IFIP newsletter
International Federation for Information Processing

Editor:
Dr. Jack L. Rosenfeld

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IFIP CONGRESS .92 COMING TO MADRID IN SEPTEMBER

Keynote Speakers

Michel Carpentier (F) is Director-General for Telecommunications, Information Industries, and Innovation at the Commission of the European Communities. Its role is to implement a European strategy for all aspects of information, such as provision, processing, storage, transmission, and access. Due to the speed of technological progress in recent years, these capabilities are increasingly important.

Philippe Kahn (F) is Chairman, President, and C.E.O. of Borland International (a designer and developer of microcomputer software). A French mathematician, Mr. Kahn studied in Zurich under Niklaus Wirth and founded Borland in 1983 with Turbo Pascal, based on Wirth's innovative programming language, as its first product. Under Mr. Kahn's direction, Borland has grown to be a leading developer of software products.

Pamela McCorduck (USA) is a world-reknowned author of seven books, including *Machines Who Think* and *The Fifth Generation.* They focus on the worldwide intellectual impact of the computer, with special attention to artificial intelligence. Her keynote address will briefly present some current ideas about complex adaptive systems; then she will describe some literature and art that are closely related to complex adaptive systems.

Josef Maria Vila Solanes (E) is the General Director of Resources for the Barcelona Olympics Organizing Committee '92 as well as its Director of Technology. In addition to holding positions in industry, he served for 15 years as a university professor. His keynote speech will describe the use of information technology in the Barcelona Olympic Games.

Participants in **IFIP** Congress '92 — to take place 7-11 September in Madrid — will find their days full with an excellent and varied technical program, visits to technical laboratories, an exhibition, social events, and possibilities for touring Spain.

Prof. Wilfried Brauer (D), chairman of the Congress International Program Committee (IPC), announced the composition of the technical program in March. Of the nearly 500 papers submitted, 170 were selected for presentation. In addition, there will be 65 invited speakers, 5 keynote speakers*, and 18 panels. Also, many submissions have been received for poster sessions. Prof. *Brauer* stated, "In line with the theme of the Congress, 'From Research to Practice,' the IPC made a strong effort to strike a balance between theoretical and practical contributions and so to produce a result that appeals to both researchers and practitioners. The Congress offers a unique opportunity to meet leading informaticians from around the world. Participants will not only be informed about the latest results in their own fields, but will also have an opportunity to peek into other fields and get an impression of the developments in other parts of informatics. Great emphasis is placed on questions of in-

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* We regret that information about the fifth keynote speaker, Josef Cornu, Vice-President of Alcatel N.V., was not received in time to print here.

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

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

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

IFIP COUNCIL

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W. Brauer	D	91-92

IFIP Congress '92 Organizing Committee meets with His Majesty the King of Spain (center). To his right is Mrs. Alsonso, and to the far left of the photograph is Prof. Angel Alvarez, the Spanish representative to IFIP.

CONGRESS '92 continued from page 1

dustry/university cooperation. In addition, the Congress is the first one in the newly restructured Europe, where people from Central and Eastern Europe can freely participate."

The Congress is organized into 5 parallel streams, two subconferences, and 4 symposia. The 3-volume proceedings will be given to all regular registrants.

Mrs. Rosa *Alonso* (E), chairman of the Organizing Committee (OC), is responsible for other technical aspects of the Congress, as well as all other arrangements. The OC has planned 6 tutorials on the Saturday and Sunday preceding the Congress:

Detection and Elimination of Malicious Software

Academic Computing: Supporting an Integrated Heterogeneous Environment

Information Systems Methodologies, A Framework for Understanding

Automated Approaches to Formal Hardware Analysis and Verification

Computer Privacy and Freedom: Can We Have Them All in the Next Century?

Validation and Knowledge-Based Systems: Consistency Checking and Testing

In addition, there will be a 3-day exhibition of computer products, systems, services, and publications at the site of the Congress. Also, technical visits to 7 industrial and educational laboratories have been organized.

The remainder of the OC events are more recreational. Two receptions, the Congress banquet (hosted by the Mayor of Madrid), a Capea (typical Spanish feast), and a wine-tasting party have been arranged. A great variety of sightseeing tours, within Madrid, to towns nearby, and even to Seville for EXPO 92, will be available. Since Madrid has been designated the "Cultural Capital of Europe" for 1992, there will also be a large variety of cultural events.

The Congress and exhibition will be held at the School of Medicine of the Complutense University of Madrid. Especially low-priced college accommodations will be available for registrants from developing countries in Latin America, Eastern Europe, Asia, and Africa.

Their Majesties the King and Queen of Spain will preside over the Honor Committee, which also includes the President of Spain, several governmental ministers, the Mayor of Madrid, and the Rectors of several universities.

Register now for this exciting event, IFIP's 12th World Computer Congress. For further information, please contact

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

IFIP COUNCIL MEETS IN TRONDHEIM

The IFIP Council met 4-6 March in Trondheim, Norway, preceded by two days of committee meetings. All 16 Council members were present, and eight of the 12 Technical Committee (TC) and Specialist Group chairmen attended. Although no major initiatives were launched, solid, progressive steps were taken. Council endorsed a plan to grant voting rights in the General Assembly to Technical Committee chairmen; IFIP's president, *Acad. Blagovest Sendov* (BG), announced that the academies of science of the 15 republics of the former Soviet Union will be invited to join IFIP; plans for IFIP Congresses '92 and '94 were discussed; the role of women in information processing was examined; Council decided that the March Council meetings are important for the proper functioning of IFIP; and a favorable treasurer's report was presented.

Mr. Nils Høeg , *president* of the Norwegian Computer Society, welcomed Council to Trondheim. He pointed out that Norway is a small country with a lot of international trade. Informatics is important. The Society is vital (15%-20% of the Norwegians involved in informatics are members of the Society) and an active participant in IFIP.

Congresses

Six IFIP Congresses were discussed, in one way or another, at the Council.

Finances of Congress '86 (the Irish Computer Society has not made any further payments on its outstanding loan from IFIP for the Dublin Congress, despite frequent promises) and Congress '89 (the surplus from the San Francisco Congress has generated 20% of IFIP's income for 1990 and 1991) were mentioned.

Congress '92, to be held in Madrid in September, was discussed at length. See the article on page 1.

The initial plans for Congress '94, which will take place in Hamburg, were presented by International Program Committee (IPC) chairman *Dr. Ronald Uhlig (USA)* and Organizing Committee chairman *Prof. Wilfried Brauer (D)*. Dr. *Uhlig* was unable to attend the Council meeting; however, he "put in an appearance" at the Technical Assembly (TA) meeting via a telephone-loudspeaker connection from Tokyo that enabled all participants to hear him and to ask questions. The tentative Congress theme is "Information Processing Directions — The next Five Years." He proposes three tracks: systems, applications, and impacts and issues (compared to the five tracks and subconferences and symposia into which Congress '92 is divided). The first day's program will be unique in the history of IFIP Congresses. For keynote speakers, *Dr. Uhlig* wants "...the President/Managing Director of 3 to 4 major corporations (IBM, DEC, Siemens, NEC, ICL, Phillips, ...) to present speeches on `Computers and Communications (or Education, Society, Security, and so on) — The Next Five Years.' Because facilities in the Hamburg conference center, where the Congress will be held, lend themselves particularly well to video conferencing, the use of these facilities will be explored, particularly in attracting participation by such senior leaders who may not have the time to travel physically to Hamburg. It even may be possible to set up some kind of 'global town meeting' in conjunction with the first day of the Congress. An effort will be made to set up a number of small discussion sessions for smaller groups of people to meet with the first-day speakers to explore issues raised in their presentations." Dr. *Uhlig* is seeking suggestions from the IFIP community for IPC members. In particular, "people are needed for the IPC who have access to or can gain access to the leaders from government, industry, and the academic world, from whom the invited speakers will be drawn." No mention was made of active participation of TCs in planning for the Congress.

Prof. *Brauer* presented preliminary plans by the Organizing Committee. He announced that the exhibition will consist of displays from a select group of large companies.

Prof. Asbjørn Rolstadås (N), president-elect of IFIP, will be appointing the IPC chairman of Congress '96 (to be held in Canberra) some time soon. He solicits suggestions for that position from the IFIP community. Finally, bids are sought to host Congress '98. There is a brief article on this topic on page 6.

Reports from all IFIP TCs were presented at both the TA and Council. (The two reports cover different aspects of TC activity: The reports to the TA are on strategic issues, while those to Council are generally on current activities.) Sixty-two events sponsored (entirely or primarily) by IFIP were held in 1991, and **IFIP** was a co-sponsor of an additional 18 events. Almost the same number (76) are scheduled for 1992, and a similar number (84) for future years.

A new Working Group on Methodology for User-Centered System Design (WG13.2) was approved; its Scopes and Aims will be printed in a future ***IFIP Newsletter.*** TC12 on Artificial Intelligence plans a new WG on Knowledge-Based Systems. TC13 on Human-Computer Interaction (HCI) plans new WGs on HCI and People with Special Needs, and Software Tools for Human-Centered Design and the Development of Systems. TC12 finds it Specialist Advisory Group, which complements the regular membership (representatives of Member societies), to be so valuable that it may become a model that other TCs will adopt.

As a result of concerns expressed by several TC chairmen about how to replace inactive TC members with new, vital members, Council requested the Secretariat to send the attendance records of TC members to their national societies and GA representatives. The GA representatives are urged to appoint replacements for inactive TC members.

Membership

Before the dissolution of the U.S.S.R. and the transfer of the U.S.S.R. Academy of Sciences to Russia, that Academy was a Full Member of **IFIP.** Now, the Academies of the 15 republics of the former Soviet Union are being invited to apply for admission to **IFIP** as Full Members, to assume the membership formerly held by the U.S.S.R. Academy. (In general, any one information processing organization may represent its nation in **IFIP.** In some cases, it is a governmental organization, such as an Academy of Sciences; in other cases, a single society for information processing; in yet other cases, a federation of computer societies; and in still other cases, a national organization formed with the sole purpose of representing the nation in **IFIP.)** Since there are no independent computer societies in the former Soviet Union, the Academies seem to be the logical organizations to represent the new republics.

Albania and Mexico have indicated their intentions to apply for membership.

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COUNCIL DEBATES WHETHER TO DISCONTINUE MARCH MEETINGS

The IFIP Council (meeting in March in Trondheim, Norway) debated whether the March Council meetings were worth the time, effort, and money they require and reached the consensus that the March meetings are valuable and should be continued. This issue has been raised before, most recently in an annual Member Report from the Danish Federation for Information Processing (DANFIP) to **IFIP.** (See the article on page 8 of the March 1991 *IFIP Newsletter.)* That report suggested "...the role of the Council has diminished to such an extent that it may be abolished. DANFIP would be pleased if the Council meetings in March were replaced by Executive Board meetings in Geneva. In addition, regular Executive Board meetings could be held as telemeetings in December and June."

To understand the matter, one should realize that March Council meetings (and **IFIP** General Assembly [GA] meetings in September) generally occupy five days. The first day comprises simultaneous committee meetings, some including Technical Committee (TC) chairmen. The Technical Assembly meets the second day; some committees meet at the same time. Committees meet the morning of the third day, and the Council convenes in the afternoon. Council continues on the fourth and fifth days, with a break for a group excursion the afternoon of the fourth day. There are occasional variations; however, we have described a typical scenario.

A Burden on Participants

The presence of members of the IFIP Executive Board, chairmen of TCs and major committees, and some committee members are generally required all five days. Those five days plus travel time impose a significant burden on these individuals.

The TC chairmen are generally occupied with **IFIP** work the weeks of Council and GA meetings, another week at TC meetings and conferences, and many, many hours in their offices. Most of these busy people can ill afford this time, which is the reason that DANFIP made its proposal to abolish the March Council meetings.

The Trondheim Council engaged in a lengthy debate of this matter, with several former TC chairmen participating in the discussion, and concluded that although the meetings are recognized to be a burden on the participants, nevertheless the March Council meetings are essential to the proper functioning of **IFIP.** During the discussion, it was suggested that eliminating the March Council would slow down **IFIP's** activity, whereas most participants believed it is important to speed up IFIP's work. At the March Council meetings, senior members of the **IFIP** community (not only Executive Board members) discuss **IFIP** activities and prepare recommendations for the September GAs.

Communication Is Most Important

Perhaps the most frequently expressed argument in favor of the March Councils was the following: they provide opportunities, not possible by other means, for essential communication among all parties present. This communication takes place not only during the five days of meetings, but also over meals, during social events, and occasionally during shared flights to and from the Council venue. The March Councils enable **IFIP** officers to get to know each other. It was pointed out that if the March Councils were discontinued and if a Council participant missed a GA meeting, there would be a two-year interval between the times she or he would have an opportunity to meet fellow **IFIP** workers.

In addition, participants in Council and GA meetings frequently deliver lectures or otherwise participate in technical activities in the countries where the meetings are held, or in neighboring countries, before, during, or after the meetings. For example, three **IFIP** specialists attending the March Council in Trondheim delivered lectures, at the Norwegian Institute of Technology. Frequently, developing countries are the beneficiaries of such lectures. These opportunities would be lost if the March Council meetings were abolished.

Members of the Council will continue to consider this matter and will attempt to devise means for making Council meetings as productive and brief as possible.

To Organizers **of IFIP** Conferences:
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IFIP CODE OF ETHICS

The IFIP Code of Ethics project was discussed in Trondheim at the March **IFIP** Council meeting. The project, begun four years ago, is now the responsibility of the **IFIP** Technical Committee on Relationship between Computers and Society (TC9), which has promised to present its final proposal for the Code to the **IFIP** General Assembly (GA) in Spain in September.

The history of the Code dates back to 1988, when *Prof Harold Sackman* (USA), who was then chairman of TC9, was asked to create an **IFIP** Code, as a personal project. That December, he mailed a questionnaire to 100 members of the **IFIP** community, suggesting items that might be included in an **IFIP** Code and asking the recipients to rate the importance of the items and to suggest additional items. A Preliminary Code, based on the response to the questionnaire, was presented to the 1989 GA and mailed with the December 1989 *IFIP Newsletter* to all subscribers. They were requested to send their evaluations of the draft to *Prof. Sackman.* On the basis of that input, he submitted the "Draft **IFIP** Code of Ethics" to the 1990 GA, which asked Member Societies, TCs, Working Groups (WGs), and the **IFIP** Specialist Group to discuss the Code in detail. The GA also asked TC9 to "...engage itself in these discussions and to follow it, in close cooperation with interested TCs and WGs, to inform **IFIP** Technical and General Assemblies on essential new aspects and amendments and to suggest, if meaningful and essential, updates of the 'Draft **IFIP** Code of Ethics.'"

Reporting to the **IFIP** Council in March, Prof. *Klaus Brunnstein (D),* chairman of TC9, described criticism of the Draft Code. (There is also support for the Code.) His report stated that TC9 recommended that **IFIP** prepare a "...Frame Code of Ethics which concentrates on interrelations between different member societies' Codes of Ethics."

TC9 has organized a session on "Ethics of Computing" at **IFIP** Congress '92 this September in Madrid, to be chaired by **IFIP's** president, Acad. *Blagovest Sendov (BG),* during which experts will discuss codes of ethics and codes of conduct of several national computer societies, along with the IFIP Draft Code. Everyone with an interest in this area is encouraged to attend and participate. Following the Congress, TC9 will present the GA its recommendations for an **IFIP** Code.

IFIP FINANCES ARE IN GOOD CONDITION

Unpaid Dues and Decreasing Royalties Are Concerns

IFIP's treasurer, *Mr. Aage* Melbye *(DK),* reported to the Council at its March meeting in Trondheim that IFIP's finances are in good condition, even better than anticipated last September when he reported to the General Assembly. The 1491 surplus was 216 K CHF (thousands of Swiss francs)*, compared with a budgeted deficit of 25 K CHF. (Last September, the surplus was projected to be 110 K CHF.) Total expenses were 11% below budget, and income was 29% above budget. IFIP's net assets were 1482 K CHF at the end of 1991.

The income was bolstered by the final payment for IFIP Congress '89 (held in San Francisco), which amounted to **110** K CHF. This was 50 K CHF greater than the amount expected, and it brought the total income to **IFIP** from that Congress to 278 K CHF. Income from other **IFIP** events was also good. **IFIP's** Technical Committee on Education (TC3) had the largest event income: 42 CHF, mostly from proceeds of the 1990 World Conference on Computers in Education. TC6 on Communication Systems earned the largest royalty income: 39 K CHF. The financial contribution from the TCs amounted to nearly 200 K CHF in 1991, of which 74 K CHF is in TC Funds, under control of the TCs. Income from investments was 111 K CHF (compared to a loss of 3 K CHF in 1990). Nevertheless, Mr. Me/bye cautioned the **IFIP** community that it is still essential to exercise prudence with expenditures in 1992 and beyond.

* This amount and all others in this article are "provisional."

New Concerns

A major concern — outstanding dues — was discussed in Council. The total amount of outstanding dues owed by active Members amounted to 72 K CHF. Particular concern was expressed over dues owed by Brazil, Greece, and Portugal. The Finance Committee proposed that Member societies more than one year in arrears have their voting rights suspended and that membership be suspended for those nations more than two years in arrears. This proposal was endorsed by Council and will be brought to the GA for approval in September.

Decreasing royalties was another financial concern. Although royalties on **IFIP** publications increased from 165 K CHF in 1990 to 176 K CHF in 1991, lower royalties are expected in 1992. The publishing industry is experiencing smaller income from technical books, as technical libraries are buying fewer books and dedicating more of their funds to journals.

The process of exchanging all **IFIP** securities into Swiss-based bonds is now complete.

IFIP's president, *Acad. Blagovest* Sendov (BG), commenting on the clarity of the treasurer's reports and balance sheets, said that they "look like a textbook in accounting."

WOMEN IN INFORMATION PROCESSING

Discussion of Issues in Trondheim Technical Assembly

During the March meeting of the **IFIP** Technical Assembly (TA) in Trondheim, **Ms.** *Tine Carpenter,* a member of the Norwegian Computer Society, discussed Women in Information Processing. She had been invited by *Prof. Asbjörn Rolstadås(N),* chairman of the TA and president-elect of **IFIP. Ms.** Carpenter's report was a summary of discussions on this topic held at the NordDATA'90 conference in Sweden. Among the points she made were the following:

- The number of working women is increasing, but the number of occupations chosen by them or available to them is relatively small.
- Few women enter computer science.
- In Norway, only 8% of the graduates in computer science are women; this statistic increases to 18% for the next higher academic degree.
- As a result, girls find few female rolemodels in computer science. (Both sexes should be represented in all occupations.)
- Girls are often told that they cannot handle mathematics and that computer science requires extensive mathematics and engineering courses.
- Girls tend to avoid competitive fields like computer science.
- Some girls believe that computer science is dominated by "distinguished men with glasses and no humor."
- Although women use computers in their jobs (e.g., word processing and accounting), men make these computers.
- Computer interfaces might be better if the software were made by women for women, imbuing it with a "soft, female quality."

Clearly, **IFIP** is very much male dominated. At present, there are no female General Assembly representatives (the most recent meeting attended by a female GA member was in 1978!) nor Technical Committee chairmen, although there are female Working Group chairmen. In recent years, the only women present at GA or Council meetings have been *Mme. Gwyneth Roberts (CH),* Administrative Manager **of** the Secretariat, *Mrs. Stephanie Smit (NL),* representative of the **IFIP** publisher, Elsevier/North-Holland, and *Dr. Karen Duncan* (USA), who was Publications Officer.

During the discussion that followed Ms. Carpenter's presentation, *Prof. Ashley Goldsworthy (AUS),* an **IFIP** vice-president and a former president, suggested that the International Program Committees of **IFIP** Congresses make greater efforts to get women speakers. Also, **IFIP's** Technical Committee on Education (TC3) was asked to investigate the education of women preparing for careers in computer science, to determine how female teachers might help. Although this is not a new topic within **IFIP** (the matter of getting girls interested in computers and informatics was discussed at TC3's fifth World Conference on Computers in Education in 1990), it is surely a matter of increasing concern.

Who's Who in IFIP: ING. MARCO TOMLJANOVICH

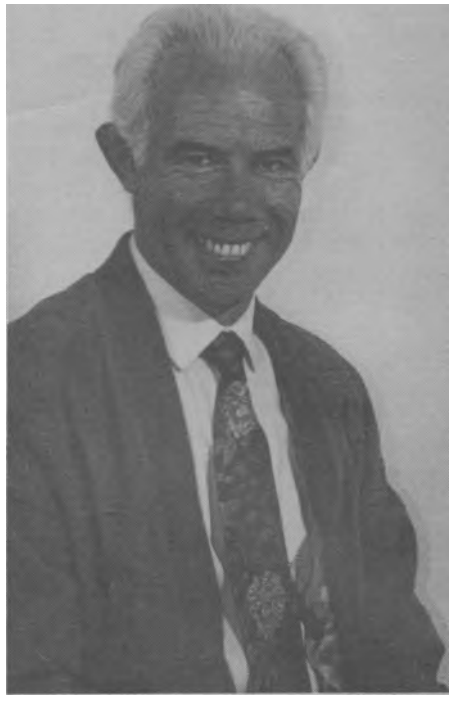
Ing. Marco *Tomljanovich* was born in 1937, in Trento, Italy. From 1959 to 1963, he worked as a programmer and system analyst at the University of Bologna where, in 1962, he obtained one of the first degrees in Electronic Engineering.

During his military service (Italian Air Force), he performed research, developing software in the pattern-recognition area.

In 1964 he joined industry as a hardware and system designer, involved in a number of projects and system designs with a strong emphasis on data handling, data visualization, and graphics interaction. In 1971 he accepted responsibility for developing a comprehensive design-automation system for internal, use, covering and integrating specific applications such as printed-circuit-board layout, wiring, automatic testing, and component databases. In 1984 he joined a CAD/CAM company as the Vice-President for Engineering. He is presently assisting management in strategic issues as well as consulting with industrial companies on CAD, CAM, document management, and technical information systems.

Ing. Tomljanovich's involvement with **IFIP** began in 1978, when he was appointed as the Italian member of **IFIP's** Technical Committee on Computer Applications in Technology (TC5). In 1988, he was elected chairman of TC5 and reelected in 1991.

Ing. Tomljanovich lives in Rome with his wife, Gabriella, and his two sons, Matteo and Nicola. Like most mountain-born people, he enjoys hiking, skiing, and mushrooming in season. No longer a violin player (he studied in high school), he still enjoys singing in a chorus and listening to good music. ■



COUNCIL continued from page 3

The South East Asia Regional Computer Confederation (SEARCC), a regional Member of **IFIP,** announced its withdrawal and its desire to become an Affiliate Member (AM). Since the category of AM has traditionally been reserved for international organizations devoted to specific technical disciplines, it was concluded that the AM status would be inappropriate. Those constituent members of SEARCC that are not already Members of **IFIP** (4 now belong) are invited to apply for **IFIP** Membership.

Voting

Two proposals concerning voting rights in **IFIP** won the approval of the TA and Council. Both, however, require approval of the GA before being enacted. The first proposal gives TC chairmen, who do so much work for **IFIP,** ex-officio membership in the GA, with the same voting rights as Individual Members. (This excludes voting for budgets, officers, and a few other matters.) In September, the GA may choose to grant the TC chairmen additional privileges.

The second proposal gives Working Group chairmen the right to vote in TC meetings, along with national representatives. No limitations were specified.

Other Activity

The Marketing Committee announced publication of a revision of the *What Is IFIP?* flier (see the article on page 14) and the publication of the first of a series of fliers based on the TC descriptions published in the *IFIP Newsletter.*

A resolution passed by the Austrian Computer Society condemning inhumane, malicious computer games was brought to the attention of Council.

Other major discussions during Council are summarized in articles found elsewhere in this *Newsletter:* A very positive financial report was presented by the **IFIP** treasurer (page 5). The Publications Committee reported on the new *IFIP Transactions* and other publication matters (page 9). During the TA, a discussion of women's participation in information processing took place (page 5). Council, prompted by questions about the value of holding two meetings a year, discussed the matter and concluded that two annual meetings are essential (page 4). The progress of the **IFIP** Code of Ethics was reported by TC9 (page 4).

Council agreed to accept the invitation of the Austrian Computer Society to hold the 1993 Council in Vienna 1-5 March. No invitations have been received for Council meetings beyond 1993; neither have any invitations been received for the 1993 or 1995 GAs. Please note the corrected venue for the 1992 GA, printed in an article on page 13.

President Sendov closed the Council meeting with many thanks to the Norwegian hosts for their efficient arrangements and hospitality. Most attendees remarked that the meeting arrangements had been flawless — to such a degree that one hardly realized the hard work taking place behind the scenes. ■

DR. M. CLAYTON ANDREWS

We regret to announce the death of Dr. M. Clayton Andrews (USA) in January. He was the immediate past President of the International Council for Computer Communication (ICCC), an Affiliate Member of **IFIP.**

IT'S TIME TO THINK ABOUT IFIP CONGRESS '98

It is already time to think about **IFIP** Congress '98, the 15th World Computer Congress. Although formal bids to host the Congress are not required until 31 January 1993, and the selection of the site will not be made until September 1993 by the **IFIP** General Assembly, the Site Evaluation Committee would be grateful if those countries planning to submit bids would indicate so by the time of the September 1992 General Assembly in Spain. ■

INFORMATICS EDUCATION IN SECONDARY SCHOOLS

WG3. I Publishes "Guidelines for Good Practice"

IFIP's Working Group on Informatics Education at the Secondary Level (WG3.1) recently published a paper on "Informatics Education in Secondary Schools" (in this paper, "secondary schools" means schools for pupils from age 11 to age 18, in general), the first in a planned set of Guidelines for Good Practice. These Guidelines are a part of the continuing efforts of WG3.1, over the past two decades, to provide international leadership in informatics education. A similar series of papers, first released in 1971, paved the way for informatics education in secondary schools. That series outlined the state of the art of a rapidly developing field prior to the advent of the small, portable microcomputer, which has made secondary informatics education a real possibility for all students. The new series is designed to have the same global impact, reflecting decades of change and advances in informatics education worldwide, and presenting the current state of the art. It should provide assistance to those modern pioneers who are now addressing the problem of informatics education in the secondary classroom. The authors of the new paper, *Harriet Taylor* (USA), *Robert Aiken (USA),* and *Tom van Weert (NL),* reached the following conclusions: *

> Most of the developed nations have taken major steps in the large-scale integration of computers into the educational process. Many of the developing nations are now exploring using informatics education to improve the quality of life of their citizens. These nations must overcome barriers such as lack of financial resources, shortages of trained teachers, lack of software, and absence of an infrastructure to support the integration of information technology into schools. International cooperation and collaboration is essential to overcome the barriers and connect the people of the world through technology.

IFIP and UNESCO

IFIP and UNESCO have a history of producing publications on information technology from a global perspective and in organizing international convocations to further the development of informatics education worldwide. Many of these efforts are described in publications that may be obtained from Elsevier/North-Holland or by contacting UNESCO.

This paper is the result of such a development process. WG3.1 has produced this paper as a starting point in a series of papers on codes of good practice in secondary informatics education. Within this paper are many references to more detailed works of experts in the field. Readers should use these sources as stepping stones for more information and for developing the framework for information technology in education. Future papers, in areas such as social and ethical issues and telecommunications, are envisioned.

Because this report is so interesting, we have selected further quotations from it, which we print here:

> This paper reflects debate that has been going on within WG3.1. This debate has shown that there is not simply one answer to a problem. Especially in an international setting, cultural and other specific circumstances have to be taken into account. In this paper, the collective expertise in the Working Group offers pointers to successful directions of development but does not lay down categorical statements.

Problems of Informatics Teachers

Informatics education involves new ideas, curricula, teaching methods, materials, and tools. The informatics teacher must often work in relative isolation to develop a curriculum, with little support and guidance from outside. Beyond the training and curricular needs outlined above, many other special problem areas can be identified. Some of the most common special areas are listed below.

Keyboarding Skills. Often students are keyboard novices as well as computer novices. The teacher must then teach keyboard skills.

Textbooks and Support Materials. In early stages, textbooks and other support materials in the native language that are geared to the secondary level will be scarce. Teachers must work together to develop materials and support each other as the curriculum and texts to support it evolve.

Student Guidance. The informatics teacher must provide guidance for students about careers in information technology and preparation for post-secondary informatics education. The teacher should also consider enrichment activities such as computer clubs and programming contests to increase student interest and involvement.

Professional *Development.* Information technology and informatics education are rapidly developing, dynamic fields. Teachers must constantly update their skills and curricula through in-service training as well as alliances with universities and professional societies. Teachers should have release time to participate in special meetings and conferences and training, in order to maintain currency.

Isolation. Informatics teachers often are the only ones in their schools with expertise. They need opportunities to interact with colleagues with similar interests and problems. It is especially advantageous for them to have access to electronic mail and bulletin boards in order to communicate with others, as well as to receive the latest information. It is also important that they be given the opportunity to attend workshops, short courses, etc. so that they can keep pace with the rapid developments in this field.

Retraining Teachers

When facing the task of moving computers into the secondary schools, most nations have been able to acquire the hardware and software to support the move. Finding teachers who are prepared to cope with the task has been a much larger problem. The most natural solution has been to retrain existing teachers. Often a core of teachers is selected to retrain, and these teachers in turn are responsible for training others.

Retraining is a key to the development of informatics as an academic discipline. Successful retraining programs can have many forms. National goals, economic development, cultural and geographical diversity, and educational system

* © IFIP

continued on page 8

EDUCATION continued from page 7

frameworks must all be considered. Most retraining programs will include partnerships between governments, states, or school systems and universities and will be interdisciplinary. While curricula can vary, we have outlined a general framework around which they can be built.

In many nations, programs for retraining are still computer-literacy or tools courses for teachers. These programs will help teachers use computers more effectively and will assist them in teaching computer applications. They will not, however, prepare teachers to teach informatics as a subject within itself. Few national programs or programs on a large scale can do this. Teaching informatics is not a chore for the masses, but instead for a few select teachers. Most retraining programs are local in nature, involving cooperation with one or more universities, and involving courses that are structured as university courses.

The paper then discussed the following aspects of retraining programs:

- They must be selective.
- They must have incentives to motivate the teachers.
- They must be timely.
- They must contain provisions for certification.
- They must provide access to equipment and assistance.
- They must have a strong informatics component.
- They must contain an integrated educational component.
- They must include group projects and activities.
- They usually involve cooperation.
- They will require national support and funds.

Computer Ethics

The introduction of new technological advances into a society naturally results in a change in the social atmosphere. The secondary informatics teacher has a major responsibility to prepare students to live in the computerized society that is evolving — not only by teaching technical skills but also by developing a generation of students who will enter adulthood with the ethical foundation needed to use computers to benefit rather than abuse society.

In many cases, the teacher represents the first contact with a "computer professional" for the students. The students' attitudes about the nature, scope, and importance of ethics in computing will be developed through their experiences in the classroom. The teacher must therefore act in a legal and ethically correct manner. A major step that teachers can take is to make the students aware of codes of conduct, written and unwritten, that exist for professions, and the emphasis placed by the professions on upholding these standards. In particular, the teacher could consider as a personal code the Code for Computer-Using Educators developed by the International Society for Technology in Education (ISTE). The ISTE Code of Conduct is one of the first formal policy statements to address ethics in all areas of computer education, including instruction, administration, student support, and equity (equity is discussed below).

The teacher must also act responsibly in maintaining the integrity of data stored electronically and of software. This includes preserving confidentiality of records stored in databases or computerized grade books. Perhaps the major ethical dilemma faced by the teacher is in the area of use of copyrighted software. Teachers and students are often confused by the legal and moral issues surrounding software use. Teachers must educate students on the value of intellectual property and the legal protection that copyrights should afford. Teachers should post in labs rules that define proper and improper use of software in the labs.

Ethics education must be a part of computing instruction at all levels. The secondary teacher, whether teaching computer applications or programming, must integrate computer ethics education into all courses. Despite a growing awareness of the presence of computer crime and abuse in society, few texts for computer science students deal with ethical issues and methods for teaching computer ethics. Methods that have been used successfully include introducing students to situations or moral dilemmas through surveys, case studies, or debates.

Computers have the potential to increase inequities across societies and across groups within societies. In particular, computers can widen gaps in societies between groups of different race, gender, or socioeconomic levels. Nations must adopt policies that provide for equality of access and opportunity to computer education for all citizens. Computers must be made available to all schools, not just the schools for the economically advantaged or the intellectually superior. Teachers in all schools must have opportunities for training. Teachers must ensure that all students have equal access to laboratories, courses, and materials and must actively search for ways to encourage minority students and females to participate in computer education.

Copies of the report are available from the IFIP Secretariat. ■

SYMPOSIUM ON CONTINUOUS ALGORITHMS AND COMPLEXITY

IFIP's new Working Group on Continuous Algorithms and Complexity (WG14.1) is planning its first meeting as an IFIP WG, 7-9 September in Madrid, in conjunction with IFIP Congress '92. Fifteen internationally known speakers from eight countries (U.S.A., Western and Central Europe, and the former Soviet Union) are on the program, including IFIP's president, *Acad. Blagovest* Sendov (BG), who will speak on "Mathematics in Informatics through Complexity." ■

PLEASE SEND EVENT REQUEST FORMS TO GENEVA

Sponsors of IFIP events (conferences, workshops, symposia, etc.) are requested to send the completed Event Request Forms, which request approval of the IFIP Activity Management Board for the events, directly to the IFIP Secretariat in Geneva (the address is in the masthead on page 2). Requests for co-sponsorship of events should also be sent to the Secretariat.

Previously, these forms were sent to the Activity Secretary, *Dr. Peter Falster (DK)*. Now, however, the event database has been moved to Geneva. Having completed this task, *Dr. Falster* plans to resign his position in September, after which the office of Activity Secretary will probably be eliminated. ■

FIRST VOLUMES OF "IFIP TRANSACTIONS" HAVE BEEN PUBLISHED

Other Publications Matters Also Discussed in Council

IFIP's Publications Committee (PC) chairman, ***Prof. Alex Verrijn-Stuart (NL),*** reported to the March IFIP Council meeting in Trondheim, Norway that the first volume of the new "serial" ***IFIP*** *Transactions* had been published in January. The appearance of this book inaugurated a new publication practice by **IFIP.** Previously, proceedings of most of the **IFIP** conferences and other technical events were published as individual books by the primary **IFIP** publisher, Elsevier/ North-Holland. Now, these same proceedings are being published by Elsevier as individual volumes of a serial publication entitled ***IFIP*** *Transactions.*

The *Transactions* are divided into three subsections: "Computer Science and Technology," "Applications in Technology" (publications of the IFIP Technical Committee on Computer Applications in Technology [TC5]), and "Communication Systems" (publications of TC6 on Communication Systems). The three subsections may be purchased individually or together. The publisher indicates that, so far, orders (primarily from libraries) have been mostly for the complete set.

The very first volume was *VLSI 91,* edited by Professors *Arne Halaas* (N) and Peter Denyer (GB), which are the proceedings of the International Conference on VLSI held in Edinburgh 20-22 August 1991. Sixteen other volumes have already been published. Thirty-five volumes (approximately 15 000 pages) are planned for 1992, including the proceedings of **IFIP** Congress '92 (in Madrid in September).

All Member societies of **IFIP** are encouraged to promote **IFIP** publications and to remind their members of the 50% discount on **IFIP** books that is available to them.

In order to maintain high standards of **IFIP** publications and to indicate to the readers of those publications that the **IFIP** logo on a book signifies that the material has been refereed and otherwise carefully screened before publication, the PC plans to form an Editorial Policy Board, consisting of all Technical Committee chairmen and members of the PC.

The PC also reported that older **IFIP** books are still being donated by Elsevier/North-Holland and distributed to developing countries by **IFIP.** There is the possibility that the International Council of Scientific Unions (ICSU) will undertake to provide funds for this activity.

NOMINATIONS ARE SOLICITED FOR WG9.2 NAMUR AWARD

The Namur Award is a biennial award accorded for an outstanding contribution, with international impact, to the awareness of social implications of information technology. The purpose is to draw attention to the need for a holistic approach to the use of information technology, in which the social implications have been taken into account. The Award, given by the **IFIP** Working Group on Social Accountability (WG9.2), consists of a commemorative plate and a certificate.

The first Namur Award was presented in January 1991 to Prof. ***Joseph Weizenbaum (USA),*** as reported in the March 1991 ***IFIP*** *Newsletter,* page 1.

The contribution may be in the form of a publication, design, lecture, or any other project. The Namur Award may also be granted for a special action, accomplishment, or achievement of any other kind within the scope of the Award. It may be granted to a person, group, or association. The Award may be shared. Members of WG9.2 are not eligible.

Anybody may nominate a candidate, except members of the Award committee. This committee (three persons), chosen by and from the members of WG9.2, will select a maximum of five candidates, from amongst whom the winner will be chosen by the members of WG9.2. Nominations may be advocated in person before WG9.2. To be accepted, a nominee must receive the vote of two thirds of those present. Proxies are not allowed. All submissions, discussions, and votes relating to the Namur Award will be kept strictly confidential.

Before making public the decision of WG9.2, the chairperson of WG9.2 will ask the candidate if he/she is willing to accept the Namur Award. For the presentation of the Namur Award, the winner will be invited for a special WG9.2 meeting in Namur, Belgium, hosted by dignitaries of the city of Namur and open to the public. During this presentation, the chairperson of WG9.2 will announce the report of the Award committee.

Carefully prepared nominations for the 1993 Award are to be made in a sealed envelope, with "Namur Award 1993" on the exterior, to the chair of the Award committee:

Dr. J. Holvast
Stichting Waakzaamheid Persoonsregistratie
P.O. Box 711
1000 AS AMSTERDAM, The Netherlands

The deadline for the 1993 Award is August 1, 1992. WG9.2 will decide on the winner at its meeting on January 16, 1993.

SENDOV RECEIVES 4TH LARGEST VOTE FOR BULGARIAN PRESIDENCY

4 4 IFIP should be happy that I did not win the Bulgarian Presidential elections," said **IFIP's** president, ***Acad. Blagovest Sendov,*** at the opening of the March **IFIP** Council meeting in Trondheim, Norway. "This could have created several problems. For instance, our hotel here would have been crowded with body-guards, and some of the Council members would have had to look for other accommodations," he joked.

Acad. Sendov was one of the 22 candidates who ran in the first free, direct Presidential elections in Bulgaria. Among these were the acting President, the past Prime Minister, and many party and independent candidates.

Sendov received the fourth largest vote in the first round of voting on 12 January 1992, but no one received the necessary majority of the votes. A second round was held a week later, in which only the first two candidates competed (Zhelyu Zhelev, the Acting President of Bulgaria and candidate of the Union of Democratic Forces, with 45% of the first-round votes, and Velko Vulkanov, an independent candidate widely supported by the Bulgarian Socialist Party, with 30%). Mr. Zhelev won, with 53% of the second-round votes.

ERSHOV MEMORIALIZED IN IFIP BOOK

Last year the late *Acad. Andrei Ershov (FSU)* was remembered in a collection of papers edited by Prof. *Dines* BjØrner (DK) and *Prof. Vadlm Kotov (FSU). Acad. Ershov,* an outstanding computer scientist and mathematician and a valuable participant in IFIP activities, died in December 1988. An obituary was published in the June 1989 ***IFIP*** *Newsletter.*

In the preface to the collection, Prof. *Bjørner* wrote the following:

> Computer science is neither an extension of control theory nor of classical mathematical modelling. Ershov seems to have been the first influential Russian to understand this, as early as the mid 1950s. It was a valiant, and we can now say, successful "battle" to bring that message to bear on the USSR Academy of Sciences. It was not always an easy battle in a country with great contributions in these other fields.
>
> This volume, in this respect, is a contribution to his country and to computer science. It features the work of many scientist from the USSR — results that would otherwise not be widely accessible. It also features recent work by a small selection of *Andrei* P. *Ershov's* many colleagues abroad.
>
> The volume features three kinds of contributions: papers on Ershov, the man and his work; papers discussing philosophical and theoretical aspects of our profession and its consequences; and scientific contributions.

Among the papers, all by noted computer scientists, are some written by current IFIP officers, such as *Acad. Blagovest* Sendov (BG), president of IFIP, and Prof. *Josef Gruska* (CS), chairman of the IFIP specialist group on Foundations of Computer Science. The book, entitled *Images of Programming,* was published by Elsevier/North-Holland.

WORKSHOP ON DESIGNING CORRECT CIRCUITS

Approximately 50 participants attended a recent IFIP Workshop on "Designing Correct Circuits," which focused on the design of provably correct hardware. The seventeen papers covered a wide range of topics, including proofs of fundamental results, formal verifications of designs, and design techniques in which correctness is ensured by construction.

Authors were encouraged to submit work demonstrating the use of their design techniques for designing useful chips, and participants could see that formally based techniques are being deployed on real problems in a great diversity of application areas, such as packet-routers, arbiters, multiprocessors, serial-parallel converters, CPUs, arithmetic units, and counters. A significant group of the papers was also concerned with the special requirements of asynchronous and delay-insensitive design. It was interesting to observe that several papers were the result of collaborations of authors from different countries, in Europe and North America.

As a special feature of the Workshop, a responder was appointed for each paper, to deliver a 5-10 minute response following the paper presentation. The presenters and other participants enjoyed this, although the responders found it a challenge.

IFIP's Working Groups on System Description and Design Tools (WG10.2) and Very Large Scale Integration (WG10.5) sponsored the Workshop, which was held in Lyngby, Denmark 6-8 January. Prof. *Jurgen Staunstrup (DK)* was chairman of the International Program Committee

The proceedings of the Workshop, edited by *Prof.* Staunstrup and *Robin Sharp (DK),* have been published by Elsevier/North-Holland.

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COLLABORATION BETWEEN WG3.2 AND WG13.1

*by Prof. Brian Shackel (GB)**

It is pleasing to report that a collaborative process has already been started by the newly formed Working Group on Education in Human-Computer Interaction (HCI) and HCI Curriculum (WG13.1). The WG on Informatics Education at the University Level (WG3.2) held a Working Conference entitled "Informatics at University Level: Teaching Advanced Subjects in the Future" in Zurich 3-5 October 1991. Sixty delegates debated topics ranging from the role of mathematics in the computing curricula to education for visualization, computer architecture, and AI.

Dr. *Jenny* Preece (GB), deputy chair of WG13.1, presented a paper, *The Role of HCI in the Informatics Curriculum,* in which she raised awareness of the importance of integrating HCI knowledge and skills throughout the computing science curriculum. She also discussed the role of different types of training for different professional groups.

For further information about her paper, please contact her directly at the Open University in Britain: JJ Preece@vax.acs.open.ac.uk.

* Chairman of IFIP's Technical Committee on Human-Computer Interaction (TC13)

INRIA TO CELEBRATE 25TH ANNIVERSARY

In celebration of its 25th anniversary, INRIA (Institut National de Recherche en Informatique et en Automatique) will hold an International Conference on Computer Science and Control 8-11 December in Paris. It will feature leading scientists from around the world presenting lectures in research fields covered by INRIA. Workshops will also be held. For further information, please contact

Christine Genest or Francois Tapissier
INRIA—Rocquencourt
Domaine de Voluceau
B.P. 105
78153 LE CHESNAY CEDEX, France
tel: 33 (1) 39 63 56 00
e-mail: symposia @cluny.inria.fr ■

NEW IFIP PUBLICATIONS FROM NORTH-HOLLAND

VLSI 91

Proceedings of the IFIP TC10/WG 10.5 International Conference on Very Large Scale Integration, Edinburgh, UK, 20-22 August 1991

edited by A. Halaas *and* P.B. Denyer

1992 xvi + 500 pages
Paperback Price: US $ 125.50 / Dfl. 220.00
ISBN 0-444-89019-X

Programming Environments for High-Level Scientific Problem Solving

Proceedings of the IFIP TC2/WG2.5 Working Conference, Karlsruhe, Germany, 23-27 September 1991

edited byP.W. Gaffney *and* E.N. Houstis

1992 xiv + 406 pages
Paperback Price: US $ 114.50 / Dfl. 200.00
ISBN 0-444-89176-5

Managing Information Technology's Organisational Impact, II

Proceedings of the IFIP TC9 Conference, Adelaide, Australia, 7-8 October 1991

edited by R. Clarke *and* J. Cameron

1992 viii + 326 pages
Paperback Price: US $ 100.00 / DI. 175.00
ISBN 0-444-89506-X

Information System Concepts: Improving the Understanding

Proceedings of the IFIP TC8/WG8.1 Working Conference, Alexandria, Egypt, 13-15 April 1992

edited by E.D. Falkenberg, C. Rolland *and* EI-Sayed Nasr- EI-Dein EI-Sayed

1992 x + 296 pages
Paperback Price: US $ 91.50 / Dfl. 160.00
ISBN 0-444-89507-8

Designing Correct Circuits

Proceedings of the Second IFIP WG10.2/WG10.5 Workshop, Lyngby, Denmark, 6-8 January 1992

edited byJ. Staunstrup *and* R. Sharp

1992 viii + 288 pages
Paperback Price: US $ 91.50 / Dfl. 160.00
ISBN 0-444-89335-0

Database Security, V

Status and Prospects

Results of the IFIP WG11.3 Fifth Workshop, Shepherdstown, West Virginia, USA, 4-7 November 1991

edited byC.E. Landwehr *and* S. Jajodia

1992 x + 402 pages
Paperback Price: US $ 108.50 / Dfl. 190.00
ISBN 0-444-89518-3

The Impact of Computer Supported Technologies on Information Systems Development

Proceedings of the IFIP WG8.2 Working Conference, Minneapolis, Minnesota, USA, 14-17 June 1992

edited by K.E. Kendall, K. Lyytinen *and* J.I. DeGross

1992 xii + 400 pages
Paperback Price: US $ 114.50 / Dfl. 200.00
ISBN 0-444-89649-X

Information Technology for Advanced Manufacturing Systems

Proceedings of the IFIP TC5/WG5.3 International Conference, Nanjing, P.R. China, 17-19 September 1991

edited by G. Oiling *and* Z. Deng

1992 xiv + 568 pages
Paperback Price: US $ 137.00 / Dfl. 240.00
ISBN 0-444-89308-3

"One-of-a-Kind" Production: New Approaches

Proceedings of the IFIP TC5/WG5.7 Working Conference, Bremen, Germany, 12-14 November 1991

edited byB.E. Hirsch *and* K.-D. Thoben

1992 x + 400 pages
Paperback Price: US $ 111.50 / Dfl. 195.00
ISBN 0-444-89327-X

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SCIENCE PUBLISHERS

Open Distributed Processing

Proceedings of the IFIP TC6/WG6.4 International Workshop, Berlin, Germany, 8-11 October 1991

edited by J. de Meer, V. Heymer *and* R. Roth

1992 xvi + 450 pages
Paperback Price: US $ 123.00 / Dfl. 215.00
ISBN 0-444-89329-6

Formal Description Techniques, IV

Proceedings of the IFIP TC6IWG6.1 Fourth International Conference on Formal Description Techniques for Distributed Systems and Communications Protocols, FORTE '91, Sydney, Australia, 19-22 November 1991

edited by K.R. Parker *and* G.A. Rose

1992 xvi + 574 pages
Paperback Price: US $ 143.00 / Dfl. 250.00
ISBN 0-444-89402-0

Protocol Test Systems, IV

Proceedings of the IFIP TC6 Fourth International Workshop, Leidschendam, The Netherlands, 15-17 October 1991

edited by J. Kroon, R.J. Heijink *and* E. Brinksma

1992 xii + 310 pages
Paperback Price: US $ 97.00 / Dfl. 170.00
ISBN 0-444-89517-5

Broadband Communications

Proceedings of the IFIP TC6 Workshop, Estorial, Portugal, 20-22 January 1992

edited by A. Casaca

1992 xii + 410 pages
Paperback Price: US $ 114.50 / Dfl. 200.00
ISBN 0-444-89464-0

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NOTE CORRECT DATES AND LOCATION FOR 1992 GENERAL ASSEMBLY

Please note the correct dates and location for the 1992 **IFIP** General Assembly and related meetings: Committee meetings will begin on Saturday 12 September, the day following **IFIP** Congress '92. The GA itself will take place 14-16 September. All these meetings will be held in Toledo, which is about 70 km. from Madrid. The dates and location given in prior ***IFIP*** *Newsletters* were not correct. ■

CALLS FOR PAPERS

Sixth Intl. Workshop on High-Level Synthesis
4-6 Nov 92, Dana Point Resort, California
papers due: 1 Jun 92
contact: Daniel D. Gajski
Dept. of Computer Science
Univ. of California
Irvine, CA 92717, U.S.A.
tel: 1 (714) 856-4155, fax: 856-4056
e-mail: gajski@ics.uci.edu

IFIP/IFAC Intl. Work. Conf. on Knowledge Based Hybrid Systems in Engineering and Manufacturing — KNOWHSEM'93
20-22 Apr 93, Budapest
papers due: 15 Jun 92
contact: KNOWHSEM '93
Conference Secretariat
Computer and Automation Institute
Hungarian Academy of Sciences
Kende u. 13-17
H-1111 Budapest, Hungary
tel: (+31 **1)** 161 3442, 181 0511
fax:(+31 1) 166 7503, 186 9378
e-mail: h4200knO@ella.hu

WG9.1 Work. Conf. on NetWORKing
16-18 Jun 93, Vienna
abstracts due: 15 Jun 92
contact: Paul Kolm
Gewerkschaft der Privatangestellten
Deutschmeisterplatz 2
A-1013 Vienna, Austria
tel: +43 222 343520202, fax: 343520388

Intl. Symp. on Autonomous Decentralized Systems — ISADS'93
30 Mar-1 Apr 93, Kawasaki, Japan
papers due: 1 Jul 92
contact: Domenico Ferrari
ISADS Program Chair
Dept. of Elect. Eng. and Comp. Sci.
Univ. of California
Berkeley, CA 94720, U.S.A.
e-mail: isads@tenet.berkeley.edu

Second TC5/WG5.10 Work. Conf. on Geometric Modeling in Computer Graphics
28 Jun-2 Jul 93, Genoa
papers **due:** 20 Sep 92
contact: Bianca Falcidieno
Istituto per la Matematica Applicata C.N.R.
Via L.B. Alberti, 4
16132 Genova, ITALY
e-mail: falcidieno@image.ge.cnr.it
fax: +39-10-517801
tel: +39-10-515510/517639

IFIP Symp. on Hardware Description Languages and Their Applications — CHDL'93
26-28 Apr 93, Ottawa
papers due: 9 Oct 92
contact: Ottawa-Carleton Research Institute
340 March Road, Suite 400
Ottawa, ON, Canada K2K 2E4
tel: 1 (613) 592-8160, fax: 592-8163

TeleTeaching 93
20-25 Aug 93, Trondheim, Norway
papers **due:** 10 Oct 92
contact: TeleTeaching 93
Norwegian Computer Society
P.O. Box 6714 Rodeløkka
N-0503 Oslo, Norway
tel: +47 2 37 02 13, fax: 35 46 69
e-mail: teleteach@avh.unit.no ■

FUTURE IFIP MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

GA	12-16 Sep 92 (following **IFIP** Congress '92)	Toledo, Spain
Council	1-5 Mar 93	Vienna
GA	(contiguous to **IFIP** Congress '94)	Hamburg
GA	(contiguous to **IFIP** Congress '96)	Canberra, Australia

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

TC2	14-15 Aug 92 (after Conf.)	Ellivuori, Finland
WG2.1	14-17 Sep 92	Augsburg, Germany
WG2.2	May/Jun 92	Ontario
WG2.3	6-10 Jul 92	New Forest, U.K.
	May 93	Lake Simcoe, Canada
WG2.6	8 Jul 92	Monterey, California
	or Nov 92 (with work. conf.)	Melbourne
WG2.7	10-14 Aug 92	Ellivuori, Finland
WG2.8	31 Aug-4 Sep 92	Oxford, U.K.
TC3	5-6 Sep 92 (before **IFIP** Congress '92)	Madrid
	28-29 Jan 93	Mexico
	28-29 Aug 93	Birmingham, U.K.
	26-27 Aug 94	Hamburg
	22-29 Jul 95	Birmingham, U.K.
WG3.1	2-3 Sep 92 (before **IFIP** Congress '92)	Madrid
TC5	23 Jun 92 (before PROLAMAT conf.)	Tokyo
WG5 .3	24-26 Jun 92 (with PROLAMAT conf.)	Tokyo
WG5 .7	28 Aug 92	Eindhoven, the Netherlands
TC6	24-25 Sep 92	Nice
	or Oct/Nov 92 (with Networks '92)	India
	15-16 Oct 93	Sofia
WG6.1	May/Jun 92	Orlando
TC8	5-6 Sep 92 (before **IFIP** Congress '92)	Madrid
TC9	5-6 Sep 92 (before **IFIP** Congress '92)	Madrid
WG9.2	13-14 Jun 92	Paris
	16-17 Jan 93	Namur, Belgium
WG9.6	23-25 Oct 92	Farnham, U.K.
	5-7 Mar 93	Hamburg
TC 10	8-10 Sep 92 (with **IFIP** Congress '92)	Madrid
WG10.4	10-13 Jul 92	Cape Cod, Massachusetts
	Feb 93	Captiva, Florida
	Jun 93	Toulouse region, France
WG10.5	6 Sep 92	Hamburg

* 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.

New Secretariat Phone Number

The **IFIP** Secretariat phone number has been changed to

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CHANGES IN IFIP

NEW APPOINTMENTS

TC AND WG OFFICERS

TC6 vice-chairman: Mr. T. Housley
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Business Coordination Bureau
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fax:36 (1) 1560855

WG6.4 chairman: Prof. G. Pujolle
Laboratoires MASI
University of Paris VI
45 Avenue des Etats-Unis
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tel: 33 (1) 30972061, 46423094 (home)
fax:33 (1) 30972057
e-mail: gp@masi.ibp.fr
(succeeding Prof. J.P. Cabanel)

WG6.4 vice-chairman: Prof. J.P. Cabanel
University Paul Sabatier
I.R.I.T/ENSEEIHT - Lab LSI
118, route de Narbonne
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(succeeding Ms. Kim Kappel)

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TC and WG MEMBERS:

TC2: Prof. B. Le Charlier (B)

TC6: Mr. B. Waumans (NL)
(succeeding E.J. Boutmy)

TC10: Dr. ir. E. Dirkx (B)

TC12: Prof. Dr. P. Gribomont (B)

TC13: Prof. M. Noirhomme-Fraiture (B)

WG2.5:
Prof. W.H. Enright (CDN)
Prof. Dr. Y.A . Kuznetsov (FSU)
Prof. Dr. L.D. Marini (I)
Prof. Dr. S.M. Rump (D)
Prof. D.C. Sorensen (USA)

WG5.3:
Dr. U. Graefe (CDN)
Dr. F. Van Houten (NL)

WG5.4:
P. Daniel (GB) J.F. Lindeberg (N)
E. Johnson (GB) E. Schoitsch (A)

WG5.7:
A.S. Carrie (GB) P.M. Gallois (F)

WG5.11:
Dr. J. Da Costa (P) Dr. A. Kraszewski (PL)
Dr. B. Falcidieno (I) Dr. Y. Yasouka (J)
Dr. K. Fedra (A) Dr. P. Zannetti (USA)

WG8.2:
F. Noble (GB) I. Eriksson (SF)
J. Liebenau (GB) J.W. Ross (USA)
L. Davies (AUS)

WG10.6: (provisional)
T. Clarkson (GB) A. Prieto (E)
M. Crosnard (F) U. Ramacher (D)
G. Dreyfus (F) R. Stefanelli (I)
F.S. Fogelman (F) T.J. Stonham (GB)
K. Goser (D) J.G. Taylor (GB)
J. Herault (F) C. Torras (E)
P.T.W. Hudson (NL)

ADDRESS AND OTHER CHANGES

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Full Member: Irish Computer Society
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Representative of Elsevier/North-Holland:
Mrs. Stephanie Smit
e.mail: s.smit@elsevier.nl

IFIP PUBLICATIONS AVAILABLE

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

- Information Bulletin
- Statutes and Bylaws
- Standing Orders
- *What Is **IFIP?***
- **IFIP** Plan (planned events)
- WG Chairman's Handbook
- Event Approval Guidelines
- Policy on Working Conferences
- Publications Policy
- Guidelines for Editors of **IFIP** Working Conference Proceedings

"WHAT IS IFIP?" REVISED

A new version of the publication *What Is **IFIP?*** is now available from the **IFIP** Secretariat (the address is in the masthead on page 2). This brief flier summarizes **IFIP's** aims, activities, and organization. The revision was prepared by *Dr. Dlpak Khakhar (S)* on behalf of the Marketing Committee.

New Secretariat Phone Number

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National Abbreviations Used in Newsletter

A	Austria	E	Spain	N	Norway
AUS	Australia	F	France	NL	The Netherlands
B	Belgium	FSU	former Soviet Union	P	Portugal
BG	Bulgaria	GB	United Kingdom	PL	Poland
CDN	Canada	I	Italy	S	Sweden
CH	Switzerland	IND	India	SF	Finland
CS	Czechoslovakia	IRL	Ireland	USA	U.S.A.
D	Germany	J	Japan	ZW	Zimbabwe
DK	Denmark				

CALENDAR OF EVENTS

(continued from page 16)

Event	Date	Location	Sponsored by
Work. Conf. on *Computational Techniques of Stochastic Programming*	? Feb 93	Seregelyes, Hungary	IFIP WG7.7/ IFAC
Conf. on *Feature Modelling and Recognition for CAD/CAM Systems*	? Feb 93	Valenciennes, France	**IFIP WG5.3/ AFCET**
Workshop on *Interfaces in Industrial Systems for Production and Engineering*	? Mar 93	Darmstadt, Germany	**IFIP** TC5/ WG5.2/5.3/5.7/5.10
Intl. Symp. on *Autonomous Decentralized Systems — ISADS '93*	30 Mar-1 Apr 93	Kawasaki, Japan	IEEE, **IPSJ,** SICE/ **IFIP** TC10, TC6, WG5.3
First Intl. Work. Conf., on *Health Informatics in Africa*	19-23 Apr 93	Ile-Ife, Nigeria	IMIA, IFIP WG9.4
Work. Conf. on *Knowledge Based Hybrid Systems Engineering and Manufacturing*	20-22 Apr 93	Budapest	**IFIP** WG5.3/IFAC
Intl. Conf. on *Human Factors in Computing Systems — INTERCHI'93*	24-29 Apr 93	Netherlands	ACM SIGCHI/ **IFIP** TC13
Intl. Conf. on *Hardware Description Languages and Their Applications — CHDL'93*	26-28 Apr 93	Ottawa	**IFIP** WG I 0.2
Intl. Conf. on *CAD/CAM, Robotics and Factories of the Future*	17-19 May 93	St. Petersburg, Russia	ISPE, **IFIP** WG5.3
Ninth Intl. Conf. on *Computer Security — IFIP/SEC'93*	? May 93	Canada	IFIP TC11
Open Conf. on *Informatics and Changes in Learning*	7-11 Jun 93	Gmunden, Austria	**IFIP** TC3 (WG3.l and 3.5)
First Work. Conf. on *Development and Implementation of Computer-Based Information and Communication Networks*	16-18 Jun 93	Vienna	**IFIP WG9.1**
Work. Conf. on *Geometric Modelling in Computer Graphics*	28 Jun-2 Jul 93	Genoa, Italy	**IFIP** WG5.10, CNR
Work. Conf. on *Statistical Aspects of Stochastic Programming*	4-9 Jul 93	Prague	**IFIP** WG7.7
Sixteenth Open Conf. on *System Modelling and Optimization*	5-9 Jul 93	Compiegne, France	**IFIP** TC7
Thirteenth Triennial IFORS Conf. on *Operations Research — IFORS '93*	12-16 Jul 93	Lisbon	IFORS
IFAC World Congress '93	19-23 Jul 93	Sydney	IFAC
Work. Conf. on *Computer-based Training and Hypermedia in Vocational Education*	? Jul 93	Soest, Germany	**IFIP WG3.4**
Work. Conf. on *Security and Control of IT in Society*	12-17 Aug 93	Stockholm	**IFIP** WG9.6
Intl. Conf. on *Teleteaching* '93	20-25 Aug 93	Trondheim, Norway	**IFIP** TC3, ICDE
Third Intl. Conf. on *CAD — Graphics '93*	23-26 Aug 93	Beijing	CCF, **IFIP** WG5.10
Thirteenth **IJCAII** Intl. Joint Conf. on *Artificial Intelligence — IJCAII '93*	29 Aug-3 Sep 93	Chambery, France	IJCAII
Work. Conf. on *Computer Support for Environmental Impact Assessment*	? Sep 93	Como, Italy	**IFIP** WG5.11, CIRITA
Conf. on *Network Information Processing Systems*	12-14 Oct 93	Sofia	**IFIP** TC6/Bulgarian Acad. of Sci.
Workshop on *Large Scale Stochastic Programs: Applications and Solutions*	? Oct 93	Yalta, Ukraine	**IFIP** WG7.7
Work. Conf. on *Software Engineering Education*	? Oct 93	Kowloon, Hong Kong	**IFIP** WG3.4
Seventh Work. Conf. on *Database Security*	? Oct 93	Huntsville, Alabama	**IFIP** WG11.3
Work. Conf. on *Numerical Analysis and Optimization*	15-17 Dec 93	Rabat, Morocco	**IFIP** WG7.2
Workshop on *Stochastic Methods and Global Optimization*	? Mar 94	Lithuania	**IFIP** WG7.7
IMACS World Congress '94	? Jul 94	Atlanta, Georgia	IMACS
IFIP Congress '94 — Thirteenth World Computer Congress	29 Aug-2 Sep **94**	**Hamburg**	**IFIP**
Workshop on *Expert Systems in Computer Integrated Manufacturing*	? Sep 94	Kiev, Ukraine	**IFIP** WG5.3
Work. Conf. on *Integrating Information on Technology into Education*	? Oct 94	Spain	**IFIP** WG3.I
Eighth Work. Conf. on *Database Security*	? Oct 94	Hamburg	**IFIP WG11.3**
World Conf. on *Computers in Education — WCCE '95*	24–? Jul 95	United Kingdom	IFIP TC3/BCS
Eighth **IMIA** World Congress on *Medical Informatics — MEDINFO'95*	10-14 Sep 95	San Paolo, Brazil	IMIA
IFIP Congress '96 — Fourteenth World Computer Congress	? Sep 96	**Canberra, Australia**	**IFIP**
Thirteenth *IFAC World Congress '96*	? 96	San Francisco	**IFAC**

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

CALENDAR OF EVENTS

Event	Date	Location	Sponsored by
Conf. on *Measurement & Modelling of Computer Systems — SIGMETRICS 92*	1-5 Jun 92	Newport, Rhode Island	ACM SIGMETRICS/ **IFIP** WG7.3
Work. Conf. on *Boundary Control and Boundary Variations*	3-5 Jun 92	Sophie-Antipolis, France	**IFIP** WG7.2/ CMA-Ecole des Mines
Fifth Symp. on *Man-Machine Systems*	6-8 Jun 92	The Hague	IFAC/ **IFIP** WG5.2/10 IFORS/IEA
Work. Conf. on *The Portable Office: Microprocessor Cards as Elements of Distributed Offices*	9-10 Jun 92	Ottawa, Ontario	**IFIP** WG8.4
Twenty-fourth Intl. Seminar on *Manufacturing Systems*	11-12 Jun 92	Copenhagen	CIRP/ **IFIP** TC5
Work. Conf. on *The Impact of Computer Supported Technologies on Information Systems Development*	15-17 Jun 92	Minneapolis, Minnesota	**IFIP** WG8.2
Intl. Open Conf. on *Theorem Provers in Circuit Design: Theory, Practice and Experience — TPCD*	22-24 Jun 92	Nijmegen, Netherlands	**IFIP** TC10, WG10.2/ Dutch National Facility for Informatics
Twelfth Intl. Symp. on *Protocol Specification, Testing and Verification*	22-25 Jun 92	Lake Buena Vista, Florida	**IFIP** WG6.1
Eighth Intl. Conf. on *Software for Discrete Manufacturing — PROLAMAT '92*	24-26 Jun 92	Tokyo	**IFIP** WG5.3/ IFAC JSPE IPSJ
Summer School on *Formal Methods for VLSI Design*	29 Jun-3 Jul 92	Lyngby, Denmark	**IFIP** WG10.5/2
Intl. Workshop on *Comparison of Qualifications and Certification of Information Technology Professionals*	8-10 Jul 92	Singapore	**IFIP** WG3.4
Work. Conf. on *Professional Development of IT Professionals*	13-17 Jul 92	Singapore	**IFIP** WG3.4/ Sing. Comp. Soc.
Fifth Work. Conf. on *Engineering for Human-Computer Interaction*	10-14 Aug 92	Ellivuori, Finland	**IFIP** WG2.7
Sixth Work. Conf. on *Database Security*	19-21 Aug 92	Vancouver, Canada	**IFIP** WG11.3
Work. Conf. on *Integration in Production Management*	27-29 Aug 92	Eindhoven, Netherlands	**IFIP** WG5.7
Intl. Workshop on *Hardward-Software Codesign*	30 Aug-2 Sep 92	Estes Park, Colorado	**IFIP** WG10.2
Eleventh **IAPR** Intl. Conf. on *Pattern Recognition '92*	30 Aug-3 Sep 92	The Hague	IAPR
Second Intl. Workshop on *Field-Programmable Logic and Applications — FPL '92*	31 Aug-2 Sep 92	Vienna	**IFIP** WG10.2
***VLDB** I992*	? Aug 92	Vancouver, Canada	**VLDB** Endowment
Seventh **IMIA** World Congress on *Medical Informatics — MEDINFO '92*	6-10 Sep 92	Geneva	IMIA
Intl. Conf. on *European Design Automation — EURO-DAC'92*	7-10 Sep 92	Hamburg	GI/ **IFIP** WG10.5/2, TC5, etc.
Third European Conf. on *VHDL Methods — EURO-VHDL'92*	7-10 Sep 92	Hamburg	**IFIP** WG10.5/2 Siemens AG, GI/ITG
***IFIP** Congress '92 — Twelfth World Computer Congress*	**7-11** Sep **92**	**Madrid**	**IFIP**
Work. Conf. on *Dependable Computing for Critical Applications — DDCA 3*	14-16 Sep 92	Mondello, Sicily	**IFIP** WG 10.4/TC11 IEEE CS TC on FTC, EWICS TC7
Eighteenth EUROMICRO Conf. on *Software and Hardware: Specification and Design — EUROMICRO'92*	14-17 Sep 92	Paris	EUROMICRO
ICCC '92	27 Sep-2 Oct 92	Genoa	ICCC
Work. Conf. on *Optimization-Based Computer-Aided Modelling and Design*	28 Sep-2 Oct 92	Dagstuhl-Castle, Germany	**IFIP** WG7.6
COMPSTAT I992	• ? Sep 92	Neuchatel, Switzerland	**IASC**
Intl. Workshop on *Compiler Construction — CC'92*	5-7 Oct 92	Paderborn, Germany	GI/ **IFIP** WG2.4
Fifth Open Conf. on *Formal Description Techniques for Distributed Systems and Protocols — FORTE '92*	5-8 Oct 92	Lannion, France	**IFIP** WG6.1/France Telecom, Conseil Regional, CNRS
Sixth Intl. Workshop on *High-Level Synthesis — HLSW*	4-6 Nov 92	Dana Point Resort, Cal.	ACM, IEEE/ **IFIP** WG10.2/5
Intl. Work. Conf. on *Semantics Issues for Interoperating Databases — DS-5*	16-20 Nov 92	Melbourne	**IFIP** WG2.6/La Trobe Univ.
Work. Conf. on *Control of Partial Differential Equations*	4-9 Jan 93	Trento, Italy	**IFIP** WG7.2, CIRM
First Work. Conf. on *Architectures and Compilation Techniques for Fine- and Medium-Grain Parallelism*	20-22 Jan 93	Orlando, Florida	**IFIP** WG10.3
Intl. Open Conf. on *CAD/CAM and Computer Graphics*	26–? Feb 93	Bombay	**IFIP** WG5.10/5.2/5.3

(continued on page 15)

IFIP Congress '92 — 12th World Computer Congress	7-11 Sep 92	Madrid	**IFIP**
IFIP Congress '94 — 13th World Computer Congress	29 Aug-2 Sep 94	Hamburg	IFIP
IFIP Congress '96 — 14th World Computer Congress	Sep 96	Canberra	IFIP

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