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WEIZENBAUM RECEIVES FIRST NAMUR AWARD

by Drs. Felix van Rijn (NL)

Prof. *Joseph Weizenbaum (USA),* of the Massachusetts Institute of Technology, was the first recipient of the Namur Award. This biennial award was established in 1989 by the Working Group on Social Accountability (WG9.2) of IFIP's Technical Committee on Relationship between Computers and Society, to honour outstanding contributions to the creation of awareness of the social implications of information technology. Its purpose is to draw attention to the need for a holistic approach to the use of information technology, in which the social implications have been taken into account. It is called the Namur Award, because it was conceived in Namur, Belgium during the **IFIP** Working Conference "Can Information Technology Result in Benevolent Bureaucracies?" in 1985.

For 25 years, *Prof. Weizenbaum* has raised some of the most essential questions in the area of information technology, concerning human responsibility. Since the publication of *Computer Power and Human Reason* in 1976, *Prof. Weizenbaum* has continuously pleaded for a humanistic approach, in numerous articles, interviews and lectures. Although his views have been considered to be provocative and controversial by many of his colleagues, they respect him as a well-recognised computer scientist. His continuously courageous appeal for social accountability by all, in general, and by computer scientists, in particular, parallels the ideas and work of WG9.2. The

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***IFIP** Newsletter* correspondent for TC9, and WG9.3 chairman

DIFFERENT RESEARCH APPROACHES DISCUSSED AT WG8.2 CONFERENCE

*by Profs. Hans-Erik Nissen (S) *, Heinz Klein (USA)f, and Rudy Hirschheim (USA)$*

The majority of papers presented at **IFIP** conferences focus upon findings of research. A recent working conference, however, was devoted to exploring processes of research in the fields of information systems use and development. That conference, "The Information Systems Research Arena of the 90s: Challenges, Perceptions, and Alternative Approaches" (ISRA-90), took place December 14-16, 1990 in Copenhagen, sponsored by **IFIP's** Working Group on The Interaction of Information Systems and the Organization (WG8.2). The conference attracted much interest and was attended by close to 200 participants from 18 nations.

Dr. Gunhild Sandstrom (S), chair of the Organizing Committee, and her fellow members made the participants feel that the Conference was "well-organized and the participants well looked after," as one registrant expressed it.

An earlier event took place in September 1984 in Manchester, U.K. [The proceedings, *Research Methods in Information Systems,* Mumford et al. (eds.), were published by Elsevier/North-Holland in 1985.] The present conference was conceived as a sequel and update of this earlier **IFIP** event. Both of these events attempted to bring together researchers with different orientations and stimulate debate and critique of current research approaches. Neither of these conferences sought to establish a consensus on appropriate research methods. They helped to provide inspiration and support for a growing amount of information systems research that deviates from the norms of orthodoxy of positivism that underlie much engineering research, laboratory experimentation, and some other forms of empiricism.

The organizer of the Manchester Symposium, *Prof. Enid Mumford (GB),* acted as general conference chair of the current conference and gave the opening and closing addresses. In these, she both connected the current conference with preceding efforts and reminded us of the fact that reflections upon **our**

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* chair of International Program Committee
t co-chairs of International Program Committee

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IFIP NEWSLETTER

Editor:
Dr. Jack L. Rosenfeld
IBM Corporation
Journal of Research and Development
500 Columbus Ave.
Room 2B-71
Thornwood, NY 10594, U.S.A.
telephone: 1 (914) 742-5929
facsimile: 1 (914) 742-6033
CSNET: ROSENJ@IBM.COM
BITNET: ROSENJ@YKTVMH

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IFIP Secretariat
16 Place Longemalle
CH-1204 Geneva, Switzerland
telephone: 41 (22) 28 26 49
facsimile: 41 (22) 781 23 22
(telex service has been discontinued)
BITNET: ifip@cgeuge51

CORRESPONDENTS
TC2 R.K. DeBry
TC3 U. Brauer
TC5 P. Falster
TC6 D. Khakhar
TC7 P. Kall
TC8 A.A. Verrijn-Stuart
TC9 F. van Rijn
TC11 D. Lindsay

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FULL MEMBERS REPORT ACTIVITIES

The 1985 **IFIP** General Assembly (GA) established the policy of requesting all Full Member societies to submit annual reports, at the time of the GA, so that Members might learn about each other's accomplishments, problems, and concerns. Last September, 23 such reports were distributed at the GA in Buenos Aires. We report here on those aspects of the reports we found most unusual. Of course, this is purely subjective. This collection of reports was of interest more for the variety of activities than for specific themes or common threads.

The Swedish Member society reported of fifty conferences it organized the prior year. That appears to be the largest number of conferences reported by any Member. The Swedish members of **IFIP** Technical Committees meet at least once a year in order to review IFIP-related activities.

The Japanese Member is also very active, reporting an attendance of nearly 2400 at its national convention in March 1990, which appears to be the largest national convention of any Member. The Member celebrated its 30th anniversary in 1990 by holding its first international conference, "Info-Japan '90."

The report of the West African Regional Computer Society (WARCS) indicated that the Society remains active. Since its formation in 1987, we have heard little news from it, and it has not been represented at recent GAs. Two seminars and an international conference were held in the region in 1990, and plans exist for future meetings. The WARCS report contained the note that "National organizations in the region are being encouraged to seek representation on high-level decision-making bodies in government and industry, to facilitate greater Information Technology awareness, participation, and encouragement from government and industry."

Social Concerns

The Austrian Member places great stress on social concerns. In the year covered by its report (1989), it held conferences on "Computers for Handicapped Persons," "Computer Science **for** Environmental Protection," "Man and Machine," which discussed problems involving both humans and computers, and "Safety of Control Computer Systems." In addition, it published a *Manual for Humanized Office Information Systems Design.*

The Indian Member reported that 9 issues of the *CSI Digest,* have **been** published so far. The *Digest* reprints papers selected from . **IFIP** conference proceedings (see the article on page 6 of the March 1989 ***IFIP Newsletter).*** Also, **the** Member has been charged by the **Indian** government with the responsibility for accreditation of schools for **computer** professionals. It is presently studying the project.

The Finnish Member reported its sponsorship of an ADP dictionary in six languages, which is published **every three** years.

German Reunification

Of major interest was the report of Gesellschaft fur Informatik der DDR (GIDDR), the East German Member. The report, which was written before German reunification took place, reads, "The GIDDR is the successor of the former IFIP Member `Akademie der Wissenschaften der DDR' (AdW der DDR), which was a Member of **IFIP** since 1970. The change had to be made to adapt the organizational structure in the G.D.R. to the structure in the F.R.G. At the end of this process, the separate membership of the GIDDR will **terminate.** Both **societies agree upon** this process." The report also stated, "The experiences of the **G.D.R.** in cooperation with the East European countries should be preserved and integrated in future activities of the unified GI. These experiences can be the base for a special role the unified Germany can play within the framework of **IFIP** in cooperation with these **countries.** This special role should contain the preservation of contacts, the initialization and promotion of **IFIP** activities, especially for this region, etc."

The report of the U.S.A. Member, AFIPS, did not mention plans for its imminent dissolution. That was published, however, on page 5 of the December 1990 ***IFIP*** *Newsletter.*

Several Members reported changes in their organization. For example, the South East Asia Regional Computer Confederation (SEARCC) reported proposed changes in its constitution to cover the Asia Pacific region.

The Zimbabwe Member reported changes in its membership grading regulations: to encourage more *users* of computers to join the society, to give

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THE SPANISH FEDERATION OF COMPUTER SOCIETIES

*by Prof. Angel Alvarez-Rodriguez**

FESI (Federación Espanola de Sociedades de Informática) federation of 15 Spanish computer institutions and associations. Together, the federated members include over 8000 individual members.

In 1960, Spain had the honour to be one of the 13 founding members of **IFIP,** and FESI was founded, in 1980 to succeed the Spanish National Research Council as the Spanish **IFIP** member. FESI has representatives on all **IFIP** Technical Committees and regularly hosts **IFIP** activities in Spain. The main aims of FESI are the promotion of scientific and technical development of computer science, and the maintenance of relations with similar international institutions, notably **IFIP.** FESI is also a founding member of the Council of European Professional Informatics Societies (CEPIS), recently created.

ATI (Asociación de Técnicos de Informática), one of the constituents of FESI, has close to 5000 members. ATI was founded in 1967, with the goal of spreading knowledge and professional experience in the field of computer science. The members receive a monthly technical magazine, *NOVATICA,* which regularly carries **IFIP** news. Another major scientific activity of ATI is the organization of CIL (Convención Informática Latina), a biennial Congress held in Barcelona, with an international attendance close to 1000 delegates. In addition, ATI regularly organizes professional and scientific talks, short courses, and employment and library services for its members. Some 10 Technical Committees and Working Groups hold regular meetings and develop other activities in various areas of computer science.

Another member of FESI is (Asociación Espanola de Informática y Automática). AEIA was founded, also in 1967, to bring together people with a scientific interest in the fields of computer science and automatic control. The society has over 400 individual members and 40 corporate members. A quarterly review *(Revista de Informatica y Automática),* carrying papers on the two subjects of interest to the society, is distributed to all its members. A major scientific activity of AEIA has been the organization in Madrid of the triennial AEIA Congress, with an attendance of some 500 delegates. In addition, AEIA regularly organizes talks, conferences, seminars and, notably, an annual two-week summer school attended by around 100 computer professionals, mainly university professors and researchers. This summer school has been in existence for 13 years.

ALI (Asociación de Licenciados en Informática) was founded in 1980 to bring together Spanish computer science graduates and represent their professional interests. The Association holds regular professional meetings, publishes a quarterly bulletin, and provides other services to its 400 members.

AEPIA (Asociación Espanola para la Inteligencia Artificial) is the newest member of FESI. Founded in 1984, AEPIA has about 250 members, interested in all aspects of Artificial Intelligence. The society publishes a biannual newsletter and holds a biennial Conference, with an attendance of about 150 delegates.

FESI

FEDERACION ESPAN'OLA DE SOCIEDADES DE INFORMATICA

The main objective of CITEMA (Centro de Informática, Telemática y Medios Afines) is to encourage the proper use of computer technology for the improvement of productivity in office automation. Perhaps the most visible activity of CITEMA, for the past 27 years, has been the organization of the fall SIMO exhibition. Started as an office equipment exhibition, SIMO has become the largest Spanish annual computer display, with over 30,000 square meters of floor space and an attendance of more than 200,000 visitors. Along with the exhibition, CITEMA organizes the CII Conference, oriented mainly towards the Latin American region.

The National Research Council, one of the founding members of FESI and formerly the Spanish **IFIP** representative, is currently represented by its Institute for Industrial Control. This institute has over fifty full-time scientists carrying out research on different aspects of computer science and automatic control.

FUNDESCO (Fundación para el Desarrollo de la Función Social de las Comunicaciones) is also a member of FESI. Established in 1971, it is a foundation fully funded by the Spanish postal and telecommunications authority. It has a full-time staff of some 70 employees dedicated to the promotion of technological development for Spain's economic, scientific and cultural evolution. Communication and computer technologies are their prime areas of interest. In particular, FUNDESCO collaborates regularly with the Spanish government in areas related to the creation of scientific and technological policy, such as the definition of an academic computer network; the preparation of a proposal for a technology information program within the National Research Plan; and the definition of an advanced center for the rapid spread of software technology within Spanish industry. FUNDESCO also publishes a monthly news bulletin, a monthly magazine on communication, technology and society, and about thirty other volumes a year, most of them the result of specialized meetings or the work of special task forces established to analyze diverse aspects of communication and computer technology.

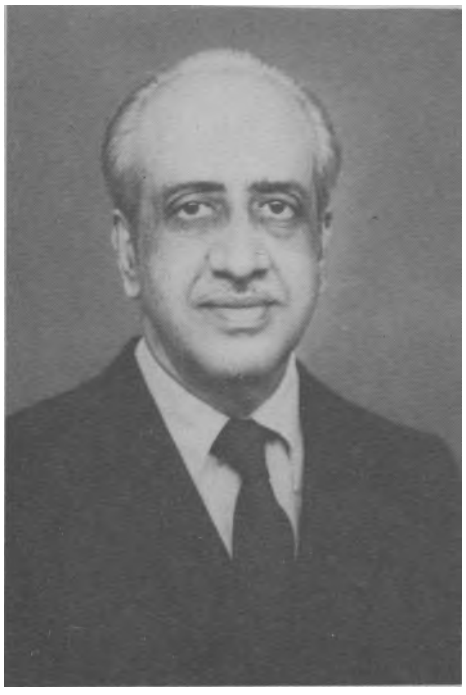
In order to gather strong academic support for the federation, FESI includes, as institutional members, practically all the computer science departments of Spain's universities. Two of them are in Barcelona, and one each is in Madrid, Deusto (close to Bilbao), Valencia, San Sebastian, Malaga, and Palma de Mallorca. Together, these departments add up to almost 1000 computer science professors, who teach over 10,000 students.

As part of their relations with Spanish society as a whole, FESI's members regularly cooperate with national and local Administrations on matters regarding official policy and the use of Informatics.

FESI feels honored to host the March 1991 meeting of the **IFIP** Council in Barcelona, and at the same time it is looking forward to the great challenge of organizing **IFIP's** 12th World Computer Congress in Madrid in September 1992. The year 1992 promises to be very auspicious for Spain, as the country will be commemorating the fifth centennial of Columbus' trip to America, and we in FESI are very glad that **IFIP** will be joining this commemoration in Madrid, which has also been chosen as the Cultural Capital of Europe for the year 1992.

* **IFIP** trustee and representative of Spain to the General Assembly

Who's Who in IFIP: MAJ. GENERAL A. BALASUBRAHMANIAN



Major General A. Balasubrahmanian, a newly elected vice-president of **IFIP,** received his first undergraduate education in chemistry, physics, mathematics, and military science, and also graduated in Telecommunications Engineering at Madras University. Following this, he received postgraduate diplomas in Radio Engineering from Marconi College in the U.K. and in Advanced Electronics and Guided Missiles from the Institute of Advanced Armament in India.

Beginning in 1950, he served as a commissioned officer in the Indian Army Corp of Signals and later in the Defense Research and Development Organization. During his service, he developed hardware and software simulators for guided missiles; established the first computer center in the Indian Defense establishment in 1963, including analog, digital, and hybrid computers; served as Technical Secretary to a committee overseeing all computer programs in the Ministry of Defense; and carried out diverse information system analyses.

From 1971 to 1979, he was also on special duty in the government's Department of Electronics. In this position, he evolved policies promoting self-reliance for India with regard to computers and information systems. This involved setting up a national maintenance infrastructure for imported computers, establishing import policies, encouraging indigenous industry, promoting software for domestic use and for export, fostering human resource development for computer personnel, and studying the role of multinational organizations. He led delegations to encourage international cooperation in the field of computers.

In 1979, he received the Ati Vishist Seva Medal from the president of India, for distinguished services of an exceptional order.

He retired from the army with the rank of Major General in 1984. At present, he is a Professor of Computer Science at the Indira Gandhi National Open University at Delhi, a distance education (correspondence) school.

Gen. Balasubrahmanian was a founding member (and the first secretary) of the Computer Society of India, in March 1965. He was president of the Society from 1969 to 1972 and was elected Fellow of the Society in 1980. He is also a Fellow of the Institute of Electronics and Telecommunications Engineers of India.

In 1974, he encouraged the government to support Indian membership in **IFIP.** Since then, he has been active in **IFIP** affairs, as member of various committees, chairman of **IFIP** conferences held in India, and editor of **IFIP** conference proceedings. He became India's representative to **IFIP** in 1983-84 and was elected trustee in 1987 and vice-president in September 1990. In 1989, he was awarded the **IFIP** Silver Core Award.

In his spare time, he enjoys classical music, which is a family tradition. He also plays the mridangan. He is interested in amateur radio and belongs to cultural and social clubs.

His wife, Kalpakasundari, is a classical singer, who appears on Indian radio and TV, and his daughter, Pushkala, is artistic director of a classical Indian dance company in the U.K. He also has two sons, Shivakumar, an Assistant Professor of Nuclear Physics at Yale University, and Krishna, a doctoral student in theoretical physics at Ohio State University (U.S.A.).

COMPUTER COMMUNICATIONS AND INTERNATIONAL DISASTERS

*by Dr. Martin Silverstein (USA) **

The International Council for Computer Communication (ICCC), an Affiliate Member of **IFIP,** is devoted to the societal applications of computers, computer communications, and telecommunications. At its initial meeting in Washington, D.C. in 1972, the ICCC considered the potential utility of computer communications in domestic and international emergencies. The disaster management community has long argued that adequate communications are the most critical sectors of prediction and response to catastrophic events.

The ICCC Executive Committee and Board of Governors established the Committee on International Emergencies and Disasters to explore the use of existing equipment and systems as a means of responding to that need. The Committee has been chaired by myself since its inception, and I have attempted to act as a bridge between the disaster management community and the computer communications community.

We have explored each advance in computer communications, hardware and software, for its potential contribution to the alleviation and mitigation of the human suffering and property damage that occurs during catastrophic events.

In 1984, the ICCC, with the assistance of IBM, attempted to bring together university researchers and disaster specialists in order to demonstrate the feasibility of an international medical consultation system. Although the project failed to establish a system, the elements of an international network were explored and were judged to be "state of the art." A significant by-product of that effort was an understanding of the difficulties inherent in the introduction of computer science to the practicing medical community and the methodologies required to overcome, the obstacles that separate different sciences and technologies.

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* Conference Governor of ICCC '90, Vice-President of the ICCC Executive Committee, and chairman of its Committee on International Emergencies and Disasters

COMMO. AND DISASTERS
continued from page 4

Later in the same decade, the Committee performed a survey of the computer communications needs of Trinidad-Tobago. During that consultation, performed under the auspices of the World Health Organization and the Pan-American Health Organization, the concept of phased establishment of disaster communications for developing countries was originated. Soon after the initial phase was installed, the communications system was of significant assistance to Trinidad-Tobago in a major industrial accident.

The Committee has worked extensively with a government corporation of India in developing medical systems for the management of individual emergencies in the Indian system of rural villages. The same group has developed a disaster management system for major industrial accidents. A proposal for the development and installation of this technology is being presented by the ICCC Committee on Emergencies and its committee on Developing Nations to the United Nations Development Program.

The Committee has also worked on the optimum use of satellite communications and disaster databases for emergency management. An effort has been made to encourage the Canadian government to take a lead position in the United Nations in the establishment of a global sensing and computer communications system for research in and management of natural, industrial, and conflict disasters.

Bhopal Disaster Discussed

At the 10th biennial International Conference on Computer Communication, ICCC '90, a special panel was held concerning the Bhopal tragedy. There are approximately 500,000 victims of the toxic gases emitted from the chemical plant in Bhopal, India in 1984. The disease processes are apparently ongoing and may reach to future generations, and new aspects of the disease process keep appearing.

In the recovery effort, the Indian governmental administrators have followed at least 380,000 of the patients. Unfortunately, the recording, update, and retrieval effort was begun utilizing enormous paper files. Each folder contains up to 20 pages of narrative and numerical data. Only a scant amount of this data has been codified and given numerical values.

The Bhopal administrators have despaired of converting the data in the paper files to computerized data, which can be subjected to statistical analysis (especially trend analysis). Because the paper files are maintained in a single, secure area, they are unavailable for scientific purposes.

The Indian government has accepted an offer of assistance from the ICCC, and the first node in that chain was a panel at ICCC '90. The Indian authorities presented the problem in hithertofore unrevealed detail, and the panel and the attending delegates explored methods of computerizing and analyzing this unprecedented database. This is easily the largest and most needful computer communications task ever presented to the ICCC Committee on International Emergencies and Disaster.

It is gratifying to note that the 20-year effort of the ICCC in counter-disaster communications has been accompanied by a marked reduction in disaster deaths and injuries. Computer communications have raised the consciousness of the world to the frequency and devastation of international emergencies and provided a quantum leap in world cooperation and management of international emergencies. ■

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ways of researching will remain a recurrent theme.

Relevance and Rigor

Dr. Peter Keen (USA), the keynote speaker, stressed the view that in the case of research in our field, "Relevance must drive rigor. Until relevance is established, rigor is irrelevant. 'When relevance is clear, rigor appropriate for the methods used enhances relevance."

The mandate to organize such conferences is derived from the general aims and scope of WG8.2. These focus on the interaction between organizations, information technology, information systems, and the larger social environment of these: society. Because of the controversial nature of all research concerned with social phenomena, it is perhaps to be expected that an international research community interested in the social aspects of development and use of information systems will sooner or later come to reflect upon its research methods.

In taking responsibility for selecting papers and inviting speakers, two concerns were utmost in the minds of the program chair, *Prof. Hans-Erik Nissen (S),* and his two program co-chairs, Profs. *Heinz Klein* (USA) and *Rudy Hirschheim (USA): (i)* to take stock, as far as possible within the limitations of a working conference, of the emergent spectrum of research approaches, and (ii) to initiate a dialogue between adherents of different research approaches.

Designing the Program

A key issue in designing the program was how to do justice to a multitude of different research approaches that may build on mutually exclusive (or at least partially inconsistent) assumptions. The key organizing principle that guided the program choices was to use internal criteria for evaluating each contribution — internal in the sense that a reviewer knowledgeable in a particular approach would evaluate the quality of the contributions related to that approach. The philosophical justification for such an attitude, which may strike some readers as too relativistic, comes from an epistemology called "methodological pluralism."

Just before the closing address, there was a panel, chaired by Prof. *Jon Turner* (USA), entitled "Relevance versus Rigor in Information Systems Research." The participants suggested that a summary of the conference could be achieved in rephrasing the title of the panel to: "Working for an Appropriate Balance between Relevance and Rigor in Information Systems Research."

In striving towards this aim, the proceedings of this conference, *Contemporary Approaches and Emergent Traditions in Information Systems Research,* will offer food for thought and many useful references. The program chairs will be the editors. The proceedings will be published by Elsevier/North-Holland and are planned to appear during the first half of 1991.

A small sample of the material from ISRA-90, illustrating the richness and variety of the Conference, can be found in a separate article on page 8. ■

TECHNICAL COMMITTEE 6: DATA COMMUNICATION

IFIP's Technical Committee on Data Communication (TC6) is a very active and productive TC. It conducts a variety of workshops and conferences and brings its activities to developing countries. It is also an international leader in providing guidance to standards organizations in its field. Founded twenty years ago, it has grown to be the TC with the largest net financial contribution to **IFIP.**

Members come from a variety of backgrounds: academia, industry, government, and PTT (postal, telephone, and telegraph) administrations. This diversity provides strength and tension, leading to many heated debates, according to members.

Some of the success of TC6 can be attributed to the close, warm feeling within the committee. The TC6 chairman, *Dr.* Ronald *Uhlig* (USA), tells us that TC6 is like a big, extended family: "We get help from each other anywhere in the world. Our human network is very important, even extending to former members." Part of the closeness is due to the fact that several of the founding members remain on the committee, providing continuity. Among these are former committee chairmen *Dr. Louis Pouzin (F)* and *Prof. André Danthine (B)*. Members chuckle when reminiscing over late night debates fueled with slivovitz; the time one member thought he would die after a dip in a frigid Finnish lake during a TC6 meeting; or the conference at which *Uhlig,* who speaks little French, found himself on a French-speaking panel.

Lest it be thought that TC6 meetings are fun and games, we note that the agenda for the recent 2-day meeting in Iguaçu Falls, Brazil included nearly 50 items and that the minutes comprised almost 90 pages (including appendices). The discussions concerned **IFIP** activities and TC6's relationship to them, as well as the 48 TC6 events planned for the next 5 years.

Holding two meetings per year is an established TC6 practice. One is generally in a developed country in Europe or North America, and the other in a developing country or a more remote location, such as Australia. This enables more members to attend. Before or after the meetings, members are able to give talks in places where the need for their expertise is great. For example, *Prof. Dipak Khakhar,* the TC6 representative of Sweden, delivered a lecture at "Telematica '90" in Porto Alegre following the Iguaçu Falls meeting. (State-of-the-art seminars and other technical meetings are held in developing, newly industrialized, and remote countries.)

TC6 deals with the use of computers for all digital communication. Nowadays, data communication has to do with more than just business data; it comprises text messages, voice, video, graphics, and everything else that conveys information. TC6 is interested in carrying the bits, independently of the type of information they represent. Computers are used to insure that the information gets to its intended destination quickly, securely, and without error. This entails monitoring the communication network status, maintaining directories, determining appropriate routes for the data, confirming arrival, correcting errors, and performing many other functions. Computers manage all these activities for telephone systems and perform similar work in the transmission of other forms of data.

The Working Groups of TC6 investigate some of the most important problems in this field. WG6.1, on Architecture and Protocols for Computer Networks, specializes in protocols, the rules and conventions for communication. The protocols are very sophisticated and must be guaranteed to work even when parts of the networks and some of the computers themselves fail. A significant part of WG6.1's activity is devoted to proving the correctness of protocols, under all sorts of anomalous conditions.

The interest of WG6.4, Local Computer Networks, is in those networks that interconnect computers within a small area, e.g., a building, a university campus, or a business enterprise in a single city. Computers are the users of the data transmitted as well as the controllers of the network. Both the technology of the media used to transmit the data (e.g., coaxial cable or optic fibers) and the protocols are of interest. Relatively inactive for a while, WG6.4 has increased its activity lately, focusing on high-speed local area networks (LANs). Many protocols developed years ago, when the bandwidth (capacity) of these networks was small, concentrated on optimizing the use of the networks by performing much processing in the computers. Now that very high bandwidths are available (e.g., fiber-optic media can communicate at rates of 10-100 megabits/sec.), the old protocols may not be the right ones. Another area of interest is the relationship between LANs and PBXs (private branch exchanges, which are telephone switching systems for individual enterprises). As telecommunication of voice becomes more and more digital, the distinction between LANs and PBXs becomes fuzzy. The second WG6.4 conference on "Local Communication Systems LAN and PBX" will be held this June.

Application Layer Communication Services (WG6.5) originally dealt with only Message Handling Systems (MHSs), a major application of data communication systems. MHSs are responsible for delivering messages to their intended recipients, maintaining directories, and performing all of the other functions required. Originally the messages were from one programmer to another, but now MHSs are used to pass information between application programs on one computer to applications on others (e.g., electronic funds transfer). The scope of WG6.5 has expanded to address data communication for all such applications.

The WG on Network Management for Communication Networks (WG6.6) is concerned with managing communication networks. Knowing what information to gather about the status of networks, how to use the information to optimize the performance of the networks and maintain required accounting data, and what protocols to use to communicate the information is the domain of this WG.

In order to carry out its mission, TC6 and its WGs hold a wide variety of events, from 50-person workshops to large conferences attended by over 500 people. Some of the larger conferences began as small workshops (e.g., Protocol Testing and Verification, attended by nearly 200 people in June 1990).

TC6 has an excellent collaborative relationship with the International Council for Computer Communication (ICCC), an Affiliate Member of **IFIP.** A number of TC6 members are on the ICCC Board of Governors. *(Uhlig* is currently Executive Vice-President and was previously Secretary General), and the two organizations have jointly sponsored several large, successful conferences, including "ISDN in Europe," in 1989, and the upcoming "AFRICOM/CCDC" (Computer Communication for Developing Countries) in Tunisia this May.

TC6 is very much interested in the standards that must be established to enable data communication to work. Communication is clearly impossible without agreement on data rates,

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TC6 SNAPSHOT

Covers all aspects of data communication, from research to manufacture and operation of products and systems. Brings together users, telecommunication administrations, and computer and equipment manufacturers. Works closely with other international bodies concerned with data communication.

TC6 Chairman: Dr. Ronald P. Uhlig
Position: Director of International Market Development
Employer: Northern Telecom World Trade
Location: Richardson, Texas
Interests: intelligent networks, global networking, broadband communications, office automation, message systems

TC6 Vice-Chairman: Professor Dr. Otto Spaniol
Position: University Professor
Employer: Aachen University of Technology
Location: Aachen, Germany
Interests: research in communication systems, especially high-speed networks, modeling and performance evaluation, and communication protocols

Working **Group 6.1: Architecture and Protocols for Computer Networks** Studies problems of communication protocols that support applications within a distributed environment.

WG6.1 Chairman: Dr. Harry Rudin
Position: Member of Research Staff
Employer: **IBM** Research Division
Location: **Zurich**
Interests: formal methods of protocol design, high-speed protocols

Working Group 6.4: Local Computer Networks Studies communication systems of locally distributed computers (LANs and PBXs) and their management and performance analysis, and recommends standards.

WG6.4 Chairman: Professor J.P. Cabanel
Position: Professor
Employer: **I.R.I.T.** Lab. of Paul Sabatier University
Location: Toulouse, France
Interests: network development, high-speed networks, value-added networks

Working Group 6.5: Application Layer Communication Services Studies Message Handling Systems and other Application Layer Protocol-based systems for exchanging information objects. Also promotes standardization.

WG6.5 Chairman: Mr. Einar Stefferud
Position: President
Employer: Network Management Associates, Inc.
Location: Huntington Beach, California
Interests: strategic planning for internet environments and network mail systems

Working Group 6.6: Network Management for Communication Networks Studies management of communication networks: Identifies what information about the networks should be collected, how to communicate the information, and how to use it to control the network.

WG6.6 Co-Chairman: Ms. Kim Kappel
Position: Research Scientist
Employer: Georgia Institute of Technology
Location: Atlanta, Georgia
Interests: network management, internets, protocols, architectures, and applications

WG6.6 Co-Chairman: Ms. Jil Westcott
Position: Assistant Department Manager, Network Technology
Employer: **BBN** Systems and Technologies
Location: Cambridge, Massachusetts
Interests: network management, high-speed networks, protocols, network modeling and analysis

(We regret that the information about WG6.4 Co-Chairman Prof. Guy Pujolle was not received in time to include on this page. The data and photograph will appear in the June ***IFIP*** *Newsletter.)*

ISRA-90 "PRECEDINGS" MAKE FASCINATING READING

In an article on page 1, the co-chairmen of the International Program Committee of "The Information Systems Research Arena of the 90s: Challenges, Perceptions, and Alternative Approaches" (ISRA-90) described that Conference and its background. The Conference "precedings," preprints of the papers presented, make fascinating reading, even for those unfamiliar with inforthation systems research. Following are excerpts that illustrate some of the issues raised at the conference. They have been selected by the ***IFIP** Newsletter* Editor, who did not participate in the Conference.

The paper *Validating New Information Systems Techniques: A Retrospective Analysis,* by Mr. *Guy Fitzgerald (GB),* discussed validation of techniques of information systems development. Sections from this paper follow.*

Our particular project was concerned with the development of a new technique, and it was originally thought that the validation and justification of the technique would be a relatively straightforward application of the scientific research approach. In practice, this turned out not to be the case.

We thought that we would examine the way that other systems development techniques had been validated. This was more difficult than at first thought, because there were not many system development techniques available to examine, and those that were available did not appear to have been validated. They were usually simply described and sometimes argued to be powerful for a variety of reasons, but this was stated rather than proved.

We turned to computer science, with the expectation that the world of software engineering techniques would be more rigourous. It was interesting to discover that in very few of the papers we examined did the authors attempt to validate the techniques they were advocating based on the scientific method discussed above. Of the non-mathematical ones, some simply described the technique in some detail and left it at that; others described and illustrated the technique using an example. It was a surprise that so many argued that their techniques were useful without really undertaking studies to "prove" it in any way.

A further point of interest from the examination of these papers on software specification techniques was the almost total absence of any formal comparison of their technique with other competing, or complimentary, techniques.

Practitioners argue that the major way that techniques are validated is by constant use and re-use. Currently the "successful" graphical modeling techniques of information systems development are Data Flow Diagrams (DFDs) and Entity Models, in terms of the number of people who know about them and use them in systems development. Of course, it may be argued that they might be popular but they may still be poor techniques. Indeed, the use of these popular techniques could be argued to be the reason for the sorry state of information systems development in practice over the years.

Maturity of the Discipline

The fact that we bother to discuss these issues at all might be argued to indicate a youthful, immature discipline that has not yet sorted out its own research methodology. More mature disciplines have well-understood and accepted research methods, often to the extent that they are not thought worthy of discussion. Advancement in these subject areas is by incrementally building on previous research. Indeed, anything larger than a small increment is usually regarded as unscientific. In information systems, we are a long way away from this model of the advancement of the subject.

It would be satisfying to conclude with a strategy for future researchers as to how to validate their techniques, but unfortunately it is difficult to do this. The scientific method is not practical in this area. However, the alternatives are themselves inadequate. In our research, we were reduced to descriptive arguments and a plethora of examples to show our technique in use. The concept of popularity is a very poor validation of any technique, and yet, in the practical world of information systems, it is one that is often invoked.

In order to help the researcher, it may be concluded that it is necessary to use a number of approaches to validation. The researcher must select from a quite limited range of methods applicable to validation and choose those that are most relevant to the particular technique. Although no one on its own is likely to be convincing, the use of a variety together may well accomplish a "buckshot" effect and help achieve the validation that is needed in information systems. It is my view that this does not negate the reasons for seeking to validate our techniques, and that much can be achieved, providing it is recognised that it will not have the status of a scientific proof. But progress can still be made, and better techniques will supersede inferior techniques over time. The important corollary in information systems research is that the context and assumptions must not be hidden but must be recognised by the researchers and clearly stated for all to see.

CASE Research

A Review of Computer-Aided Software Engineering (CASE) Methods by Ms. *Judy Wynekoop (USA)* and Prof. *Sue Conger (USA)* surveyed the present state of IS research applied to CASE. We present here selections from this paper.*

Computer-aided software engineering (CASE) is one of the most important and frequently discussed topics in information systems today. The number of papers discussing the topic grew from tens of articles in the early 1980s to hundreds in the last two years. Much CASE research has little regard for development of a cumulative tradition, ignores the software development context, and has very different manifestations of the same components across different environments. In the quest to determine why these situations exist, we evaluate CASE research within the framework of research method and purpose.

This paper examines the paradigms of CASE research by classifying a sample of CASE publications from the last three years. The classification, by research methodology and purpose, identifies the applied research method as most frequently used, with normative writing as the second most frequently used method. The most common goal of research is to build or re-build CASE environments.

* O IFIP

There is little evaluation of applied research efforts, and most evaluation research is narrow in scope. Other research methods are not frequently used. Basic, action, and field research are not found at all in this sample from the last three years. There is very little case study, laboratory, or field survey research. Few evaluative research studies are in the sample; most CASE developed through the applied method is ,never formally evaluated or compared to possible alternative environments.

Researchers must overcome the applied bias in CASE research to gain more cumulative knowledge. As researchers, we can do several things. First, we must be more cognizant of the research paradigm and be specific in addressing limitations due to selection of a specific research paradigm. Second, we need to evaluate every engineering and re-engineering effort to determine what, if any, progress toward understanding computer-aided software engineering is made. Third, we need to conduct a richer body of research, using varied methodologies and multiple methodologies, to allow triangulation of results. Finally, we need to conduct research in both software engineering and CASE, to move toward a theory of software engineering that would inform all future research and CASE development.

Unusual Approaches

Some of the research approaches presented at ISRA-90 seem quite unusual to the uninitiated — for example, "hermeneutics," the study of the methodological principles of interpretation (e.g., biblical texts); "activity theory," a research approach that "...has its roots in 18th and 19th century classical German philosophy, from which it was adopted into materialistic philosophy and finally elaborated by Marx"; and "action research," in which "...the researcher conducts research while participating in the intervention or activity studied, simultaneously evaluating the results."

"Semiotics," the science of signs, was discussed by *Prof. Peter BOgh Andersen (DK)* in the paper *A Semiotic Approach to Construction and Assessment of Computer Systems:* *

Computer semiotics is a branch of semiotics that studies the special nature of computer-based signs and how they function in the use situation. The purpose of this paper is to present semiotics as a theoretical background for user-centered systems design and assessment. I do this by presenting selected concepts from the science, and showing how they can be used to analyze actual tape-recordings of workers' conversations during work and how this analysis can be used as a basis for designing computer facilities supporting the work.

Practitioners in WG8.2

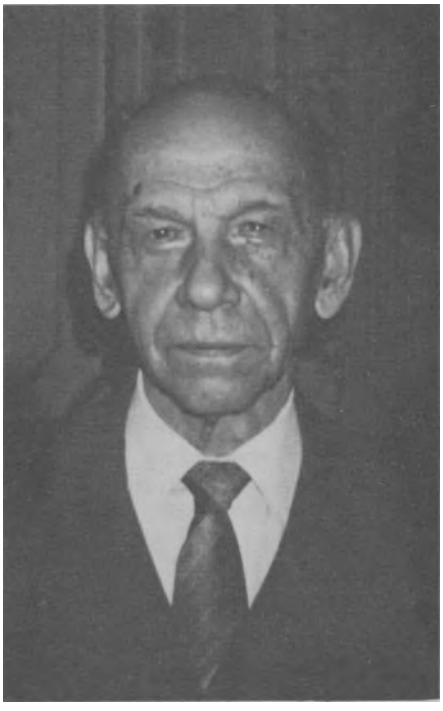
In addition to the paper presentations, there was a panel addressing the matter of attracting "practitioners" to WG8.2 conferences. *Dr. Bernard* Glasson *(A* US), in his introduction to the panel session, wrote the following: *

TC8 working conferences always attract a greater number of academics than practitioners. The proportion of practitioner participants is greatest when the working group first becomes active — usually at its first working conference or the first of a particular theme. Over time, the practitioner numbers decrease and the doctoral student numbers increase; the topics addressed at working conferences become more theoretical and abstract; the papers, the presentations, and the discussants' critiques tend to give more attention to the research method than to the matter of the research. Working conferences held in Europe attract a greater proportion of practitioners than do those held in the U.S.A.

If we, as researchers within the TC8 community, believe we have something to contribute to our profession and the wider community, we need to address four things. We need to examine our research focus — to be sure our work is relevant; our research methods — to be sure our work is effective, efficient and valid; our methods of collegiate communications — to be sure communication includes all parties concerned with our research activity; and the way we publicise our research findings — to expeditiously reach the widest possible audience and to attract new members to our group. For this to happen, we must involve practitioners in our activities to a far greater extent than we have in the past.

We look forward to seeing the proceedings in print. ■

* **IFIP**



DORODNICYN CELEBRATES 80TH BIRTHDAY

On 2 December 1990, *Academician Anatol A. Dorodnicyn* celebrated his 80th birthday. He has represented the U.S.S.R. in **IFIP** since IFIP's founding in 1960 and is the only one of the founding fathers who still represents his country.

When I spoke to him about this jubilee at the General Assembly in Buenos Aires, he asked for "consolations — not congratulations." Nonetheless, we in **IFIP** send him all good wishes for this birthday and many more to come. — Ed. ■

WEIZENBA UM continued from page 1

first Namur Award was granted to Prof. *Weizenbaum* for his incomparable contribution to a better awareness of the social implications of information technology.

The Namur Award Ceremony took place on January 11, 1991 at the Facultds Universitaires Notre Dame de la Paix in Namur. Presenting the Award was Prof. *Jacques Berleur (B),* chairperson of WG 9.2, in the presence of the governor of the province of Namur, the mayor of the city of Namur, and a representative of the U.S. embassy in Belgium. Prof. *Weizenbaum's* Namur Award Lecture, *Vulnerability and Risks in a Computerized Society,* will be available, on request, from the **IFIP** Secretariat. ■

NEW FORM OF PERSONAL PARTICIPATION IN IFAC

News from Sister Society

In 1987, *Mr. Ashley Goldsworthy (AUS),* then president of **IFIP,** presented a proposal to the **IFIP** General Assembly (GA) concerning personal and corporate membership in **IFIP.** (See the March 1988 ***IFIP Newsletter,*** page 7.) For various reasons, the plan was not adopted by the GA.

Recently, the International Federation of Automatic Control (IFAC), a sister society of **IFIP** in the Five International Associations Coordinating Committee (FIACC), adopted a plan for individual participation in IFAC. We print below the description of that plan that appeared in the August 1990 *IFAC Newsletter.*

For a long time the need has been felt in IFAC to make a more direct involvement of individuals in IFAC affairs possible. The newly devised IFAC Affiliate Scheme will make it easier for control engineers and other interested persons all over the world to participate actively in all IFAC activities and will give them more direct information on what is going on in IFAC.

Individuals can become IFAC Affiliates and receive the following benefits:

- Free subscription to the IFAC Newsletter, with bimonthly information about IFAC activities and forthcoming conferences.
- Direct access to Calls for Paper and conference information in selected areas of interest.
- Subscription to the IFAC journal AUTOMATICA at a personal rate.
- Contacts with IFAC Technical Committees and Working Groups.

MEMBER REPORTS cont. from p. 2

voting status to more members, and to raise the requirements for professional membership levels. The Member also reported that it now has a full time Secretariat.

Changes in AFCET

The French Member, AFCET, reported its "underlying title" has been changed to Society for Systems and Information Sciences and Technology, although its name will remain AFCET (which used to stand for Association Frangaise pour la Cybernkique Economique et Technique). It also reported plans to change its structure from one with 76 WGs that report directly to the Executive Board to a structure with WGs that report to TCs. The Member also reported that half of its major events were "...in cooperation with other European computer societies. This is a clear indication of the strengthening ties existing between the European societies and the role taken by **IFIP** m facilitating these communications." Several other European Members reported about their membership in the Council of European Professional Information Societies (CEPIS), with which **IFIP** is eager to establish a cordial relationship. (See the discussion of CEPIS on page 9 of the December 1990 ***IFIP Newsletter.)***

The Centro Latinoamericano de Estudios en Informatica (CLEI) complained in its report, "We are concerned by the timid support given by **IFIP** to CLEI and, consequently, to the Latin American region. There has been only a small number of **IFIP** events in the region. This also reflects on the support given by **IFIP** to CLEI. We claim that **IFIP** should apportion more resources to the developing of Informatics in the region. The Developing Countries Support Committee (DCSC), for example, has not played an important role concerning this matter." This same theme was aired at the 1990 GA in Buenos Aires with respect to the Southeast Asian region (see the discussion on page 9 of the December 1990 ***IFIP Newsletter).***

Prof. Angel Alvarez-Rodriguez (E), a trustee of **IFIP,** has made a practice of summarizing the Member reports for the GA. Part of his synopsis of the concerns expressed in the reports follows.

There is a proposal to **IFIP** from several members — which has also been presented in previous years — to launch an initiative in the field of Informatics for Handicapped Persons. The form this initiative should take (task force, international conference, etc.) we believe to be a matter to be decided by the Technical Assembly. There seems to be enough experience in this field by several of our Members to make the initiative viable. [At the GA, *Prof. Klaus Brunnstein (D),* chairman of the TC on Relationship between Computers and Society (TC9), undertook to have TC9 organize such an effort. — Ed.]

Some additional requests and suggestions for **IFIP** that were mentioned in the reports are

- TCs to commit themselves to hold meetings (organisational and technical) in developing countries. The TC on Data Communication (TC6) is cited as an example to follow by other TCs; for some years, TC6 has been holding one of its two annual meetings in a developing country.
- **IFIP** to actively explore effective ways to transfer informatics knowledge and expertise to developing countries. As specific suggestions in this area, the reports mention
  - Setting up a roster of distinguished **IFIP** speakers — each with a brief résumé and a list of possible talks — together with the establishment of a lectureship program for developing countries. **IFIP** distinguished speakers would lecture at major national and regional events in these countries.

    Drafting a list of experts from **IFIP** who can assist developing countries with the evaluation of official programs to foster development of informatics at the national and regional levels.
  - Getting **IFIP** more involved in the field of informatics education. In particular, setting up a program to "teach the teachers" in developing countries.

  [The Developing Countries Support Committee (DCSC) has incorporated these activities in its '90–'91 program. — Ed.]

A proposal that does not call for **IFIP**'s initiative is the development of "bilateral" ties between societies with common interests, in order to make more effective use of resources. As an example, "seminar sharing" is mentioned: holding a seminar in one country and shortly thereafter, holding the same seminar with the same speakers in a neighboring country. ■

NEW IFIP PUBLICATIONS FROM NORTH-HOLLAND

Information Technology Assessment

Human Choice and Computers, 4

Proceedings of the IFIP TC9 4th World Conference, Dublin, Ireland, 9-12 July 1990

edited by J. Berleur *and* J. Drumm

1991 xiv + 394 pages
Price: US $ 114.50 / Dfl. 200.00
ISBN 0-444-88759-8

Managing Information Technology's Organisational Impact

edited by R. Clarke *and* J. Cameron

1991 viii + 436 pages
Price: US $ 105.50 / Dfl. 185.00
ISBN 0-444-88945-0

Issues in LAN Management, II

Proceedings of the IFIP TC6 International Symposium on the Management of Local Communication Systems, Canterbury, Kent, UK, 18-19 September 1990

edited by I.N. Dallas, E.B. Spratt *and* J.-P. Cabanel

1991 viii + 278 pages
Price: US $ 88.50 / Dfl. 155.00
ISBN 0-444-88918-3

Computer Security and Information Integrity

Proceedings of the IFIP TC11 6th International Conference - IFIP/Sec'90, Helsinki, Finland, 23-25 May 1990

edited by K. Dittrich, S. Rautakivi *and* J. Saari

1991 viii + 422 pages
Price: US $ 117.00 / Dfl. 205.00
ISBN 0-444-88859-4

Advances in Production Management Systems

Proceedings of the 4th IFIP TC5 International Conference - APMS'90, Espoo, Finland, 20-22 August 1990

edited by E. Eloranta

1991 xviii + 584 pages
Price: US $ 125.50 / Dfl. 220.00
ISBN 0-444-88919-1

Advanced Research on Computers in Education

Proceedings of the IFIP TC3 International Conference, Tokyo, Japan, 18-20 July 1990

edited by R. Lewis *and* S. Otsuki

1991 xvi + 362 pages
Price: US $ 111.50 / Dfl. 195.00
ISBN 0-444-88788-1

Logic and Architecture Synthesis

Proceedings of the IFIP TC10 Workshop, Paris, France, 30 May -1 June 1990

edited by P. Michel *and* G. Saucier

1991 xii + 338 pages
Price: US $ 100.00 / Dfl. 175.00
ISBN 0-444-89023-8

Data Communication Systems and Their Performance

Proceedings of the IFIP TC6 Fourth International Conference, Barcelona, Spain, 20-22 June 1990

edited by G. Pujolle *and* R. Puigjaner

1991 xiv + 500 pages
Price: US $ 131.50 / Dfl. 230.00
ISBN 0 444 88756-3

Environments for Supporting Decision Processes

Proceedings of the IFIP WG8.3 Working Conference, Budapest, Hungary, 18-21 June 1990

edited by H. Sol *and* J. Vecsenyi

1991 x + 386 pages
Price: US $ 108.50 / Dfl. 190.00
ISBN 0-444-88755-5

Information System, Work and Organizational Design

Proceedings of the IFIP TC9 Working Conference, Berlin, FRG, 10-13 July 1989

edited by P. van den Besselaar, A. Clement *and* P. Jarvinen

1991 x + 336 pages
Price: US $ 103.00 / Dfl. 180.00
ISBN 0-444-88546-3

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FUTURE IFIP MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

Council	4-8 Mar 91	Barcelona
GA	2-6 Sep 91	Harare, Zimbabwe
Council	2-6 Mar 92	Trondheim, Norway
GA	after IFIP Congress '92	Madrid
GA	before or after WW Congress '94	Hamburg

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

TC2	24-25 Jun 91	Queensland, Australia
WG2.1	late '91/early '92	Rio de Janeiro
WG2.2	Jul 91	Darmstadt, Germany
WG2.3	Sep 91	Southern France
WG2.5	mid Sep 91 (with Working Conference)	Karlsruhe, Germany
WG2.6	Mar 91	Braunschweig, Germany
	Oct 91	Vienna
WG2.8	Apr 91	Paris
TC3	29-30 Jun 91	Alesund, Norway
WG3.1	9 Aug 91 (with WC)	Santa Barbara, California
WG3.4	Jul (during WC)	Alesund, Norway
WG3.5	6 Jul (after WC)	Alesund, Norway
TC5	8 Sep 91 (with CAPE '91)	Bordeaux
WG5.3	5 Jun 91	Nancy, France
WG5.4	Oct 30-1 Nov. 91 (with Conf.)	Trondheim, Norway
WG5.7	11 Nov 91	Bremen, Germany
TC6	24-25 May 91	Tunis
	21-22 Nov 91 (with COMTAP)	Sydney
	20-21 Mar 92	Helsinki
	24-25 Sep 92	Nice
	Mar 93 (with Conf.)	Capetown
WG6.1	18-20 Jun 91 (with Conf.)	near Stockholm
WG6.4	18-20 Mar 91 (with Conf.)	Aachen, Germany
WG6.5	22 May 92 (during Conf.)	Vancouver, Canada
TC7	2-6 Sep 91 (with WC)	Zurich
TC 8	25-26 Aug 91	Helsinki
	5-6 Sep 92	Madrid
WG8.1	1 Nov 91 (during Conf.)	Quebec City
WG8.3	10-12 Sep 91 (with WC)	Canterbury, U.K.
WG8.4	10-12 Sep 91 (with WC)	Canterbury, U.K.
TC9	29-30 Jun 91	Tampere, Finland
	5-6 Sep 92 (during Congress '92)	Madrid
WG9.2	3-4 Aug 91 (summer school)	Brighton, U.K.
WG10.4	28 Jun-1 Jul 91	Quebec City
	Jan 92	Hawaii
	Jun 92	Cape Cod, Massachusetts
	Jan 93	9
	Jun 93	Sweden
TC11	13-14 May 91 (before Conf.)	Brighton, U.K.
WG11.5	13-15 May 91 (before Conf.)	Brighton, U.K.

• Some meetings are scheduled in conjunction with Working Conferences, for which the conference dates are listed.

Will TC and WG chairmen kindly keep the Secretariat advised of the dates and locations of their future administrative meetings and also send a copy of the minutes to the Secretariat.

TC6 SUMMARY continued from page 6

protocols, message headers, error correction codes, and other features. If one manufacturer's equipment is to communicate with that of another, it is essential that they adhere to the same standards. Although **IFIP** is not in the business of establishing international standards, TC6 has had notable success in "pre-standards consensus generation," preparing standards for adoption by international standards organizations. Much of the basis of the Seven-Layered Open System Interconnection (OSI) Model came from the work of WG6.1 in the seventies. Work in the eighties by WG6.5 on MHSs provided the basis for the X.400 series of standards of CCITT (International Telegraph and Telephone Consultative Committee). More recently, WG6.6 has produced a description of user requirements for network management that has generated interest among several standards organizations.

TC6 is constantly evolving and examining technical areas, to see what new work to start. Its original concerns were in the areas of packet-switching. Then, it studied OSI protocols. Now its interests are much broader. At present, it appears that broadband communication may become a major new area of study. A significant conference on this topic is planned for '92 or '93 in Denmark.

Whatever may be the direction of TC6 in the years ahead, we expect it to remain as active as it is now and as much a contributor to the technical vitality of **IFIP.** ■

CALLS FOR PAPERS

Fourth WG7.5 Working Conf. on Reliability and Optimization of Structural Systems
11-13 Sep 91, Munich
extended abstracts due: 15 Mar 91
contact: Prof. P. Thoft-Christensen
Dept. of Building Technology and Structural Eng.
Univ. of Aalborg
Sohngaardsholmsvej 57
DK-9000 Aalborg, Denmark

Twelfth Annual Intl. Conf. on Information Systems
16-18 Dec 91, New York
papers due: 15 Mar 91
contact: Prof. Gerardine DeSanctis
Carlson School of Management
Univ. of Minnesota
271 19th Ave. South
Minneapolis, MN 55455, U.S.A.
tel: 1 (612) 624-8562
fax: 1 (612) 624-6374
e-mail: DESANCTIS@UMNACVX

WG8.1 Working Conf. on Information System Concepts
13-15 Apr 92, Alexandria, Egypt
papers due: 16 Aug 91
contact: Eckhard D. Falkenberg
Dept. of Information Systems
Univ. of Nijmegen
Toernooiveld 1
NL-6525 ED Nijmegen, The Netherlands
e-mail: ef@cs.kun.nl
fax: 31 (80) 553450

Seventh IFAC/IFIP/IFORS/IMACS/ISPE Symp. on Information Control Problems in Manufacturing Technology — INCOM'92
25-28 May 92, Toronto
papers due: 30 Aug 91
contact: Mrs. Nicole Leger
INCOM '92
National Research Council Canada
Montreal Road
Ottawa, Ontario, Canada K1A 0R6
tel: 1 (613) 993-9431
fax: 1 (613) 957-9828
telex: 053-3145

WG5.3 Conf. PROLAMAT'92
24-26 Jun 92, Tokyo
abstracts due: 30 Sep 91
contact: Conference Secretariat — PROLAMAT'92
c/o Japan Society of Precision Engineering
Ceramics Building, Hyakunin-Cho 2-22-17
Shinjuku-ku, Tokyo 169, Japan
tel: 81 (3) 3362 4030
fax: 81 (3) 3367 0994

TC6 Intl. Conf. on Information Networks and Data Communication — INDC-92
16-19 Mar 92, near Helsinki
papers due: 1 Oct 91
contact: Martti Tienari
Univ. of Helsinki
Teollisuuskatu 23
SF-00510 Helsinki, Finland
tel: 358 (0) 708 4175
fax: 358 (0) 708 4441
telex: 122 785 tsk SF
e-mail: tienari@cs.helsinki.fi

Seventh World Congress on Medical Informatics — MEDINFO 92
6-10 Sep 92, Geneva
papers due: 15 Nov 91
contact: MEDINFO 92 Administrative Office
Symporg SA
108, route de Frontenex
CH-1208 Geneva, Switzerland
tel: 41 (22) 786 37 44
fax: 41 (22) 786 40 80 ■

CHANGES IN IFIP

NEW APPOINTMENTS

GA REPRESENTATIVES

Mr. I. Staikos (Greece)
(succeeding N. Dimitriadis)

Mr. T. Odegbami
Computer Association of Nigeria (CAN)
P.O. Box 4800
5, Akinhanmi Street
Surulere, LAGOS, Nigeria
(succeeding Prof. S.B. Jaiyesimi , who remains representative of the 'West African Regional Computer Society [WARCS])

NEW CORRESPONDING MEMBER

ETAN (Yugoslav Committee for Electronics and Automation)
P.O. Box 356
YU-11001 BELGRADE, Yugoslavia

TC AND WG OFFICERS

TC3 chairman: Mr. P. Bollerslev
Rojlevangen 40
DK-2630 TAASTRUP, Denmark
tel: 45 (31) 925441
fax: 45 (31) 925302

TC3 vice-chairmen:
Prof. R.M. Aiken
Dept. of Computer Science and Information
Bldg. 038-24
Temple University
Philadelphia, PA 19122, U.S.A.
and
Prof. Dr. R. de Caluwe
Seminarie en Laboratorium voor Informatica
Grote Steenweg Noord 2
B-9710 GENT (Zwijnaarde), Belgium

TC3 secretary: Mr. B. Samways
Birmingham Education Centre
Margaret Street
BIRMINGHAM, B3 3BU, U.K.
(succeeding Prof. G. Wiechers)
(In the previous ***IFIP*** *Newsletter,* Mr. Samways was erroneously denoted TC3 vice-chairman.)

WG8.4 secretary for North America:
Prof. D. Vogel
Dept. of Management Information Studies
College of Business and Public Administration
The University of Arizona
Tucson, AZ 85721, U.S.A.
e-mail: Vogel@arizmis.bitnet
(succeeding Dr. W. Lamersdorf)

WG8.4 secretary for Europe: E. Shuterland
Univ. of Stirling
STIRLING, Scotland FK9 4LA
(succeeding Dr. W. Lamersdorf)

WG9.4 acting secretary: Mr. M. Korpela
University of Kuopio
Computing Centre, PL 6
SF-70211 KUOPIO, Finland
tel: 358 (71) 162211
fax: 358 (71) 225566

NEW TC AND WG MEMBERS

TC3: Mr. G. Vidal-Naquet (F)
(succeeding Prof. Hebenstreit)
P. Waker (ZA)
TC6: Prof. S.V. Raghavan (IND)
TC8: Dr. St. Dimitrov (BG)
(succeeding R. **Angelinov)**
TC11: Mr. V. Bontchev (BG)
(succeeding Dr. L. Berov)
Mr. J. Carlsen (DK)
Dr. F.B. Fortrie (NL)
(succeeding J. Hekkelman)
TC12: Dr. E. Hollnagel (DK)
Mr. K.D.R. Moore (GB)
TC13: **Mr. J.** Rasmussen (DK)

WG3.1: F.R.i Tarrago (E)
D. Watson (GB)
WG3.5: Ms. T. Downes (AUS)
WG9.6: Mme. Ch. Pirat (F)
Mme. A. Rosa (I)
Dr. C. Sarzana (I)
Prof. Dr. L. Sieber (D)
WG10.3: Dr. Th. Bemmerl (D)

SISTER SOCIETY

IFAC president: Prof. B.D.O. Anderson
Dept. of Systems Engineering
Australian National University
Research School of Physical Sciences
P.O. Box 4
CANBERRA, ACT 2600, Australia
fax: 61 (6) 2492698

RESIGNATION

South East Asia Regional Computer Confederation (SEARCC) representative for TC6, Dr. J.F.P. Luhukay

CONSOLIDATION

There is now a single German Full Member society in **IFIP,** Gesellschaft fur Informatik, represented by Prof. Dr. W. Brauer. Prof. Dr. V. Kempe, who represented the Academy of Sciences of the German Democratic Republic, has withdrawn from his positions in **IFIP.**

ADDRESS AND OTHER CHANGES

TC6 vice-chairman: Prof. Dr. 0. Spaniol
tel: 49 (241) 8021400 or 804539
fax: 49 (241) 806295
telex: 0832704 thac d
home tel: 49 (241) 574590
e-mail: spaniol@
ruthinf .uucp.informatik.rwth-aachen.de

WG6.5 vice-chairman: Mr. Ch. Huitema
INRIA Sophia-Antipolis
2004 Route des Lucioles
B.P. 109
F-06561 VALBONNE CEDEX, France
tel: 33 (93) 657715
fax: 33 (93) 657766
telex: 970050 F
e-mail: Christian.Huitema@mirsa.inria.fr

WG6.6 co-chairman: Ms. Kim Kappel
e-mail: kappel@hydra.gatech.edu

WG6.6 co-chairman: Ms. Jil Westcott
tel: **1** (617) 873-3148
fax: 1 (617) 873-3776
e-mail: westcott@bbn.com

WG8.5 vice-chairman: Mr. B.K. Brussard
Faculty of Math. and Informatics
Dept. of Information Systems
Delft University of Technology
P.O. Box 356
Julianalaan 132
NL-2600 AJ DELFT, The Netherlands
tel: 31 (15) 784475
fax:31 (15) 786632

WG9.3 chairman: Drs. Felix van Rijn
Vakgroep Sociaal Wetenschappelijke Informatica
Universiteit van Amsterdam
Roetersstraat 15
1018 WB AMSTERDAM, The Netherlands
tel: 31 (20) 5256789
31 (20) 6641342 (home)
fax:31 (20) 5256896
e-mail: [illegible]

TC13 chairman: Prof. B. Shackel
e-mail: shackel@lut.ac.uk

Specialist Group on Foundations of Computer Science **chairman:** Prof. J. Gruska (on sabbatical for 2 years)
Office address:
Fachbereich Informatik
Universitat Hamburg
Rothenbaumchaussee 67/69
D-W 2000 HAMBURG 13, Germany
tel: 49 (40) 4123 5684 or 5672 (secy.)
fax:49 (40) 4123 6122
e-mail: gruska@rosun1.informatik.uni-hamburg.de
Home address:
Sievekingsallee 82
D-W 2000 HAMBURG 26, Germany
tel: 49 (40) 2102710

To Organizers of **IFIP** Conferences:
Please send several copies of your Calls for Papers to the **IFIP** Secretariat, in order that the staff may be able to handle queries.

National Abbreviations Used in Newsletter

AUS	Australia	F	France	P	Portugal
B	Belgium	GB	United Kingdom	S	Sweden
BG	Bulgaria		Italy	SEARCC	South East Asia Regional Computer Confederation
CDN	Canada	IND	India	SF	Finland
CH	Switzerland	IRL	Ireland	USA	U.S.A.
D	Germany	J	Japan	ZA	South Africa
DK	Denmark	N	Norway		
E	Spain	NL	The Netherlands		

TECHNICAL COMMITTEE CHAIRMEN

TC2:	***P. C.*** Poole	AUS 89-92
TC3:	P. Bollerslev	DK 91-94
TC5:	M. Tomljanovich	I 88-91
TC6:	R.P. Uhlig	USA 88-91
TC7:	P. Thoft-Christensen	DK 89-92
TC8:	G.B. Davis	USA 89-92
TC9:	K. Brunnstein	D 89-92
TC10:	G.L. Reijns	NL 89-92
TC11:	W.J. Caelli	AUS 88-91
TC12:	R.A. Meersman	NL 89-92
TC13:	B. Shackel	GB 89-92

CALENDAR OF EVENTS

(continued from page 16)

Event	Date	Location	Sponsored by
Work. Conf. on *Security and Reliability in Distributed Systems*	18-20 Sep 91	Prince Edward County, Canada	WG10.3/ Inf. Tech. Rsch. Cent., Toronto
Work. Conf. on *Programming Environments for High-Level Scientific Problem-Solving*	23-27 Sep 91	Karlsruhe	WG2.5
Fourth Work. Conf. on *Intelligent CAD*	30 Sep-3 Oct 91	Columbus, Ohio	WG5.2
Intl. Conf. on *CAD/Computer Graphics — CAD/GRAPHICS '91*	30 Sep 91	Hangzhow, China	Chinese Comp. Fed./ WG5.10
Second Workshop on *Distributed Databases in Real-Time Control*	9-13 Oct 91	Rydzyna, Poland	IFAC/ TC5
Intl. Purdue Workshop on *Industrial Computer Systems*	21-24 Oct 91	West Lafayette, Indiana	WG5.4/ Purdue
Work. Conf. on *The Object-Oriented Approach in Information Systems*	28-31 Oct 91	Quebec	WG8.1
Work. Conf. on *Management of Complex One-of-a-Kind Production*	12-14 Nov 91	Bremen	WG5.7
Work. Conf. on *Process Planning for Complex Machining with AI Methods*	27-29 Nov 91	Dresden	WG5.3
Twelfth Annual Intl. Conf. on *Information Systems*	16-18 Dec 91	New York	ICIS/SIM TIMS ACM TC8
Work. Conf. on *Stochastic Programming: Stability and Numerical Methods*	1 Mar 92	Wendisch-Rietz, Ger.	WG7.7/ Humboldt Univ.
Fourth Intl. Conf. on *Information Networks and Data Communication*	16-19 Mar 92	Espoo, Helsinki	TC6
Intl. Purdue Workshop on *Industrial Computer Systems*	6-9 Apr 92	West Lafayette, Indiana	WG5.4/ Purdue
Work. Conf. on *Stochastic Optimization: The State of the Art*	12-19 Apr 92	Havana	WG7.7/ Univ. of Havana
Work. Conf. on *Information System Concepts — Improving the Understanding — ISCO*	13-15 Apr 92	Alexandria, Egypt	WG8.1
Eighth Intl. Conf. on *Computer Security* — IFIP/SEC *'92*	30 Apr 92	Singapore	TC 11
Seventh Symp. on *Information and Control Problems in Manufacturing — INCOM '92*	25-28 May 92	Toronto	IFAC/ TC5
Fifth Symp. on *Man-Machine Systems*	9-11 Jun 92	The Hague	IFAC/ TC5
Eighth Conf. on *Software for Discrete Manufacturing — PROLAMAT'92*	24-26 Jun 92	Tokyo	WG5.3/ IFAC
Work. Conf. on *Professional Development of Information Technology*	1 Jul 92	Singapore	WG3.4/ Singapore Comp. Soc.
Fifth Work. Conf. on *Engineering for Human Interaction*	10-14 Aug 92	Ellivuori, Finland	WG2.7
Seventh Conf. on *Dynamic Modelling of National Economies*	18-20 Aug 92	Beijing	IFAC/IFORS **HASA IFIP**
Seventh World Congress on *Medical Informatics — MEDINFO '92*	6-10 Sep 92	Geneva	**IMIA**
IFIP Congress '92 — Twelfth World Computer Congress	**7-11 Sep 92**	**Madrid**	**IFIP**
***ICCC** '92*	27 Sep-2 Oct 92	Genoa	**ICCC**
Geometric Modelling	31 Dec 92	Budapest	**TC5**
Eleventh IAPR Open Conf. on *Pattern Recognition*	92	The Hague	**IAPR**
Conf. on *Feature Modelling and Recognition for CAD/CAM Systems*	31 Jan 93	Valenciennes, France	WG5.3/ AFCET
Work. Conf. on *Computational Techniques of Stochastic Programming*	1 Feb 93	Seregelyes, Hungary	WG7.7/ IFAC
Workshop on *Knowledge-Based Hybrid Systems in Manufacturing*	1 Apr 93	Genoa	WG5.3
Ninth Intl. Conf. on *Computer Security* — IFIP/SEC *'93*	1 May 93	Canada	TC11
Work. Conf. on *Computer-Based Training and Hypermedia in Vocational Education*	1 Jul 93	Soest, Germany	WG3.4
VLSI '93	31 Jul 93	Grenoble	WG10.5
Work. Conf. on *Statistical Aspects of Stochastic Programming*	31 Jul 93	Prague	WG7.7
Thirteenth Joint Intl. Conf. on *Artificial Intelligence — IJCAII '93*	29 Aug-3 Sep 93	Chambery, France	UCAII
Workshop on *Large-Scale Stochastic Programs: Applications and Solutions*	1 Oct 93	Yalta, U.S.S.R.	WG7.7
Conf. on *Network Information Processing Systems*	12-14 Oct 93	Sofia	TC6/Bulgarian Acad. of Sci.
Twelfth *IFAC Congress*	93	Sydney	IFAC
Workshop on *Stochastic Methods and Global Optimization*	1 Mar 94	Lithuania	WG7.7
***IFIP Congress '94 — Thirteenth World Computer** Congress*	29 Aug-2 Sep **94**	**Hamburg**	**IFIP**
Workshop on *Expert Systems in Computer Integrated Manufacturing*	31 Dec 94	**Kiev**	WG5.3
World Conf. on *Computers in Education — WCCE '95*	24 Jul 95	U.K.	TC3/BCS
Thirteenth *IFAC Congress*	96	San Francisco	IFAC

Please see page 13 for schedule of **IFIP** administrative meetings.
The **IFIP** Secretariat can furnish details of most of the events listed.

CALENDAR OF EVENTS

Event	Date	Location	Sponsored by
Fifth Intl. Workshop on *High-Level Synthesis*	3-6 Mar 91	Buehlerhoehe, Black Forest, Germany	ACM/SIGDA/WG10.2/10.5
Workshop on *Material Data for Computer-Aided Engineering*	19-22 Mar 91	Petten, Netherlands	CEC, CODATA/ TC5
Second Intl. Symp. on *Integrated Network Management '91*	1-5 Apr 91	Arlington, Virginia	WG6.6/ IEEE
Work. Conf. on *Computer Graphics and Education '91: Goals and Direction for the Next Five Years*	4-6 Apr 91	Barcelona	WG5.10/ Eurographics, ACM Siggraph
Conf. on *Modelling in Computer Graphics*	8-12 Apr 91	Tokyo	WG5.10
Intl. Purdue Workshop on *Industrial Computer Systems*	15-18 Apr 91	West Lafayette, Indiana	WG5.4/ Purdue
Intl. Symp. on *Computer Hardware Description Languages and Their Applications*	22-24 Apr 91	Marseille	WG10. 2/IEEE/DATC, ACM/SIGDA, IMAG/ARTEMIS, GI
Workshop on *CAD/CAM Interfaces in Mechanical Engineering*	2-4 May 91	Darmstadt, Germany	TC5/ WG5.2/5.3/5.10
Work. Conf. on *Stochastic Partial Differential Equations*	3-6 May 91	Charlotte, N. Carolina	WG7.1
Work. Conf. on *Constructing Programs from Specifications*	13-16 May 91	San Francisco	WG2.1
Seventh Intl. Conf. on *Information Security* — IFIP/SEC *'91*	15-17 May 91	Brighton, U.K.	TC11
Seventeenth Workshop on *Real-Time Programming, Real-Time Software and Operating Systems*	15-17 May 91	Atlanta	IFAC/IEEE Comp. Soc. TC5
Third Conf. on *Computer Communications — AFRICOM '91 / CCDC '91*	21-23 May 91	Tunis	TC6/ ICCC
Work. Conf. on *Dependability of Artificial Intelligence Systems*	27-29 May 91	Vienna	WG5.4/ IFAC AWICS
Workshop on *Computer Software Structures Integrating AI / KBS Systems*	29-30 May 91	Bergen, Norway	IFAC/ TC5 NFA
Work. Conf. on *Change-Point Detection*	31 May 91	Vilnius, U.S.S.R.	WG7.1
Conf. on *Govermental and Municipal Information Systems*	3-6 Jun 91	Balatonfured, Hungary	WG8.5/ J. v. Neumann Soc.
Open Conf. on *Systems Application in Farm Production/Business and the Logistics of Food Supply and Marketing*	4-6 Jun 91	Budapest	WG5.9/HSSFI
Twenty-third Intl. Seminar on *Manufacturing Systems*	6-7 Jun 91	Nancy, France	CRAN/CIRP WG5.3 AFCET CNRS
Work. Conf. on *Approximations and Applications in Stochastic Programming*	17-21 **Jun** 91	Tallinn, Estonia	WG7.7/ HASA
Conf. on *Partial Evaluation and Semantics-Based Program Manipulation*	17-20 Jun 91	New Haven (Yale Univ.)	ACM SIGPLAN/ TC2
Eleventh Intl. Symp. on *Protocol Specification, Testing and Verification*	18-20 **Jun** 91	Stockholm	WG6.1/ SICS
Work. Conf. on *Human Jobs and Computer Interfaces*	26-28 Jun 91	Tampere, Finland	WG9.1
Conf. on *Women, Work and Computerization — WWC* 4	30 Jun-2 Jul 91	Tampere, Finland	WG9.1/ FIPA
Work. Conf. on *Training — from CAD to CIM*	1-5 Jul 91	Aalesund, Norway	WG3.4/Norway Royal Ministry of Ed. & R. Norway Comp. Soc.
Work. Conf. on *The Teacher and Computing: Why, What, How and When?*	1-5 Jul 91	Aalesund, Norway	WG3.5
Fifth Symp. on *Computer-Aided Design in Control and Engineering Systems*	15-17 Jul 91	Swansea, U.K.	IFAC/ TC5
Thirteenth IMACS World Congress on *Computation and Applied Mathematics*	22-26 Jul 91	Dublin	IMACS
Seminar on *Social Citizenship in the Information Age*	28 Jul-2 Aug 91	Brighton, U.K.	WG9.2
Work. Conf. on *Impacts of Informatics on the Organization of Education*	5-9 Aug 91	Santa Barbara, Calif.	WG3.1
Twelfth Joint Intl. Conf. on *Artificial Intelligence — IJCAI '91*	18-23 Aug 91	Sydney	IJCAII
VLSI '91	20-22 Aug 91	Edinburgh	WG10.5
Work. Conf. on *Collaborative Work, Social Communication and Information Systems*	27-29 Aug 91	Helsinki	TC8/ FIPA
Work. Conf. on *Shaping Organizations and Shaping Technology*	31 Aug 91	Gold Coast, Queensland, Australia	TC9/ ACS
Intl. Conf. on *Computers in Automation of Shipyard Operations — ICCAS '91*	1 Sep 91	Rio de Janeiro	WG5.6
Fifteenth Open Conf. on *System Modelling and Optimization*	2-6 Sep 91	Zurich	TC7/ AFCET IFORS OeGOR SVI/FSI SVOR/ASRO
Seventeenth Open Conf. on *Very Large Databases — VLDB '91*	3-6 Sep 91	Barcelona	VLDB
Conf. on *Computer Application in Production and Engineering — CAPE '91*	10-12 Sep 91	Bordeaux	TC5
Workshop on *Supporting Functionality in the Office Environment*	10-12 Sep 91	Canterbury, U.K.	WG8.3/WG8.4
Fourth Work. Conf. on *Reliability and Optimization of Structural Systems*	11-13 Sep 91	Munich	WG7.5
Conf. on *Information Technology for Advanced ManufacturingSystems — ITAMS '91*	17-19 Sep 91	Nanjing, Jiangsu, China	WG5.3

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IFIP Congress '92 — 12th World Computer Congress	7-11 Sep 92	Madrid	**IFIP**
IFIP Congress '94 — 13th World Computer Congress	29 Aug-2 Sep 94	Hamburg	**IFIP**

Please see page 13 for schedule of **IFIP** administrative meetings.
The **IFIP** Secretariat can furnish details of most of the events listed.