IFIP newsletter
International Federation for Information Processing

Editor:
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CLEI ADMITTED TO GA

GA MEETS IN BULGARIA

The IFIP General Assembly, meeting in Varna in September, admitted the Centro Latinoamericano de Estudios en Informatica (CLEI) to full membership. Here is a brief history of the organization:

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The IFIP General Assembly (GA) and Council met in Varna, Bulgaria 17-21 September 1984, with the Bulgarian Academy of Sciences serving as host. San Francisco, California, USA was selected as the site for IFIP Congress '89. IFIP's technical work was assessed and found to be in a healthy state. As is customary, each Technical Committee (TC) delivered its report. All are functioning smoothly and holding productive conferences.

San Francisco was chosen for Congress '89 after a lengthy discussion. This decision was taken earlier than usual because of the need to reserve space well in advance. The American Federation of Information Processing Societies proposed to hold the Congress at the Moscone Center, a new and well-equipped facility.

Officers Elected

Officers were elected as follows: Messrs. Jacques Fourot (F) and Owen Dalton (IRL) were reelected for 3-year terms as secretary and treasurer, respectively, and Acad. Blagovest Sendov (Bulgaria) was elected vice-president for a 3-year term. Three trustees were also elected: Acad. Anatol Dorodnicyn (USSR) reelected for a 3-year term; Mr. Hennie Leroux (Republic of South Africa) elected for a 3-year term; and Mr. Luis Penedo (Portugal) elected for a 2-year term.

Centro Latinoamericano de Estudios en Informatica (CLEI) was admitted to membership in IFIP. (See the article on CLEI on this page.)

Among the more important issues considered was how to further cooperation with the United Nations Educational, Scientific and Cultural Organization (Unesco). (See the article "IFIP Council Meets in South Africa" in the May 1984 ***IFIP*** *Newsletter.)* Prof. R. Narasimhan (India), chairman of the IFIP Committee: Informatics for Development (ICID), reported several recent contacts with Unesco officials. Two positive actions were taken by the GA: the position of IFIP/Unesco Liaison Officer was created, and an ICID Development Fund was established, with an initial budget of 20 000 SFr.

Possible restructuring of IFIP was discussed at length. (See the article "Task Group on Restructuring IFIP" in the September 1984 ***IFIP*** *Newsletter.)* One step that was suggested was to create seats on the Activity Planning Committee (APC) for TC chairmen. Another proposal was to create a committee of TC chairmen, with a representative sitting on the APC. A suggestion with regard to the role of Affiliate Members was for IFIP to actively seek out potential affiliates and eventually evolve into an umbrella organization. The Task Group on Restructuring plans to report its suggestions to the IFIP Council next March.

TC Reviews

The TC review process was discussed by Mr. George Glaser (USA), chairman of the Task Group on TC Reviews. It was recommended that the chairman of a TC being reviewed serve on the committee, that the cognizant officer for the TC preferably

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IFIP COUNCIL

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Bl. Sendov	Vice-Pres. BG	84-87
J. Fourot	Secretary F	84-87
O.M. Dalton	Treasurer IRL	84-87

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IFIP NEWSLETTER

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GA MEETS continued from page 1

serve as chairman, and that funds be provided and a schedule be established for each review. It was agreed that an optimum time for a review is when a new TC chairman is appointed. The GA accepted the recommendations.

IFIP Congress '86 and the **IFIP** 25th anniversary celebration were discussed in depth. Both are covered in separate articles in this *Newsletter.* The final report for **IFIP** Congress '83 was also received. Although the quality of the Congress was unquestioned, the attendance was smaller than anticipated, and the net proceeds to **IFIP** of 124 000 SFr. were disappointing.

Treasurer's Report

The report by Treasurer Dalton showed that **IFIP** is financially healthy. At the end of 1983, the assets stood at 980 000 SFr., and a net annual income of 5 000 SFr. had been realized. Income is mostly from membership fees and royalties on **IFIP** publications, augmented by proceeds from **IFIP's** Congresses. Expenses are incurred mostly by TCs and other committees and by the Administrative Secretariat, in support of them. For many conferences sponsored by **IFIP,** registration fees cover conference expenses.

The representative of New Zealand, Mr. Chris Potter, reintroduced a motion that **IFIP** issue a position statement encouraging "applications of computer technology that enhance world peace and the quality of all human life" and deploring uses of technology that "clearly contribute to a rise in the level of nuclear confrontation and an increase in the risk of war." While the GA members, as individuals, unanimously endorsed the principles behind the statement, there was concern that this would be viewed as a political statement and that **IFIP** would be considered to be entering the political arena. It was further realized that a weakly worded statement was pointless but a strongly worded one would have little chance of passage. The motion was withdrawn, with regret.

It was announced that **IFIP** has now produced its 100th conference proceedings published by Elsevier Science Publishers (North-Holland).

Mr. Jean Navez (Belgium), Conference Officer, also announced that he has created a database containing all **IFIP** meetings listed in the 6-year plan. (This is the second step in the "computerization" of **IFIP,** the first step being the installation of a personal computer at the headquarters in Geneva.)

The GA expressed its gratitude for the years of service rendered to **IFIP** by Prof. Heinz Zemanek (Austria), resigning from the chairmanship of the Publications Committee, and Prof. Manfred Paul (Federal Republic of Germany), resigning from the chairmanship of the TC on Programming.

Future meetings will take place as follows:

25-29 Mar. 85; Munich, FRG; Council and committees

2-7 Sep. 85; Tokyo, Japan; GA, Council, and committees

Mar. 86; Lisbon, Portugal; Council and committees

Sep. 86; Dublin, Ireland; GA, Council, and committees

Sep. 89; San Francisco, Cal., USA; GA, Council, and committees

The GA was adjourned with many thanks to the Bulgarian hosts. ■

AFRICOM 84

Conference on
Computer Communications

The first *African Conference on Computer Communications, AFRICOM '84* was held 21-23 May 1984 in Tunis, Tunisia, sponsored by IFIP's Technical Committee on Data Communications (TC6). The aim of the conference was to report the progress achieved in the fields of informatics and telecommunications and to give the participants the opportunity to explore the new horizons opened to developing countries. Prof. Farouk Kamoun (Tunisia) served as chairman of the Program Committee, and Prof. Fayek Rachdi (Tunisia) and Prof. Mohamed Moalla (Tunisia) chaired the Organizing Committee.

More than 300 participants from 28 countries attended. Directors general of several African PTTs were present. Papers were delivered by authors from 16 countries. All panels of the conference were devoted to problems of interest to developing countries, and audience participation was very active.

The conference proceedings will be published by Elsevier Science Publishers (North-Holland). ■

25th ANNIVERSARY CELEBRATION

IFIP will observe its 25th anniversary with a gala celebration in Munich, Federal Republic of Germany next March. Three major components of the celebration are planned: a symposium on 27 March, a banquet that evening, and the publication of an anniversary volume.

Prof. Friedrich Bauer (Federal Republic of Germany) is chairman of the Twenty-fifth Anniversary Committee, which is planning the public symposium, to be held at the Technical University of Munich. The program is as follows:

Opening Ceremony
H. Huskey (N. Bjorn-Andersen, discussant)–An Assessment of the Conception and Position of Information Processing
T. Kitagawa (R. Rector and A. Ershov, discussants)–Man and Machine Viewed from Different Cultural Backgrounds
K. Ando–The Future of IFIP
H. Zemanek (G. Sacerdoti)–Must We Do Everything We Can Do? Sense and Nonsense in Information Processing
G. Amdahl (P. Renard)–Better Performance at Lower Costs: Are There Limits to the Evolution of Hardware?
B. Gilchrist (J. Diebold)–Computer Technology—Computer Industry
H. Mills (M. Broy)–Management and Performance of Software

IFIP vice-president Mr. Ashley Goldsworthy (Australia) is chairman of the Committee for Protocol for the Twenty-fifth Anniversary. He presented the committee's plans to the General Assembly in Varna. A musical interlude and an illustrated narration of the history of **IFIP** will open the symposium. A luncheon for past presidents of **IFIP** will be held on the day of the symposium, and a banquet will take place that evening for the past presidents of **IFIP,** current **IFIP** officers, Silver Core holders, and presidents of member societies. Mr. Isaac Auerbach (USA), the first president of **IFIP,** will speak following the dinner.

Former Publications Committee chairman Prof. Heinz Zemanek (Austria) announced plans for a 25th anniversary publication, which will include all papers from the symposium as well as additional contributions not presented orally during the symposium. This volume will serve as a commemoration of IFIP's past achievements, as well as a signpost to **IFIP's** future. ■

FIACC MEETS

IFIP and its sister Federations of the Five International Associations Coordinating Committee (FIACC) held their annual meeting following the 9th World Congress of the International Federation of Automatic Control (IFAC) in Budapest on 7 July 1984. *(See the article about IFAC on page 9.)* FIACC—founded fifteen years ago in Paris—includes **IFIP,** IFAC, the International Federation of Operational Research Societies (IFORS), the International Association for Mathematics and Computers in Simulation (IMACS), and the **International** Measurement Confederation (IMEKO). **IFIP** secretary Mr. Jacques Fourot (France) represented **IFIP** president Ando, the present chairman of FIACC. The presidents of the other Federations also attended.

The Committee noted with satisfaction the increasing proportion of conferences and symposia organized jointly by the Federations under cosponsorship arrangements. This results in the widening of contacts between scientists working in border areas and leads to more effective international and interdisciplinary cooperation. The exchange of event calendars among the Federations enables better planning, to reduce the collision of dates of related events—a further important aim of FIACC. Closer contacts between the Publications Committees of the Federations may be a valuable practice for the future.

There was a lively exchange of experiences in connection with support obtainable from the United Nations Educational, Scientific and Cultural Organization (Unesco), which provides financial and moral support to the FIACC meetings. New contacts of some of the Federations—still in an early stage—with the Union of International Technical Associations were also discussed. The majority of the FIACC Federations can enjoy growing support from Unesco, the United Nations Industrial Development Organization, and the International Atomic Energy Agency. ■

UNIDO MEETINGS

Prof. R. Narasimhan (India), chairman of the **IFIP** Committee: Informatics for Development (ICID), represented **IFIP** at a meeting of the United Nations Industrial Development Organization (UNIDO) in March 1984. The meeting on *Information Technology for Development* was held at the UNIDO headquarters in Vienna. Eleven other professional organizations were represented, as well as a number of experts from developed and developing countries.

The conclusions and recommendations of the meeting emphasized cooperation, consultations, and joint action in these areas:

- information technology for integrated health care in rural communities;

- information technology for primary, secondary and vocational education;

- low-cost communication infrastructure for dispersed groups, through the use of low-altitude earth satellites;

- dissemination of information on technologies of relevance to developing countries;

- preparation of a dynamic directory of groups and organizations working in the area of information technology for development;

- compilation of an inventory/library of software packages applicable specifically to meet developing country needs.

Technologies for Humanity

Also presented to the meeting was a new concept of *Technologies for Humanity,* which had been discussed earlier in UNIDO by a small group of selected scientists and development specialists. This concept, the objective of which was also supported by a recent United Nations General Assembly resolution on human rights, asks that scientific and technological progress be used for the benefit of mankind, to meet essential needs in food, health, housing, energy, and education.

The *Technologies for Humanity* concept needs the support of leading scientists and technologists who would subscribe to this new effort of international cooperation. **In** this connection, UNIDO is also working on an International Roster of Scientists and Technologists, comprising top-level experts in selected technologies who

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IFIP CONGRESS '86 PROGRAM COMMITTEE ANNOUNCED

"Informatics —A New Awareness"

Prof. Dines Bjørner (Denmark), chairman of the Program Committee (PC) for IFIP Congress '86, announced the committee membership at the General Assembly (GA) meeting in Varna last September:

D. Tsichritzis (Canada)—Past Chairman
V. Kotov (USSR)—Theoretical Computer Science
U. Montanari (Italy)—Programming Methodology
B. Domolki (Hungary)—Software Engineering
H. Huenke (Belgium)—Software Engineering
R. Mori (Japan)—Computer Engineering
A. Danthine (Belgium)—Distributed Systems
A. Furtado (Brazil)—Information Systems
H. Gallaire (FRG)—Artificial Intelligence
J. Vlietstra (NL)—Computer Integrated Manufacturing
A. Wasserman (USA)—New Informatics Applications
R. Narasimhan (India)—Informatics in a Developing World
H.-J. Kugler (IRL)—Proceedings Editor
J. Byrne (IRL)—Organising Committee Liaison
D. Dolan (IRL)—Organising Committee Chairman

(Although no area chairman is specifically responsible for contributions in the field of office automation, many areas will include papers relevant to that topic.)

The theme of the Congress is "Informatics—a New Awareness," and the Congress will feature presentations that will make each group of participants *aware* of the developments, results, and needs of the other groups. For example, policy makers and planners will become *aware* of what informatics offers in the way of solutions to their problems; research and development personnel will become *aware* of consumer expectations; and so on. Papers will be selected on the basis of their ability to build bridges between professional categories.

New Format

The format of the Congress is also new. In each of the invited speaker sessions, there will be an invited responder, who will complement or rebut the initial speaker. Following this, there will be time for questions and a panel-like discussion. The PC will actively solicit contributed papers, in order to present the best papers possible. These solicited papers will be refereed in the same way that other contributed papers are. Papers with a broad scope, rather than narrow isolated topics, will be encouraged. Presentations will be basically technical but will have some flavor of tutorials, reviews, overviews and comparisons. Emphasis will be put on recent breakthroughs. Presenters will be encouraged to address their papers to other attendee groups rather than their peers. Panels will be small-3 or 4 members each—with panelists chosen to represent diverse points of view.

In order to encourage excellent papers, the **IFIP** GA authorized free registration for all invited speakers and a waiver of half of the registration fee for all responders, invited panelists, and contributed paper presenters.

Prof. Bjørner also stated that 105 sessions in seven parallel streams are planned (45 invited speakers, 30 panels, 30 contributed paper sessions). The call for papers will be issued in April 1985; contributed papers will be due by 1 November 1985. ■

News from Member Societies:

PORTUGUESE COMPUTER SOCIETY

*by Mr. Luis Penedo **

Associacao Portuguesa de Inf ormatica (API) just celebrated its 20th anniversary with a one-day seminar covering the past 20 years and looking ahead to the next 20 years of informatics in Portugal. The celebration also included the first microinformatics Olympiad for secondary schools. API has been a member of **IFIP** since 1981.

The first Portuguese computer fair, INFORPOR 84, took place in Oporto in October 1984, organized by API and a commercial organization. Also in October, a seminar *Information Technologies and Developing Countries* sponsored by the Organization for Cooperation and Economic Development was held in Lisbon, and API was invited by the Portuguese government to participate on major committees.

The third Portuguese Informatics Congress, organized by API, took place during the last week of October 1984 in Lisbon. This involved more than 500 participants, and more than 50 papers were presented about *Information Systems: Tool for Change.* Dr. William 011e (UK), secretary of the **IFIP** Technical Committee on Information Systems, was guest of honor.

A national informatics meeting devoted to *Education* will be held from December 1984 to March 1985. This is an activity of API that involves about 100 people preparing a position document in a key area. Previous themes have been *National Informatics Policy, Profession,* and *Careers and Training.*

In November 1985, API will host the General Assembly of the International Medical Informatics Association of **IFIP** in Lisbon. A seminar about medical informatics is also being arranged. In March 1986 the **IFIP** Council will meet in Lisbon. In August 1986, API will host EUROGRAPHICS 86. ■

* GA representative from Portugal, and IFIP Trustee

CLEI continued from page 1

In 1974 the Catholic University of Valparaiso, Chile began holding conferences in the area of informatics, where specialists and professionals could meet to exchange experience. As the years passed, specialists from neighboring countries began to participate, and eventually specialists from all Latin American countries attended.

In 1979, the participants decided that this annual event should be held in different countries in Latin America. To assure continuity, the participants decided to form a Regional Body. This new institution was called CLEI—Latin American Center for Studies in Informatics. Conferences have been held by CLEI in '80, '81, '82, and '84. The next conference will be held in Porto Alegre, Brazil.

Another activity of CLEI is the organization of courses and seminars as a means for coordinating the development of informatics in those places where this science has emerged only recently. These activities are carried out by university members of CLEI, with the support of international organizations and local member institutions of CLEI. CLEI recently started the collection of information about subjects such as university programs for professional training and academic re-cycling in informatics in different Latin American countries.

The members of CLEI are Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, Peru, Paraguay, Uruguay, and Venezuela. The organization has agreed to invite Central American countries to join. ■

PLANS FOR TC9

Three Task Groups Formed

Three task groups have been formed by IFIP's Technical Committee on the Relationship between Computers and Society (TC9), announced TC9 chairman, Dr. Harold Sackman (USA). Each group will investigate a proposed area for new TC9 activity and report its findings and recommendations for TC9 review and policy decisions at the next meeting in Stockholm. The three groups are as follows:

Social Implications of Robotics and Artificial Intelligence. This initiative is a blend of a recommendation to create a new Working Group to explore social impacts of artificial intelligence, and a recommendation to hold the 1987 meeting of TC9 in Israel in conjunction with a small working conference on social implications of robotics.

Computers, Detente, and International Peace. This task group was set up in response to a memorandum on computers and nuclear war addressed to IFIP in 1983. The issues raised concern facilitating the use of computers to help reduce the risk of war.

Home Information Systems and Social Networking. This task group was set up to anticipate the universal use of the interactive terminal in industrialized nations by the turn of the century. The primary emphasis is on social impacts for the individual and the family and on subsequent social networking between individuals with similar interests. ■

BECKMAN MOURNED

Mr. Kristian Beckman (Sweden), founding chairman of the IFIP Technical Committee on Security and Protection in Information Processing Systems (TC11), died on September 16, 1984. He organized IFIP/Sec'83, IFIP's First International Security Conference, in May 1983. Following this successful meeting, he proposed to the 1983 IFIP General Assembly (GA) the formation of a TC to deal with security. The GA approved, and Mr. Beckman was named chairman of the TC. Subsequently, he organized a working conference in May 1984 and IFIP/Sec'84 the following September. Due to failing health, Mr. Beckman was unable to attend Sec'84; nevertheless, he participated in its planning as long as he was able. There are now 16 members of TC11, and plans for IFIP/Sec'85 are well under way.

Mr. Beckman will be remembered especially for his tremendous accomplishment within IFIP in a very short time. Our sympathy is extended to his family.

DESIGN THEORY FOR CAD

WG5.2 Plans Conference

The IFIP Working Group on Computer-Aided Design (WG5.2) has issued a call for papers for a working conference on *Design Theory for CAD,* to be held in Tokyo, Japan 1-3 October 1985. This conference will provide guidelines for the development of future CAD systems. The following is taken from the call for papers.

Design theory aims at elucidating the design process scientifically. The design process involves enormous amounts and various types of knowledge held by designers. This knowledge includes not only expertise about the object being designed, but also knowledge acquired through the designers' experiences, some empirical rules they have evolved, and common knowledge that seems to have no connection with the design activity. Designers utilize this knowledge as the design task demands, they practice mathematical calculations and logical inference, and they consult their empirical rules and intuition. The designer's knowledge is usually revised and reorganized throughout the design process. Design theory aims at clarifying this complex process.

Computer aids for design started with the computerization of laborious calculations and gradually expanded toward more substantial design steps, such as the formation of graphical images. It is expected that the computers will eventually aid the functional problems in design. Therefore, it is most desirable that a paradigm of design theory should be established. Ad hoc and implicit models of the design process are no longer sufficient.

Discussions will inevitably be related to artificial intelligence and knowledge engineering. The results of knowledge engineering will be effectively utilized in design theory, and it is hoped that design theory will have a useful influence on knowledge engineering and future computers.

Further details may be found in the Calls for Papers section to the rear of this *Newsletter.* ■

COMPUTER MESSAGING CONFERENCE

WG6.5 Holds Meeting

Computer-Based Message Services (CBMSs) was the topic of a working conference organized by the IFIP Working Group on International Computer Message Systems (WG6.5) from 1-4 May 1984 in Nottingham, UK. This conference was the fifth annual international meeting organized by WG6.5. It was attended by 150 people from eighteen countries. Twenty-seven speakers from eight countries presented papers. Mr. Hugh Smith (UK) was chairman of the Organizing Committee and edited the proceedings, *Computer-Based Message Services,* published by Elsevier Science Publishers (North Holland).

Mr. Smith summarized the meeting in his preface to the proceedings:*

This activity [in CBMS] has resulted in proposals and ideas that have influenced, and continue to influence, emerging international standards.

Until recently, much of this discussion has taken place within the relatively quiet confines of the research community. However, the publication in late 1983 of the International Telegraph and Telephone Consultative Committee (CCITT) X.400 series draft standards for international electronic message interchange has ensured a much wider interest in this work. This conference therefore marks the emergence of the subject into the full glare of commercial light.

At the present time many of the discussions about CBMS centre around system interconnection. As electronic mail facilities move from being the prerogative of the few to the province of the many, so the concern will turn towards what other "value-added services" can be offered to the public. Of the issues that will appear important then, many have been addressed in the papers presented at this conference and subsequently developed within the working group's discussions.

The next IFIP conference on CBMSs is the Second International Symposium on *Computer Message Systems,* to be held in Washington, D.C., USA 4-6 September 1985. IFIP's Technical Committee on Data Communication (TC6) will sponsor it, and WG6.5 chairman Dr. Ronald Uhlig (USA) will serve as Program Committee chairman. ■

* IFIP

Who's Who in IFIP: PROF. ROBERT PILOTY

At the General Assembly (GA) meeting in Varna, Prof. Robert Piloty (Federal Republic of Germany) ended his second term as IFIP vice-president, having held this post since 1980. Although he is leaving the Council, IFIP is fortunate to have him remain as FRG's representative to the GA and vice-chairman of the Technical Committee on Digital System Design (TC10).

Prof. Piloty's electrical engineering education began at the Technische Hochschule in Munich and culminated there with the degree of Doctor of Engineering in 1949. He began his professional career teaching at the Institut fur Nachrichtentechnik and performing research in waveguide transmission and information theory. His involvement with computers started with the PERM project, in which he was technical director for the construction of one of the first electronic computers in Germany. He also directed system planning and engineering of an early electronic airline reservation system, while working in industry.

Currently Piloty is Professor of Electrical Engineering and Computer Science at the Technische Hochschule in Darmstadt, a post he has held since 1964. He teaches digital system design and computer architecture and serves as chairman of several governmental committees for the introduction of computer science in the German university system.

In addition, he performs research in computer-aided design systems for the design of computers. He is chairman of an international working group that has created the CONLAN language system for computer design. He is also the author of two books and many technical articles.

His involvement with IFIP began in 1976, when he was appointed to the General Assembly. He was instrumental in founding TC10, first serving as the chairman of an IFIP task force in that area and then as TC10's first chairman, from 1976 to 1980. He was elected as IFIP trustee in 1978 and then as vice-president in 1980.

Prof. Piloty has been an avid skier since his childhood in Munich, and he also plays tennis. Otherwise, he enjoys a quiet evening with a bottle of wine, a good book, and classical music. He has been married for 35 years and has two children. ■

IFIP's Committees: ACTIVITY PLANNING COMMITTEE

*by Mr. Ashley Goldsworthy **

This is the first of a series of articles that describe **IFIP** committees.

The Activity Planning Committee (APC) has always played an important role in **IFIP** affairs, but extensive changes to its charter in recent years have increased its role significantly. The charter of the committee is-

1. To stimulate action to develop new initiatives with regard to the overall nature and scope of **IFIP.**

2. To constantly review the aims, structure and relevance of **IFIP,** *and recommend changes to the General Assembly (GA).*

The underlying thrust of the APC is to act as a stimulus to the ongoing evolution of **IFIP.**

3. To review proposals for **IFIP** *participation in new areas of activity and recommend appropriate actions, including the establishment of new Technical Committees (TCs) and Working Groups (WGs).*

Obviously, the TCs and their WGs are the most important vehicle for maintaining **IFIP's** leadership role in the technical arena. APC sees one of its functions as supporting this by identifying emerging needs that **IFIP** might satisfy. A recent example of the establishment of a new TC or WG in an area of interest where **IFIP** was not active or needed to become more active is the creation of a TC on Security (TC1 *1).*

4. To monitor, in conjunction with the relevant chairmen and cognisant officers, all activities planned by TCs, WGs, Special Interest Groups (SIGs), and other groups and committees, to ensure that they conform to **IFIP** *objectives.*

New guidelines were adopted at the GA meeting in Rome in 1982, within which APC could process and approve individual events. This has freed the Council and the GA of routine work and provided them with more time for discussing important issues of policy and the general direction of **IFIP.** This new approach has been of considerable assistance to TCs and WGs, in that now they can obtain approval for events without waiting for the annual GA. Decisions by APC can be appealed to the GA if the appropriate chairman should be dissatisfied with the APC decision.

5. To consolidate, maintain, and submit the continuing six-year plan for **IFIP** *to the GA. This is done in cooperation with chairmen of TCs, SIGs, the* **IFIP** *Committee for International Liaison, and the* **IFIP** *Committee: Informatics for Development.*

IFIP's 6-year plan includes at any time over one hundred events organised by TCs, WGs and other bodies, often in conjunction with other organisations, both national and international. It is particularly important for an organisation as large and diverse as **IFIP** to have a long-term plan of activities.

6. To approve activities proposed by TCs, WGs or other **IFIP** *bodies, including lending up to SFr. 20 000 for each such activity and granting up to SFr. 8 000 (not to be repaid).*

7. To initiate TC/SIG Review Committees, receive their reports, add recommendations, and distribute them to Council members and members of the reviewed TCs and SIGs.

8. To request, if necessary, special reviews of TCs and SIGs.

Information processing is developing at an enormous rate, and to ensure **IFIP's** continued relevance to those working in that field, it is important that **IFIP** constantly monitor its overall performance. Regular reviews of all TCs and SIGs, initiated by the APC, can help to determine whether there should be any changes in objectives, structure, or scope of the bodies concerned which would improve their effectiveness within the overall objectives of **IFIP.**

9. To promote the effective interfacing of Affiliate Members' activities.

APC also plays a role in working with the Affiliate Members of **IFIP** to ensure that there is an effective interlocking of activities and an awareness of developments that might well be of interest to the members of all groups.

10. To process requests for **IFIP** *sponsorship or co-sponsorship of activities and present them to the GA with recommendations and supporting material.*

APC has the responsibility to process requests from other organisations for **IFIP** sponsorship or co-sponsorship.

11. To disburse monies from the **IFIP** *Development Fund at the request of TC chairmen, task groups, and other relevant groups.*

A very important decision taken at the Beijing Council meeting in 1983 was the establishment of the **IFIP** Development Fund, to support new initiatives within **IFIP** and to stimulate existing projects. The availability of funds is always a problem in a body such as **IFIP,** and the decision to establish the fund was a very significant one. The chairman of APC is responsible for the disbursement of monies. It is hoped that this initiative will engender the development of new and existing projects which may have been constrained by the lack of finance.

APC Membership

The membership of APC has a broad geographical basis to help to provide the right focus in its deliberations and decisions. The committee meets, usually for a whole day, prior to each Council and GA meeting and generally has a large agenda for those meetings.

The change in the role and structure of APC in recent years has, I believe, been of great benefit to **IFIP.** It has proved to be of increased assistance to the chairmen of TCs, WGs, and other groups, as well as providing an effective vehicle for decisions on matters which do not need to go to Council or GA. In this way it has helped to enhance the effectiveness of both those bodies with a consequent benefit to **IFIP.**

APC is always keen to know of any way in which it could further assist the smooth functioning and development of **IFIP** and would certainly welcome any suggestions in this context. ■

* chairman of the Activity Planning Committee, IFIP vice-president, and General Assembly representative from Australia

PERFORMANCE OF COMPUTER-COMMUNICATION SYSTEMS

Symposium in Zurich

The Second International Symposium on *The Performance of Computer-Communication Systems* was held in Zurich, Switzerland 21-23 March 1984. There were 187 participants from twenty countries in attendance. The symposium was sponsored by the **IFIP** Working Group on Computer System Modeling (WG7.3) and the Technical Committee on Data Communication (TC6), with the support of IBM's **Zurich** Research Laboratory and the **Institut National** de Recherche en Informatique et en Automatique **(INRIA)** of France.

The subjects covered were performance aspects of local area networks, multiple access, packet and circuit switching, flow control, resource allocation and scheduling, queueing theory, satellites, routing and congestion control, and measurements.

The symposium president was Dr. Martin Reiser (CH); Dr. Werner Bux (CH) and Dr. Harry Rudin (CH) were co-chairmen of the Program Committee and editors of the proceedings, which have been published by Elsevier Science Publishers (North-Holland).

The three invited speakers were Prof. Paul Kuehn (FRG): *Advances in Telecommunications Networks—Contributions of the International Teletraffic Congresses,* Mr. Lester Gimpelson (USA): *ISDN vs. Data Networks: Economics, Operations, and Services,* and Dr. Louis Pouzin (France): *What Knobs for User Performance?*

ISDN

Mr. Gimpelson discussed Integrated Services Data Networks (ISDNs)—digital communication networks that give users all the digital communication links they require for both voice and data, through a single set of standardized interfaces. He pointed out the need for an integrated design to fulfill the needs of the end user. Following are excerpts from his paper (which does not appear in the symposium proceedings).

The design and implementation of computer-based solutions to meet user requirements have usually been assumed to be substantially disjoint to the attendant underlying communication requirements and resulting networks. As technology advances from multiple users sharing a single computer to more generally interconnected individual work stations sharing a variety of servers, the separation disappears between the computer and communication portions of the total solution to a user's application requirements. This disappearance has a broad and pervasive impact on both computing and communication. For computer scientists, it means that communication requirements cannot be subsequently addressed as a separable issue after computing requirements have been analyzed; for communication scientists, it means that the capability to provide a reliable and accurate bit transport mechanism is no longer sufficient.

Lower Transmission Costs

The accelerating interest in networking is motivated by the markedly lowered cost-per-bit delivered by digital networks and the potential for network intelligence as a service purchased by the subscriber and supplied by the network administration. Network administrations will participate effectively only if they offer the higher level services, recognizing that they are not just telephone companies, but rather part of the information age; if they fail to make this transition, these sophisticated services will be supplied from alternative sources, and administrations will be limited to the transport function, its revenue and its declining profitability. Similarly, either communication equipment suppliers will include the higher level services directly in their designs, or the business will go to the computer and terminal manufacturers. Networking represents an opportunity for administrations and suppliers; its successful implementation will constitute an advantage for all users.

Local Area Networks

The recent marketing of LANs (local area networks) by computer manufacturers has emphasized the LANs' structures (rings, buses, etc.) rather than their functions as intelligent transport systems, some with higher level functions. If they had been supplied by network administrations or traditional communication suppliers, their functions and performance would have had precedence, with far less attention to their architecture. This difference is due to the backgrounds of the sellers (computer versus communication manufacturers) rather than a change in the user's interest.

The user of communication services demands solutions rather than choices between designs or technologies, but clearly has increasing interest in, and need for, more than just voice and data transport. Many users have been drawn into considering competing implementation techniques, rather than services, performance and cost. This is probably an unwilling direction—and possibly not a perceived one. While architecture is the key to the provision of higher level functions, the function-versus-technique difference in marketing approaches of communication and computer manufacturers produces a quandary for prospective users. Further, this difference has obscured the question of the proper "location" of these higher level functions: should they be provided by public network ISDN-capable exchanges, by PABXs or by LANs?

Conclusions

An exploration of the issues that must be addressed in providing an integrated environment leads to four fundamental conclusions:

(I) The ISDN is only a partial solution to the overall data communication problem—providing a complete solution represents a substantial opportunity and benefit for both administrations and users.

(2) Implementing a usable solution requires a carefully thought-out programming architecture.

(3) This architecture requires the definition of new reference points and interfaces—a natural evolution of the existing ISDN reference points.

(4) A total, integrated solution is the prerequisite to widespread user acceptance of new communication services. ■

TC5 MEETS

The 22nd meeting of IFIP's Technical Committee on Computer Applications in Technology (TC5) was held 5 June 1984 in Como, Italy. Mr. Graham Morris (UK), IFIP trustee and cognizant officer of TC5, also attended.

Several decisions were taken on conference policy:

- Working Groups (WGs) may propose any type of conference.
- *CAPE* will be maintained as an overall "systems" conference.
- WG open conferences should be restricted to specific subjects.

With the support of Unesco, TC5 will take several actions to promote CAD/CAM in developing countries, including both expert visits and the dissemination of literature.

The meeting was followed by a conference on *Robotics in Discrete Manufacturing* sponsored by the Working Group on Discrete Manufacturing (WG5.3). Twenty-four people attended. One highlight was the paper *Human Aspects of Robotization* by Prof. Yukio Hasegawa (Japan). This was accompanied by an exciting movie showing dozens of new ideas for robot usage, especially in the household environment. ■

OFFICE SYSTEMS CONFERENCE

Helsinki 1985

A general conference on *Office Systems* sponsored by the IFIP Technical Committee on Information Systems (TC8) in cooperation with the Finnish Information Processing Association will take place in Helsinki, Finland from 30 September to 4 October 1985. (An earlier date was announced in the September 1984 ***IFIP Newsletter.)***

The conference will be in two parts. The first two days aim at a large audience from Finland and the other Nordic countries; the next three days will take the form of a more restricted symposium, to be attended by those persons who would be interested in joining a new IFIP Working Group on Office Systems that will operate under the auspices of TC8. As the conference name indicates, the overall objective is to deal with the *systems aspects* of office automation.

For further information, please contact—

Prof. A.A. Verrijn-Stuart
Institute of Applied Mathematics
and Computer Science
University of Leiden
P.O. Box 9512
2300 RA Leiden, The Netherlands. ■

IFAC WORLD CONGRESS

1100 Meet in Budapest

The 9th World Congress of the International Federation of Automatic Control (IFAC), a sister Federation of IFIP in FIACC *(see the article on FIACC on page 3),* was opened in Budapest on 2 July by the Hungarian prime minister György Lazar. When the Congress ended on 6 July, 1157 participants from 44 countries had registered. Heading the list were the USA (with 124 participants), Japan (119), and Germany (77). The other registrations ranged between 1 (Iceland) and 54 (Czechoslovakia).

The number of submitted and invited papers reached a record of 1014, again led by the USA and Japan, followed closely, however, by Hungary and Germany. The Program Committee had selected 569 of them for presentation in eleven parallel sessions. In addition, 27 panel discussion sessions took place, offering the participants the opportunity to actively express their own views on the topics under consideration, while seven case studies were devoted to interesting and important practical experiences. Proceedings of the Congress will be published by Pergamon Press Ltd.

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would be willing to assist developing countries by brief field visits, offering training, or communicating expert advice.

A proposal relating to the establishment of a silicon foundry to service the developing countries' needs was extensively discussed, and it was agreed that setting up such facilities on a regional basis would be very useful, particularly for developing design competence.

A proposal for publication of an International Journal of Information Technology for Development was endorsed.

The meeting recommended that UNIDO pursue and promote the recommended actions and draw other interested organizations as well as United Nations agencies into participating in a Consultative Group on Information Technology which would meet periodically to discuss ongoing programs and exchange experience.

UNIDO IV

The Fourth General Conference of UNIDO was held in Vienna, Austria 2-18 August 1984. The subject of strengthening scientific and technological capabilities for industrial development in developing countries was discussed. The UNIDO secretariat drew attention to the changing technological world scene and the consequent need for the developing countries to come to grips with it.

UNIDO's program in microelectronics was commended, and support was expressed for promoting the establishment of regional and international centers for selected advanced technologies as well as the networking of existing institutions.

The Conference urged UNIDO to assist developing countries in building their capabilities in different fields of technology, including the establishment of national groups to monitor and assess technological trends and the changing international market and to promote the building of core groups or institutions in selected technologies.

The present information explosion was also noted; in this connection UNIDO's Industrial and Technological Information Bank (INTIB) was requested to help developing countries in handling and processing technological information and also to make its own information available to them.

(For further information about UNIDO, see "Microelectronics Monitor" on page 5 of the September 1984 ***IFIP** Newsletter.)*•

IASC SEEKS NEW MEMBERS

The International Association for Statistical Computing (IASC) is a section of the International Statistical Institute (ISI) and an Affiliate Member of **IFIP.** Its president, Prof. Svein Nordbotten (Norway), addresses the following message to everyone interested in statistical computing:

"The IASC carries out a variety of activities to support and further the cause of statistical computing around the world. It convenes international and regional meetings and encourages the publication of scientific papers. The IASC also provides timely information in the *I SI Newsletter* and in the *Statistical Software Newsletter,* both of which are distributed free of charge to its members.

"Everyone with an interest in strengthening the position of statistical computing internationally is invited to become a member of IASC and to start receiving the newsletters. Members are able to attend the meetings and participate in the scientific programs that are being planned. The annual membership fee is $15 US. For certain countries, payments in non-convertible currencies are accepted.

"If you are interested, please write—

International Association
for Statistical Computing
428 Prinses Beatrixlaan
2270 AZ Voorburg
The Netherlands." ■

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The Congress also marked a change of command. The presidency passed from Acad. Tibor Vámos to Prof. Manfred Thoma. Also, Prof. Fred Margulies retired as Honorary Secretary. He had also been a long-time worker in **IFIP,** most recently as acting chairman of the Technical Committee on the Relationship between Computers and Society (TC9). The IFAC Council appointed Mr. Gusztav Hencsey as the new Secretary. ■

At **Banquet for General Assembly in Varna.** Vice-President G. Glaser, Mrs. Sendov, President K. Ando, Vice-President Bl. Sendov, Mrs. Ando

NEW IFIP PUBLICATIONS*

CONFERENCE PROCEEDINGS

PDE Software: Modules, Interfaces and Systems, Proceedings of the IFIP TC 2 Working Conference, Soderkoping, Sweden, Aug 1983 (B. Engquist, T. Smedsaas, Eds.)

Regional Cooperation in Developing Countries, Proceedings of the IFIP International Workshop, Stockholm, Sweden, Sep 1983 (R.E. Kalman, Ed.)

Computer-Based Message Services Proceedings of the **IFIP WG 6.5** Working Conference, Nottingham, UK, May 1984 (H.T. Smith, Ed.)

The Role of Programming in Teaching Informatics, Proceedings of the IFIP TC 3 Working Conference, Paris, France, May 1984 (M. Griffiths, E.D. Tagg, Eds.)

The Impact of Informatics on Vocational and Continuing Education, Proceedings of the IFIP WG 3.4 Working Conference, Jerusalem, Israel, May 1984 (B.Z. Barta, **B.H.** Raab, Eds.)

Informatics and Teacher Training Proceedings of the **IFIP WG 3.1** Working Conference, Birmingham, UK, **Jul 1984** **(F.B. Lovis, E.D.** Tagg, Eds.)

JOURNALS

Computers in Industry, The International Journal of IFIP TC 5-four issues per year

Information & Management, The International Journal of Information Systems Applications-six issues per year

Microprocessing and Microprogramming, The Euromicro Journal-ten issues per year

Computer Networks, The official Journal of the International Council for Computer Communications-six issues per year

Computers & Security, The International Journal of IFIP TC 11-four issues per year

Pattern Recognition Letters, The Journal of the International Association for Pattern Recognition-six issues per year

*published by Elsevier/North-Holland in 1984, unless otherwise noted

CHANGES IN IFIP

Kindly note following additions / ammendments to IFIP Information Bulletin No. 18.

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TC 11 Associate Chairman
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TC 3 : Prof. S. Waligorski represents
Poland, not Portugal
Prof. G. Filokyprou, Greece
TC 8 : Dr. B. Laopodis, Greece
TC 9 : Dr. K. Brunnstein, F.R.G.
Mr. N. Diomidis, Greece
TC 11 : Mr. J. Hekkelman, NL
Dr. N. Yannacopoulos, Greece

Member of Working Group
WG 5.2 B.T. David (not Davis)

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Cognizant Officer Changes
TC 6 : Trustee H.W. Le Roux
TC 7 : Vice-President Bl. Sendov
TC 8 : Trustee L. Penedo

Committee Chairman Changes
Admissions Committee
Mr. P.X. Guo (after March 1985)
Congress Guidelines Comm.
Mr. J.H. Finch
Finance Committe
Mr. A. Melbye
Nom. Comm. for Officers
Mr. O.M. Dalton
Nom. Comm. for Trustees
Dr. G. Sacerdoti
Publications Committee
Mr. H.-R. Schuchmann
Siemens AG - Corporate Technology
Executive Office
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Telex: 52109-0

IFIP Conference Officer
Mr. J.E.D. Navez

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1899 Preston White Drive
Reston, VA. 22091
U.S.A.
Telephone: 1 (703) 620-8900
Telex : 710-833-9037

Swedish Society for Information Processing (SSI)
Box 399
S-101 25 Stockholm
Sweden
Telephone: 46 (8) 24 85 55

CALLS FOR PAPERS

Symposium on Automation for Safety in Shipping and Offshore Petroleum Operations - ASSOPO '85
sponsors: IFIP / IFAC
Jun 25-27 1985, Trondheim, Norway
contact: The Norwegian Society of Automatic Control, Kronprinsens gt. 17, Oslo 2, Norway

3rd Symposium on Computer Aided Design in Control and Engineering Systems
sponsors: IFAC / IFIP
Jul 31 - Aug 2 1985, Copenhagen, Denmark
contact: Prof. P.M. Larsen, Electric Power Engineering, Building 325, DK-2800 Lyngby, Denmark
full papers due: Jan 15 1985

6th International Congress, MIE-85
sponsors: EFMI/Society of Med. Informatics of Finland
Aug 25-29 1985, Helsinki, Finland
papers due: 15 Jan 1985
contact: MIE-85 Secretary General Raija Tervo-Pellikka, The Finnish Hospital League, Toinen linja 14, SF-00530 Helsinki, Finland

Second IFIP WG 5.7 Conference on Advances in Production Management Systems, APMS - COMP CONTROL 85
sponsors: IFIP / GTE / MTA / CAEB / IFORS
Aug 27-30 1985, Budapest, Hungary
contact: APMS-COMPCONTROL 85, Gepipari Tudomanyos Egyesulet Kossuth L. ter 6-8, Pf. 451, 1372, Budapest V, Hungary

12th IFIP Conference on System Modelling and Optimization
sponsors: IFIP/IFORS/Hungarian Acad. of Sciences
Sep 2-6 1985, Budapest, Hungary
abstracts due: 31 Jan 1985
contact: Dr. J. Szelezth, John von Neumann Society for Computer Sciences, P.O.B. 240, H-1368 Budapest 5, Hungary

11th Symposium on Microprocessing and Microprogramming
EUROMICRO 85: Microcomputers, Usage and Design
sponsor: EUROMICRO
Sep 3-6 1985, Brussels, Belgium
papers due: 15 Jan 1985
contact: Klaus Waldschmidt
J.W. Goethe-Universität, Fachbereich 20, P.O. Box 111932, Frankfurt, F.R.G.
short notes due: 1 Jun 1985
contact: Bjørn Myrhaug, Tandberg Data A/S, P.O. Box 9, Korsvoll, Oslo 8, Norway

2nd Conference on Analysis, Design and Evaluation of Man-Machine Systems
sponsor: IFAC / IFIP / IFORS / lEA
Sep 10-12 1985, Varesa, Italy
contact: Mr. G. Mancini
c/o Engineering Division
Commission of the European Communities
Joint Research Centre, Ispra Establishment
1-21020 Ispra (VA), Italy

The First Pan Pacific Computer Conference
sponsors: Australian Computer Society/IFIP
Sep 10-13 1985, Melbourne, Australia
draft papers due: 15 Mar 1985
final, papers due: 14 Jun 1985
contact: A.Y. Montgomery
The First Pan Pacific Computer Con, ference, P.O. Box 212, Hampton, Vic., Australia 3188

7th Symposium on Digital Computer Application to Process Control
sponsors: IFAC / IFIP / IMACS
Sep 17-20 1985, Vienna, Austria
papers due: Sep 15 1984
contact: Prof. Dr. A. Weinmann
Institut fur Regelungstechnik
Technical University Vienna
Gusshausstrasse 27-29
A-1040 Vienna, Austria

International Seminar on Computer Networking and Performance Evaluation
sponsors: IBM Japan/INRIA/Kyoto University/IFIP WG 7.3
Sep 18-20 1985, Tokyo, Japan
papers due: 15 Feb 1985
CRC due: 1 Jul 1985
contact: Dr. Yutaka Takahashi, Dept. of Applied Math. and Physics, Kyoto University, Kyoto 606, Japan

IFIP WG 2.7 Working Conference on The Future of Command Languages: Foundations for Human-Computer Communications
sponsor: IFIP WG 2.7
Sep 23-27 1985, Rome, Italy
papers due: 1 Feb 1984
CRC due: 31 Jul 1985
contact: Christian Gram, Dept. of Computer Science, Building 344, Technical University of Denmark, 2800 Lyngby, Denmark

IFIP WG 5.2 Working Conference on Design Theory for CAD
sponsors: IFIP WG 5.2
1-3 Oct 1985, Tokyo, Japan
full papers due: 28 Feb 1985
contact: Prof. Hiroyuku Yoshikawa, Dept. of Precision Machinery Engineering, Faculty of Engineering, University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Tokyo, Japan

5th International Conference on Control in Transportation Systems
sponsors: IFAC / IFIP / IFORS
Jul 8-11 1986, Vienna, Austria
papers due: Jan 21 1985
contact: OPWZ, P.O. Box 131, A-1014 Vienna, Austria

CALENDAR OF EVENTS

Event	Date	Location	Organized by
Work. Conf. on *Stochastic Modelling and Filtering*	10-15 Dec 84	Rome, Italy	WG 7.1
10th Anniversary Symposium: *Performance 84*	19-21 Dec 84	Paris, France	WG 7.3
Workshop on *Can Information Technology Result in Benevolent Bureaucracies?*	3-6 Jan 85	Namur, Belgium	WG 9.2
Work. Conf. on *Database Semantics (DS-1)*	7-11 Jan 85	Hasselt, Belgium	WG 2.6
Work. Conf. on *Ship Office Automation*	early 85	Gothenburg, Sweden	WG 5.6
1st Intl. Conf. on *Data Communications in the ISDN Era*	4-5 Mar 85	Tel Aviv, Israel	TC6/IPA
Workshop on *Artificial Intelligence in Economics and Management*	12-14 Mar 85	Zurich, Switzerland	IFAC/IFORS IFIP
IFIP 25th Anniversary Symposium	27 Mar 85	Munich, FRG	IFIP
Work. Conf. on *Decentralized Production Management Systems*	28-29 Mar 85	Munich, FRG	WG 5.7
Work. Conf. on *Theoretical amd Formal Aspects of Information Systems*	16-18 Apr 85	Barcelona, Spain	WG 8.1
10th World Congress on *New Measurement Technology to Serve Mankind - IMEKO '85*	22-26 Apr 85	Prague, CSSR	IMEKO
Workshop on *Geometric Modelling*	Apr 85	UK	WG 5.2
Workshop on *Technology Independent Design (Rules)*	Apr 85	France	WG 10.5
Intl. Symposium and Work. Conf. on *Nursing Use of Information Science and Computers*	1-8 May 85	Calgary & Banff, Canada	IMIA
Conference: *Telematica 85*	27-30 May 85	Rio de Janeiro, Brazil	TC6/SUCESU
Work. Conf. on *Computerized ECG Analysis - Towards Standardization*	2-5 Jun 85	Brussels, Belgium	IMIA
Work. Conf. on *Human-Computer Communications in Health Care*	10-14 Jun 85	Stockholm, Sweden	IMIA
1st Intl. Conf.: *Image Science-85*	11-14 Jun 85	Otaniemi, Finland	Helsinki U. of Tech.
6th Intl. Conf. on *Software for Discrete Manufacturing - PROLAMAT 1985*	11-13 Jun 85	Paris, France	WG 5.3/IFAC
Work. Conf. on *Problem Solving Environments for Scientific Computing*	17-21 Jun 85	Sophia-Antipolis, France	WG 2.5
4th Scandinavian Conference on *IMAGE Analysis*	18-20 Jun 85	Trondheim, Norway	IAPR
Work. Conf. on *Pattern Recognition in Practice, II*	19-21 Jun 85	Amsterdam, NL	IMIA
Symposium on *Automation for Safety in Shipping and Offshore Petroleum Operations - ASSOPO '85*	25-27 Jun 85	Trondheim, Norway	WG 5.6/IFAC
Seminar on *CAD/CAM/CAE for Industrial Progress*	Jun 85	Bangalore, India	WG 5.2 & 5.3
15th Intl. Conf. on *Fault Tolerant Computing*	Jun 85	Ann Arbor, MI, USA	TC 10/IEEE
4th World Conf. on *Computers in Education - WCCE '85*	29 Jul-2 Aug 85	Norfolk, VA, USA	TC3
3rd Symposium on *CAD in Control and Engineering Systems*	31 Jul-2 Aug 85	Lyngby, Denmark	IFAC/IFIP TC5 co sp.
Workshop on *Theoretical Computer Science & VLSI Design*	Jul 85	Edinburgh, UK	WG 10.5
11th MACS World Congress - *System Simulation & Scientific Computation*	5-9 Aug 85	Oslo, Norway	IMACS
3rd Intl. Conf. - *IFIP/SEC'85*	12-15 Aug 85	Dublin, Ireland	TC 11
11th Intl. Conf. on *Very Large Data Bases - VLDB 85*	21-23 Aug 85	Stockholm, Sweden	VLDB/TC2
Intl. Conf. - *VLSI 85*	26-28 Aug 85	Tokyo, Japan	WG 10.5
Work. Conf. on *The Use of Computers in Teaching Mathematics in Developing Countries*	26-30 Aug 85	Yamoussoukro, Ivory Coast	TC3/ICMI
Joint 2nd Conf. on *Advances in Production Management Systems* and 7th Conf. of the Intl. Compcontrol Committee *Conputer Applications in Production Management and Engineering - APMS-COMPCONTROL 85*	27-30 Aug 85	Budapest, Hungary	WG 5.7/CAEB
7th Intl. Symp. on *Computer Hardware Description Languages & their Applications - CHDL 85*	29-31 Aug 85	Tokyo, Japan	TC10/WG10.2
3rd Conf. on *Human Choice & Computers - HCC3*	2-5 Sep 85	Stockholm, Sweden	TC 9
12th General Conf. on *Systems Modelling & Optimization*	2-6 Sep 85	Budapest, Hungary	TC7/IFORS/ Hung.Acad.Sci.
11th Symposium on Microprocessing & Microprogramming - EUROMICRO 85	3-6 Sep 85	Brussels, Belgium	EUROMICRO
Work. Conf. on *Environments to Support Information Systems Design Methodologies*	4-6 Sep 85	Bretton Woods, USA	WG 8.1
2nd. Conf. on *Analysis, Design and Evaluation of Man-Machine Systems*	10-12 Sep 85	Varese, Italy	IFAC/IFIP/ IFORS/IEA
First *Pan Pacific Computer Conference*	10-13 Sep 85	Melbourne, Australia	ACS/IFIP
5th Intl. Conf. On *Computer Applications in the Automation of Shipyard Operation and Ship Design - ICCAS '85*	16-20 Sep 85	Trieste, Italy	WG 5.6/IFAC
7th Intl. Conf. on *Digital Computer Applications to Process Control*	17-20 Sep 85	Vienna, Austria	IFAC/TC5
IFIP 86 - 10th World Computer Congress	1-5 Sep 86	Dublin, Ireland	IFIP
IFIP 89 - 11th World Computer Congress	28 Aug-1 Sep 89	San Francisco, U.S.A.	IFIP