IFIP newsletter
International Federation for Information Processing

Editor:
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# IFIP SECRETARIAT TO MOVE TO AUSTRIA BY JANUARY 1995

On the basis of a recommendation by *Mr. Aage Melbye (DK),* the **IFIP** General Assembly (GA) has decided to move the **IFIP** Secretariat from Geneva, Switzerland, to Laxenburg, Austria, a quiet little town about 15 km south of the center of Vienna. In making this recommendation, *Mr. Melbye* acted in his role of consultant to **IFIP.** The reasons for moving the Secretariat are the large expenses incurred by the Secretariat in Geneva and the imminent retirement of the current Administrative Manager, *Mme. Gwyneth Roberts.*

At the **IFIP** GA in Tokyo last September, *Mme. Roberts's* retirement was announced. At the same time, the GA voted to establish the position of Secretary General, who would have the responsibility, among other matters, of evaluating the operation of the Secretariat, including its location. The Executive Board subsequently decided, however, not to hire a Secretary General at this time, but it did engage *Mr. Melbye* as consultant and assigned him, among other tasks, this evaluation. In March, he reported to the **IFIP** Council in Brussels about various aspects of the Secretariat.

The Secretariat has been located in Geneva since 1971, and *Mme. Roberts* has been in charge since 1975. The quality of the work carried out by the Secretariat, and especially by *Mme. Roberts,* has been universally praised. It is highly desirable, nevertheless, to reduce the cost of the Secretariat operation, which now accounts for 400 000 Swiss francs (CHF) annually, or ¾ of **IFIP' s** expenses. (This may sound exceedingly high; how-

*continued on page 9*

# *FIRST IFIP CONFERENCE ON SMART CARDS*

Smart cards, or integrated circuit cards, are becoming a significant part of the information processing world. They are devices, frequently the size of conventional credit cards, that contain integrated circuit chips. Smart cards can be used to perform a variety of computer-related tasks in areas such as financial transactions and personal-database activities. They are beginning to move towards true integration into information systems, participating in the overall data management, security, and communication processes. It is very likely that future IC cards will require many scientific and technical improvements, which represent a challenge for their success.

Meetings have been held on IC cards, but most have been devoted to the commercial and application aspects of the cards. **IFIP** is now sponsoring a scientific conference to bring together specialists who are involved in all aspects of design of future IC cards and related devices and environments: the first Smart Card Research and Advanced application Conference (CARDIS 94), which will take place 24-26 October in Lille, France. Themes of the Conference will be

- technology
- software
- IC card design
- security
- IC cards, individuals, and society
- future of IC cards
- innovative applications.

The Conference will also provide the first occasion for the IC card community to start a permanent activity: In addition to the Conference itself, there will be discussions about creating a permanent group within **IFIP** (possibly a Specialist Group) for advancing standards, publishing, and international cooperation.

CARDIS 94 is the culmination of an effort started in 1991 by *Prof. Vincent Cordonnier (F),* who has led an **IFIP** Task Force on Smart Cards. He is general chairman of the Conference. For further information, one may contact him as follows:

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

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# *1994 IFIP COUNCIL MEETS IN BRUSSELS*

## *Major Decisions Reached*

In the chandeliered ballroom of the Royal Military School in Brussels, Belgium, the **IFIP** Council met 2-3 March, preceded by three days of related meetings. *Mr. Jean Navez,* president of F.A.I.B.—F.B.V.L, the Belgian Member society, and its representative to **IFIP,** pointed out to the Council that this was the 25th anniversary of the previous **IFIP** Council meeting in Belgium. Also welcoming the Council in behalf of F.A.I.B.—F.B.V.I. was its secretary, *Prof. Paul Gennart.* In addition, the Council was greeted by *Mr. Michel Bosca* of the Commission of European Communities, who welcomed the participants to Brussels, "the capital of Europe."

In his opening remarks to Council, **IFIP's** president, *Prof. Asbjørn Rolstadås (N),* asserted that **IFIP** must change to adapt to the changing industrial environment of the world. He said, "Bearing in mind that the main **IFIP** 'products' are conferences and publications, we should realize that the current needs of industry are different from those that were valid when **IFIP** was established...Can we stand up to the challenge this represents and carefully examine our operation and organization to initiate a positive trend in **IFIP's** development?" As a first step, he presented memoranda, in advance of the Council meeting, on a variety of topics, including structure of **IFIP's** technical operations (described in an article on page 9), and **IFIP's** membership (page 10), to stimulate discussion and start the process of change.

Among the other key topics discussed during the four days were publication plans and the new primary **IFIP** publisher (page 7), the decision to move the **IFIP** Secretariat to Laxenburg, Austria (page 1), the IFIP Code of Ethics (page 9), the role **of** the **IFIP** Secretary General (page 4), and the future of **IFIP** Congresses.

### Technical Activities

At the heart of the meetings was the discussion of **IFIP's** technical activities. *Prof. Martti Tienari (SF),* chairman of the Activity Management Board, reported that **IFIP** sponsored 84 events in 1993; it was full sponsor or main sponsor of 61 of these (approximately the same numbers as in 1992). Of the 84 events, 65% were held in Europe, somewhat under 20% in North America, and slightly over 10% in Asia and Australia. Three new Working Groups (WGs) were approved by the Technical Assembly (TA): Transfer and Diffusion of Information Technology (WG8.6), Computer-Aided Systems Theory (WG10.1), and Microsystems (WG 10.7).

Among the many activities reported at the Council were the following: the Technical Committee on Education (TC3) has delivered two major studies to UNESCO, *Informatics for Secondary Education* and *Telecommunication Technologies in Distance Education,* which are expected to be distributed world-wide by UNESCO, especially to developing countries; the WG on Computer Graphics and Virtual Worlds (WG5.10) has expanded its activ-

ities to include areas such as virtual reality, animating virtual worlds, and modeling and animating for medical applications.

Also, the TC on Information Systems (TC8) has prepared a videotape containing lectures by representatives of its five WGs and used this to promote a TC8 conference and for general educational purposes; the WG on History of Computing (WG9.7) is preparing three sessions on this topic for **IFIP** Congress '94 in Hamburg; *Prof. Brian Shackel (GB),* chairman of the TC on Human-Computer Interaction (TC13), was granted funds by the **IFIP** Developing Countries Support Committee to deliver a paper, *The Business Case for Ergonomics in Information Technology,* at the 1993 conference of the South East Asia Regional Computer Confederation (SEARCC), an Affiliate Member of **IFIP;** the WG on User Interface Engineering (WG2.7) is now officially linked to TC13; and Specialist Group SG15 has changed its name to Fractals *and Chaos,* to reflect its expanding scope (the Council voted to maintain the provisional status of SG15).

## Finances

Council was pleasantly surprised when **IFIP's** treasurer, *Mr. Aage Melbye (DK),* announced **that** the net financial result for 1993 was a very small deficit, less than 2000 Swiss francs (2K CHF), compared with the deficit of 90K ± 25K CHF that was predicted at the September 1993 General Assembly. (The financial situation was helped by better-than-expected returns on IFIP's investments.) This was a definite improvement over the deficit for 1992 (27K CHF), although not as good as the net income of the previous 3 years, which ranged from 150K to 210K CHF. The 1994 budget allows a deficit of 60K CHF, with significant expense attributed to the part-time Secretary General, or consultant (see page 4). The budget also anticipates income of 30K CHF from institutional donors, for which no solicitations have yet been made, and income from technical events that is 80K CHF greater than last year's. On the other hand, this year's deficit may be partly alleviated by a transfer of funds from an account managed by TC 10, and greater royalties than expected. After 1995, which will include expenses associated with relocating the Secretariat (see page 1), there should be reductions in administrative expenses.

## Other Activities

The topic of e-mail was discussed at the Council meeting, as it has been at prior meetings. The opinion was expressed that all GA representatives should be able to communicate via the Internet, especially Council members. It was noted that some WG meetings are held by e-mail. *Mr. Howard Funk (USA),* an **IFIP** vice-president, prepared a primer describing how to access the Internet, an international computer network, from many nations around the world. Copies (on diskette, as hardcopy, or via e-mail) are available to members of the **IFIP** community from *Mr. Funk:*

tel: 1 (914) 232-9375
fax: 1 (914) 232-3530
e-mail: funk@vnet.ibm.com

*Prof. Shackel* announced that he had prepared a handbook for TC13. It is of general interest, and those who would like a copy can get one from the **IFIP** databases or the Secretariat. All TC chairmen should study it. Another newly available document is the latest version of *What Is **IFIP?,*** which is also available from the databases or the Secretariat.

The topic of IFIP Summer Schools came up for discussion, but the consensus was that such activities are similar enough to seminars that no special policy need be developed for them. Several speakers stressed the importance of involving the Member societies of the countries in which such event are held in their planning. This principle, of course, is appropriate for all **IFIP** events.

*Prof. Heinz Zemanek **(A),*** **an** Honorary Member and previous president of **IFIP,** spoke in his role as **IFIP** Historian. He has been asked **by** *President Rolstadås* to prepare a successor volume to ***A Quarter** Century of **IFIP.*** published by Elsevier/North-Holland in 1985. He solicited both suggestions and contributions from the **IFIP** community. At present, publication in 1994 is anticipated.

## Future IFIP Congresses

*Professors Prem Gupta (IND)* and *Ashley Goldsworthy (AUS),* chairmen of the **IFIP** Congress '96 International Program Committee (IPC) and Organizing Committee, respectively, reported to the TA and Council on the progress of that Congress, to be held in Canberra, Australia. *Prof. Gupta* asked for assistance with his task, to which *Prof. Rolstadås* responded by appointing *Prof. Egon Hörbst (D),* chairman of TC10, as co-chairman of the IPC. We shall print a biography of *Dr. Hörbst* in a future ***IFIP** Newsletter.*

A lively discussion took place at Council concerning the nature and frequency of future Congresses. Should they be comprised of a multiplicity of specialized "tracks," as most prior Congresses have been? Should they be "umbrellas" for separate conferences organized by TCs, sharing opening and closing sessions and social events at the same venue? Should TCs have a major role in planning Congress programs? Should all papers be invited? Are large Congresses with broad scopes anachronistic? Should Congresses be treated as the "flagship events of **IFIP"** and be subject to scrutiny by Council and GA — more so than some even-larger **IFIP** events — or should they be treated with "benign neglect"? Should **IFIP** retain the newly instituted biennial Congress or return to the triennial cycle of the past? (Since a Congress is already planned for Budapest and Vienna in 1998, any such change in schedule would take effect no earlier than the year 2000.)

The Organizing Committee for Congress '98 spoke about a competition that will be held in Austria and Hungary to design a logo for the Congress. Also, it is likely that a special postage stamp will be issued for the occasion. This event, unlike its predecessors, will occupy only 3 days for the Congress itself.

**IFIP** Congress '94 is discussed in an article on page 5.

Invitations to hold the March 1995 Council meeting in Washington, D.C. or New York City, and the March 1996 Council in South Africa were accepted. The Canadian Member society extended an invitation to hold the September 1995 GA in Calgary; this will be decided at the 1994 GA in Hamburg.

The Council was adjourned, with many thanks to the Belgian hosts, who made the participants feel very welcome, despite the recent **IFIP** discouragement of extensive "hospitality." Especial thanks were given to *Mr. Navez* and *Prof. Gennart,* who remained at the venue during most of the week to assist Council.

## FAREWELL AND THANKS TO MRS. RUTH LAWSON

We regretfully say farewell to *Mrs. Ruth Lawson,* who has worked for the **IFIP** Secretariat since 1988. Because of the imminent move of the Secretariat to Laxenburg, Austria, she sought and found new employment in Geneva, beginning in May, in a medical research communication department. We thank her for her cheerful spirit and hard work in behalf of **IFIP.** We miss her and wish her good luck in her new job.

## *CONFERENCE ON OPEN DISTRIBUTED PROCESSING*

Advances in computer networking have allowed computer systems across the world to be interconnected. Despite this, the heterogeneity in interaction capabilities prevents interworking between systems. Open Distributed Processing (ODP) is an emerging technology that is, attempting to solve the software-interaction problem by proposing a common framework for distributed systems. ODP systems are those that support heterogeneous distributed processing, both within and between autonomous organizations.

Progress within the field of ODP advances at such a rate that regular forums for information exchange are a necessity for anyone interested in this area of enquiry. The opportunity for interaction between academia and industry representatives is of particular importance to both the application of ODP technology in industry and the future direction of ODP research. As a result, IFIP's Technical Committee on Communication Systems (TC6) is organizing an international conference on Open Distributed Processing (ICODP) in Brisbane, Australia, 20-24 February 1995. One of the aims of ICODP'95 is to bring together representatives from both sectors to discuss the topic "Achieving Open Distributed Systems — Experiences with Distributed Environments."

The Conference organizers encourage contributions that focus on the relevance of ODP technology to achieve specific application. In addition to papers addressing the Conference theme, contributions are sought in all areas pertinent to open distributed processing, either as "papers" or as "position statements." Presented papers will be published by Chapman & Hall, the new **IFIP** publisher. Position statements will provide seeds for debate and discussion.

The chairpersons of the ICODP'95 International Program Committee are *Dr. Kerry Raymond (AUS), Mr. Jan de Meer (D),* and *Dr. Jacob Slonim (CDN). Ms. Elizabeth Armstrong (AUS)* is chairperson of the Organizing Committee.

An address for submitting papers or position statements, or for other information is given in the Calls for Papers column on page 13.

## *COMPUTERS FOR HANDICAPPED PERSONS*

The 4th International Conference on Computers for Handicapped Persons (ICCHP '94) will be held in Vienna, Austria, 14-16 September 1994. The contributions will describe new microelectronic systems for disabled persons and report on ongoing research programs and practical applications. Topics of interest include (but are not restricted to) the following:

- State-of-the-art computer use for handicapped and elderly persons
- Technical support in primary and higher education
- Future outlook for computer applications and microelectronic aids in rehabilitation
- Preparation, input, and presentation of data, text, and graphics
- Telecommunications and telenetworks for handicapped and elderly persons
- Impact of computer technology on the vocational situation of handicapped persons
- Supporting families with handicapped and/or elderly family members

In addition to the three days of the regular Conference, a number of introductory seminars covering aspects of the Conference topic are planned for 13 September. Also, a product and project exhibition will be held 13-16 September.

ICCHP '94 is organized by the Austrian Computer Society, a Member society of **IFIP,** and the Vienna University of Technology. **IFIP** is one of the "supporting" organizations. The Program Committee is chaired by *Dr. Wolfgang Zagler* **(A),** and the Organizing Committee is chaired by *Dr. Walter Grafendorfer (A),* an **IFIP** trustee.

For further information, please contact

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## SECRETARY GENERAL WON'T BE APPOINTED UNTIL SEPTEMBER 1995

*Consultant Appointed in the Interim*

As was reported in the March ***IFIP*** *Newsletter* (page 2), the plans for **IFIP** to hire a part-time Secretary General have been deferred. Instead, the Brussels Council approved in March the Executive Board's proposal to retain *Mr. Aage Melbye (DK),* **IFIP's** treasurer, as a consultant through the General Assembly in September 1995, to carry out many of the tasks that the Secretary General would have performed. In particular, he will oversee the move of the Secretariat to Laxenburg, Austria (see the article on page 1).

*Mr. Melbye* reported to the Council his perspective of the Secretary General's major responsibilities: improved internal operations, increased external understanding of **IFIP,** and improved finances. He views the Secretary General as a facilitator of operations, assisting all **IFIP** entities to improve their performance. On the other hand, he does not perceive the Secretary General as manager of the Secretariat (an Administrative Manager will continue to be employed) nor a "traveling salesman" to promote **IFIP** to the outside world. *Mr. Melbye* stressed these roles of the Secretary General: improving communication within **IFIP** as well as between **IFIP** and its Member societies; oversight of the necessary changes in the Secretariat, including the move to Laxenburg, hiring a new Administrative Manger, and upgrading the office technology; and increasing income from technical events. The Executive Board stated its view that the Secretary General should be heavily involved in the relationship of **IFIP** with external organizations [e.g., Member societies, UNESCO, and the Council of European Professional Informatics Societies (CEPIS)].

In the interim, *Mr. Melbye* will be responsible for the move of the Secretariat, which is planned for January 1995, and the myriad related activities. A Secretary General will be hired before the September 1995 General Assembly. ■

### National Abbreviations Used in Newsletter

| | | | | | |
|---|---|---|---|---|---|
| A | Austria | F | France | NL | The Netherlands |
| AUS | Australia | GB | United Kingdom | PL | Poland |
| B | Belgium | H | Hungary | RUS | Russia |
| CDN | Canada | I | Italy | S | Sweden |
| CH | Switzerland | IL | Israel | SF | Finland |
| CZ | The Czech Republic | IND | India | SGP | Singapore |
| D | Germany | IRL | Ireland | TN | Tunisia |
| DK | Denmark | J | Japan | USA | U.S.A. |
| E | Spain | N | Norway | ZW | Zimbabwe |

# THREE MONTHS LEFT UNTIL IFIP CONGRESS '94

Less than 3 months remain before the opening of **IFIP** Congress '94 — the 13th World Computer Congress — which will take place in Hamburg, Germany, 28 August – 2 September. An exciting program is planned, both in the scientific program and the other activities. The opening session, on Monday, will feature addresses by noted German industrialists. Also scheduled is the presentation of the first *Isaac L. Auerbach* Award for extraordinary service in support of **IFIP** in its mission, in honor of *Mr. Auerbach (USA),* the founder and first president of **IFIP,** whose widow will attend the presentation. This will be followed by the keynote session, at which three noted speakers will discuss "Impact of Investment Strategies on Computer and Communications Utilization": *Mr. Morihiko Hiramatsu,* Governor of the Oita Prefecture in Japan, *Dr. Vinton Cerf (USA),* former manager of the Internet, and *Dr. Albert Strub,* Chief Advisor to the Information Technology Program of the European CommisSion.

## Expert Speakers

The Monday afternoon program will feature invited experts, as follows:

Track 1: Hardware and Software Technology
- Y. Yamamoto (USA): *Physical Limits for Computing and Communication*
- D. Farber (USA): *State of the Art in Computing and Communication*
- A. Peled (IL): *State of the Art in Interaction Technologies*

Track 2A: Computer and Communications Applications — New and Important Applications
- I. W. Moehlenbrink (D): *Integrated Traffic Management*
- *Important Satellite Applications*
- Calis (NL): *Personal Telecooperation Assistance*

Track 2B: Computer and Communications Applications — Modern Application Design Methods
- S. Harish (USA): *Vendor Independent Platforms for Application Design*
- M. Kyng (DK): *Experience with Participative Application Development*
- *User Interface Design for Collaborative Applications*

Track 3A: Social Impacts of Computers and Communications — International Developments
- T. Thahane (World Bank): *Technological and Communications Revolution — a Critical Dimension of Development*
- J. Guenther (F): *Private Telecommunication in Eastern Europe*

Track 3B: Social Impacts of Computers and Communications — National Developments
- R. Katz (USA): *Reengineering Government through Information Technology*
- S. Mosdorf (D):, *Opportunities and Risks of a New Technological Infrastructure for the 21st Century in a Boarderless World Economy*

Track 3C: Social Impacts of Computers and Communications — Vulnerable Application
- 0. Reinhoff (D): *Health Informatics as a Methodology and the Fragmented Health Care Market*
- S. S. Mandil (World Health Organization): *The Impact of Informatics and Telematics Support on Health Care in Developing Countries*

Track 3D: Social Impacts of Computers and Communications — Education
- T. van Weert (NL): *Education and Computers: Who Is in Control?*
- P. Jaervinen (SF): A *Learning Environment as a Response to Challenges in Computer and Communications Education*

Track 4: Theoretical Foundations of Computing
- R. Milner (GB): *Computing Is Interaction*
- J. Hartmanis (USA): *The Structure of the Complexity of Computation*
- A. Wigderson (IL): *The Wonders of the Digital Envelope — a Crash Course in Modern Cryptography*
- A. Shamir (IL): *The Future of Cryptography*

Track 5: Computer and Communications for Developing Countries
- D. Bjørner (United Nations): *The UNI/HST Approach to Software Technology Transfer*
- F. Kamoun (TN): *Computer Communications for Developing Countries*
- E. Talero (World Bank): A *Demand-Driven Approach to National Policy Formulation*

The expert lectures will be followed by Meet the Expert sessions, in which delegates can join the experts in small discussion groups.

The remainder of the week will consist of technical tracks, with invited and submitted papers, panel sessions, poster sessions, workshops organized by both **IFIP** and the host society (Gesellschaft für Informatik), and the Action Agenda sessions, which have been described in previous *IFIP Newsletters.*

At the March **IFIP** Council meeting in Brussels, *Dr. Ronald Uhlig (USA),* chairman of the International Program Committee, presented some statistics concerning the geographical distribution of the invited and submitted papers. Over half of the 235 papers come from four countries: Germany (53), the U.S.A. (49), Japan (12), and the U.K. (10). This is believed to be the first time that the U.S.A. has not been the leading contributor.

One of the workshops, on European pioneers in computing, will include talks by many famous founders of our field, including the renowned *Prof. Konrad Zuse (O).* Another workshop, as well as sessions in Track 3B, will focus on computers, media, and arts, and a concert of computer music will be performed Tuesday evening.

## Tutorials

Preceding the Congress proper will be two days of tutorials, on Saturday and Sunday. They are

- OSF Distributed Computing Environment — Industry Standard for Client/Server Applications*
- Databases and Distributed Applications in Computer Networks*
- Object-Oriented System Development*
- Successful Project Management — an Executive Briefingt
- Distributed Artificial Intelligence — a Key Technology for Future Software Infrastructure*
- Heterogeneous Distributed Systems — Concepts and Strategies*
- Object-Oriented Database Systems — State of the Art, Prospects and Limitations*
- Security in Networks*
- Workflow Managementt

In addition to the technical program, there will be technical visits to the German electron synchrotron, the computerized Intercity-Express maintenance facility, the magnetic levitation train (TRANSRAPID) facility, the highly automated container terminal in the Port of Hamburg, and the Philips research laboratories. A book exhibition will be held, although the planned computer exhibition had to be cancelled, because of the state of the world economy. The social program will include a complementary get-together the Sunday evening preceding the Congress, as well as a dinner party aboard a windjammer and the Congress banquet. In addition, sightseeing tours in and around Hamburg will be available.

The Congress has been prepared by dint of the hard work of the International Program Committee and the Organizing Committee, the latter chaired by *Prof. Karl Kaiser (D).* The general chairman of the Congress is *Prof. Wilfried Brauer (D).*

Some financial assistance for delegates from developing countries to attend the

* in German
t in English

*continued on page 7*

## Who's Who in IFIP: MR. HOWARD FUNK

*Mr. Howard L. Funk,* an **IFIP** vice-president since 1991, was born in New York City. After his graduation from Washington University (St. Louis, Missouri) in 1952, he went to work for the International Business Machines Corporation, where, except for two years in military service, he stayed until June 1993. During his IBM career, he was involved in research and development in ferroelectrics, cryogenics, process control, image processing, manufacturing automation, and data communications. He spent nearly 5 years at the IBM headquarters in Paris, first as technical and marketing liaison for a U.S. division of IBM and later as the manager of special bids. He also served as technical assistant in the office of the IBM vice-president for Science and Technology.

*Mr. Funk* has been an active participant in professional society affairs since his undergraduate days at Washington University, where he served as president of the student chapter of the American Institute of Electrical Engineers (AIEE). He feels very strongly that professionals owe a debt to society, which has provided them with their education. He quotes Sir Francis Bacon on this point:

> I hold everyman a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto.

In the Society for Information Display, he served 6 years as a Director. The achievement within SID of which he is most proud was the internationalization of SID following the model he learned from his **IFIP** experience. The SID Long-Range .Planning Committee also benefited from his contributions. He has also served in a number of conference leadership positions for SID and for the Imaging Science and Technology Society.

In the American Federation of Information Processing Societies (AFIPS), he served as chair of the Government Activities Committee, vice-president, and president. In 1989, he was named by AFIPS to be the United States representative to **IFIP.** He continued in this role when FOCUS (Federation on Computing in the U.S.) replaced AFIPS as the U.S. Member of **IFIP.** He also chaired the Fiscal Oversight Committee for **IFIP** Congress '89, in San Francisco.

*Mr. Funk* and his wife Elisabeth, a professor of English at Manhattanville College, were married in her home town of Woerden, The Netherlands, in 1955. They now live in a rural suburb, about 80 km. north of New York City. Both of their daughters are married; one, the vice-president of an investment banking concern, lives in New York City, and the other, a software designer, lives in California.

## *HOME-ORIENTED INFORMATICS, TELEMATICS, AND AUTOMATION*

### WG9.3 Conference Planned for Copenhagen

**IFIP's** Working Group WG9.3 is planning an international conference on Home-Oriented Informatics, Telematics and Automation 27 June — 1 July 1994 in Copenhagen, Denmark. The background of this conference, subtitled "From 'State of the Art' through 'Prospects' and `Blueprints' to 'Implementation,— is described by the organizers as follows.

The home offers great potential for new automation, information, and communication technologies and related services. A wide array of innovations are already under way, with many more to come. They will transform the home and everyday life in the emerging information society. They will determine how private households will be enabled to function in changing social, economic, and political structures.

The main areas to be covered by the Conference are

- Advanced home technologies
- Communication and telematics
- Economics and politics of Home-Oriented Informatics and Telematics
- Cultural and social impact on everyday life

Questions to be raised and, hopefully, answered include the following:

How can these new technologies — seen together — be used to empower consumers and private households?

How can both users and suppliers get the optimal benefits from the possible new technologies?

Can these technologies contribute to the emergence of a new home concept, where the private household can reestablish itself as a living and production center, embedded in and interacting with a larger community?

Addressing such questions requires a multi-disciplinary approach. Therefore the Conference plans to bring together experts from many fields and disciplines. Researchers and practitioners, designers and users, policy makers and industrialists, each with new knowledge and new questions from their experience of recent and expected development. The Conference will serve as a forum not only to present and exchange experience and results of research and ideas, but also to explore and discuss strategic approaches and alliances for product research and development, and for prototyping and field experiments.

The International Program Committee is chaired *by Drs. Felix van Rijn (NL), and* the Organizing Committee is led by *Kresten Bjerg (DK).* The University of Copenhagen is involved with the Conference organization. For further information, please contact

HOIT-94
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# CHANGES IN IFIP PUBLICATIONS

## Chapman & Hall Is New IFIP Publisher

**IFIP** has appointed a new primary publisher: Chapman & Hall (C&H) of London. Starting in January 1995, **IFIP** books (with few exceptions) will be published by C&H, ending the 32-year relationship of **IFIP** and Elsevier/North-Holland, during which Elsevier has published over 500 **IFIP** books. The new arrangement is the next step in the process that began early in 1993, when Elsevier notified **IFIP** that, for financial reasons, it would not renew its publishing contract with **IFIP.** Twenty-six publishers, around the world, were then invited to bid for the **IFIP** contract; eight eventually submitted bids; and a contract was signed with C&H in February.

These are the main features of the agreement:

- C&H will accept all **IFIP** books that it judges, from a marketing viewpoint, feasible to publish; there is no limit on the number.
- C&H will propose new cover designs.
- The ***IFIP*** *Transactions* series will be discontinued.
- The contract will run for five years; either party may cancel upon advance notice of 18 months.
- Discounts will be given to members of **IFIP** Member societies.
- Attractive minimum royalties are guaranteed for the first two years. (The actual percentage royalty figure is confidential.)
- C&H will print the ***IFIP*** *Newsletter* and the *Information Bulletin* free of charge.

*Mr. Mark Hammond (GB)* will be the primary C&H liaison with **IFIP.** He and three other representatives of the publisher met with participants at the Brussels Council meeting in March. All those concerned expressed excitement over this new arrangement. The C&H representatives spoke of their willingness to experiment with new marketing approaches and book designs.

We plan to provide more information about Chapman & Hall in a future ***IFIP*** *Newsletter.*

*Prof. Wilfried Brauer (D),* chairman of the Publications Committee, pointed out that contracts for all **IFIP** books to be published in 1995 and beyond should be arranged with the new publisher. (In fact, some **IFIP** books not deemed suitable for publication by Elsevier may be published by C&H in 1994.) Although the **IFIP** Executive Board recommended at the Tokyo General Assembly in September 1993 that the publication of new journals be a key part of IFIP's publication strategy, no action has been taken in this regard; most of the Publication Committee effort has been expended in arranging the new contract. The publisher, however, is interested in exploring journal publication with **IFIP.**

### Stephanie Smit Leaves IFIP

The pleasure over the new publication arrangement was diminished by the departure from the **IFIP** community of *Mrs. Stephanie Smit (NL),* who has been involved with **IFIP** publications for Elsevier since 1974. and Administrative Editor since 1981. She was invited to attended the Brussels Council as **IFIP's** guest.

(Note: the following is taken from the **IFIP** Council minutes.)

Addressing *Mrs. Smit, Professor Asbjørn Rolstadås (N),* IFIP's President said "you have been handling our **IFIP** publication business since 1974 in a very efficient way, and your service has greatly surpassed any expectations. You are an extremely charming person, who makes things happen, and we have developed a deep friendship with you and considered you as one of the IFIP family. Your devotion to **IFIP,** including the enormous amount of time you have put into monitoring our TC chairmen and the assistence you have always given at our Council and GA meetings, will not be forgotten. I am really sorry that you are leaving us, and you will be remembered forever. We will not let you go without a token of our appreciation." The President presented *Mrs. Smit* with a Swiss-made watch. The council gave an overwhelming ovation.

The matter of electronic publishing (delivery of entire publications or parts of them from publisher to reader) was also raised at the March Council meetings. It was argued that **IFIP** should be involved in discussions currently taking place on this topic within professional societies, among publishers, and elsewhere. Many issues are involved, in the fields of traditional publication, telecommunications, computer technology, copyrights, international law, finance, and other areas. Since **IFIP** is the international federation concerned with the technologies that support electronic publishing and is eager to disseminate its publications as widely as possible, as well as to maintain the income received from these publications, it is vital that we become involved in the discourse concerning electronic publishing. It was proposed that **IFIP** organize a conference to bring together the international community to discuss all aspects of this topic. An ad hoc committee was formed, headed by *Prof. Klaus Brunnstein (D),* chairman of **IFIP's** Technical Committee on Relationship between Computers and Society (TC9), to pursue the subject. (He called the attention of Council to KnowRight '95, an International Congress on Intellectual Property Rights for Specialized Information, Knowledge and New Technologies, sponsored by the Austrian Computer Society, which will deal with many of these issues.) C&H is also interested in exploring this with **IFIP.** ■

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*CONGRESS '94 continued from page 5*

Congress is available from the **IFIP** Developing Countries Support Committee and UNESCO. Those interested should contact the DCSC chairman:

Mr. Geoff Fairall
Computer Society of Zimbabwe
P.O. Box 8385
Causeway
Harare, ZIMBABWE
tel: 263 (4) 795 021, fax: 263 (4) 725 657
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The Advance Program of the Congress — over 100 pages long — presents the astonishing variety of this Congress. To receive the Advance Program, or for other information about the Congress, please contact

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Congress Organisation
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D-20308 Hamburg, Germany
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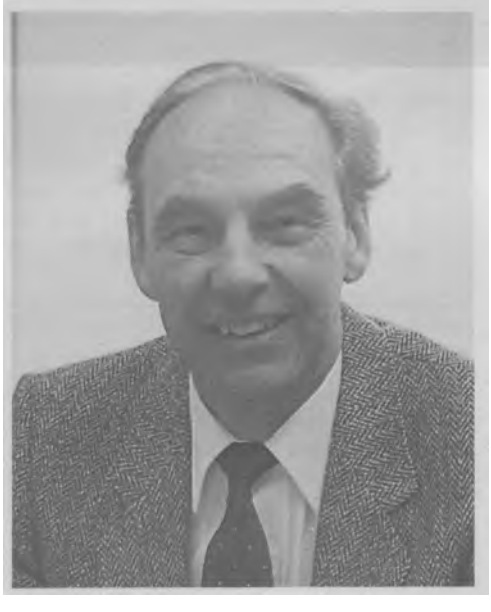
## HARTMANIS RECEIVES TURING AWARD

*Prof. Juris Hartmanis (USA),* a member of the **IFIP** Specialist Group on Foundations of Computer Science (SG14) and its Working Group on Descriptional Complexity (WG 14.2), was presented with the 1993 Turning Award by the U.S. Association for Computing Machinery (ACM) in March. The citation for this award, considered by some to be the most prestigious honor in information processing, reads as follows:

> To *Juris Hartmanis* and *Richard E. Stearns,* in recognition of their seminal joint research, which established the foundations for the field of computational complexity theory. In their paper "On the Computational Complexity of Algorithms" *(Transactions of the American Mathematical Society,* 1965), they provided a precise definition of the complexity measure defined by computation time on Turing machines and developed a theory of complexity classes. The paper sparked the imagination of many computer scientists and led to the establishment of complexity theory as a fundamental part of the discipline.



*Prof. Hartmanis will* deliver an "Expert Presentation" on "The Structure of the Complexity of Computation" at **IFIP** Congress '94, to be held in Hamburg 28 August — 2 September (see the article on page 5). This will be the latest of his **IFIP** Congress presentations. The first was a solicited paper at the 1965 Congress in New York, "Classification of Computations by Time and Memory Requirements," co-authored with *Stearns* and *Prof. Philip Lewis II (U.S.A.),* which dealt with the same topic as the one for which the Turing Award was conferred. (The list of authors for that Congress, incidentally, is studded with the names of the stars of the information processing universe.) *Prof. Hartmanis* also participated in a panel discussion at the 1986 Congress in Dublin.

*Prof. Hartmanis* is Walter R. Read Professor of Engineering at Cornell University, in Ithaca, NY. He received his Ph.D. degree in 1955 from the California Institute of Technology, following which his academic career began at Cornell. He spent seven years as a research mathematician at the General Electric Research Laboratories in Schenectady, NY, and most of the years since 1965 at Cornell, as chairman of the Computer Science Department.

## CHALLENGES TO IFIP

In January, *Prof. Asbjørn Rolstadås (N),* **IFIP's** president, prepared the following memorandum, which was then distributed to members of the Council, for discussion at the March meeting in Brussels. It is certainly worthwhile for the entire **IFIP** community to consider these issues.

### IFIP Challenges for the Next Three Years

**IFIP** now faces many challenges. To fulfill the **IFIP** mission, major changes are require4 over the next 2-3 years. This memo discusses some current problems and sets goals and focus areas for the coming years. Some ideas are presented to stimulate discussion on how to implement actions that will meet the goals partly or fully.

Today, our major problems are:

- The organization runs with a financial deficit. The membership dues are insufficient to cover the expenses of the Secretariat, and technical activities do not provide sufficient income to cover operating expenses at a desired and required level.
- The World Computer Congress is losing its position as the major world event for computer professionals in industry and academia.
- **IFIP** fails to demonstrate its usefulness to its Member societies. **IFIP** has few if any products to offer well-established national computer societies.
- The quality of **IFIP** technical events is being questioned by some. This is also true for **IFIP** publications, which have had insufficient sales, by far, to claim world leadership in information dissemination.
- There exists a generation gap. **IFIP** has failed to continuously renew its core of contributors, and young computer professionals seek other organizations in order to obtain recognition and develop international relationships.
- Today, **IFIP** is seen by some as not being truly international, but more Europe-centered.

Each of these six problem areas indicates a trend of declining **IFIP** status and activity. They must all be taken seriously and met with actions to reverse this trend. **If IFIP** cannot make the necessary changes this requires, it will inevitably lead to a situation in which the continuation of **IFIP** is no longer justified.

These six problem areas, at the same time, represent challenges. To start improving, it is necessary to launch a number of priority items or goals for the next three years:

1. Enhance operation of **IFIP.** This goal includes activities that will enhance the external visibility and influence of **IFIP. It** will aim at making **IFIP** a more streamlined and professional organization in all its activities. It will change **IFIP** from an organization whose volunteers work on a "two week, twice a year" basis, to an organization that can effectively work on a continuous basis. This goal will also include activities that will improve **IFIP** quality.
2. Improve Member society relationships. This goal includes development of products that are useful to the Member societies. It also includes improved contact and communication with the Member societies. The membership coverage in various geographical regions should be increased.
3. Enhance the operation of Technical Committees (TCs) and Working Groups (WGs). This goal includes an improved relationship between the **IFIP** Executive and the WG chairmen. It is necessary to create incentives to improve the operation of the WGs and to create a mechanism for them to feel more strongly committed to **IFIP** rather than operating as self-contained groups.
4. Close the generation gap in technical bodies. This goal includes actions that

*continued on page 10*

## *STRUCTURE OF IFIP TECHNICAL OPERATIONS*

### Some Adjustments Recommended to Basically Sound Structure

The March **IFIP** Council, meeting in Brussels, considered a system of changes to the structure of **IFIP's** technical activities proposed by *Prof. Asbjørn Rolstadås (N),* the **IFIP** president. At the heart of the proposal is the recognition that the Technical Assembly (TA) is working well and that the structure of Technical Committees (TCs), Specialist Groups (SGs), and Working Groups (WGs) is also quite satisfactory. The proposals are designed to strengthen that sound structure. Following are the key items of the proposal.

- All General Assembly (GA) members are urged to attend the September TAs as observers. (Participants in the March Council meetings are similarly encouraged to attend the associated TAs.) The TAs meet the day before the two-day GA or Council meetings. Since a significant number of IFIP's plans are formulated and discussed at the TA and reported only briefly at the Council and GA, it is almost essential that GA members attend the TA in order to comprehend many of the key issues that are raised in the GA and Council. In the future, TC and SG chairmen will report only at the TA. [At present, they report on strategic issues and matters of mutual concern to the TA and on details of activities to the GA (or Council).] This should reduce the burden on TC and SG chairmen and streamline GA and Council meetings.
- TCs, having at most one member per **IFIP** Member society, may be supplemented by "external experts." This proposal, which generated discussion at the March TA, will be considered further by the GA in September, since it involves changes to the **IFIP** Bylaws.
- Some WGs are very selective in their membership criteria, admitting only the top experts in their fields, while others accept virtually anybody who applies. It is proposed that all WGs be selective, on the basis of high professional standards. This will enhance the status of WG membership. It was recognized that this proposal may create a problem for WGs that must change from one set of criteria to another.
- New WGs should be formed more readily, and weak ones disbanded more rapidly.
- Special Interest Groups (SIGs) should be created by TCs (this was discussed at the 1993 GA and reported on page 4 of the December 1993 *IFIP Newsletter),* providing younger scientists an opportunity to participate in **IFIP** activities. Payment of a modest membership fee would be the only criterion for admission. The TCs on Relationship between Computers and Society (TC9) and Computer Systems Technology (TC10) have formed SIGs on an experimental basis.
- One proposal suggested that all Specialist Groups (SGs) be provisional in nature; whenever an SG has demonstrated its permanent value, it should become a TC or WG. The March TA, recognizing that some technical activities were better served by the permanent-SG structure, was not in favor of this proposal.

A task force headed by *Prof. Egon Hörbst (A),* chairman of TC10, was appointed to study these proposals and make appropriate recommendations to the September TA in Hamburg.

## *IFIP CODE OF ETHICS*

*Prof. Jacques Berleur (B),* chairman of the **IFIP** task group on ethics and of the **IFIP** Working Group on Social Accountability, presented a "weighty" report in March to the **IFIP** Technical Assembly (TA), meeting in Brussels. This was the latest step in the journey of the **IFIP** code of ethics project, which began in 1988. The report — over 300 pages long, some made available on diskette — was, in part, a response to the TA request that the task group prepare a "reader" on the topic by the end of 1993. The report, *Ethics of Computing: Information Technology and Responsibility,* includes discussions of "codes of ethics," "codes of conduct," the "environments" in which codes are developed, and laws. It makes detailed analyses and comparisons of 21 codes from Member societies of **IFIP** and 7 other codes. The next step is the preparation by the task group of a resolution to be acted upon by the September 1994 **IFIP** General Assembly. The resolution will be distributed, in June 1994, to GA members for study.

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## *SECRETARIAT MOVE* *continued from page 1*

ever, when one considers that the expenses of most of the 80 or more technical events that **IFIP** sponsors annually have their own budgets and do not appear in the **IFIP** financial statement, the Secretariat expenses are a small fraction of **IFIP's** total expenditures.)

### Alternative Locations

In studying alternative locations for the Secretariat, *Mr. Melbye* considered Zurich, London, New York, and a different location in Geneva, as well as Laxenburg. (A location in India was also mentioned.) Costs of labor, premises, mail, and telecommunications were studied. Other factors considered were the availability of multilingual personnel, proximity to Member society headquarters (neither too close nor too far), and desirability of making **IFIP** more visible. An analysis that was limited by the short time available indicated that the costs in Geneva and Zurich would be comparable, Laxenburg would be approximately 70% of that, and London or New York approximately 64%. (The 70% figure given for Laxenburg, however, was based on the assumption that a significant subsidy would be received annually from the Austrian government. Without that subsidy, the costs for a Laxenburg office would be nearly 80% of the Swiss costs.)

The reason for recommending Laxenburg over London and New York, despite the higher costs, was *Mr. Melbye's* belief that support of the Austrian government and proximity to **IFIP's** sister federation IFAC (International Federation of Automatic Control), which has its headquarters in Laxenburg, merited choosing that city.

The Brussels Council also agreed that there was no reason to change the official nation of incorporation of **IFIP** from Switzerland to Austria.

After deliberation, the Council passed the following resolutions:

> This Council authorises the President and his appointed representative/s to enter into formal negotiations with the Federal Ministry of Science and Research of The Republic of Austria and with the Austrian Academy of Sciences on agreements concerning the provision of accommodation and other support for the relocation of the **IFIP** Secretariat to Laxenburg,...
>
> Council requests the Executive Board urgently to conduct a mail ballot to secure the agreement of GA Members to the proposed move to Laxenburg.

The GA mail ballot resulted in an overwhelming vote in support of the move, which will take place by the end of this year. The new Administrative Manager will begin to assume responsibility at that time.

## *NEW WG ON SOFTWARE REQUIREMENTS ENGINEERING*

*by Dr. Anthony Finkelstein (GB) **

A new **IFIP** Working Group has been established: WG2.9, Software Requirements Engineering. Its focus is on the real-world goals for, functions of, and constraints on software systems. It is concerned with the relationship of these factors to precise specifications of software behavior, and to their evolution over time and across software families.

The Aims and Scope of WG2.9 can be found on page 3 of the March ***IFIP*** *Newsletter.*

The establishment of a WG in this area is timely, reflecting the widespread recognition in industry that requirements engineering poses particular problems and that there are substantial economic benefits to be obtained from improvements to requirements-engineering practice. The WG will aim, in particular, to foster the exchange of information between researchers and practitioners and will have a particular focus on the problems of the elicitation, specification, analysis, and management of the requirements for distributed, safety-critical, composite, real-time, and embedded systems. Topics of special interest include: formal representation schemes and requirements modelling; descriptions of the requirements engineering process; tools and environments to support requirements engineering; requirements engineering methods; requirements analysis and validation; requirements elicitation, acquisition, and formalisation; establishing traceability to requirements; reuse and adaptation of requirements; and domain modelling and analysis.

The new WG anticipates cooperation with other WGs within the Technical Committee on Software: Theory and Practice (TC2) and with WGs with complementary interests within the TC on Information Systems (TC8). It is particularly interested in building links with "application-oriented" WGs that can provide relevant case studies and experience.

The first meeting of the WG is planned for March 1995 at Bramshill House, near London, U.K. The meeting will be linked to the International Symposium on Requirements Engineering (RE95) to be held at the University of York, under the aegis of the U.S. Institute of Electrical and Electronics Engineers, with **IFIP** cooperation.

* vice-chairman of WG2.9

If you are interested in keeping abreast of the activities of WG2.9, please contact

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*CHALLENGES continued from page 8*

will increase participation of younger people in **IFIP** WGs and TCs.

5. Increase participation from industry. This goal includes action to increase participation of leading industrialists in **IFIP** WGs and TCs.

6. Improve **IFIP** Congress performance. This goal includes development of a new Congress format that will attract a larger audience and maintain the reputation of high quality associated with the **IFIP** name.

7. Improve financial position. This goal includes all actions that can influence both the income and the expense sides of the **IFIP** budget.

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*CHANGES IN IFIP continued from p. 14*

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●

## IFIP MEMBERSHIP ISSUES

*New Category: Institutional Partner*

Several suggestions were made by *Prof. Asbjørn Rolstadås (N),* **IFIP's** president, to the Brussels Council in March, regarding the **IFIP** membership structure.

- The most significant proposal was the creation of a new category of membership, Institutional Partner. Benefits and the annual dues associated with this class of membership have yet to be determined. (The Marketing Committee will study this issue.) Approval by the **IFIP** General Assembly will be necessary.
- A dues structure for Affiliate Members (AMs) was suggested and endorsed by Council. In recent years, there has been very little participation by AMs in **IFIP,** despite changes in **IFIP** regulations that permit AMs to appoint voting representatives to **IFIP** Technical Committees, the Technical Assembly, and the General Assembly.
- A proposal that more than one society per country be admitted to membership *in* **IFIP,** in contrast to the present restriction to one Member per country, was not approved by Council. This might be advantageous in countries with a multiplicity of active computer societies and in situations in which a society more active than the one presently belonging to **IFIP** exists. On the other hand, this proposal could also create problems.

These proposals will be considered further at the Hamburg GA in September.

### Withdrawals from IFIP

Sadly, the new memberships discussed at the 1993 GA last September have been offset by withdrawals (most associated with the inability of the Members to afford **IFIP** dues and funds to enable representatives to attend the **IFIP** General Assembly and Technical Committee meetings). Termination of membership for failure to pay dues was announced for Cuba (despite their previously announced intention to pay their back dues), Iraq, Yugoslavia, and the West African Regional Computer Society. Suspension of voting rights due to unpaid past dues was announced for Greece, Nigeria, Portugal, Russia, Spain, and the African Regional Computer Confederation.

# NEW IFIP PUBLICATIONS FROM NORTH-HOLLAND

### University Education Uses of Visualization in Scientific Computing

Proceedings of the IFIP WG3.2 Working Conference, Irvine, CA, USA, 28-30 July 1993

Edited by **S.D. Franklin, A.R. Stubberud** and **L.P. Wiedeman**

IFIP Transactions A: Computer Science and Technology Volume A-48

©1994 222 pages Paperback
Price: Dfl. 155.00 (US$88.50)
Discount price: Dfl. 77.50 (US$44.25)
ISBN 0-444-81543-0

### Applications in Parallel and Distributed Computing

Proceedings of the IFIP WG10.3 Working Conference, Caracas, Venezuela, 18-22 April 1994

Edited by **C. Girault**

IFIP Transactions A: Computer Science and Technology Volume A-44

©1994 352 pages Paperback
Price: Dfl. 205.00 (US$117.25)
Discount price: Dfl. 102.50 (US$58.63)
ISBN 0-444-81870-7

### Integrated Broadband Communication Networks and Services

Proceedings of the IFIP TC6/ICCC International Conference, Copenhagen, Denmark, 20-23 April 1993

Edited by **V.B. Iversen**

IFIP Transactions C: Communication Systems Volume C-18

©1994 468 pages Paperback
Price: Dfl. 245.00 (US$140.00)
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ISBN 0-444-81584-8

### Database Security, VII

Status and Prospects

Proceedingsof the IFIP WG11.3 Seventh Workshop, Lake Guntersville, AL, USA, 12-15 September 1993

Edited by **T.F. Keefe** and **C.E. Landwehr**

IFIP Transactions A: Computer Science and Technology Volume A-47

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Price: Dfl. 210.00 (US$120.00)
Discount price: Dfl. 105.00 (US$60.00)
ISBN 0-444-81833-2

### Diffusion, Transfer and Implementation of Information Technology

Proceedings of the IFIP TC8 Working Conference, Pittsburgh, PA, USA, 11-13 October 1993

Edited by **L. Levine**

IFIP Transactions A: Computer Science and Technology Volume A-45

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### Lessons from Learning

Proceedings of the IFIP TC3/WG3.3 Working Conference, Archamps, France, 6-8 September 1993

Edited by **R. Lewis** and **P. Mendelsohn**

IFIP Transactions A: Computer Science and Technology Volume A-46

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Price: Dfl. 145.00 (US$82.75)
Discount price: Dfl. 72.50 (US$41.38)
ISBN 0-444-81832-4

### Open Distributed Processing, II

Proceedings of the IFIP TC6/WG6.1 International Conference, Berlin, Germany, 13-16 September 1993

Edited by **J. de Meer, B. Mahr** and **S. Storp**

IFIP Transactions C: Communication Systems Volume C-20

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Price: Dfl. 240.00 (US$137.25)
Discount price: Dfl. 120.00 (US$68.63)
ISBN 0-444-81861-8

### Fractals in the Natural and Applied Sciences

Proceedings of the Second IFIP Working Conference, London, UK, 7-10 September 1993

Edited by **M.M. Novak**

**IFIP** Transactions **A:** Computer Science and Technology Volume A-41

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Fractals are intimately related to the nonlinear processes in nature. Whereas studies of dynamics may lead to the chaotic phenomena, analysis of the underlying geometry leads to fractals. Currently, the field of fractals represents a fast developing research area.
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### High Speed Networks and their Performance

Proceedings of the IFIP TC6 Task Force/WG6.4 Fifth International Conference on Data Communication Systems and their Performance, Raleigh, NC, USA, 26-28 October 1993

Edited by **H.G. Perros** and **Y. Viniotis**

IFIP Transactions C: Communication Systems Volume C-21

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ISBN 0-444-81721-2

### Towards World Class Manufacturing 1993

Proceedings of the IFIP TC5/WG5.3 Conference, Litchfield Park, Arizona, USA, 12-16 September 1993

Edited by **M.J. Wozny** and **G. Oiling**

**IFIP** Transactions B: Computer Applications in Technology Volume B-17

©1994 468 pages Paperback
Price: Dfl. 240.00 (US$137.25)
Discount price: Dfl. 120.00 (US$68.63)
ISBN 0-444-81850-2

### VLSI 93

Proceedings of the IFIP TC10/WG10.5 International Conference, Grenoble, France, 7-10 September 1993

Edited by **T. Yanagawa** and **P.A. Ivey**

IFIP Transactions A: Computer Science and Technology Volume A-42

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Price: Dfl. 215.00 (US$122.75)
Discount price: Dfl. 107.50 (US$61.38)
ISBN 0-444-89911-1

### Information Infrastructure Systems for Manufacturing

Proceedings of the JSPE/IFIP TC5/WG5.3 Workshop, DIISM '93, Tokyo, Japan, 8-10 November 1993

Edited by **H. Yoshikawa** and **J. Goossenaerts**

IFIP Transactions B: Computer Applications in Technology Volume B-14

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JUNE 1994

# CALLS FOR PAPERS

Fifth **IFIP** TC5 Intl. Conf. on **Computer Applications in Production and Engineering CAPE'95**
16-18 May 95, Beijing, China
**extended abstracts due:** 30 Jun 94
**contact:** Mr. Wei Da LIN
North China Inst. of Computing Technology
P.O. Box 619 Branch 2
Beijing, 100083, China
fax: 86.1.2018902

Fourth **IFIP** WG6.6 Intl. Symp. on **Integrated Network Management — ISINM'95**
2-6 Apr 95, Santa Barbara, CA, U.S.A.
**papers due:** 1 Jul 94
**contact:** Prof. Adarshpal Sethi
Computer & Information Sciences
Univ. of Delaware
Newark, DE 19716, U.S.A.
e-mail: sethi@cis.udel.edu
or
Prof. Yves Raynaud
Univ. Paul Sabatier - IRIT/SIERA
118 route de Narbonne
Toulouse 31062, France
e-mail: raynaud@irit.fr

Sixth **IFIP** World Conf. on **Computers in Education**
23-28 Jul 95, Birmingham, U.K.
**papers due:** 31 Jul 94
**contact:** WCCE/95
Margaret St.
Birmingham B3 3BW, U.K.
tel: 44+(0)21-428 1258, fax: 44+(0)21-428 2246

Third Intl. **IFIP** Work. Conf. on **Fractals — FRACTAL 95**
7-10 Feb 95, Marseilles, France
**papers due:** 4 Aug 94
**contact:** Miroslav M. Novak
School of Physics
Kingston Univ.
Surrey KT I 2EE, England
e-mail: novak@kingston.ac.uk
fax: +44 (0)81 547 7562 or 7419
tel: +44 (0)81 547 2000

**IFIP** WG9.4 and RITSEC Work. Conf. on **Information Technology and Socio-Economic Development**
9-11 Jan 95, Cairo, Egypt
**papers due: 1 Aug 94**
**contact:** Dr. Mayuri Odedra-Straub
Kirschenweg 4
D-71229 Leonberg, Germany
e-mail: m.odedra-straub@gaia.comlink.apc.org

Eleventh **IFIP** TC11 Intl. Conf. on **Computer Security — IFIP/SEC'95**
9-12 May 95, Cape Town, South Africa
**extended abstracts due:** 30 Sep 94
**contact:** Prof. Jan Eloff
Dept. of Computer Science
Rand Afrikaans Univ.
P.O. Box 524
2006 Auckland Park, South Africa
tel: +27 11 489 2842, fax: +27 11 489 2138
e-mail: ifipsec95@rkw.rau.ac.za

Third **IFIP** TC6 Intl. Conf. on **Open Distributed Processing — ICODP'95**
20-24 Feb 95, Brisbane, Australia
**papers due:** 14 Oct 94
**position papers due:** 25 Nov 94
**contact:** ICODP'95
DSTC
Level 7, Gehrmann Laboratories
University of Queensland, 4072, Australia
tel: +61 7 365 4310, fax: +61 7 365 4311
e-mail: icodp95@dstc.edu.au

Seventeenth **IFIP** Conf. on **System Modelling and Optimization**
**10-14** Jul 95, Prague, The Czech Republic
**extended abstracts due:** 15 Oct 94
**contact: IFIP** 95 Conference
Attn. Dr. J. Doležal
Institute of Information Theory and Automation
P.O. Box 18
Pod vodárenskou Vezi 4
CZ-18208 Prague, The Czech Republic
tel: 42 2 66052062, fax: 42 2 824755
e-mail: ifip@utia.cas.cz

**Asia and South Pacific Design Automation Conference (ASP-DAC'95)** and **IFIP** WG10.2/10.5 Intl. Conf. on **Computer Hardware Description Languages and Their Applications (CHDL'95)** and eighth **IFIP** WG10.5 Intl. Conf. on **Very Large Scale Integration (VLSI'95)**
29 Aug - I Sep 95, Chiba, Japan
**papers due:** 24 Feb 95
**contact:** Noriko Uehara
A S P-DAC' 95/CHDL ' 95/VLS I' 95 Secretariat
Business Center for Academic Societies Japan
2-4-16 Yayoi, Bunkyo-ku
Tokyo, 113 Japan
tel. and fax: +81-3-3817-5860 or
tel: +81-3-5814-5800, fax: +81-3-5814-5823 ■

# FUTURE IFIP MEETINGS

## GENERAL ASSEMBLY AND COUNCIL (and related meetings)

| | | |
|---|---|---|
| GA | 1 & 3-6 Sep 94 (Thurs. & Sat.-Tues.) | Hamburg, Germany |
| Council | 5-9 Mar 95 (Sun.-Thurs.) | New York, NY, or Washington, DC, U.S.A. |
| Council | 3-7 Mar 96 ? (Sun.-Thurs.) | South Africa |
| GA | (contiguous to **IFIP** Congress '96) | Canberra, Australia |
| GA | (contiguous to **IFIP** Congress '98) | Vienna, Austria, or Budapest, Hungary |

## TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

| | | |
|---|---|---|
| TC2 | 26 Aug 94 | Hamburg, Germany |
| WG2.1 | Sep 94 | Japan ? |
| | 9-13 Jan 95 | Hong Kong |
| WG2.2 | 6-10 Jun 94 (with conf.) | San Miniato, near Pisa, Italy |
| WG2.3 | same | |
| | 24-28 Jul 95 | Ithaca, NY, U.S.A. |
| WG2.4 | Jan 95 | eastern U.S.A. ? |
| WG2.8 | mid 94 | Calgary, Alberta, Canada |
| WG2.9 | 2-9 Mar 95 | Hampshire, U.K. |
| TC3 | 26-27 Aug 94 | Hamburg, Germany |
| | 22 Jan 95 | Geneva, Switzerland |
| | 22, 29, 30 Jul 95 (with WCCE'95) | Birmingham, U.K. |
| WG3.1 | Oct 94 | Barcelona, Spain ? |
| WG3.4 | 28 Sep - 2 Oct 94 (with conf.) | Hong Kong |
| WG3.5 | 26 Jun - 1 Jul 94 (with conf.) | Philadelphia, PA, U.S.A. |
| WG3.6 | 26 Aug 95 (with WCCE'95) | Birmingham, U.K. |
| TC6 | 7-8 Oct 94 (with SEACOMM conf.) | Kuala Lumpur, Malaysia |
| | 23-24 Mar 95 (with conf.) | Durban, South Africa |
| | third quarter 95 | U.S.A. or Turkey |
| | 10-11 Jun 96 | Hawaii, U.S.A. |
| | Sep 96 | Australia ? |
| WG6.5 | 3 Jun 94 (after conf.) | Barcelona, Spain |
| TC7 | 17 Dec 94 | Prague, The Czech Republic |
| WG8.1 | 26-29 Sep 94 (with conf.) | Maastricht, The Netherlands |
| WG8.2 | 13 Aug 94 (with conf.) | Ann Arbor, MI, U.S.A. |
| | 9 Dec 95 | Amsterdam, The Netherlands |
| WG8.3 | 6-8 Sep 94 (with conf.) | San Sebastian, Spain |
| | end Jan. 95 (with conf.) | Delft, The Netherlands |
| WG8.4 | Aug 94 | Hamburg, Germany |
| WG8.5 | end Jan. 95 (with conf., joint mtg.) | Delft, The Netherlands |
| TC9 | 27-28 Aug 94 | Hamburg, Germany |
| WG9.2 | 28 Aug - 2 Sep 94 (with **IFIP** Congress '94 | Hamburg, Germany |
| | 14-15 Jan 95 | |
| | 23-24 Jul 95 | |
| WG9.6 | 18-20 Nov 94 | Bergen an Zee, The Netherlands |
| | 10-12 Mar 95 | France |
| WG10.4 | 26 Jun 94 | Austin, TX, U.S.A. |
| | Jan. or Feb. 95 | Melbourne, Australia |
| | June 95 | California, U.S.A. ? |
| WG10.5 | 19-23 Sep 94 (with EURODAC conf.) | Grenoble, France |
| | Apr 95 | Japan ? |
| TCl2 | 8-12 Aug 94 | Bonn, Germany |
| WGI2.1 | Nov 94 (with workshop) | Mexico City, Mexico |
| WG12.2 | Jul 94 | New Jersey, U.S.A. |
| | Sep 94 | Hamburg, Germany |
| WG12.4 | ? (with conf.?) | Las Cruces, AZ, U.S.A. |
| WG12.5 | 3rd quarter 94 | Madrid, Spain; or Brussels, Belgium |
| TC13 | 28 Aug 94 (during **IFIP** Congress '94) | Hamburg, Germany |
| SG14 | 1-2 Sep 94 | Hamburg, Germany |
| SG15 | 8 Feb 95 (with Fractal'95 conf.) | Marseilles, France |

* 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.

# CHANGES IN IFIP

## NEW APPOINTMENTS

### FULL MEMBER:

GA rep. of Singapore: Dr. J. Motiwala
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NCB Building
71 Science Park Drive
SINGAPORE 0511, Singapore
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(succeeding Mr. **O.** Tian)

### AFFILIATE MEMBER:

**IJCAII (International Joint Conference on Artificial Intelligence, Inc.):** no representative has yet been appointed to replace the deceased Dr. D.E. Walker

### TC and WG OFFICERS:

**WG2.5 chairman: Dr.** M.A. Vouk
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(succeeding Prof. L.D. Fosdick)

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**WG2.5 secretary:** Prof. E.N. Houstis
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**WG3.4 chairman:** Prof. P. Juliff
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(succeeding Dr. B.Z. Barta)

**TC5 secretary:** Prof. F. Kimura
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TOKYO 113, Japan
(succeeding G. Karlmark)

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**WG10.1 chairman:** Prof. T.L. Oeren
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**WG10.1 vice-chairman:** Prof. F. Pichler
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**WG11.5 secretary:** Mr. R. Melville
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### TC and WG MEMBERS:

TC6: **R.** Torbergsen (N)
(succeeding Prof. F. Eliassen)

TC8 G. Szephalmi (H)
(succeeding Dr. Garab)

**TC9:** P. Toth (H)

WG3.4: T. Kado (J)
A. Roy (IND)
M. Ruohonen (SF)

**WG5.4:** A. Bertolino (I)
M. Fusani (I)

**WG9.6: J.** Backhouse (GB)
G. Ledin (USA)
S. Stojakovic-Celusta (CZ)
Y.A. Timofeev **(RUS)**

**WG10.1:**
**P.** Fishwick (USA)
G. Guariso (I)
W. Jacak (PL)
D.H. Kieronska (AUS)
G.J. Klir (USA)
R. Moreno-Diaz (E)
H. Prähofer (A)
P. Pulli (SF)
Ch. Rattray (GB)
J. Rozenblit (USA)
G. Schweizer (D)
B. Thomé (D)

**WG10.5:** S. März (D)
C. Svensson (S)

**WG11.1:**
H. Adhiyatma (SGP)
J.P. Backhouse (GB)
W.J. Caelli (AUS)
J.O. Cherrington (USA)
R.G. Craig (CDN)
P. Dosaj (GB)
R.W. Eaves (USA)
Y-C. Ho (USA)
M.S. King (USA)
J. Lee (SGP)
F.L. Neumann (USA)
D.S. Stodolsky (DK)
W. Wang (SGP)
A.C. Watson (AUS)
J.T.H. Yong (SGP)

## ADDRESS AND OTHER CHANGES

GA **rep. for Austria:** Dr. W. Grafendorfer
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**GA rep. for Finland, and AMB chairman:**
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do Prof. Son T. Vuong
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olderog@informatik.uni-oldenburg.de

**WG2.6 chairman:** Dr. D. Hsiao
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**WG2.6 secretary:** Prof. S. Spaccapietra
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**TC3 chairman:** Mr. P. Bollerslev
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**TC3 vice-chairperson:** Prof. Dr. Rita de Caluwe
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**WG5.3 chairman:** Dr. L. Nemes
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**WG5.6 chairman:** Mr. M. Villabo
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**TC6 chairman:** Prof. **O.** Spaniol
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**TC7 vice-chair and WG7.7 chair:** Prof. Dr. P. Ka11
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**WG8.3 vice-chair:** Prof. G. Widmeyer
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**WG9.3 chairman:** Drs. F. van Rijn
e-mail: felix@htsa.aha.nl

**co-chairman of IFIP Congress '96 International Program Committee:** Dr. P.P. Gupta
APG Enterprises
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New Delhi, **110-016,** India
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*continued on page 10*

# CALENDAR OF EVENTS

(continued from page 16)

| Event | Date | Location | Sponsored by |
|---|---|---|---|
| First Conf. on *Smart Card and Advanced Application — CARDIS'94* | 24-26 Oct 94 | Lille, France | **IFIP** |
| Work. Conf. on *Mathematical and Scientific Computing: Interfaces in and Integration of Scientific Environments* | *24-29* Oct 94 | Raleigh, NC, U.S.A. | **IFIP** WG2.5 |
| Work. Conf. on *ISON in Distance Education* | 27-30 Oct 94 | Nantes, France | **IFIP** WG3.6 |
| Workshop on *Large Scale Stochastic Programs: Applications and Solutions* | ? Oct 94 | Jalta, Russia | **IFIP** WG7.7 |
| Intl. Symp. *on Advanced Research in Asynchronous Circuits and Systems* — SARACS'94 | 3-5 Nov 94 | Salt Lake City, UT, U.S.A. | IEEE **IFIP** WG I 0.2/10.5 |
| Seventh Intl. Workshop on *Protocol Test Systems — IWPTS'94* | 8-10 Nov 94 | Tokyo, Japan | **IFIP** TC6/WG6.1 et al. |
| First Conf. on *Software Quality and Productivity: Theory, Practice, Education and Training — ICSQP'94* | 5-7 Dec 94 | Hong Kong | **IFIP** TC3 SQI HKCS |
| Fourth Intl. Conf. on *Local and Metropolitan Communication Systems: LAN & MAN — LAN&MAN'94* | 7-9 Dec 94 | Kyoto, Japan | **IFIP** WG6.4 |
| Fifteenth Intl. Conf. on *Information Systems — ICIS '94* | 15-17 Dec 94 | Vancouver, B.C., Canada | ICIS **IFIP** TC8 |
| Intl. Conf. *NETWORKS'94* | 30 Dec 94-2 Jan 95 | Madras, India | **IFIP** CSI |
| Work. Conf. on *Information Technology and Socio-Economic Development: Challenges, Opportunities, and Actions* | 9-11 Jan 95 | Cairo, Egypt | **IFIP** WG9.4 et al. |
| Third Intl. Work. Conf. on *Fractals — FRACTAL* 95 | 7-10 Feb 95 | Marseilles, France | **IFIP** SG15 |
| Third Intl. Conf. on *Open Distributed Processing — ICODP'95* | 20-24 Feb 95 | Brisbane, Australia | **IFIP** TC6 DSCT |
| Third Intl. Conf. *TELKOM/AFRICOM '95* | 27-29 Mar 95 | Johannesburg, S. Africa | **IFIP** TC6 CSSA |
| Third Work. Conf. on *Information System Concepts — Towards a Consolidation of Views — ISCO-3* | 28-30 Mar 95 | Marburg, Germany | **IFIP** WG8.1 GI-FG 2.5.1 (EMISA) |
| Fourth Intl. Symp. on *Integrated Network Management — ISINM'95* | 2-6 Apr 95 | Santa Barbara, CA, U.S.A. | **IFIP** WG6.6 IEEE Comm. Soc. |
| Eleventh Intl. Open Conf. on *Computer Security — IFIP/SEC'95* | 9-12 May 95 | Cape Town, South Africa | **IFIP** TC 11 CSSA |
| Fifth Intl. Conf. on *Computer Applications in Production and Engineering — CAPE'95* | 16-18 May 95 | Beijing, China | **IFIP** TC5 et al. |
| Workshop on *Algorithms & Architecture for Real Time Control — AARTC'95* | 31 May - 2 June 95 | Ostend, Belgium | IFAC **IFIP** WG5.4 |
| Workshop on *Stochastic Methods and Global Optimization* | **12-15 Jun 95** | Vilnius, Lithuania | **IFIP** WG7.7 |
| Fifteenth Intl. Symp. on *Protocol Specification, Testing, and Verification — PS71' '95* | **13-17 Jun 95** | Warsaw, Poland | **IFIP** TC6/WG6.1 |
| Fifth Intl. Conf. on *Human-Computer Interaction — INTERACT '95* | **25-30 Jun 95** | Lillehammer, Norway | **IFIP** TCI3 NCS |
| Symp. on *Modelling and Control of National and Regional Economics* | **2-5 Jul 95** | Brisbane, Australia | IFAC IE **IFIP** WG7.6 |
| Seventeenth Conf. on *System Modelling and Optimization* | **10-14 Jul 95** | Prague, Czech Republic | **IFIP** TC7 |
| Work. Conf. on *Modeling and Optimization of Distributed Parameter Systems with Applications to Engineering* | **17-21 Jul 95** | Warsaw, Poland | **IFIP** TC7/WG7.2 PAS |
| World Conf. on *Computers in Education — WCCE '95* | 23-28 Jul 95 | Birmingham, U.K. | **IFIP** TC3 BCS |
| Eighth **IMIA** World Congress on *Medical Informatics — MEDINFO'95* | 23-28 Jul 95 | Vancouver, B.C., Canada | IMIA |
| Workshop on *Information Systems Development for Decentralized Organizations* | 21-23 Aug 95 | Trondheim, Norway | **IFIP** WG8.I et al. |
| Eighth Intl. Conf. on *Very Large Scale Integration — VLSI'95* | 29 Aug - 1 Sep 95 | Makuhari, Chiba, Japan | **IFIP** WG10.5 |
| Intl. Conf. on *Computer Hardware Description Languages and Their Applications — CHDL'95* | 29 Aug - 1 Sep 95 | Makuhari, Chiba, Japan | **IFIP** WG10.2/10.5 et al. |
| Work. Conf. on *Information Technology and Changes in Organizational Work* | 7-9 Dec 95 | Cambridge, U.K. | **IFIP** WG8.2 |
| Work. Conf. on *Approximations and Applications in Stochastic Programming* | ? 95 | Tallinn, Estonia | **IFIP** WG7.7 IIASA |
| ***IFIP** Congress '96 — Fourteenth World Computer Congress* | **2-6 Sep 96** | **Canberra, Australia** | **IFIP** |
| Thirteenth ***IFAC** World Congress* '96 | ? 96 | San Francisco, CA, U.S.A. | IFAC |
| Fourteenth ***IMEKO** World Congress* | 2-6 Jun 97 | Tempaere/Helsinki, Fin. | IMEKO |
| ***IFIP** Congress '98 — Fifteenth World Computer Congress* | **23-29 Aug 98** | **Vienna, Austria, and Budapest, Hungary** | **IFIP** |

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

## CALENDAR OF EVENTS

| Event | Date | Location | Sponsored by |
|---|---|---|---|
| Work. Conf. on *Upper Layer Protocols, Architectures, and Applications — ULPAA'94* | 1-3 Jun 94 | Barcelona, Spain | **IFIP** WG6.5 |
| Work. Conf. on *Programming Concepts, Methods and Calculi — PROCOMET'94* | 6-10 Jun 94 | San Miniato, Italy | **IFIP** TC2 WG2.1-3 |
| Fourteenth Intl. Symp. on *Protocol Specification, Testing, and Verification – PSTV'94* | 7-10 Jun 94 | Vancouver, B.C., Canada | **IFIP** WG6.1, ACM SIGCOMM, IEEE TC Comp. Comm. |
| Workshop on *Benchmarking — Theory and Practice* | 16-18 Jun 94 | Trondheim, Norway | **IFIP** WG5.7 |
| Workshop on *Intelligent Manufacturing Systems* | 22-24 Jun 94 | Vienna, Austria | IFAC **IFIP** WG5.3 IFORS et al. |
| Nineteenth Workshop on *Real Time Programming — WRTP'94* | 22-24 Jun 94 | Isle of Reichenau, Germany | IFAC **IFIP** WG5.4 |
| Fourth Intl. Workshop on *Design Automation* | 26-29 Jun 94 | Moscow, Russia | E.C., Russian Acad. Sci. **IFIP** TC10 |
| Work. Conf. on *Exploring A New Partnership: Children, Teachers, and Technology* | 26 Jun – 1 Jul 94 | Philadelphia, PA, U.S.A. | **IFIP** TC3 WG3.5 |
| Fifth Work. Conf. on *High Performance Networking — HPN'94* | 27 Jun – 1 Jul 94 | Grenoble, France | **IFIP** WG6.4 |
| Second Work. Conf. on *Reconstituting OIKOS: Home-Oriented Informatics, Telematics and Automatics — HOIT-2* | 27 Jun – 1 Jul 94 | Copenhagen, Denmark | **IFIP** WG9.3 |
| Conf. on *Asia Pacific Information Technology in Training and Education — APITITE'94* | 28 Jun – 2 Jul 94 | Brisbane, Australia | ACS, **IFIP** TC3, et al. |
| Fifth Conf. on *Women, Work and Computerization — WWC'94* | 2-5 Jul 94 | Manchester, U.K. | **IFIP** WG9.I et al. |
| Second Workshop on *Performance Modelling and Evaluation of ATM Networks* | 4-6 Jul 94 | Bradford, U. K. | **IFIP** TC6/WG6.4 et al. |
| Work. Conf. on *Interactive Multimedia in University Education: Designation for Changes in Teaching and Learning* | 6-8 Jul 94 | Melbourne, Australia | **IFIP** WG3.2 |
| Work. Conf. on *Information Technologies in Educational Management — I.TE.M.'94* | 11-15 Jul 94 | Jerusalem, Israel | **IFIP** WG3.4, IPA, et al. |
| *IMACS World Congress '94* | 11-15 Jul 94 | Atlanta, GA, U.S.A. | IMACS |
| Fourth Intl. Workshop on *Protocols for High-Speed Networks — PfHSN'94* | 10-12 Aug 94 | Vancouver, B.C., Canada | **IFIP** WG6.1 |
| Work. Conf. on *Information Technology and New Emergent Forms of Organizations* | 11-13 Aug 94 | Ann Arbor, MI, U.S.A. | **IFIP** WG8.2 |
| Eighth Work. Conf. on *Database Security* | 23-26 Aug 94 | Hildesheim, Germany | **IFIP** WG11.3 |
| Intl. Work. Conf. on *Parallel Architectures and Compilation Techniques — PACT'94* | 24-26 Aug 94 | Montreal. Canada | **IFIP** WG10.3, ACM, SIGARCH |
| Workshop on *Computer-Based Environmental Education* | 25-26 Aug 94 | Hamburg, Germany | **IFIP** WG5.I I GI |
| *IFIP Congress '94 — Thirteenth World Computer Congress* | 28 Aug – 2 Sep 94 | Hamburg, Germany . | **IFIP** |
| Eighth Intl. Conf. on *Computer Applications in Shipbuilding — ICCAS'94* | 5-9 Sep 94 | Bremen, Germany | **IFIP** WG5.6 et al. |
| Work. Conf. on *Decision Support and Organizational Transformation* | 6-8 Sep 94 | San Sebastian, Spain | **IFIP** WG8.3 |
| Sixth Conf. on *Reliability and Optimization of Structural Systems* | 7-9 Sep 94 | Assisi, Italy | **IFIP** WG7.5 et al. |
| Fourth Intl. Conf. on *Computers for Handicapped Persons — ICCHP'94* | 14-16 Sep 94 | Vienna, Austria | OCG IEV **IFIP** TC9/WG9.2 et al. |
| Symp. on *Robot Control — SYROCO* '94 | 19-21 Sep 94 | Capri, Italy | IFAC/ **IFIP** WG7.6, IMACS |
| European Conf. on *Design Automation — EURO-DAC'94 (with EURO-VHDL'94)* | 19-23 Sep 94 | Grenoble, France | GI, **IFIP** WG10.5, et al. |
| Third Intl. Workshop on *Hardware/Software Codesign — Codes/CASHE '94* | 22-24 Sep 94 | Grenoble, France | **IFIP** WG10.5 WG10.2 |
| Work. Conf. on *Comparative Review of Information Systems Methodologies Revisited — CRIS'94* | 26-28 Sep 94 | Maastricht, Netherlands | **IFIP** WG8.1 |
| Work. Conf. on *Expert Systems in Computer Integrated Manufacturing* | *?* Sep 94 | Kiev, Ukraine | IFIP WG5.3 |
| Thirteenth *IMEKO World Congress* | *?* Sep 94 | Torino, Italy | IMEKO |
| Second Symp. on *Artificial Intelligence in Real Time Control* | 3-5 Oct 94 | Valencia, Spain | IFAC **IFIP** WG5.4 |
| Conf. on *South East Asia Communications '94 — SEACOMM '94* | 4-6 Oct 94 | Kuala Lumpur, Malasia | **IFIP** TC6 |
| Intl. Conf. on *Formal Description Techniques for Distributed Systems and Communications Protocols — FORTE'94* | 4-7 Oct 94 | Bern, Switzerland | **IFIP** WG6.1 ACM SIGCOMM IEEE Comp. Soc. (appr. pend.) |
| Fifth Intl. Workshop on *Distributed Systems: Operations and Management — DSOM'94* | *10-11* Oct 94 | Toulouse, France | **IFIP** WG6.6 IEEE CNOM |
| Work. Conf. on *Integrating Information on Technology into Education* | 17-21 Oct 94 | Barcelona, Spain | **IFIP** WG3.1 |

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| **IFIP** Congress '94 — 13th World Computer Congress | 28 Aug – 2 Sep 94 | Hamburg, Germany | **IFIP** |
| **IFIP** Congress '96 — 14th World Computer Congress | 2-6 Sep 96 | Canberra, Australia | **IFIP** |
| **IFIP** Congress '98 — 15th World Computer Congress | 23-29 Aug 98 | Vienna, Austria and Budapest, Hungary | **IFIP** |

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