what traditional calculus should continue to be taught. This is somewhat analogous to the discussions raised a few years ago as to just how much and what arithmetic should be taught, since automatic calculators were becoming available. Chemical simulations give another excellent example. Simulation provides new dimensions to the teaching of chemistry. It must, however, be recognized that simulation alone is not enough to learn chemistry. Similar examples are also available in other areas.

The third day will be devoted to *Problem-Solving Software Packages.* These sessions will reflect first the existing packages and second those under development. What is currently on mini- and maxicomputers will be on microcomputers in 5 years and thus will profoundly influence what is done by both instructor and student.

Database theory and applications are developing very rapidly, which is reflected in software packages. This cannot be ignored in the classroom—particularly since much of this will probably be available on micros. The fact that micros are going onto networks also enhances these developments.

Speakers from software companies and computer manufacturers will be invited to talk of their work relevant to the theme of this Working Conference.

Prof. William Atchison (USA), WG3.2 chairman, is Program Committee chairman, Prof. D. Henk Wolbers (NL) is chairman of the Organizing Committee, and Prof. Frank Lovis (GB) and Dr. Donovan Tagg (GB) will be editors of the Conference proceedings. ■

CONFERENCE ON

COMPUTER SECURITY

The fourth *International Conference on the Security of Information Systems (IFIP Sec'86)* will be held in Monte Carlo 2-4 December. It will be preceded, on 1 December, by a day dedicated to "smart card" (a "credit card" with an embedded microprocessor) applications. This year's Conference will emphasize the practical aspects of information systems security within companies and organizations. The conference will bring to participants the state of the art in the domains of protection techniques and, at the same time, provide practical implementation ideas, case studies, exchanges of ideas, and personal contacts.

The conference will be organized so as to permit managers to compare their experiences and to meet the experts in this area of computer technology. Open working sessions organized around practical themes and led by specialists will be the occasion for informal exchanges among participants. Numerous sessions will treat information processing security from a decision and management point of view. Others will put the accent on the latest product and technical developments. Among the topics to be covered are data encryption, the "smart card," audit, risk analysis and security management, operating system and data base security, access control and identification, network security, contingency planning, security of financial transactions, computer crime, and privacy.

In parallel, an exhibition will present the state of the art in hardware, software, services, consulting, and other topics. Video presentations dedicated to information systems security will be shown throughout the conference.

Program and Organizing Committee chairmen are Andre Grissonnanche (F) and Micheline Oerlemans (F), respectively. The Conference proceedings will be published by North-Holland in the first quarter of 1987.

For additional information, please contact

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The Secretariat can also answer inquiries about IFIP.

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Kindly submit material for the *Newsletter* three months before the publication date.

Please send the following IFIP information directly to the Secretariat: announcements of conferences, workshops, and other meetings; calls for papers; appointments to committees and other positions; changes of address; and new publications. The Secretariat is the clearinghouse for all such information; it will forward it to the *Newsletter.*

NEW ADDRESS OF SECRETARIAT

Kindly note that the IFIP Secretariat is moving. Beginning 1 October 1986, the address will be-

16 Place Longemalle
CH-1204 Geneva, Switzerland

The telephone and telex numbers will not change.

IFIP PUBLICATIONS AVAILABLE

New IFIP workers should be aware of the availability of the following IFIP publications from the IFIP Secretariat:

Information Bulletin
Statutes and Bylaws
Standing Orders
What Is IFIP?
Annual Report
articles about Technical Committees

IFIP COUNCIL

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IFIP REAFFIRMS POLICIES

Certain organizations outside of **IFIP** have attempted to prevent individuals from a member country from attending IFIP Congress '86. In response to these actions, and to help everyone affliliated with **IFIP** understand thoroughly our unaltered principle and position, IFIP's president Dr. Kaoru Ando (J) addressed letters on 26 June to all General Assembly members and Technical Committee and Working Group chairmen. In the letters, he stated-

...IFIP's *position is and always has been quite clear on this subject, having adopted the regulation of the International Council of Scientific Unions. Invitations to attend our Congresses are addressed to individuals and not to organizations, and our Congresses are open to all who wish to come, regardless of their country of origin or any political argument. It is a requirement for any potential host country for a Congress that it guarantees unrestricted admission. Such an undertaking was given by the Irish Government. The Executive Board met on June 17 and 18 and unhesitatingly reaffirmed IFIP's adherence to these principles.*

In September 1985, the IFIP General Assembly resolved that-

IFIP does not take any account of the political, social, or economic aspects of its member societies, because IFIP is totally dedicated to the transfer of scientific and technical information and experience. ■

TC5 MEETING IN MAY

*by Mr. Lars Fransson (S) **

IFIP's Technical Committee on Computer Applications in Technology (TC5) held its 24th meeting in Copenhagen on 20 May, just prior to its *CAPE '86* conference. (See the article on *CAPE '86* on page 4.) The meeting, well attended and lively, was devoted primarily to organizational matters; technical subjects were left to the *CAPE '86* conference.

TC5 chairman Prof. Asbjørn Rolstadas (N) reported on recent IFIP activities and pointed out that increasing TC5 activities calls for even better discipline in communication and documentation. He appointed Mr. Marco Tomljanovich (I) to head a Long Range Planning Task Force. Dr. Ernest Warman (GB) agreed to serve as the chairman of a Working Group that is planned for considering computer applications to agriculture.

IFIP vice-president Mr. Graham Morris (GB), who attended the meeting in order to initiate the periodic TC review process, conducted an extensive "group interview."

Dr. Joseph Hatvany (H) was honoured for his vast contributions to TC5. The committee also expressed its gratitude to Dr. Peter Falster (DK) for his extensive work in the preparation and execution of *CAPE '86.* ■

* TC5 secretary and correspondent to the *IFIP Newsletter.*

NEWS FROM ICCC

The International Council for Computer Communication (ICCC), an Affiliate Member of IFIP, is holding its 1986 Conference in Munich 15-19 September. The theme of ICCC '86 is *New Communication Services—a Challenge to Computer Technology.* Some 137 papers will be presented, and three panel sessions will be held. In addition, the Conference features technical visits to 17 locations.

On 22 April, the ICCC held the Annual Meeting of its Board of Governors in Europe and the United States, simultaneously. A transatlantic telephone link was established at Bell Atlantic headquarters in the United States and at Regie National des Usines Renault (RNUR) in France. The meeting was called to order at 7:30 A.M. in the United States and 2:30 P.M. in France. The arrangement was so successful that the Governors voted unanimously to hold similar meetings in the future. There was even mention of increasing the number of countries involved. The Governors voted to consider the formation of a European Committee to serve as a nucleus for regional programs.

ICCC President Prof. Philip Enslow, Jr. (USA) reported to the Annual Meeting that he continues to explore IFIP-ICCC cooperation and plans to appoint ICCC representatives to IFIP Technical Committees 6, 7, 8, 10, and 11.

Plans are under way for future ICCC Conferences: ICCC-ISDN'87 in Dallas in Sep. 1987 *(Evolving to ISDN [Integrated Services Digital Network] in North America),* ICCC-CCDC'87 in New Delhi in Oct. 1987 *(Computer Communication Issues of Relevance to Developing Countries),* ICCC'88 in Tel Aviv in Oct. 1988, and ICCC'90 in New Delhi (no date set yet). ■

PROF. ZEMANEK HONORED

IFIP released, in January 1986, proceedings of a Working Conference organized in tribute to Prof. Dr. Heinz Zemanek (A), an Honorary Member and a past president (1971-74) of IFIP, on his 65th birthday. The volume, *Formal Models in Programming,* is the proceedings of a Working Conference on the *Role of Abstract Models in Information Processing.* The Conference was held in Vienna from 30 January to 1 February 1985 by **IFIP's** Technical Committee on Programming (TC2). The proceedings were published by North-Holland.

The Program Chairman's preface to the proceedings begins: *This meeting marks the 65th birthday of Heinz Zemanek. The contributions on the first day mark a breadth of influence which is extremely rare in our age of specialization.* ■

CAPE '86 HELD IN COPENHAGEN

300 Attend TC5 Conference

IFIP's Technical Committee on Computer Applications in Technology (TC5) held its second *International Conference on Computer Applications in Production and Engineering (CAPE '86)* 20-23 May in Copenhagen. The diverse program included sessions on topics such as robotics, product modeling, factories of the future, multinational projects, and expert systems. Seven in-depth seminars preceded the conference.

The CAPEs, initiated in 1983, are among IFIP's larger conferences. This year, 300 participants from 28 countries attended. Dr. Peter Falster (DK) was chairman of the Organizing Committee, and Dr. Ketil Bo (N) served as Program Committee chairman. The conference proceedings, comprising edited versions of selected papers, will be published by North-Holland late this year. Dr. Ernest Warman (GB) is the editor.

Among the speakers on robotics, Mr. Claus Madsen (S) presented a paper entitled *Robotics and Assembly—the Reality* in which he summarized the challenges associated with applying robots to the assembly process. Following are selections from his paper. *

> Assembly is the connecting together of machined parts intended to fit one another. This definition excludes processes such as arc welding, spot welding and glueing, which sometimes, particularly in the United States, are included in the concept of assembly. It is divided into three different areas with respect to the size of the parts and the demands made on the production equipment.
>
> **Micro-assembly** is fitting together small parts with very great precision. The electronics industry dominates here, with the assembly of components on printed-circuit boards as the most common application.
>
> **Small component assembly** is to be found within most industries, e.g., subassembly of engines and gearboxes in the automotive industry, the assembly of small electric motors in the electrical industry, and the assembly of telephones and keyboards in the telecommunications industry.
>
> **Large component assembly** imposes severe demands on handling capacity and reach. The final assembly of passenger cars, e.g., doors, windscreens, and wheels, as well as assembly in the white goods industry (refrigerators, washing machines, etc.) are typical examples of applications in this area.

Assembly Today

On the average, about 40% of the people employed in the manufacturing industry are engaged in assembly. With automation, this could be reduced to 30%. Assembly of small products in large batches is the only area that it has been possible to automate today. The automation of small batch manufacturing and the assembly of large, complex products are extremely limited, less than 10%. The main reasons for the low degree of automation are: products have not been adapted for automation assembly; flexible equipment that is profitable for small batch manufacturing has not been available; and sufficiently fast and advanced robots are not available. There exists a great need for flexible automatic assembly, particularly when dangerous, monotonous or physically demanding processes are involved.

Where Robots Are Profitable

The cost of manual assembly is, largely speaking, independent of the production volume. With dedicated machines, the unit cost decreases with increasing volume. For production volumes between about 100,000 and 1 million units, there is an area where flexible automatic assembly with robots is more profitable than both manual assembly and dedicated machines. In these cases, robotized assembly gives the following benefits compared with a rigid assembly system:

- profitability with short batches
- copes with several product variants in the same cell
- handles complete assembly and inspection
- simple and fast reprogramming in connection with product change-overs
- may also be used for completely new applications, which gives a long economic life

Labour costs are expected to continue to rise in the future, which will lead to higher costs not only for manual assembly but also for dedicated machines (need engineering work). The price of robots, on the other hand, will drop as a result of the growing competition.

Assembly is largely a matter of material handling, which means that production volumes largely depend on the transfer times of the robot. The ability to operate the robot in the quickest possible way from one point to another is consequently an important measure of a good assembly robot. For the same reason, efforts are made to minimize the distances, which indicates that an assembly robot should have a very small working range.

This is counteracted, however, by two factors. Many different parts cannot be presented to the robot, which results in a high cost per specific part. In addition, flexible feeder systems generally require a large area. The size of the working range must therefore be optimized in relation to the cost and flexibility of the robot. When such an analysis is made, it becomes apparent that the robot in a normal programme spends most of its time in the acceleration or retardation phase and is extremely seldom moving at the maximum speed. The conclusion we can draw from this is that acceleration/retardation represents an extremely important characteristic of an assembly robot. This differs from the requirements made on robots used for process work like welding, glueing and deburring. There, the process demands constant speeds to ensure that good results will be achieved

In addition, components to be assembled are normally presented in a horizontal plane, and most of the components are assembled from above. The speed for horizontal transfer is thus more important than for vertical transfer.

The assembly robot must be able to be programmed to accept position errors and to handle many different components and bring them together in different assembly directions. The robot must be able to apply fasteners with the aid of different tools. In addition, it must be able itself to correct positions by means of information feedback from sensors. All these requirements mean that the robot must have six degrees of freedom.

Assembly is expected to become by far the largest application area for industrial robots in the future. This is confirmed both by the developments that have occurred during the last few years, when the robot market in Western Europe doubled each year, and by the low level of automation within assembly today. In 1985, assembly's share of the total robot market amounted to about 25%. In 1989 the corresponding figure is estimated to be 50%. ■

* © IFIP

SYMPOSIUM ON INFORMATICS AND EDUCATION HELD IN TUNISIA

*by Ute Brauer (D) **

IFIP and the International Committee on Mathematics in Developing Countries (ICOMIDC) held their first joint symposium 3-7 February in Monastir, Tunisia. The subject was *Informatics and the Teaching of Mathematics in Developing Countries.* The symposium was attended by approximately 120 people from 20 different countries around the world. This meeting had two aims: the main one was the scientific discussion of the symposium theme, and the other aim was to stimulate further ICOMIDC activity.

The symposium was opened by Mr. Habib Bourguiba, Jr. (TN), president of the Regional Institute for Informatics and Telecommunications. Mr. Y. Mentalecheta of the United Nations Economic, Scientific and Cultural Organization (Unesco) gave an invited lecture on Unesco's new Intergovernmental Informatics Programme, which is of great importance to developing countries. (See the article *Cooperation with Unesco* on page 4 of the March 1986 *IFIP Newsletter.)*

IFIP was represented at the symposium by the chairman of its Technical Committee on Education (TC3), Prof. Dr. Wilfried Brauer (D), who gave a short address at the inaugural ceremony as well as an invited lecture: *Which Informatics for Developing Countries; Which Informatics for Mathematics Education.* He opened his talk as follows:

Diversity in Developing Nations

> Since my first involvement with the problems of *Computer Education for Developing Countries* at the Rio Symposium on this topic in 1972, I have learned how diverse are the conditions in the approximately 100 so-called developing countries and that it is almost impossible for a European to make proposals suitable for even a rather homogeneous group of them.
>
> We must accept the facts that in the industrialized countries, the computer is becoming an important tool in all parts of society and for all sorts of activities (even in daily life at home), and that informatics is becoming a basic supporting discipline (of almost the same importance as mathematics and physics) for all engineering and many other sciences. Developing countries must decide how and to what extent they will participate in this development, and the same decision applies to the field of mathematics.
>
> Experience has shown that well-educated informaticians in small teams can produce rather large and complex but reliable software systems (in quite a short time) better than large teams of programmers or persons from application areas with only some programming knowledge. Therefore, the investment in setting up a good informatics curriculum is very beneficial, although in the beginning it seems to be more costly and more time-consuming than the training of programmers.

Prof. Brauer went on to define informatics and discuss what types of informaticians are needed, as well as the relationship between informatics and mathematics education. He concluded with these words:

> Informatics and its applications are now in a phase of development where human and intellectual resources, theoretical investigations, and formal specifications and systematic designs are more important than hardware and programming skills. Therefore, while the interconnections between informatics and mathematics are becoming more intensive, developing countries, even if they have no computer industry, may well become competitive in the field of software production on the world market. At least, the new, low-cost hardware allows them to jump into the computing area in a suitable way, if they educate their own informaticians and are not forced to copy or adapt solutions from other regions of the world. This is a great opportunity and a great challenge.

The scientific part of the symposium comprised two parts. Half consisted of invited lectures given in plenary sessions. The other part was devoted to working group meetings on 15 different subjects, ranging from *Data Structures and Graph Theory* to *Regional and International Cooperation.* Most of the contributed papers were given and discussed in these working groups. Reports on the ideas, suggestions, and recommendations developed and prepared in the working groups were presented during the last half day of the symposium; a summary of them will appear in the final proceedings, which are being edited by Dr. Frank Lovis (UK) and published by Unesco. The preliminary proceedings contained 40 contributions.

Intensive Discussions

The intensive discussions during the symposium were concerned with didactic aspects of scientific questions, mainly with the following problems:

- What software and hardware are available, economically feasible, and adequate? This must be answered with respect to the education system and the culture of each country.
- In which way should know-how be transferred: by bilateral or regional cooperation, or via multinational organisations on the level of governments, universities, scientific organisations, or on an individual basis; by the transfer of students or the transfer of teachers?
- How can the experiences either of industrialised countries or of developing ones be exchanged fruitfully?

During the broad and deep discussions, it became clear again how diversified the economic, cultural, educational, and scientific situations are in different countries.

The conference programme was supplemented by demonstrations of educational software and hardware and by a large book exhibition, of which a substantial part was donated by Springer-Verlag to the Tunisian University.

The second aim of the symposium—the work within ICOMIDC—was done mostly after dinner. The main outcome of this was the acceptance of a constitution and the election of a kernel council of 7, including Dr. J. Guidy Wandja (Ivory Coast), Prof. B.L. Sharma (IND), and Dr. Asibong-Ibe (WRN). They served previously as president, vice-president, and secretary, respectively.

Support for the symposium came from the Canadian Agency of International Development, and particularly from Unesco.

This very successful first ICOMDIC-IFIP symposium has set high standards for the ones to follow.

* TC3 correspondent

The Irish Computer Society

The Irish Computer Society (ICS) represents the interests of people concerned with computers and computing in Ireland. Its membership comprises users, manufacturers, providers of services, educational bodies, and those with a special interest in the use and applications of computer technology. The Society organizes meetings and runs conferences to generate awareness and discussion on topical computing issues. The Society publishes a newsletter, supports specialist group activities, and is involved in syllabus development with educational bodies.

The principal purposes for which the Society exists are:

• to promote knowledge of the development and use of computers and computer-related techniques

• to promote the establishment and maintenance of standards in the interests of professional computer practitioners and the community as a whole

• to facilitate the exchange of information and views on computers and computer-related techniques and to inform public opinion on the subject

• to make representations to the government on all areas that affect all the Society's members

• to represent Ireland in Europe and internationally

The Society held its first meeting in 1967 and was incorporated in 1972. The current membership stands at 850. The ICS became a member of IFIP in 1978. The Society has had a close association with the British Computer Society. The president of the Society is Mr. David Kennedy, chief executive of Aer Lingus, and its chairman is Mr. Michael Sherwood-Smith. Its representative to the IFIP General Assembly is Mr. Owen Dalton, who is also IFIP's treasurer.

The Society is very proud to be hosting the 10th World Computer Congress.

For further information about the Society, one may contact

Secretary, Irish Computer Society
Shelbourne House, Shelbourne Road
Ballsbridge
Dublin 4, Ireland ■

National Abbreviations Used in Newsletter

A	Austria	GB	United Kingdom	P	Portugal
AUS	Australia	H	Hungary	PRC	China
BG	Bulgaria	I	Italy	S	Sweden
CDN	Canada	IL	Israel	SU	U.S.S.R.
CH	Switzerland	IND	India	TN	Tunisia
D	Fed. Rep. of Germany	IRL	Ireland	USA	U.S.A.
DK	Denmark	J	Japan	WRN	Nigeria
E	Spain	N	Norway	ZA	South Africa
F	France	NL	The Netherlands		

PROGRAM COMPLETE FOR MEDINFO 86

The technical program is now complete for the Fifth World Congress on Medical Informatics, MEDINFO 86. (See the article on page 3 of the June 1986 *IFIP Newsletter.)* Some 275 papers have been chosen from 650 submitted. Many of these papers are concerned with expert systems, knowledge-based systems, heuristic reasoning, knowledge management, decision support, and other topics related to artificial intelligence. In addition, a goodly number of papers will be presented on image processing and pattern recognition. Data bases and information systems will also be highlighted. Of course, there will be many papers in the more traditional fields of medical informatics: mathematical modeling of medical phenomena, computer-assisted education, and so on.

For further information about MEDINFO 86, please contact-

MEDINFO 86 Secretariat
Office of CME
George Washington University
2300 K Street, NW
Washington, DC 20037, USA
tel. I (202) 676-8929 ■

LAN NETWORK MANAGEMENT WORKSHOP

*by James Malcolm (GB) **

The first IFIP Workshop on *Local Area Network (LAN) Management* was held 17-18 April in London, sponsored by IFIP's Working Group (WG) 6.4a on LAN Management, a subgroup of **IFIP's** WG on Local Computer Networks (WG6.4). Prof. Brian Spratt (GB), vice-chairman of WG6.4, opened the workshop by introducing the work of **IFIP** and its Technical Committee on Data Communication (TC6).

The workshop covered models, standards, and practical experience in the management of LANs. It was noted that there is a close relationship between modelling work and standards work. The development of clear models is an essential step towards standardisation.

The two aspects of network management were described: functions which are part of management, and the structural aspect. At present, the various standards bodies have somewhat different models for both of these aspects.

Speakers considered the need to manage not only the communications (which has been the focus so far) but also the processing, which is, after all, the reason for the communications to take place.

A number of speakers described their practical experience with monitoring, measuring, and operating LANs. There is a need to manage not only single LANs, but also complex network configurations with numbers of LANs interconnected by bridges. One paper discussed a system that keeps a record of the state of the system for the benefit of users and managers. Another described problems involved in fault location when the diagnostic tools are part of the system. ■

* member of IFIP's Working Group on Local Computer Networks

CALLS FOR PAPERS

Working Conference on Information **Systems Development** for Human Progress in Organizations
May/Jun 87, Atlanta, GA, U.S.A.
papers due: I Oct 86
contact: Heinz K. Klein
School of Management
State University of New York
Binghamton, NY I390I, U.S.A.
tel. I (607) 777-6854

continued

Working Conf. on Software for Factory Automation
I9-21 Oct 87, Tokyo
papers due: 3I Jan 87
contact: Mrs. Michiko Takata
c/o Prof. Fumihiko Kimura
Department of Precision Machinery Engineering
Faculty of Engineering, University of Tokyo
7-3-I Hongo, Bunkyo-ku
Tokyo II3, Japan
tel. Tokyo 03-8I2-21II, ext. 6455
telex 272-2III FEUT J

First Iberian Conf. on Data Communications-**IBERICOM**
19-2I May 87, Lisbon
papers due: I5 Dec 86
contact: IBERICOM-87 Secretariat
Jose Queiroz
TAP Air Portugal - Edificio I9
Apartado 5I94
I704 Lisboa CODEX, Portugal
tel. 35I (I) 806047
telex AEROTAP 1223I LIS P ■

NEW IFIP PUBLICATIONS*

CONFERENCE PROCEEDINGS

A Quarter **Century of IFIP: The IFIP** Silver Summary
Procs. of the IFIP 25th Anniversary Celebration
Munich, Mar 85
H. Zemanek, Ed.

Comparative Worldwide National Computer Policies
Procs. of the Third **IFIP** TC9 Conference on Human Choice and Computers
Stockholm, Sep 85
H. Sackman, Ed.

Information System Design Methodologies: Improving the Practice
Procs. of the IFIP WG8.I Working Conf.
Noordwijkerhout, The Netherlands, May 86
T.W. 011e, H.G. Sol, A.A. Verrijn-Stuart, Eds.

Decision Support **Systems:** A Decade in Perspective
Procs. of the **IFIP** WG8.3 Working Conf.
Noordwijkerhout, The Netherlands, Jun 86
E.R. McLean, H.G. Sol, Eds.

Information Processing 86
Procs. of the IFIP Tenth World Computer Congress
Dublin, Sep 86
H.-J. Kugler, Ed.

In the June I986 issue of the *IFIP Newsletter,* the new conference proceedings *Foundation for Human Computer Communication* should have been described as the proceedings of the **IFIP** WG2.7 Working Conference on *The Future of Command Languages.*

JOURNALS

Computers in Industry, The International Journal of **IFIP** TC5
six issues per year

Computers and Security, The International Journal of **IFIP** TC II
four issues per year ■

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FUTURE IFIP MEETINGS

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

TC2	6-7 Apr 87	St. Pierre de Chartreuse (near Grenoble)
WG2.1	22-26 Sep 86	Malvern, U.K.
	May 87	Montreal
WG2.7	8-I2 Sep 86	Dublin
TC3	3 Sep 86	Dublin
TC5	Sep 86	Dublin
	I-3 Apr 87	Beijing
TC6	6 & 8 Sep 86	Eindhoven
	22-23 May 87	Lisbon
WG6.4	26-28 Nov 86	Toulouse
WG8.4	21 Oct 86	Pisa
TCI0	3 Sep 86	Dublin
TC I I	Nov/Dec 86	Monte Carlo
WG11.4	23-24 Oct 86	Stockholm

* Please note that some meetings are scheduled in conjunction with Working Conferences, for which the conference dates are listed

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

Council	9-12 Mar 87	Singapore
GA	I-5 Sep 87	Budapest
GA	? Aug 89	San Francisco

IMIA

General Meeting	23-25 Oct 86	Washington

CHANGES IN IFIP

NEW APPOINTMENTS

WG OFFICERS

WG2.5 **Secretary**
Dr. M.A. Vouk
North Carolina State University
Dept. of Computer Science
Box 8206
Raleigh, North Carolina 27695, U.S.A.
(succeeding F. Chatclin)

WG9.2 Vice-Chairman
Prof. J. Berleur
Institut d'Informatique
Faculté de la Paix
rue Grandgagnage 2I
B-5000 Namur, Belgium

WG9.2 Secretary
Dr. P. Nilsson
Information and System Science
Stockholm University
Fack S-106 91 Stockholm, Sweden

In the "Changes in IFIP" column of the June I986 *IFIP Newsletter,* Mr. R.K. Sachdeva should have been listed as a new TC8 member. The Indian GA member is Maj. Gen. A. Balasubramanian.

TC AND WG MEMBERS

TC2	A. Eskenasi (BG) (succeeding P. Burney)
TC3	B. Samways (GB) (succeeding J.L. Alty)
	A. Vaquero (E) (succeeding R. Portaencasa)
TC8	R. Traunmuller (A) (succeeding E.K. Surbock)
TCI0	H. Aiso (J)
TCII	S.K. Sengupta (IND)
WG2.3	M. Broy (D)
WG2.5	M. Bercovier (IL)
	L.M. Delves (GB)
WG3.5	D.H. Harkins (USA)
	J.Zimmer (USA)
WG5.7	H. Jagdev (GB)
WG8.1	A. Berztiss (USA)
	P. Lindgreen (DK)
WG8.2	G. Fitzgerald (GB)
	J. Kendall (USA)
	K. Kendall (USA)
	G. Motta (I)
	C. Wells (USA)
WG I 0.2	E.M. Clarke, Jr. (USA)
	G.J. Milne (GB)
	K. Woelcken (D)
WG I **1.4**	S. Herda (D)

ADDRESS (and other) CHANGES

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246-I04 Gueuidong
Seongdongku
Seoul I33, Republic of Korea

The Computer Society of South Africa
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tel. I (7I4).838-7450

Mr. J.E.D. Navez (GA Member, Belgium)
tel. 32 (2) 6479684
(The telephone and telex numbers given in *Information Bulletin 19* are no longer valid.)

Prof. G. Bracchi (TC8 Chairman)
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Prof. G. Doumeingts (WG5.7 Vice-Chairman)
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telex 33I I249 public b. bordx f

Dr. J.M. Hee (WG5.6 Chairman)
GI. Holtevej I27
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Mr. H.W. Le Roux (GA Memb. S. Africa, Trustee)
tel. 27 (21) 6990II
telex 52I083 sa ■

CALENDAR OF EVENTS

Event	Date	Location	Organized by
First Intl. Conf. on *Economics and Artificial Intelligence*	2-4 Sep 86	Aix-en-Provence, France	IFAC/WG5.7/IFORS/ AFCET/IASC
Second *European Simulation Congress*	9-I2 Sep 86	Antwerp	DBSS/IMACS /ASIM/TC7
Intl. Conf. *ICCC 86-New Communication Services: a Challenge to Computer Technology*	I5-I9 Sep 86	Munich	ICCC/TC6
Workshop on *Concepts and Characteristics of High-Performance Workstations*	Sep 86	?	TCI0/WGI0.I
Conf. on *The Future* of *Information Systems-Lessons from the 80's*	Sep 86	Linz, Austria	AUSCS/IFIP
Work. Conf. on *Correctness by Construction in Design from HDL Sources*	Sep 86	Grenoble	TCI0/WGI0.2
Work. Conf. on *Stochastic Differential Systems*	Sep 86 ?	Visegrad, Hungary	TC7/WG7.I/AC.SC
Work. Conf. on *New Technologies in Computerbased Production Management Systs.*	I-3 Oct 86	Tokyo	TC5/WG5.7
Intl. Conf. on *Remote Education and Informatics-Tele-Teaching '86*	20-25 Oct 86	Budapest	TC3/JVN Soc
Work. Conf. on *Mass Education and Informatics*	20-25 Oct 86	Laxenburg, Austria	TC3/IIASA
Work. Conf. on *Workable Crypto Management*	22-23 Oct 86	Sweden	TCII
Work. Conf. on *Methods and Tools for Office Systems*	22-24 Oct 86	Pisa	TC8/CNR
Fifth World Congress on *Medical Informatics-MEDINFO 86*	26-30 Oct 86	Washington, DC	IMIA
Sixth Intl. Conf. on *Instrumentation and Automation in the Paper, Rubber, Plastic and Polymerization Industries-PRP /6-Automation*	27-29 Oct 86	Akron, OH, U.S.A.	IFAC/TC5/IMEKO
Work. Conf. on *Knowledge and Data (DS-2)*	3-7 Nov 86	Algarve, Portugal	TC2/WG2.6
Southeast Asia Regional Computer Conference-SEARCC '86	I7-2I Nov 86	Bangkok	SEARCC/IFIP
Intl. Symp. on *Local Communication Systems, LAN and PBX*	26-28 Nov 86	Toulouse	TC6/WG6.4
Workshop on *CAD Engines*	Nov 86	Japan	TCI0/WGI0.5
Fourth Intl. Conf. on *Security of Information Systems-IFIP/Sec'86*	2-4 Dec 86	Monte Carlo	TC11/AFCET
Intl. Symp. on *Theory* of *Robots*	3-5 Dec 86	Vienna	IFAC/WG5.3/IMACS
Workshop on *Local Area Networks*	Dec 86 ?	Goa, India	CSI/TC6
Work. Conf. on *Computers and Professional Continuing Education*	86 ?	?	TC3/WG3.2
Work. Conf. on *The Role* of *Information Systems and* of *Health Informatics in the Reconstruction* of *Health Care Systems*	86 ?	Brindisi, Italy	IMIA
Work. Conf. on *Computer Law for the Policy Maker*	Jan 87	Los Angeles	TC9
Work. Conf. on *Expert Systems in Computer-Aided Design*	I7-20 Feb 87	Sydney, Australia	TC5/WG5.2
Workshop on *Concepts and Characteristics of Knowledge-Based Environments*	Feb 87	?	TCI0/WGI0.I
Work. Conf. on *Opportunities and Risks of Artificial Intelligence Systems*	Mar 87	Hamburg	TC9/GIS
Workshop on *High Speed Circuits*	Mar 87 ?	Munich	TC10/WG10.5
Seminar on *Introducing Computer-Aided Techniques in Manufacturing, Engineering, and Management*	l-2 Apr 87	Beijing	TC5
Work. Conf. on *A Computer for Each Student and Its Impact on Teaching and Curriculum in the University*	2I-23 Apr 87	Delft	TC3/WG3.2
Eighth Intl. Symp. on *Computer Hardware Description Languages and Their Applications-CHDL 87*	27-29 Apr 87	Amsterdam	TCI0/WGI0.2
Work. Conf. on *Artificial Intelligence in Education*	27-30 Apr 87	Denmark	TC3/WG3.3
Work. Conf. on *Message Systems*	Apr 87	F.R.G.	TC6/WG6.5
Seventh Symp. on *Protocol Specification, Verification, and Testing*	5-8 May 87	Zurich	TC6/WG6.I
Work. Conf. on *Temporal Aspects* of *Information Systems-TAIS 87*	13-15 May 87	Sophia-Antip., France	TC8/WG8.I
Work. Conf. on *Informatics and the Teaching* of *Mathematics*	I7-I9 May 87	Sofia, Bulgaria	TC3/WG3.I
First Iberian Conf. on *Data Communications-IBERICOM 87*	I9-2I May 87	Lisbon	API/FESI/TC6
Intl. Conf. on *Children in the Information Age*	I9-23 May 87	Sofia, Bulgaria	Unesco/IIASA/ L.J.F./TC3
Work. Conf. on *Security Management*	20-23 May 87	Canada	TC11/WG11.2/CIPS
Work. Conf. on *Home Information Systems*	Jun 87	Amsterdam	TC9
Work. Conf. on *Info. Systems Development for Human Progress in Organizations*	Jun 87	Atlanta, GA, U.S.A.	TC8/WG8.2
Workshop on *Architecture for Knowledge Engineering*	Jul 87 ?	?	TCI0/WGI0.5
Third Intl. Conf. on *Advances in Production Management Systems-APMS '87*	11-I4 Aug 87	Winnipeg, Canada	TC5/WG5.7
Thirteenth IFIP Conf. on *System Modelling and Optimization*	3I Aug-4 Sep 87	Tokyo	TC7/IFORS
Intl. Workshop on *Hardware Design Verification*	Aug 87	Edinburgh	TCI0/WGI0.2
Intl. Conf. on *Very Large Scale Integration-VLSI 87*	Aug 87 ?	Calgary, Canada	TCI0/WG10.5
Second Intl. Conf. on *Human-Computer Interaction-INTERACT 87*	1-4 Sep 87	Stuttgart	IFIP/INTACT
Work. Conf. on *Governmental and Municipal Information Systems*	I5-20 Sep 87	Budapest	TC8
Work. Conf. on *Computer System Design Methodologies*	Sep 87	7	TCI0/WG10.1
Intl. Workshop on *Techniques and Algorithmic Complexity of Simulation*	Sep 87	Torino, Italy	TCI0/WGI0.2
Intl. Workshop on *Tool Integration and Design Environments*	Sep 87	Paderborn, F.R.G	TCI0/WGI0.2
Open Conf. on *Information Systems for Developing Countries*	Sep 87	Shimla, India	TC8/WG8.2
Work. Conf. on *Software for Factory Automation*	I9-2I Oct 87	Tokyo	TC5/WG5.3/IFORS
Work. Conf. on *Vocational Training for Informatics*	Oct 87 ?	?	TC3/WG3.4
Workshop on *Process and Design for 3D Chips*	Nov 87	?	TC10/WG10.5
Work. Conf. on *Social Implications of Robotics*	Dec 87	Eilat, Israel	TC9
Work. Conf. on *Computers as Tools for the Teacher-New Dimensions for the Teaching Profession*	87	?	TC3/WG3.3
Work. Conf. on *Diagnostic and Preventive Maint. Strategies in Manufac. Systs.*	87	Yugoslavia	TC5/WG5.3

IFIP 86 - 10th World Computer Congress	l-5 Sep 86	Dublin	IFIP
IFIP 89 - 11th World Computer Congress	28 Aug-1 Sep 89	San Francisco	IFIP

Please see page 7 for schedule of IFIP administrative meetings.