IFIP newsletter

International Federation for Information Processing

Editor:
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Head of British Computer Society Addresses IFIP Council

Complementary Role of Management and IT Professionals Discussed

One evening during the March **IFIP** Council meeting in Manchester (see the article on page 4), the participants were welcomed, entertained, charmed, informed, and stimulated by **Sir Brian Jenkins,** president of the British Computer Society (BCS). He noted that **IFIP** had not met in the U.K. for 20 years and that it was propitious to have this meeting during the 50th anniversary celebration for the first stored-program electronic digital computer and the 40th anniversary of the BCS. He talked of his own professional involvement with computers and of the impact of computers on the City of London, where he had served as the 664th Lord Mayor and taken pride in calling himself an "information technologist," even while dressed in the Lord Mayor's medieval garb.

We quote here most of Sir Brian's address.

Sir Brian Jenkins

I thought it might be useful to share with you some of our thinking at the BCS about the role of IT in business as we look forward to the next millennium — although we all of course have to survive the Millennium Bug!

In part, it is the need to address the IT problems associated with the next millennium that has brought sharply into focus for management the degree to which our businesses are dependent on IT. During my year in office, I am hoping to explore with senior management ways of ensuring that business can realise the potential for IT to be a powerful agent for change, and at the same time manage the risks that change will bring.

To make sure we identify and grasp the opportunities, we need informed

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Wolters Kluwer Takes over Chapman & Hall

Many Questions Are Raised about the Future of IFIP Publications

Just when the IFIP publications process seemed to be working smoothly, a bombshell was dropped at the March IFIP Council meeting in Manchester, U.K.: namely, the purchase of the **IFIP** publisher, Thomson Science, by the Wolters Kluwer publishing company. Following is a 9 December 1997 press release from Wolters Kluwer that describes the situation:

> Wolters Kluwer has signed an agreement to acquire Thomson Science, comprising a number of scholarly and medical books and journals under the Imprints of Chapman & Hall (C&H) and Rapid Science, among others, from International Thomson Publishing. It is expected that the deal will be closed approximately at the end of the year subject to customary regulatory review.
>
> Operations are located in London (UK), New York and Philadelphia (USA). The German medical and science activities of Thomson Science are not included in the transaction.
>
> An important part of the relevant Thomson Science titles fit well with the medical publications of Lippincott-Raven Publishers in the US, and the academic titles with Wolters Kluwer Academic Publishers, both fully owned operating companies of Wolters Kluwer.
>
> Wolters Kluwer is a multidomestic publishing company active In 25 countries. Wolters Kluwer has a sales level of approximately Dfl. 5 billion and has some 14,000 employees.

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CHANGE OF ADDRESS

Please note that the address of the ***IFIP*** *Newsletter* Editor has changed; the current address is in the masthead on page 2.

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Please apply to the **IFIP** Secretariat, at the address given above, for copies of the ***IFIP Newsletter*** and to be added to (or removed from) the mailing list.

The Secretariat can also answer inquiries about **IFIP.**

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

Please send announcements of conferences, workshops, and other meetings directly to the Secretariat, which prepares the Calendar of Events. Calls for papers should be sent to both the Secretariat and the ***Newsletter*** editor.

IFIP on the Internet

IFIP information (including this ***Newsletter)*** is available through the Internet as follows:

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ftp.ifip.or.at
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PUBLICATIONS continued from page 1

While the Council was meeting in Manchester, **Mr. Mark Hammond,** the representative of Thomson, learned that most of the C&H staff had been "made redundant." The Publications Committee chair, **Dr. Roger Johnson** (GB), said, "We are all very grateful to **Mark Hammond** and his assistants for all their work since 1994, and we wish them well for the future."

This situation reflects the upheaval that is taking place in the world of scientific publishing, with purchases of companies and mergers occurring all the time. For example, in October 1997, a merger was planned between Reed Elsevier and Wolters Kluwer (which was subsequently abandoned), and in February 1998, Wolters Kluwer announced plans to acquire Waverly Inc., a medicine and science publisher. At the time this issue of the ***IFIP*** *Newsletter* goes to press (the end of April), it is not known who will be responsible for fulfilling the terms of the publishing contract **IFIP** signed with Thomson, although Kluwer has indicated that the contract will be honored. It is hoped that there will be little disruption in the publication of **IFIP** books planned; however, **it** is difficult to imagine at this time how the production can continue smoothly with virtually all of the staff that handled **IFIP** books gone.

The current publication contract expires at the end of 1999, with the contract terms calling for automatic renewal for another five years unless either of the parties gives notice by the end of June 1998. In preparation for a possible renegotiation of the contract, and in response to an inquiry from the U.S. Member society, **Mr. Plamen Nedkov,** Executive Director of **IFIP,** made a preliminary study to compare the prices of **IFIP** books with similar books published by the IEEE Press. A thorough investigation of pricing will be carried out by the Publications Committee before negotiations with the new publisher take place.

Dr. Johnson suggested that the cost of proceedings provided to attendees of **IFIP** conferences should be free of royalties to **IFIP.** Although this would represent a loss of revenue to **IFIP** and the sponsoring Technical Committees, it would help the organizers to reduce the cost of the conferences. He also suggested that the discount on the cost of books to individual purchasers belonging to **IFIP** Member societies be increased significantly beyond the present 35%. These proposals will be raised again at the General Assembly in September.

1997 Results

The 1997 results from **publications were** as good as anticipated. Thirty-five **books** were published, and 10 800 **copies of** these were sold. Total revenue **and royalties** were up from 1996. Revenues **from** older books were disappointing, **indicating** that the bulk of the sales of conference proceedings take place within **18 months** of publication. The outlook for 1998, during which 32 books are scheduled **for** publication, is not as good as **the 1997** results.

The TC3 journal, *Education and Information Technologies*, now in its third year, has more subscribers and has **a more** steady flow of submitted papers, **but it is** still not solidly established. The **IFIP** Executive Board decided to allocate funds to make up for the anticipated loss during the next few years.

Other Publication Matters

One **IFIP** book was placed on the World Wide Web in August, but no further activity is taking place with regard to electronic publication. Unfortunately, **IFIP** has left all initiative in this area to its publisher.

The issue of publishing conference proceedings on CD-ROM aroused concern among some of the Council participants. The proceedings of **IFIP** Congress '98 (see the article on page 6) will consist of individual conference proceedings printed by the Austrian Computer Society, as well as all the Congress papers on CD-ROM. (Hard copy of the proceedings of one of the conferences, SEC'98, *will* be published by Wolters Kluwer.) The Organizing Committee for Congress 2000 (page 7) also plans to print the individual conference proceedings locally and provide delegates with a CD-ROM containing all the papers. Some individuals are concerned that the use of CD-ROMs as the repository for conference proceedings, with no version printed by an established publisher, will result in there being no archival value to the proceedings. Unless a publisher sells copies of the CD-ROM proceedings to libraries, the papers will not be widely available. When people wish to locate a paper in a proceedings ten years from now, how will they do it? Will the U.S. Library of Congress or the British Library have copies of the CD-ROM? When technology changes, will people still be able to read CD-ROMs from the 1990s? It is too late to remedy this situation with regard to the proceedings of Congress '98, but serious thought must be given to the matter for the proceedings of other **IFIP** events. ■

Artificial Intelligence — Trends towards Integration

*by Prof Bernd Neumann * (D)*

[At the March meeting of the **IFIP** Technical Assembly in Manchester, **Prof. Bernd Neumann** (D), chair of the Technical Committee on Artificial Intelligence, presented a brief talk on the future directions of AI research. He kindly agreed to put his remarks into writing, for the benefit of the readers of the ***IFIP*** *Newsletter.]*

Artificial Intelligence is an active research field, which has been growing for more than four decades and involves more than 10 000 scientists worldwide. Strong international and national professional organisations have shaped the development of the field, and there is a strong tradition of regular international and national conferences — some for the field as a whole, but most of them already specialized, corresponding to the numerous subfields of AI. AI topics are covered by more than 30 international journals.

The basic goal of AI is applying information processing methods to the solution of complex problems, in order to achieve "intelligent" behaviour. To this end, AI research has developed methods at a level of abstraction higher than in conventional information processing, with knowledge representation and reasoning at the core. Problem formulations at the knowledge level permit computational solutions with formal — often logic-based — methods while preserving transparency and understandability owing to declarative representations of high-level concepts close to human thinking. Hence from a software-engineering perspective, AI methods tend to support complexity management. Furthermore, formal foundations may provide important quality assurances, e.g., correctness, completeness, and tractability.

While many traditional subfields of AI are alive and provide a healthy methodological and organisational framework for AI research (reflected, for example, in the organisation of subfields in the proceedings of IJCAI, the biennial International Joint Conference on Artificial Intelligence■■), new, interesting topics arise, and new subfields emerge at an increasing rate. Among the many examples are data-mining, corporate knowledge systems, intelligent databases, multi-agent systems, spatial reasoning, intelligent Internet information access, automatic design, and intelligent diagnosis. Clearly, not all of these topics are strictly AI topics, and not all will shape the scientific community in a sustained way; nevertheless, they signify the dynamics of AI and point to developments that deserve attention.

Driving Forces for New Directions

There seem to be at least three driving forces for new AI directions. First, there is the pull of applications. As theoretical foundations and general AI methodology have matured, AI can contribute to an increasing number of applications and may become a key technology for application developments in the information age. New application-oriented subfields of AI focus on remaining gaps between theory and practice and lay the groundwork for commercial applications. Data-mining and corporate knowledge management are recent examples. While learning and knowledge representation provide well-established base technologies for these applications, massive research efforts over a typical span of 10 years or more are required to develop practicable solutions for the application area.

The second driving force is the integration of AI and "conventional" Computer Science. It is well known and has been often regretted that over long periods AI has evolved somewhat in isolation, accompanied by fundamental skepticism on the one hand and overly optimistic expectations on the other. This has led many AI scientists to conceive of their discipline as an unwanted child of Computer Science; hence family relations have been disturbed, in some countries more than in others. In the meantime, research inside and outside of AI has progressed in directions where more and more common ground becomes visible and possibilities for integrated methodologies arise. This goes along with the need for developing complex applications in which AI is integrated with other information processing technologies. In several areas, this integration has already taken place or is happening — for example, in logic programming, object-oriented data modelling, prototyping, type systems, correctness proving, simulation, constraint technology, and user modelling.

AI also has strong interdisciplinary ties to many neighbouring disciplines outside of Computer Science: to empirical disciplines such as psychology, linguistics, and neurophysiology, and to engineering disciplines such as process control, production automation, monitoring, diagnosis, and design.

Merging methodologies with neighbouring disciplines is the third driving force for new AI activities. New developments become possible by combining technologies hitherto developed in separate disciplines. A good example is technical diagnosis, where qualitative, model-based Al methods complement traditional engineering approaches.

While most observers will agree that these are basically positive developments, with benefits both for scientific insights and application developments, some people wonder about the future of AI. Will all this merging lead to a loss of identity of the field of AI? Clearly, new boundaries will be drawn, both between AI and application areas and between AI and Computer Science subfields. As an application area matures and grows, it is generally desirable to cluster technologies around this application area. Hence, it is natural that AI application technology should be merged with other relevant application technologies. Surely, AI will not be impoverished: there will be new applications with interesting new research challenges for AI until, once again, these applications have matured and leave AI.

With regard to the ongoing integration with Computer Science, the situation is comparable to the European integration: there will be more competition and less protection for local markets. But AI people are confident that they have a good product, and cultural ties will contribute their part to keep the AI community thriving. Scientifically, an open market and competition should be welcomed, since this will let the best ideas win, help to establish coherent theories, and put an end to the coexistence of heterogeneous nomenclature.

The Future of TC12

The **IFIP** Technical Committee on AI (TC12) has decided to pay special attention and provide support to application-oriented and integrative AI activities. As a first step, a new Working Group on Intelligent Information Management has been proposed. Various areas of AI research and technology will be brought together to meet the challenge of organizing

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* chair of TC12
** IJCAI, Inc. is an Affiliate Member of **IFIP**

IFIP Council Meets in Manchester

Few New Initiatives Taken

The **IFIP** Council met 4-5 March in Manchester, U.K., preceded by meetings of the Executive Board, Technical Assembly (TA), and related committees. The Council followed the adage, "If it ain't broke, don't fix it," preferring to defer major actions. The biggest issue involved the purchase of Thomson Science, the **IFIP** publisher, by the publisher Wolters Kluwer. Naturally, many matters related to **IFIP** publications must now be resolved. An article on page 1 deals with various aspects of **IFIP** publications. Much attention was also devoted to plans for **IFIP** Congress '98, the 15th World Computer Congress, to be held in August and September in Vienna and Budapest, and for Congresses 2000 and 2002. The bulk of the deliberations at the meetings concerned the work of the **IFIP** Technical Committees (TCs) and Working Groups (WGs). The very positive financial report was gratifying.

Although it rained every day of the meetings (at times, speakers had to raise their voices in order to be heard over the din of the rain on the roof over the Council meeting room), the welcome in Manchester was warm and sunny. The official greeting to the meeting participants was delivered at the famous Manchester United Football Club, where the soccer fans among the attendees were especially pleased to be. **Sir Brian Jenkins,** president of the British Computer Society (BCS), welcomed the guests with an entertaining and thought-provoking address (see the article on page 1). Also in attendance was **Prof. Tom Kilburn** (GB), one of the co-inventors of the first stored-program electronic digital computer, "The Baby," at the University of Manchester. His partner, the late **Prof. F.C. Williams,** had written the following about the first successful trial:

> A program was laboriously inserted and the start switch pressed. Immediately the spots on the display tube entered a mad dance. In early trials it was a dance of death leading to no useful result, and what was even worse, without yielding any clue as to what was wrong. But one day it stopped, and there, shining brightly in the expected place, was the expected answer. It was a moment to remember. This was in June 1948, and nothing was ever the same again.

In addition to being the 50th anniversary of that momentous occasion, 1998 marks the 40th anniversary of the British Computer Society. It was the concurrence of these two events that inspired the Society to invite the **IFIP** Council to Manchester. After meetings were adjourned one evening, the attendees were treated to a fascinating talk by **Mr. Chris Burton** of the BCS Computer Conservation Society about the creation of an authentic, operational replica of "The Baby" for this anniversary.

Prof. Kurt Bauknecht (CH), president of **IFIP,** opened the Council with a very upbeat report on the increase in the number of events sponsored by **IFIP,** the excellent sales figures for **IFIP** books, the increased interaction with UNESCO, the satisfactory state of planning for **IFIP** Congresses, and the fine management by the Secretariat.

Membership Problems

A sobering note was interjected, however, by **Mr. Graham Morris** (GB), the **IFIP** secretary, in his report on **IFIP** membership. Several Members are having a difficult time maintaining their Membership in **IFIP.** Because of weak economies, some Member societies are unable to pay their dues, support the travel of representatives to the **IFIP** General Assembly (GA), and support representatives to **IFIP** TCs and members of **IFIP** WGs. In addition to the Member societies previously announced as being in arrears with respect to their dues, **Mr. Morris** indicated that the Bulgarian Academy of Sciences has now lost its voting rights and the Computer Society of Nigeria has been officially expelled (despite many messages being sent, without any response). At present, **IFIP** has 44 Full Members, but only 36 are up to date with their dues and have a vote. Four Members may be expelled at the end of this year because their dues have been outstanding for more than three years. On the other hand, **IFIP** has evolved from a Federation with 15 national Members but no TCs to the present organization, which comprises 13 TCs and over 70 WGs.

A related concern was the low attendance at the committee meetings that preceded the Council: only one member of the Marketing Committee, two members of the Finance Committee, two members of the Developing Countries Support Committee, and three members of the Publications Committee were present in Manchester. One recognizes that few Member societies can afford to send a representative to a meeting in which her or his only role is that of committee member. More committee work will have to be carried out by e-mail and telephone conference calls, or other means will have to be devised for performing committee work. On the other hand, there was good attendance of Council members (all officers and all but two trustees) and TC chairs (all but one) in Manchester.

Mr. Morris also presented some interesting statistics in his report: The majority of TCs have official memberships of around 30, while TC6 has 42, and TC1 has 46; there are 11 WGs with memberships fewer than 10, the great majority (53) have memberships from 10 to 49, ten have memberships between 50 and 80, one has 120, and one has 195. Finally, **Mr. Morris** informed the Council that two vice-presidents, three trustees, a secretary-elect, and a treasurer-elect must be chosen by the GA in September (in Budapest).

Technical Activities

Approval was granted by the TA for new WGs to be formed and inactive WGs to be disbanded. The new WGs are WG6.10 on Photonic Communication Networks (see the Aims and Scope on page 12) and WG13.5 on Human Error, Safety, and System Development. (Approval of WG13.5 was provisional, with final approval deferred to the TA meeting in September.) Discontinuation of the following WGs was approved by the TA: WG5.8 on Product Specification and Product Documentation, WG12.1 on Knowledge Representation, WG12.3 on Reasoning Techniques, and WG12.4 on Natural Language Processing. The name of WG5.7 was changed to Integrated Production Management from Computer-Aided Production Management. Also, a discussion was held about changing the name of TC 12 to Intelligent Systems (from Artificial Intelligence), in order to reflect the increasing attention of TC 12 to integrating AI and mainstream computer science and bringing AI into practice. Both TC5 (on Computer Applications in Technology) and TC12 are undergoing serious restructuring. Last September, the GA indicated that it would make a final decision this coming September concerning whether TC 12 was strong enough to be continued as an independent TC. In addition to these official actions, plans were announced to form new WGs in TC 1 (Foundations of Computer Science) on Term Rewriting and on Two-Dimensional Combinatorial Structures and Languages,

and a new WG in TC 12 on Intelligent Information Management. Information about the proposed WGs will appear in a future *IFIP Newsletter.*

Other interesting matters regarding technical activities included the following:

• **IFIP** was the full sponsor or main sponsor of 49 events in 1997 (compared to 40 in 1996, 48 in 1995, and 65 in 1994).

• A European IT summer school for teachers, primarily from Eastern Europe, will be organized in July jointly by TC3 (Education) and CEPIS (the Council of European Professional Informatics Societies).

• TC1 reported on two new publications: a monograph, *Algebraic Complexity Theory* edited by **P. Bürgisser** (CH) et al., and a survey book, *Algebraic Foundations of Systems Specification* edited by **E. Astesiano** (I) et al., which will be printed as an **IFIP** State-of-the-Art report. Both will be published by Springer-Verlag.

• WGs of TC3 have printed and distributed a series of booklets entitled "Guidelines for Good Practice." Currently under development are three more from WG3.1 (including Teacher Education), one each from WG3.5 and WG3.7, and one from the TC3 Life Long Learning Task Force. The TC3 report also contained the following plea for funding.

> Financially, TC3 continues to suffer. Education, in general, has never the necessary funds to support its staff properly, and many of those that work under the TC3 umbrella have to fund their own expenses. One problem this year is the change in the Activity Management Board rules for IFIP grants for conferences. In the past, such grants have been used to offset expenses that could not be met with the low registration fees that we must offer in the education world. ... one working conference was nearly cancelled because of this change ... IFIP must continue to bear this in mind — Education needs greater funding.

Education: Distance Learning Is the Answer — But What Is the Question? was the unique title of one TC3 conference.

• The TC on Security and Protection in Information Processing Systems (TC11) announced that the Kristian Beckman Award had been made to **Prof. Sushil Jojadia** (USA).

• The report on the INTERACT '97 conference on human-computer interaction stated that child care was available during the conference, to accommodate participants who would be unable to attend were this service not provided.

• **Prof. Bernd Neumann** (D), chair of TC12 presented an interesting talk to the TA on the current status of research in AI and the direction TC12 will take. See the article on page 3.

• A task group is involved in improving the event guidelines, written documentation for event organizers on how to best carry out their responsibilities. This should prove to be a boon for these **IFIP** volunteers.

• The TC 1 report to the TA, prepared by **Prof. Giorgio Ausiello** (I), was a model of how a TC report should be written, describing both new developments within the scope of the TC and the directions the TC is taking.

• The 1997 CAPE conference (Computer Application in Production Engineering), a major TC5 conference, was cancelled because of an insufficient number of high-quality papers. TC8 also reported, "We are beginning to experience event cancellations for the first time owing to lack of quality submissions." Unfortunately, this issue of insufficient numbers of good papers, which deserves consideration, was not discussed at the TA.

Congresses

IFIP Congresses '98 and 2000 are described in articles on pages 6 and 7, respectively. In addition, Council discussed the debt of 100 000 Swiss francs (100K CHF) still owed **IFIP** by the Australian Organizing Committee for Congress '96, with no resolution in sight. Offers to host Congress 2002 have been received from the Canadian Information Processing Society, with Montreal as the venue, and from the Information Processing Association of Israel, with Jerusalem as the venue. The GA will choose the site in September.

Finances

There was good news from **Prof. Dipak Khakhar** (S), the **IFIP** treasurer. A surplus of 243K CHF was achieved in 1997. Of this, 50K was placed in a pension fund for Secretariat staff and 57K in a fund for special activities (which was not spent), and 37K was allocated to TC funds. The remainder, 99K, was added to the general fund, bringing the general fund to 1500K and TC funds to 393K. Income increased over 1996, and expenses declined. Royalties increased from 184K to 207K, but dues from Members decreased from 261K to 252K. While the decrease in Secretariat expenses was lauded, the decrease in spending by TCs was a matter of concern, possibly reflecting lessened activity. (This possibility, however, seems to be contradicted by the increase in the number of TC events held.)

An interesting aspect of the 1997 figures is that the portfolio management fees of 9K nearly exceeded the portfolio investment income of 10K. Recently, however, efforts have been made to improve the return on the **IFIP** investments. Cash-flow management has been instituted, so that more of the funds are invested and less are held in cash. Also, plans are afoot to change the investments from fixed-interest bonds to variable-rate bonds, in order to increase the return. At the end of 1998, the euro will begin to replace the currencies of several European countries. At that time, the Finance Committee will consider whether **IFIP** assets should remain based on the Swiss franc or be converted into another currency.

The 1997 TC leader with respect to royalties was TC5, and the leader in event proceeds was TC6. TC6 also has the largest fund balance.

Other Matters

Mr. Plamen Nedkov, in his role as IFIP—uNEsco Liaison Officer, reported on a request by UNESCO that **IFIP** carry out a project to "Elaborate a complete modular framework for training in informatics, covering the undergraduate and postgraduate programmes and courses to be provided ... ." Council expressed interest in assisting UNESCO with this project. Should the activity come to fruition, it will be reported in a future issue of the *Newsletter.*

There was some discussion concerning whether the *Newsletter* should continue to be printed or be produced only in its electronic, on-line version (http://www.ifip.onat/newsletters/newsl.html). The Council was strongly in favor of continuing the printed version. The Editor

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IFIP officers voting in Manchester: (from left to right) Graffendorfer, Brauer, Morris, Bauknecht, Bollerslev, Goldsworthy, and Guy.

Youth Summit Will be Featured at IFIP Congress '98

News from Organizers

One of the unique features of the 15th World Computer Congress (to be held 31 August — 4 September 1998 in Vienna and Budapest) is the Youth Summit. This convocation will provide young people (from ages 20 to 25, approximately) an opportunity to express their opinions on the movement toward an information society. The European Future Forum of the Youth, in cooperation with the European Youth Parliament, will invite 50 students from around the globe to this Youth Summit in conjunction with **IFIP** Congress '98. Thirty-five delegates from Europe and 15 from America, Asia, Africa, and Australia will come to Vienna and Budapest, arriving the Friday before the Congress (28 August) and departing the Sunday following it (6 September).

The participants will work in five committees, with the following topics:

- Teleteaching — challenges to education systems: possibilities and dangers
- Telecooperation — necessary and inevitable changes in working life
- Social Affairs — the integration of fringe groups: opportunities and dangers
- Political Affairs — intellectual property rights and free flow of information
- Youth Affairs — the role of youth and their opportunities to promote the movement toward the information society

In addition to attending their committee meetings, the delegates will participate in team-building activities and seminars, make presentations at Congress poster sessions, and attend regular Congress technical sessions and social events. Austrian, Hungarian, and other European politicians will be invited to the committee meetings, to inform the delegates about current political developments and to discuss the views of the youth, in order to ensure an effective exchange of views among youth, politicians, and scientists. Finally, the youth delegates will deliver a summary of their deliberations and observations at the closing Congress session, from the viewpoints of recipients of information and users of information technology rather than experts in its development. It is hoped that the combination of the fresh ideas of the young people with the knowledge of the scientists will result in new projects concerning schools and universities being initiated, in cooperation with the scientists of various countries. The results of the Youth Summit will be published in an appropriate form.

The organizers encourage each **IFIP** Member society to support at least one student from its country to participate in the Youth Summit.

For more information about the Summit, please contact

European Future Forum of the Youth
Peter Pfannes
Josef-Ritz-Weg 14
81673 Munich, Germany
tel: 0049 / 172 / 88 42 786
e-mail: peter.pfannes@stud.uni-muenchen.de

or contact the Congress organizers, whose addresses are at the end of this article.

Congress Highlights

Following are key points from recent reports from the Congress Organizing Committee and International Program Committee:

- An unusually large number of papers has been submitted to the seven conferences that compose the Congress: nearly 650 papers. This bodes well for the ultimate Congress attendance.
- If the number of papers submitted and the interest expressed so far can be used to predict the eventual attendance, there will be major delegations from Germany, the U.S., Austria, the U.K., Australia, Japan, and Hungary.
- The largest numbers of papers have been submitted to the following conferences: Teleteaching '98 (Distance Learning, Training, and Education), SEC '98 (14th International Information Security Conference), and ICCHP '98 (6th International Conference on Computers Helping People with Special Needs).
- Although the conference on Foundations of Computer Science was originally intended to comprise invited papers only, several high-quality papers were submitted for it. Consequently, in addition to the eight speakers invited to deliver the papers that compose the main part of the conference, additional presenters in the fundamentals area will appear at a special session.
- The illustrious keynote speakers should add luster to the Congress.
- A number of invited papers by well known experts will be featured in the conferences.
- Twelve parallel tracks will be offered at times.
- The registration fee includes the train and boat trip from Vienna to Budapest, several social events, and the privilege to register for tutorials, workshops, and seminars at exceedingly low fees.
- A "Pioneer Day" is being organized by **Prof. J.A.N. Lee** (USA), **Prof. Heinz Zemanek** (A), and **Mr. Gyozo Kovacs** (H).
- A variety of special sessions, seminars, panels, workshops, short presentations, posters, and other events have been arranged.

Contact Information

For the latest and continually updated information about the Congress and its associated events, please refer to the Web page at

http://www.ocg.or.at/ifip98.html

or

http://www.njszt.iif.hu/ifip98.html

On-line registration is provided on a secure server under

https://www.ocg.or.at/regform.html

One may contact the organizers at the following locations:

Oesterreichische Computer Gesellschaft
(Austrian Computer Society)
Wollzeile 1-3
A-1010 Wien, Austria
tel: +43 1 512 02 35, fax: +43 1 512 02 35 9
e-mail: ifip98@ocg.or.at
WWW: http://www.ocg.or.at

Or

John v. Neumann Computer Society
Bathori u. 16
H-1054 Budapest, Hungary
tel: +36 1 33 293 49, fax: +36 1 33 181 40
e-mail: ifip98@neumann.hu
WWW: http://www.njszt.iifhu

One can also find information in prior issues of the ***IFIP*** *Newsletter* (March '98, page 4; December '97, page 8; September '97, page 1; June '97, page 3; and prior issues).

BCS PRESIDENT'S ADDRESS continued from page 1

consideration and decision at senior management and board level. They must be supported by a regime whereby those responsible for developing the business understand the potential of IT and those responsible for IT understand the strategic objectives of the business. There must be open cross-fertilisation of ideas and responsibilities.

There are two important organisational and resourcing requirements:

• Senior management and the board must be confident in their decisions. There must be more senior management who can understand IT in broad, strategic terms; more senior **IT** managers who can take the wider view.
• Working up the business, there must be a greater cross-deployment of high-quality people between IT and user functions. This prepares broader-based managers and enables the generation of ideas. This could well be part of a planned career-development programme.

This process needs to be underpinned by a graduate recruitment and trainee scheme which brings bright young people into organisations. Recent surveys in the UK indicate that while we are educating many young people in computing disciplines, these courses are not attracting the very brightest students, and that many students see IT as a purely technical job, and not a route to senior management.

There are many mind sets to influence:

• senior management — to proactively address how they will bring the appropriate balance of skill and talent to the ranks of senior management
• academics — to prepare students for rewarding careers in IT which can lead to general management at the senior level
• young people — to see IT as a route to the top, and an attractive field for the very brightest students
• working professionals — to aspire to become senior managers and see the need to acquire strategic business understanding.

Exploiting technology as an agent for change also means the risks must be managed. As IT systems become more strategic and complex, so the impact on business of failure, delay, cost overrun or simply poor product becomes much greater. Companies are rightly focussing more on risk, and better approaches and techniques are being developed. But at the heart of managing risk is having properly qualified professional staff working to professional standards.

The IT professional community worldwide has a considerable responsibility to play its part by —

• setting demanding qualifications that will demonstrate high quality, command respect in business and attract bright trainees
• providing work standards and methods which increase business confidence and reduce risk and maximise effectiveness
• promoting IT as an important element in business development
• supporting IT professionals in keeping their knowledge up-to-date in this very rapidly changing field.

This is an exciting challenge. It highlights the critical role our discipline will have over the next 20 years. The issues we see here are to some extent mirrored on a global basis, and I am sure the deliberations of **IFIP** will have much to contribute. I wish you well with your meetings for the rest of this week.

After his talk, we asked **Sir Brian** why, after serving as Lord Mayor and while still working as chairman of a major British financial institution, he was willing to assume the presidency of the BCS. His reply can serve as a guideline for all of us: "I owe my career to IT, and I felt that I had the responsibility to serve the BCS if I were needed." ■

AI TRENDS continued from page 3

and accessing heterogeneous multimedia data, which is becoming available in abundance through modern communication technology. Application-oriented research and development will cover topics such as information brokers, data-mining tools, content-based query languages, multimedia data indexing schemes, and Web-based information services.

By means of this new activity and others yet to be established in fields not already covered by the established **AI** organisations, as well as by continuing our existing Working Group activities in well-chosen, strategic areas (as exemplified by the conference IT&KNOWS [Information Technology & Knowledge Systems] at the 1998 **IFIP** World Computer Congress [see the article on page 6]), we hope to reinvigorate TC12. ■

Plans Are Under Way for IFIP Congress 2000

Representatives of the Organizing Committee (OC) for **IFIP** Congress 2000, the 16th World Computer Congress, presented plans for the Congress to the **IFIP** Council at its March meeting in Manchester, U.K. The Congress will take place 21-25 August in Beijing, Peoples Republic of China.

The format of the Congress will be similar to its two predecessors, in 1996 and 1998: It will comprise a number of relatively independent conferences sharing plenary sessions (opening, closing, and keynote) and social events. The conferences suggested by the OC can be found in the March ***IFIP*** *Newsletter* on page 5. Members of Council told the OC representatives that more focussed conferences would be preferable. The OC solicits the suggestions of all **IFIP** volunteers. Council agreed that it is desirable that the host country exert a significant influence on the program.

The organizers said that the Congress is "highly endorsed and supported by the Chinese Government." A "conservative" estimate of attendance was given as 800 delegates from abroad and 1200 from China. A different presenter gave an estimate between 1000 and 1500. Two aspects of the OC report elicited concerns from the meeting participants: the plan to review submitted papers on the basis of extended abstracts only (which goes against the **IFIP** policy of reviewing full papers) and the plan to "publish" proceedings on CD-ROM only (see the discussion in the article about **IFIP** publications on page 1).

The chair of the OC is **Prof. Zong Sha** (PRC), but the chair of the International Program Committee (IPC) had not been appointed when this issue of the *Newsletter* went to press at the end of April. ■

National Abbreviations Used in Newsletter

A Austria	F France	P Portugal
AUS Australia	GB or UK United Kingdom	PRC China
B Belgium	GR Greece	RUS Russia
BR Brazil	H Hungary	S Sweden
CDN Canada	I Italy	SF or FIN Finland
CH Switzerland	IL Israel	SLO Slovenia
CZ The Czech Republic	IND India	TN Tunisia
D Germany	J Japan	USA U.S.A.
DK Denmark	NL The Netherlands	ZA South Africa

1997 International Olympiad in Informatics Held in South Africa

IFIP Awards Prize

by Mr. Christopher Guy (ZA)*

The 1997 International Olympiad in Informatics (MI '97) attracted more participating countries than ever before: 65 countries entered, and 61 eventually participated — 57 with teams, and 4 as observers. They assembled in Cape Town, South Africa, from 30 November to 7 December.

The RN was initiated by UNESCO in 1987. It now forms part of an ongoing series of competitions organised by the ICI International Committee. The aim of the competition, open to contestants under 20 years of age sent by the participating countries, is to foster problem-solving and programming skills and to promote international understanding and friendship among contestants from all over the world.

Not only was MI '97 bigger and better, but it was also the first IOI to be funded entirely by commerce and industry. In fact, no public money was involved at all, except to host the opening and closing functions. KM '97 was a partnership between the Computer Society of South Africa, which provided the Scientific Committee and some of the manpower, Old Mutual, which was the major sponsor and provided much of the manpower needed, and the University of Cape Town, which provided the venue.

The competition itself occurred on Tuesday and Thursday. On each of these days, the competitors had to solve three problems, set by the Scientific Committee, which successfully differentiated according to problem-solving ability. No students scored 100%, very few scored 0%, and the others were well spread out. Nineteen gold, 36 silver, and 57 bronze medals were awarded at a spectacular closing function. Top honours, a gold medal and the **IFIP** TC3 trophy went to **Vladmir Martianov** of the Russian Federation. The other gold medals went to students from Asia, Europe, and North America.

Wednesday of the Olympiad week was "Microsoft International Day," which included an exhibition of "cutting-edge" technology for ICI participants and local children. Also, the participants teamed up with pupils from the wider Cape Town community to design Web pages for educational use. Three other days were for tourist activities.

The 1998 IOI will be held 5-12 September in Setúbal, Portugal. Everything is proceeding very smoothly, with 600 participants from 70 delegations expected. ■

* vice-president of Computer Society of South Africa and of **IFIP**

Who's Who in IFIP: Professor Reino Kurki—Suonio

Professor Reino Kurki-Suonio, the **IFIP** representative of Finland and chair of the Technical Committee on Software: Theory and Practice (TC2), was born in Hameenlinna, Finland. He received the M.Sc. degree in mathematics from the University of Helsinki in 1959. (During his studies, no computing was taught in Finland — the first IBM 650 computer arrived in 1958.) In 1960, when he was completing his military service, his advisor asked him to join a new group that was starting computing activities, as part of a company that later became Nokia Electronics. When he agreed, he was sent to Regnecentralen in Copenhagen, to learn about computing from **Dr. Peter Naur,** the editor and proponent of Algol 60.

In 1964, he received his Ph.D. from the University of Helsinki, with a thesis on formal languages and syntax analysis, which may be considered to be the first computer science thesis in Finland. Immediately afterwards, he had an opportunity to do post-doctoral research (1964-65) at the Carnegie Institute of Technology (now Carnegie Mellon University) under the guidance of the legendary **Prof. Alan J. Perlis,** to whom he acknowledges a debt for much of how his ideas about computing and software have evolved. While there, he was surprised by an invitation to start the first computer science department in Finland, at the University of Tampere. "In my innocence," he says, "I couldn't resist this challenge." He was officially appointed Professor of Computer Science in 1967.

In 1980, **Prof. Kurki—Suonio** was invited to assume a chair at the Tampere University of Technology, another school in the same city, to start a software-oriented degree program in cooperation with engineering people. A lot of effort was put into developing software-engineering education and also into cooperation with industry, rather than creating a traditional computer science department. He remains a Professor in that Department of Information Technology.

He has also held visiting positions at Stanford University (1974-75) and Carnegie Mellon University (1984-85) and worked part time at Tartan Laboratories. Over the years, he has participated in various ACM and IEEE—CS activities. Currently he is an Associate Editor of the *IEEE Transactions on Software Engineering.*

His current research interests are in the specification and design methods for distributed and real-time systems. As recognition of his work, he has been invited to membership in the Finnish Academy of Sciences and Letters and the Finnish Academy of Technology.

Prof. Kurki—Suonio's involvement with **IFIP** began as a WG2.2 member (1967-80). He then became the Finnish delegate to TC2 (since 1974), TC2 vice-chair (1992-94), and now TC2 Chairman (since 1995). He has also been the Finnish representative to the General Assembly since 1997.

He and his wife, Liisa, are the parents of three daughters. He enjoys classical music, especially chamber music, and plays the piano. He offers the following advice for getting rid of jet lag: "Take a hot sauna in the evening, and make a hole in the ice for a dip in the lake in the morning. My house is on one of the more than 60 000 lakes in Finland, where I can easily do this — except in the summer." Everyone can agree that the survivors of this regimen would probably no longer be concerned with jet lag. ■

*Member Societies Report to **IFIP** on Activities and Concerns*

Annually, each **IFIP** Member society is requested to prepare a report on its activities, organization, concerns, and thoughts on its relationship with **IFIP.** These reports can prove valuable reading for other societies as well as the **IFIP** community. Following the 1997 **IFIP** General Assembly, **Mr. Graham Morris** (GB), the **IFIP** secretary, prepared the following summary of the 25 reports submitted to **IFIP,** pointing out that "This summary is no substitute for a reading of the 25 reports on which it is based."

Financial Problems

A number of Members had financial difficulties, some arising from national economic problems and others from internal problems. Albania and Bulgaria are in the former category, while France and the Netherlands are in the latter. Spain and Portugal are successfully emerging from their problems. **(IFIP** should consider whether there is any feasible way in which Members can profit from each others' experiences.)

National IT Policy

Some Members play an active role in contributing to national policies either as advisers or consultants or active participants in Government committees. (Armenia, Finland, Norway, Zimbabwe, and South Africa)

"ECDL"

These initials occur frequently in the reports from European Members. They stand for the European Computer Driving License, a scheme for the certification of the basic skills required to be an effective user. It has been adopted very widely in Europe, and non-European Members may find it worth exploring. (See, for example, http://www.bcs.org.uk/ecdl.htm.)

Membership Numbers

There seem to be surprising variations in size between Members, not necessarily what might be expected. Norway, for example, has 12 000 individual members and over 1200 company members. On the other hand the Netherlands' membership of 10 000 in 1992 fell to 6500 in four years. Others face a similar decline. The question usually asked is "What do I gain from being a member of my national society? There seem to be two issues worth pursuing: 1) How can Member societies profit from the experience of others in their retention and recruitment? 2) Is the current **IFIP** Member the appropriate one?

Communication

There were many references to the Internet and the way in which plans are well under way to exploit it to achieve better communication with a society's members. These arrangements could provide a golden opportunity for **IFIP** to tackle and solve our perennial problem of ignorance by our Members' members of **IFIP's** activities, and the potential value to them of **IFIP.** Much valuable **IFIP** material is already available at our Web site. What steps should we take to draw the attention of the masses to Its availability, and should the scope of the material be extended in a form comprehensible to people not versed in **IFIP's** ways or jargon?

Reorganization

Apart from those forced to reorganize to solve financial problems, there Is good evidence that our Members strive to keep up with our fast-changing marketplace, the better to serve existing members and to attract new ones. (Denmark, Zimbabwe, Germany)

Activities

Some of the technical and professional events held by Members attract enviable sizes of audience. Several of our Members are involved in organizing or running national and international competitions for young people.

Suggestions or Proposals to IFIP

Activities

- Restrict the location of **IFIP** events to be within **IFIP** Member countries.
- Members should more actively promote **IFIP** events and publications.
- We should target our work to be of more interest to our Members' members. **IFIP** is seen as too academic and remote.

Technical Committees (TCs) and Working Groups (WGs)

- Provide more material suitable for Members' publications.
- WG members should be encouraged to join Member societies.
- Review rules about active participation in WG meetings, in order to allow for contribution and discussion via electronic means.

Major Initiatives

- Concentrate on issues that Members agree would have worldwide impact — e.g., data security and crypto regulations. State our position clearly and publicly to key decision-makers.
- Create new interest groups, not necessarily TCs, to deal with matters of global concern.
- **IFIP** should really aim to be the international body for all IT societies and a forum for debating international issues.

Members

- A Member society's member moving to another country should be treated as a member by that country's Member society.
- **IFIP** should be a much more effective vehicle for Members to exchange information, Ideas, advice and activities with each other.

Small and Developing Countries

- Review the fee structure, to make It easier to join **IFIP.**
- Provide free registration to **IFIP** Congress '98 for five people from each developing country.
- Provide specialist speakers for tutorials.
- Give more help to developing countries, with the assistance of Members.
- Recognize that small countries cannot afford to meet the cost of attending both **IFIP** technical and administrative meetings, and may give priority to the former.
- Reduce and restructure administrative meetings.

Promoting **IFIP**

- **IFIP** is often the best-kept secret In a Member society. There is a great lack of knowledge about what **IFIP** does and can do for Members and their members. The Internet, properly exploited, can provide a solution.

Professional qualifications

- **IFIP** should establish international standards of knowledge and competence for IT professionals, together with a professional-development scheme.
- IT professionals achieving these standards could be affiliated to **IFIP** as certified members.

In addition to the items listed by **Mr. Morris,** the following caught our attention:

- The Albanian Member (Institute of Informatics and Applied Mathematics) actively engages in applied projects: "1) development of software, especially in collaboration with Italian enterprises, and projects for design and implementation of information systems in different organisations; 2) working for completion of the first phase of the NATO project for the creation of part of a metropolitan network infrastructure in Tirana and collaboration with other organisations for the completion of a project for the creation of an academic network and connection with the Internet; and 3) training courses on microcomputers and standard application software."
- Both the Albanian and the Bulgarian Members received assistance from the Open Society Foundation, sponsored by philanthropist **George Soros** (USA).
- The Bulgarian report noted the "decrease of scientific activities in Bulgaria and its surrounding countries in the area of Computer Science."

continued on following page

TC5 Report

*by Mr. Jakob Vlietstra * (USA)*

The **IFIP** Technical Committee on Computer Applications in Technology (TC5) met in Detroit on November 4th, 1997. The meeting was scheduled to take place during the CAPE'97 conference. Unfortunately, this conference had to be cancelled because of a very low registration. **Gus Oiling,** the U.S. member of TC5, stated that this was probably because of a late start in organizing this triennial event and the low profile of FOCUS (the U.S. Member society in **IFIP)** and of **IFIP** in the United States. TC5 spent most of its time discussing its future. This was based on results of a questionnaire distributed previously. The committee discussed the objectives of TC5 and the strategy that should be followed to attain the goals. The proposed goals were evaluated and resulted in this final proposal: TC5 exists to "advance IT in order to help industry to improve global competitiveness."

The situations in the various TC5 Working Groups (WGs) were also discussed. A proposal to merge WG5.2 (CAD) and WG5.3 (CAM) will be discussed with the chairmen of both WGs. A proposal to revive WG5.8 (Product Specification) but have it focus on Product Data Management (PDM) is being studied by the chairman of TC5, **Prof. Guy Doumeingts** (F). In addition, it was decided to disband WG5.9 (Agricultural Applications). It was also decided to launch specific projects with limited duration and a defined scope. These projects should seek the participation of a number of WGs. Proposed were projects on "synergy between entertainment and industrial production" and "evolutionary benchmarking." The first project will be initiated by **Prof. Jose Encarnaçáo** (D). A facilitator for the second project has yet to be found.

The next TC5 meeting will take place in conjunction with the PROLAMAT conference on September 12, 1998 in Trento, Italy.

* Independent Member and former chair of TC5, and TC5 correspondent to the ***IFIP*** *Newsletter*

Professor Arie Duijvestijn

1927-1998

We regret to announce the death, in January, of **Professor Arie Duijvestijn** (NL), a long-time member of the **IFIP** Technical Committee on Software: Theory and Practice (TC2).

MEMBER REPORTS continued from prior page

• In noting that its membership is gradually decreasing (because of emigration and the perception of some members that they do not receive sufficient benefits), the South African report stated, "This latter area is being addressed by focusing on expanding the benefits offered to members, and by a critical examination of our membership entry criteria, in an effort to attract new members. However, while we would like to alter our entry requirements, we are very mindful of the wish of existing members to maintain the professional standards for admittance to full membership."

• The Danish Member reported that in response to declining membership, "the board launched a direct canvass of potential members. In relation to the recruiting campaign, a pamphlet was published and distributed to all the members of the association. The campaign resulted in the number of members increasing from 3829 to 4190." Also, "At the end of April 1997, approximately 100 institutions of education and electronic-data-processing-related education centres had applied for test-centre status [for the PC driving license]."

• The Finnish Member society (FIPA), very active in establishing national policy, reported, "Legislative issues are an important field of activity — in particular, within data security and copyright protection. Representing IT expertise as well as IT trade and industry, FIPA considers it important to influence IT policies at the national level, especially the development of strategic IT plans and the promotion of IT trade and industry. To help FIPA in this, it has an advisory board with prominent members from different sectors of society."

• The Norwegian Member (NCS) also takes a similar role: "The NCS focuses on counseling the Government in matters concerning IT. ... The NCS has submitted several statements in favour of the liberalisation of the telecommunication sector, which is to take place in 1998. However, continued effort is needed to ensure that free competition in the telecommunication market is carried through as planned. The NCS has advised the Norwegian government to await international agreements and a more in-depth study of consequences before initiating customs and other tariffs on commerce on the Internet in regards to software."

• The Norwegian report also told of "a significant lack of personnel with higher IT education in Norwegian industry today. The NCS focuses on efforts to ensure increasing numbers of applicants to higher IT education in general, with special attention to women, as well as retraining."

• Finally, the Norwegian society reported that its annual software exposition involved more than 130 exhibitors and attracted close to 16 000 visitors and 1400 participants to 24 conferences and seminars.

• Another report of influence with government came from the German member (GI): "GI developed a position paper on Crypto Regulations [and] made a press release, ... Most important was a hearing of a Commission of the German Bundestag about Data Security, where GI's president had been invited as an expert. GI plays an important role in an activity of the Federal Government: 'Forum Info 2000,' an interdisciplinary dialog about chances and risks of the information age."

• In addition, "GI started a discussion circle 'Management and Informatics,' where executives and decision-makers discuss important topics like Crypto Regulation."

• The GI report also told of the significance accorded the sixth International **IFIP** conference on Women, Work, and Computerization, which was held in Bonn under the patronage of the president of the German Bundestag, **Rita Suessmuth.**

• The report of the Slovak Member society noted with pride that the Slovak team finished seventh in the finals of the ACM Collegiate Contest in programming.

• The Spanish Member (FESI) report said, "The President of FESI has been interested in promoting better knowledge of the activities in **IFIP** by members of the [Spanish] scientific community. This has led to the publication of a book, written in Spanish, ... summarizing, in several articles, the state of knowledge in the different branches where Spanish researchers participate in **IFIP** WGs. The title of this book is *Panorama Informatico,* edited by **Jose Cuena,** and it includes nine overview papers in different fields."

• India devotes much attention to its students, having 67 Student Branches around the country and holding a two-day National Students Convention.

• Also, "The [Indian] society has instituted two National IT Applications Awards, with trophies and cash prizes, to recognise not only research and development or applications development, but actual utilisation of IT."

Reports were not received from major Member societies: Canada, China, Switzerland, and the U.K., among others. In several cases, the representatives of these countries are **IFIP** officers. These reports are an excellent means of communication among Member societies, and all Members are encouraged to prepare substantial reports for 1998.

COUNCIL continued from page 5

would welcome the opinions of the readers (his address is in the masthead, on page 2).

A discussion revolved around reversing the decision of the 1997 GA to include the names of all WG members in the ***IFIP*** *Information Bulletin,* which, in conjunction with mailing the *Bulletin* to many more people, created a significant additional expense.

A committee that was charged by the September GA to propose new activities that were previously impossible because of a lack of funds delivered its report. The three activities highly recommended by the committee were 1) a program to fund lectures in developing countries by foreign experts, 2) printing and distributing the **IFIP** Member society reports annually submitted to **IFIP,** and 3) printing and distributing annual reports by TCs and WGs on the current state of the art in their fields. No action was taken.

Further discussion took place on the proposal for a new category of membership: the International Professional Society (see the December 1997 ***IFIP*** *Newsletter,* page 10), which had been proposed by **Dr. Bruce Shriver** (USA), past president of FOCUS, the U.S. Member society of **IFIP.** The Computer Society of the IEEE (Institute of Electrical and Electronics Engineers) had announced that it planned to withdraw from FOCUS at the end of 1998, leaving ACM as its only member. The Council agreed that it was important to keep the U.S. societies within **IFIP;** however, it was not considered wise to change **IFIP** rules for only one case. **Prof. Robert Aiken,** the FOCUS representative, indicated that FOCUS would not be happy with any new category of membership that would not provide the same rights (including voting) and responsibilities that Full Members have. The discussion ended with the determination to solicit the opinion of the **IFIP** Member societies once more and to carry out further discussions with FOCUS.

Strategic planning received continued attention. **Prof. Ashley Goldsworthy** (AUS), who reported for the Strategic Planning Committee, said that a New Initiatives Manager and an Event Innovator should be appointed; however, no decision was reached concerning who should take responsibility.

The Council was adjourned by **President Bauknecht,** with many thanks to the British Computer Society for its hospitality.

Professor Harold Highland

1917 — 1997

Professor Harold Highland (USA), a major contributor to TC11, the **IFIP** Technical Committee on Security and Protection in Information Processing Systems, died in September 1997. The October 1997 issue of the TC11 journal, *Computers and Security,* which he founded in 1982, was devoted to his contributions. Following are remarks written by the chair of TC 11.

Harold Highland was involved with TC11 since Its establishment, acted as its Press Officer for many years, and served as chairman of its Working Group on Information Security Education from Its inception, in 1991, to 1995. During many TC11 meetings, he offered valuable advice on various aspects of Information security and actually acted as a mentor for many new representatives to TC11. His numerous presentations at IFIP/Sec conferences were always well received and resulted in intense discussion afterwards. TC11 honoured Harold in 1993, when he became the first recipient of the **Kristian Beckman** Award (see the September 1993 **IFIP** *Newsletter),* acknowledging the respect and recognition for Harold's contributions over many years to information security. Harold was also awarded the **IFIP** Outstanding Service Award to acknowledge outstanding International contributions in IT. TC11 will miss Harold but will always remember his contributions to TC11, **IFIP,** and the information security world.

Basie von Solms
TC1 1 Chairman

The Managing Editor of *Computers and Security* ended his tribute to **Prof. Highland** as follows:

Yet, it is in the field of computer security that he left the greatest Impression — working at the forefront of security technology and making his own considerable knowledge available long after the time when most would have retired and turned to less demanding pursuits. ... Certainly it is the case that the industry has been particularly fortunate to have had such commitment and valuable input from Harold for so many years. I can only hope that he was aware of the extent to which he was appreciated.

John Meyer
Managing Editor

Prof. Tom Kilburn (left, GB), co-designer of "The Baby," and Prof. Kurt Bauknecht (CH), president of IFIP, chat in Manchester.

New Working Group Charter

In March, the **IFIP** Technical Assembly approved the formation of one new Working Group, provisionally approved the formation of another, and received reports of plans for the formation of additional WGs. The Aims and Scope document of the new WG is printed here; the others will appear in future issues of the ***IFIP*** *Newsletter.*

WG6.10 on Photonic Communication Networks

Motivation

Photonic communication networks hold the promise of solving several problems in the current generation of networks, among them being restricted transmission capacity and limited performance capability.

Aims

- To strengthen research on and development of photonic networks.
- To explore their potentials.
- To accelerate development of these networks.
- To provide a platform for presenting and discussing research activities, major achievements, and trends involving these all-optical communication networks.

Scope

- To foster exploration of architectures, system designs, control mechanisms, and applications that exploit the abundant transmission capacity and flexibility of photonics.
- To promote development of analytical and simulation tools as well as methods for analysing, operating, dimensioning, and planning such networks.
- To advertise this emerging research field by organizing workshops, seminars, and conferences. ■

TECHNICAL COMMITTEE CHAIRMEN

TC1:	G. Ausiello	97-99
TC2:	R. Kurki-Suonio	FIN 97-00
TC3:	B. Samways	GB 97-99
TC5:	G. Doumeingts	F 96-99
TC6:	A. Casaca	P 98-01
TC7:	P. Kall	CH 95-98
TC8:	B. Glasson	AUS 96-98
TC9:	P. Jaervinen	FIN 96-98
TC10:	J.-C. Laprie	F 96-99
TC11:	B. von Solms	ZA 94-98
TC12:	B. Neumann	D 97-00
TC13:	J. Hammond	AUS 95-98

FUTURE IFIP MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

GA	5-8 Sep 98 (Sat.-Tues.)	Budapest, Hungary
Council	28 Feb - 4 Mar 99 (Sun.-Thurs.)	New Delhi, India
GA	5-9 Sep 99 (Sun.-Thurs.)	Kuala Lumpur (Cyberjaya), Malaysia
GA	26-29 Aug 2000 (provisional)	Beijing, China

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS

WG1.1	autumn 98	Berkeley, CA, U.S.A.
	Jul 99	Oxford, U.K.
	Oct 99	Hong Kong, China
WG1.2	Aug 98	Brno, Czech Republic
	Nov 98	Paderborn, Germany
TC2	12-13 Jun 98	Shelter Island, NY, U.S.A.
WG2.1	Sep 98	Beijing, China
WG2.2	Jun 98	Shelter Island, NY, U.S.A.
WG2.3	Jun 98	Bloomington, IN, U.S.A.
WG2.5	Sep 98	Patras, Greece
WG2.6	22-24 Aug 98	New York, NY, U.S.A.
	5-8 Jan 99	Rotorua, New Zealand
WG2.9	Sep 98	Vienna, Austria, or Budapest, Hungary
	Jan 99	Dublin, Ireland
TC3	29-30 Aug 98	Vienna, Austria
	2-3 Dec 99	Rotorua, New Zealand
	24-25 Nov 2000	Copenhagen, Denmark
	28 Jul & 3-4 Aug 2001	Copenhagen, Denmark
WG3.1	14 Jun 99	Hdmeenlinna, Finland
	Apr 2000	Santiago, Chile
	Jul 2001	Copenhagen, Denmark
WG3.2	2-5 Jun 98	electronic meeting
	5 Aug 98	Irvine, CA, U.S.A.
	Aug 2000	Magnetic Island, Australia
WG3.3	2 Sep 98	Vienna, Austria
	28 Nov 99	Palmerston North, New Zealand
WG3.4	25 Aug 98	Saitama, Japan
WG3.5	17 Jun 99	Hdmeenlinna, Finland
WG3.6	5 Aug 99	Irvine, CA, U.S.A.
WG3.7	9 Jul 98	Maine, U.S.A.
	27 Nov 99	Palmerston North, New Zealand
TC5	12 Sep 98	Trento, Italy
WG5.3	9-11 Sep 98	Trento, Italy
WG5.7	26-28 Aug 98	Troon, Scotland
WG5.10	22- 26 Jun 98	Hannover, Germany
TC6	23-25 Oct 98	Tozeur, Tunisia
	23-24 Apr 99	Copenhagen, Denmark
	3-4 Sep 99	Budapest, Hungary
TC7	12-16 Jul 99	Cambridge, U.K.
WG7.2	19-22 Jun 98	Hanghzhou, China
	31 Aug - 6 Sep 98	Moscow, Russia
WG7.6	21-23 Sep 98	Laxenburg, Austria
WG7.7	23-28 Aug 98	Prague, Czech Republic
TC8	29-30 Aug 98	Vienna, Austria
	99	Israel
WG8.1	15-17 Jul 98	Beijing, China
WG8.2	10-12 Dec 98	Helsinki, Finland
	22-26 May 99	St. Louis, MO, U.S.A.
	May/Jun 2000	Aalborg, Denmark
WG8.3	12-15 Jul 98	Bled, Slovenia
WG8.6	10-12 Dec 98	Helsinki, Finland
TC9	29-30 Aug 98	Geneva, Switzerland
WG9.1	24 Aug 98	Geneva, Switzerland
WG9.2	6-7 Jun 98	Farnborough, U.K.
	16-17 Jan 99	Namur, Belgium
WG9.5	26–28 Aug 98 (with HCC-5)	Geneva, Switzerland
WG9.6	16-18 Oct 98	Stockholm, Sweden
TC10	5 Sep 98	Budapest, Hungary
	30-31 Aug 99	Toulouse, France
WG10.3	Oct 98 (with PACT)	Paris, France
WG10.4	26-29 Jun 98	Munich, GerMany
	Jun 99	Madison, WI, U.S.A.
	Jun 2000	New York, NY, U.S.A.
TC11	Sept 98	Vienna, Austria, or Budapest, Hungary
WG11.5	19 Nov 98	Warrenton, VA, U.S.A.
TC 12	Sept 98	Vienna, Austria, or Budapest, Hungary
TC 13	Sep 98	Stuttgart, Germany, or Vienna, Austria
	30 Aug 99	Edinburgh, U.K.
WG13.2	9 Sep 98	Stuttgart, Germany
WG13.3	30 Aug 98	Vienna, Austria

This information is furnished to the *Newsletter* by the Secretariat advised of the dates and locations of their of the minutes to the Secretariat. Some meetings are for which the conference dates are listed. Secretariat. Will TC and WG chairs kindly keep the future administrative meetings and also send a copy scheduled in conjunction with Working Conferences,

Essential Reading in Communication Systems and Networks

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ATM Networks: Performance modelling and evaluation Volume IV

dited by **D.D. Kouvatsos**, University of radford, UK

erformance prediction and quanitifative nalysis of ATM networks are the most crucial esearch and development activities in ndustry and academia worldwide. As well as ntroducing the most recent advances in TM networks, this book describes mature TM work, reflecting at international level the tate-of-the-art technology and research chievements. In addition, it provides a ndamental source of reference in the ATM eld.

uly 1998: 234x156: approx. 500pp
ardback: 0-412-83640-8: approx. £95.00

Broadband Communications: The future of telecommunications

. **Ulrich** and **P.J. Kühn** both of University f Stuttgart, Germany

he book presents the state-of-the-art both the theory and practice of dvanced communication technology. he book addresses the scientific and ngineering aspects of future broadband ommunication technologies, including spects of traffic (source) characterization, est and measurement, routing and ulticasting, protocols, traffic control, etwork management, and performance valuation.

pril 1998: 234x156: approx. 608pp
ardback: 0-412-84410-9: approx. £115.00

Performance and Management of Complex Communication Networks

dited by **T. Hasegawa**, Kyoto University, apan; **H. Takagi**, University of Tsukuba, apan and **Y. Takahashi**, Nara Institute f Science and Technology (NAIST), apan

ith the proliferation of ISDN and obile communication systems, modern ommunication networks are becoming rger-scale, higher-speed, and more omplex than ever before. Therefore, esides hardware development, extensive esearch on system technologies with espect to performance evaluation and anagement is indispensable for the proper esign, development and operation of merging communication networks. This ook presents the latest research on theory, mulation and implementation in this field.

ay 1998: 234x156: approx. 416pp
ardback: 0-412-84250-5: approx. £90.00

Formal Description Techniques and Protocol Specification, Testing and Verification

T. Mizuno, Shizuoka University, Japan; **N. Shiratori**, Tohoku University, Japan; **T. Higashino**, Osaka University, Japan and **A. Togashi**, Shizuoka University, Japan

FORTE/PSTV '97 addresses Formal Description Techniques (FDTs) applicable to Distributed Systems and Communication Protocols (such as Estelle, LOTOS, SDL, ASN.1, TTCN, Z, Automata, Process Algebra, Logic). The conference is a forum for presentation of the state-of-the-art in theory, application, tools and industrialization of FDTs, and provides an excellent orientation for newcomers.

November 1997: 234x156: 576pp: 174 line illus
Hardback: 0-412-82060-9: £99.00

Management of Multimedia Networks and Services

R. Boutaba, Computer Science Research Institute of Montreal, Canada

With continual growth in telecommunication services in today's multimedia environment, reliability and control are essential elements in the provision of services. This book addresses the need for an integration of service and management in multimedia networks in order to facilitate greater accuracy and quality in the services provided. The book aims to disseminate all facets of network and service management in broadband networks and multimedia services while providing an overview of state-of-the-art research and implementation experiences in the field.

January 1998: 234x156: 288pp: 121 line illus
Hardback: 0-412-82630-5: £75.00

Optical Network Design and Modelling I

Edited by **H.R. Van As** and **A. Jukan**, both of Vienna University of Technology, Austria

Optical network design and modelling is an essential issue for planning and operating networks for the next century. The main issues in optical networking are being widely investigated not only for WDM networks but also for optical TDM and optical packet switching. This book aims to contribute to further progress in optical network architectures, design, operation and management.

May 1998: 234x156: approx. 176pp
Hardback: 0-412-84260-2: approx. £59.00

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Building QoS into Distributed Systems

Edited by **A. Campbell**, Columbia University, USA and **K. Nahrstedt**, University of Illinois, USA

This volume contains the Fifth International Workshop, Quality of Service, sponsored by the International Federation for Information Processing (IFIP), and held in May 1997 Columbia University New York USA. This book is essential reading for engineers and R&D students, and for researchers in multimedia networking areas.

December 1997: 234x156: 448pp: 151 line illus
Hardback: 0-412-80940-0: £80.00

Distributed Applications and Interoperable Systems

H. König, Brandenburg University of Technology at Cottbus, Germany; **K. Geihs**, University of Frankfurt, Germany and **T. Preuss**, Brandenburg University of Technology at Cottbus, Germany

DAIS '97 provides a forum for researchers, application designers and users to review, discuss and learn about new approaches and concepts in the fields of distributed applications. DAIS '97 will especially focus on the interoperability between different applications and services, different implementations of the same and of different distributed platforms.

September 1997: 234x156: 304pp: 30 line illus
Hardback: 0-412-82340-3: approx. £75.00

Performance of Information and Communication Systems

Edited by **U. Korner**, Lund University, Sweden and **A. Nilsson**, North Carolina State University, USA

This book presents state-of-the-art discussions of the key issues in modelling and performance of Information and Communication Systems. In addition to providing a theoretical overview of the field, this book addresses key topics like B-ISDN and ATM, high speed mobile systems, traffic characteristics and measurements and the Internet.

June 1998: 234x156: approx. 320pp
Hardback: 0-412-83730-7: approx. £70.00

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EDUCATION AND INFORMATION TECHNOLOGIES

Official Journal of the IFIP Technical Committee on Education

Editors: Deryn Watson, School of Education, King's College, SE1 8WA UK;
Brian Samways, Education IT, Martineau Education Centre, Birmingham, B32 2EH UK;
and John Olson, MSTE, Queen's University, Kingston, Ontario, K7L 3N6 Canada

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VAT reg no: GB 198 9232 09

Event	Date	Location	Sponsored by	Org. Contact
Teleteaching '98	31.8.-4.9.1998	Vienna/Budap. A,H	IFIP TC3, CEPIS	ifip98@ocg.or.at. Fax: +43 1 51202359
Euro-Par	1-4.9.1998	Southampton, UK	EuroPar, IFIP WG10.3	jsr@ecs.soton.ac.uk, Fax: +44 1703 593903
PROLAMAT '98	9-11.9.1998	Trento, I	IFIP WG5.2/5.3, University of Trento	gianni@lii.unitn.it, http://www.lii.unitn.it/prolamat/, Fax: +39 464 443 141
Work.Conf. on Designing Effective & Usable Multim. Syst.	9-11.9.1998	Stuttgart, D	IFIP TC13, CEPIS, City Univ., Fraunhof Ins.	a.g.sutcliffe@city.ac.uk, Fax: +44 171 4778411
Engineering the Human Computer Interface	14-18.9.1998	Iraklion, GR	IFIP WG2.7, ICS-FORTH	lib@sei.cmu.edu, Fax: +1 412 268 5758
Intl:Conf. on Distributed System Platforms & Open Distributed Processing (formerly ICODP/ICDP)	15-18.9.1998	Lake District, UK	IFIP WG6.1	gordon@comp.lans.ac.uk, Fax: +44 1524 593608
IFIP WG7.6-IIASA Workshop on Advances in Modeling: Paradigms, Methods & Applications	21-23.9.1998	Laxenburg, A	IFIP WG7.6, IIASA	marek@iiasa.ac.at, Fax: +43 2236 71313
Telematics,a new Dimension of Automation	28-30.9.1998	Vienna. A	IFAC, IFIP TC5	Fax: +43 1 50418359
5th Annual Australasian Confon Parallel & Real-Time Systems	28-29.9.1998	Adelaide, AUS	IFIP WG10.3, IEEE, Uni.Adelaide, Uni.S.Australia	andrew@cs.adelaide.edu.au, http://www.cs.adelaide.edu.au/PART98, Fax: +61 8 8303 4366
17th Intl. Conf. on Computer Safety, Reliability and Security	5-7.10.1998	Heidelberg, D	IFIP WG5.4, IFAC	dia@gi-ev.de, http://www.fh-fulda.de/safecomp, Fax: +49 228 378690
Intl. IFIP WG10.3/WG10.5 Workshop on Distributed & Parallel Embedded Systems	8-10.10.1998	Paderborn, D	IFIP WG10.3/10.5	franz@uni-paderborn.de http://www.uni-paderborn.de/cs/ferne/DIPES.html , Fax: +49 521 106 6010
5th Conf.on Computer Communications	20-22.10.1998	Tunis, TN	IFIP TC6, ICCC	belghith<maddouri@ensi.mrt.tn , http://www.ensi.mrt.tn / Africom-CCDC98, Fax: **+216 1 706297**
9th IFIP/IEEE Intl. Workshop on Distributed Systems: Operations & Management	26-28.10.1998	Newark, DE, USA	IFIP WG6.6, IEEE CNOM	**sethi@cis.udel.edu, Fax: +1 302 831 8458**
Sculptured Surface Mach. Conf.:"Mach. Impossible Shapes"	9-11.11.1998	Detroit, MI, USA	Chrysler, IFIP WG5.3	**bkchoi@bezier.kaist.ac.kr, Fax: +82 42 8693110**
2nd IFIP WG1 1.5 Work.Conf. on Integrity & Internal Control in Information Systems: Bridging Business Requirements and Research Results	19-20.11.1998	Fairfax, VA, USA	IFIP WG11.5, IFAC, ACSA, George Mason **Univ.**	**strous@iaehv.nl, Fax: +31 492 548636**
6th IFIP Work.Conf.on Geometric Modelling: Fundamentals and Applications	7-9.12.1998	Tokyo, J	IFIP WG5.2, JSPE	tanaka@jspe.or.jp, Fax: +81 3 33670994
3rd Intl.Work.Conf. on Diffusion, Transfer and Implementation of Information Technology	10-13.12.1998	Helsinki, FIN	Bootstrap, IFIP WG8.2/8.6, BOOTSTRAP Institute, Univ.of Oulu, Ericsson Finland, European Commission	kuvaja@rieska.oulu.fi , Fax: +358 8 5531890
Intl.Conf.on Formal Methods for Open Object-based Distributed Systems	15-18.2.1999	Florence, I	EU-DGXIII, IFIP WG6.1, EU-DGXIII, CNR-Italy	fantechi@dsi.dsi.unifi.it, Fax: +39 55 4796363
Conf.on Communications & Networking in Education	13-18.6.1999	Aulanko, FIN	IFIP WG3.1/3.5, Univ.of Helsinki, Comp.Soc.of Finland, Min.of Education	matti.sinko@helsinki.fi, Fax: +358 9 8574328
15th IMEKO World Congress	13-18.6.1999	Osaka, J	IMEKO, IFIP, BIPM, OIML	i90415@sinet.ad.jp, Fax: +81 3 38144699
Intl. Work.Conf. on Distributed Applications & Interoperable Systems	28-30.6.1999	Helsinki, FIN	IFIP WG6.1	dais99@cs.helsinki.fi, http://www.cs.Helsinki.FI/ events/DAIS99, Fax: +358 9 7084 4441
19th IFIP Conference on System Modelling & Optimization	12-16.7.1999	Cambridge, UK	IFIP TC7	m.j.d.powell@damtp.cam.ac.uk, Fax: +44 1223 337918
Building University Electronic Educational Environments	3-6.8.1999	Irvine, CA, USA	IFIP WG3.2	franklin@uci.edu, Fax: +1 714 8242069
Interact '99 Human Computer Interaction	29.8.-3.9.1999	Edinburgh, UK	IFIP TC13	kilgour@bcs.org.uk, Fax: +44 1314513327
IFIP TC6/WG6.1 Joint Intl.Conf.on Formal Description Techniques (FORTE XII) and Protocol Specification, Testing & Verification (PSTV MX)	5-8.10.1999	Beijing, PRC	IFIP WG6.1, National Natural Science Foundation of China, Chinese Inst.of Electronics	jianping@cemetedu.cn , Fax: +8610 62785933

A schedule of administrative meetings can be found elsewhere in this *Newsletter*

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Calendar of Events

Event	Date	Location	Sponsored by	Org. Contact
Intl.Conf. on Trends in Distributed Systems & Electronic Commerce	3-5.6.1998	Hamburg, D	IFIP TC6, GI	merz@informatik.uni-hamburg.de , http://vsys-www.informatik.uni-hamburg.de/ec98, Fax: +49 40 54942328
IFIP Work. Conf. on Programming Concepts & Methods	8-12.6.1998	Shelter Island, NY, USA	IFIP WG2.2/WG2.3	sas@cs.sunysb.edu, Fax: +1 516 6328334
7th IFIP/ICCC Conf. on Information Networks & Data Communications	15-17.6.1998	Aveiro, P	ICCC, IFIP TC6, Univ. of Aveiro, INESC, API	finr@inesca.pt Fax: +351 34 370545
Control of Distributed Parameter & Stochastic Systems	19-22.6.1998	Hanghzhou, PRC	IFIP WG7.2, Chin. Natl. Science Foundation, Zheijang Univ., Fudan Univ.	il2v@virginia.edu, Fax: +1 804 9824555
Computer Graphics International 1998	22-26.6.1998	Hannover, D	Uni.Hann., IFIP WG5.10, Comp.Graph.Soc.	few@infonnatik.uni-hannover.de, Fax: +49 511 7622911
23rd IFAC/IFIP Workshop on real-time Programming	23-25.6.1998	Shantou, PRC	IFAC, IFIP TC5	lczhang@mailserv.stu.edu.cn
IFAC Symposium on Information Control in Manufacturing	24-26.6.1998	Nancy-Metz, F	IFAC, IFIP TC5, AFCET, CIRP, CNRS	incom98@cran.u-nancyfr, Fax: +33 383 912390
Intl. Work. Conf. on Information Technology in Educational Management	6-10.7.1998	South Bristol, Maine, USA	IFIP WG3.7, OR/Ed Lab., Univ. of Maine & South. Maine, Maine Dept. of Education	nidrg+2@unity.ncsu.edu , Fax: +1 919 7455771
Work. Conf. on Context-Sensitive Decision Support Systems	12-15.7.1998	Bled, SLO	IFIP WG8.3	vladislav.rajkovic@ijs.si, Fax: +386 61 1421395
Asia-Pacific Conference on Human-Computer Interaction	15-17.7.1998	Hayama-machi, Kanagawa, J	IPSJ, IFIP TC13	PFD00343@nittyserve.or.jp, Fax: +81 53 4781481
12th IFIP WG11.3 Work. Conf. on Database Security	15-17.7.1998	Chalkidiki, GR	IFIP WG11.3	spoonerd@cs.rpi.edu, Fax: +1 518 2764033
~~Work.Conf. on Information Systems in the WWW Environment~~	15-17.7.1998	Beijing, PRC	IFIP WG8.1	mqfang@public.bta.net.cn, http://ecolab.ruc.edu.cn/, Fax: +86 10 62515332
6th Intl. Symposium on Modeling, Analysis & Simulation of Computer & Telecommunication Systems	19-24.7.1998	Montreal, CDN	IEEE, IFIP WG10.3, IBM Canada, IEEE Montreal Section	das@cs.unt.edu, http://www.cs.mcgill.ca./-azedine, Fax: +1 940 5652799
CEPIS/IFIP Summer School on Teach. with IT in Sec. Schools	27-31.7.1998	Prague, CZ	CEPIS, IFIP TC3	morel@uni2a.unige.ch, Fax: +41 22 3180535
Optimal Control of PDE's	17-21.8.1998	Montreal, CDN	IFIP WG7.2, CRM, Univ. of Montreal	il2v@virginia.edu, Fax: +1 804 9824555
Work. Conf. on Educating Profess. for Network-Centric Org.	23-28.8.1998	Saitama, J	IFIP WG3.4, Jap.Soc. of Educ. Techn., Jap. Soc. f.	pjuliff@deakin.edu.au, Fax: +61 3 92446928
Prague Stochastics '98 - section on Stochastic Programming	23-28.8.1998	Prague, CZ	Charles Univ IFIP WG7.7	stoch98@utia.cas.cz, Fax: +420 2 6884702
3rd IEEE/IFIP Intl.Conf. on Information Technology for Balanced Automation Systems in Manufacturing	26-28.8.1998	Prague, CZ	IEEE, IFIP WG5.3	marik@labe.felk.cvut.cz, Fax: +420 2 24357224
5th World Conf. on Human Choice & Computers: Computer and networks in the age of globalization	26-28.8.1998	Geneva, CH	IFIP TC9	silvio.munari@hec.unil.ch, http://www.hec.unil.ch/hcc5/, Fax: +41 21 6923405
Work.Conf. on Strat. Managem. of the Manufact. Value Chain	26-28.8.1998	Troon, UK	IFIP WG5.7, Enterprise Aurshire	a.s.carrie@strath.ac.uk, Fax: +44 141 5520557
IFIP Congress '98,Fifteenth World Computer Congress	31.8.-4.9.1998	Vienna/Budapest, NH	IFIP	ifip98@ocg.or .at, Fax: +43 1 51202359
11th Intl. Workshop on Testing of Communication Systems	31.8.-2.9.1998	Tomsk, RUS	IFIP WG6.1	yevtushenko@elefot.tsu.tomsk.su
Intl. Conf. dedicated to the 90th Anniv. of L.S. Pantryagin	31.8.-6.9.1998	Moscow, RUS	RAS, IFIP TC7, Math. Steklov Inst., Moscow State Univ.	il2v@virginia.edu, Fax: +1 804 982 4555

(continued on page 15)

IFIP Congress '98 15th World Computer Congress	31.8.-4.9.1998	Vienna, A and Budapest, H	IFIP
IFIP Congress 2000 - 16th World Computer Congress	21-25.8.2000	Beijing, PRC	IFIP

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