IFIP newsletter
International Federation for Information Processing

Editor:
Dr. Jack L. Rosenfeld

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MAJOR INTERNATIONAL IFIP AWARDS PLANNED

For Contributions in Information Processing

At its meeting in September in Budapest (see the article on page 1 of the December 1987 ***IFIP*** *Newsletter),* the **IFIP** General Assembly (GA) approved plans for two major international awards for outstanding contributions in the field of information processing, to be presented for the first time at **IFIP** Congress '92. Two Awards would be presented at each subsequent Congress. The amount of $100 000 U.S. was suggested for each award.

IFIP vice-president Acad. *Blagovest Sendov* (BG), chairman of the External Awards Committee, reported its recommendations, which were accepted by the GA. Major sections of the report are printed here:

Name: ***IFIP*** *Award* (temporary name)

Scope: Two Awards are to be given for contributions in broad areas within **IFIP's** current scope, as well as in some areas not covered so far, all within the area of "information processing" (including science, technology and social/human aspects). One award will be for

- fundamental achievements

and the other for

- application-oriented achievements.

Criteria: The highest conceivable standards should apply, as relevant, such as scientific achievement, innovative value, societal impact, and so on. Eligibility may be based on

a. single achievement of profound effect, or entire productivity of full career

b. preferably (but not necessarily) someone who may be expected to continue contributing for some considerable period of years.

Candidates are to be *proposed by the* ***IFIP*** *member societies* but are not restricted to nationals from the countries represented. A member society may wish to nominate one or more candidates for each award, but it is not obliged to do so each time. A proposal is to be documented and substantiated; one might require the customary data made available in connection with the candidacy for a scientific position (curriculum vitae, list of publications, list of relevant affiliations, list of honours received), plus a formal recommendation in the light of the person's contributions, preferably endorsed by a bona fide institution or individual.

Jury: The decision concerning on whom to bestow an **IFIP** Award will be made by a jury appointed for the prize in

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INTERACT '87 HELD IN STUTTGART

In recent years, the field of human-computer interaction has received increasing attention from researchers and industrial practitioners, and the importance of the topic is widely recognized. Five years ago, **IFIP** formed a task group on Human-Computer Interaction, which proposed and organized an INTERACT conference in London in September 1984. The Second **IFIP** Conference on Human-Computer Interaction—INTERACT '87 took place last September in Stuttgart. Five hundred people attended, and 163 papers were presented.

Prof. *Brian Shackel* (GB) was chairman of the International Program Committee, and *Prof. Dr. Hans-Jörg Bullinger* (D) was chairman of the Organizing Committee. They also edited the proceedings, which have been published by North-Holland.

How to Design Usable Systems

One of the three invited lectures, *How to Design Usable Systems* by Dr. *John Gould* (USA), outlined a number of techniques that system designers—not necessarily human factors specialists—can use to improve the quality of their systems. Parts of this paper, which may be of interest to many of us, are quoted here *

> I believe that, to design good systems, you must follow these four principles:
>
> Principle **1:** *Early—and Continual—Focus on Users*
>
> Your job is to design a system that has the right functions, so people can do

* **IFIP**

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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; changes of address; and new publications. The Secretariat is the clearinghouse for all such information; it will forward it to the *Newsletter.*

PROLAMAT 88 TO BE HELD IN JUNE

IFIP's Working Group on Computer-Aided Manufacturing (WG5.3) wishes to announce the 7th International Conference on *Software for Discrete Manufacturing—PROLA MAT 88,* which will be held in Dresden 14-17 June 1988. The triennial PROLAMAT meetings have become the recognized forum for presenting new trends in computer software for discrete manufacturing, which includes the production of mechanical parts and systems, electrical parts, furniture, clothes, and other items. PROLAMAT 85, in Paris, attracted 500 participants. Previous PROLAMATs, beginning in Rome in 1969, have been held in Budapest; Stirling, Scotland; Ann Arbor, Michigan, U.S.A.; Leningrad; and Paris.

Originally, PROLAMAT stood for PROgramming LAnguages for MAchine Tools, but its current title reflects the broader range of interest taken by the recent conferences. Topics to be covered at PROLAMAT 88 include

- Development towards computer-integrated manufacturing
- Computer-aided design
- Computer-aided process planning, production planning, and optimization
- Automated manufacturing systems and robotics
- Artificial intelligence in computer-aided design and computer-aided manufacturing

The Conference will feature both invited and selected papers, plenary sessions, a round-table discussion, and technical visits to enterprises and research centers.

Prof. *Dr. Detlef Kochan* (DDR) is chairman of the Organizing Committee, and Prof. Gus *Oiling* (USA) is chairman of the International Program Committee. PROLAMAT 88 is also sponsored by the International Federation of Automatic Control (IFAC).

For further information, please contact

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Technische Universität Dresden
Sektion Fertigungstechnik
and Werkzeuginaschinen
PROLAMAT'88

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WOMEN, WORK, AND COMPUTERIZATION

An international conference will be held in Amsterdam on the subject of *Women, Work and Computerization* 27-29 April 1988. This will be the third such conference to be organized under the auspices of **IFIP's** Technical Committee on the Relationship between Computers and Society. The first conference, held in Riva del Sole, Italy in 1984, focused on the identification of opportunities and limitations. At the second conference, held in Dublin in 1986, the emphasis was on positive examples of the use of computers by women in their work.

The purpose of the third conference is to

- develop strategies enabling women to exercise greater control over the application of new technologies in their work
- put forward initiatives which will help to improve the position of women on the labor market (or have already done so) within the framework of the introduction of new technologies
- explore future developments in the field of work and computers and the conditions under which computers can open up prospects for women, including those in the Third World.

Another aim of the conference is to establish a basis for a structured forum on *Women, Work and Computerization* in the form of a permanent Working Group within **IFIP.**

The conference will comprise two parts: one plenary day and a two-day workshop. The plenary day is intended to publicize this field in The Netherlands. Keynote speeches by guest speakers from the Netherlands and elsewhere will focus on future developments and real-life examples. These speeches will set the tone for the second part of the conference, a two-day workshop intended for researchers and other experts in the field, which will establish new lines of research and action. The topics mentioned above will be discussed in separate groups on the basis of the papers submitted and brief explanatory comments from authors. To receive further information, contact

IFIP Conference
"Women, Work and Computerization"
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The New Zealand Computer Society was formed twenty-eight years ago, even before the first computer had been installed anywhere in the country. New Zealanders were returning from overseas, impressed by what they had seen of the new technology and its potential. As a result, a number of far-sighted individuals got together and formed what was to become the New Zealand Computer Society (NZCS).

Those early founders laid an excellent base, and the Society has served its increasing body of members well. It has grown from a small group of interested individuals with vision, acting on a voluntary basis, to an organization of some 2500 members with a full-time secretariat and a wide variety of activities. The Society consists of five separate branches, largely dictated by the geography of the country, which has five main centres of population. Auckland, where the IFIP Council meeting is to take place, is the largest, with around 900 000 people. New Zealand's total population is about 3.3 million.

The Society's first and major function is to look after the professional interests of its members. Each of the five local branches of the Society holds a series of regular meetings, where speakers address topics of interest to members. On the national. level, the Society provides opportunities for its members to learn from each other and from overseas practitioners, by holding regular biennial national conferences and professional development seminars. Trade exhibits at conferences allow computer vendors to present their wares to both the profession and the interested public. Since its earliest days, the Society has published newsletters and bulletins. In its attempts to keep members up to date with overseas developments, the Society has established links with overseas computer societies and is the New Zealand member of **IFIP.** New Zealanders, through the NZCS, are members of many of the **IFIP** Technical Committees.

The Society's other role is in its perceived obligations to society in general. The Society is seen by the public as the independent and authoritative source of information on matters to do with computing and its social impact. This has come about because the Society, in its public statements, has drawn attention both to the potential benefits of computers and to the possible dangers from their misuse. It has made a significant contribution to the public debate on privacy, a very live issue in New Zealand at the moment.

The Society has always had a major concern in the field of education, not only for its members and for potential employees in the profession, but also for increasing the computer literacy of New Zealanders, generally. It has maintained liaison with universities and Polytechnics and has been involved in the setting of curricula for computing diplomas. The Society also provides frequent assistance to the Department of Education and the Labour Department in the area of vocational guidance.

The Society accepts as a fundamental principle that its members, and, indeed, the country as a whole, will benefit from establishment of a firmly based, expanding electronic computing industry in New Zealand. It has, therefore, devoted much of its resources to achieving this end. It has lent its weight to submissions to government ministers and other authorities in support of the information technology industry. **It** has held seminars on the export of computer software and has also been heavily involved in the issue of the legal protection of software.

The Society also sets high standards for the professional grade of Member. Full Members of the Society have demonstrated, both by achievement and by peer evaluation, that they are truly professional in both their abilities and qualities and are recognised as such. The Society also has a Code of Ethics which is binding on all Members and Associates and emphasizes, above all, their responsibilities to the general public.

The Society looks forward to warmly welcoming the **IFIP** Council to New Zealand.

I FIP
PUBLICATIONS AVAILABLE

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

Information Bulletin
Statutes and Bylaws
Standing Orders
What Is ***IFIP?***
6-Year Plan (list of planned **IFIP** events)
articles about Technical Committees

PERFORMANCE '87 HELD IN BRUSSELS

IFIP's 12th International Symposium on Computer Performance Modeling—PERFORMANCE '87, took place 7-9 December 1987 in Brussels. Approximately 170 participants attended presentations of 30 papers, chosen from 130 contributions. The Symposium was followed by a 2-day technical meeting of the Working Group on Computer System Modeling (WG7.3), which organized PERFORMANCE '87.

The main themes of the Symposium were summarized by *Prof.* Pierre-*Jacques* Courtois **(B),** Chairman of the International Program Committee, in the introduction to the proceedings. Part of this summary is quoted here. *

> The first symposium of this kind took place in France in 1974, and the following ten took place alternately in Europe and North America.
>
> During these past thirteen years, the usage of computers has greatly evolved. They are now essential parts of systems which, in all vital sectors of human activity, execute functions of management, control and communications, often under very strict real-time constraints. It is not surprising that the performance and reliability constraints which are imposed on these systems are ever becoming more exacting. Therein are probably the reasons for the continuing interest taken in our conferences, and also for the growing diversity of the problems and of the models with which they have to deal.
>
> Roughly speaking, the contributions are divided into the following categories: queueing models (the applications in view were local networks and the multiplexing of synchronous and asynchronous traffic in digital networks with integrated services, and blocking phenomena in telecommunications systems and computer integrated manufacturing systems); collision resolution algorithms revolving around "packet radio networks:" locking, sequencing and ordering mechanisms used to preserve the coherency of information in databases and distributed systems; analysis of algorithms; and measurement and simulation (with emphasis on models of networks and workstations).

Prof. *Guy Latouche* **(B)** was chairman of the Organizing Committee. He and *Prof. Courtois* served as editors of the proceedings, which have been published by North-Holland.

* C) IFIP

Who's Who in IFIP: DR. ING. GIORGIO SACERDOTI

IFIP trustee *Dr. Giorgio Sacerdoti* (I) was born in Trieste and has been associated with computers every since his graduation from Rome University in 1953. In fact, he decided to write his graduate thesis on "Digital Electronic Computers," against the advice of his professor, who suggested "something more interesting." It was the first graduate work on computers in Italy. A short time later, he was called upon by the National Research Council to direct the installation and operations of the first large computer installed in Italy.

A few years later, he joined the Olivetti Co. and became chief designer of the Elea line of computers and eventually the Director of Research and Development for the entire Olivetti electronics activity. In 1968, a few years after that activity was sold to General Electric, he returned to Olivetti as Corporate Manager for Education and Training.

When the Italian government, together with several of the top Italian corporations, decided to organize a Research Company for health automation in Florence, he was called upon to be its first General Manager, in 1972. At the same time, he began teaching "Health Systems Organization" at the University of Florence, as Associate Professor; he continues this activity at the University of Brescia, near Milan.

Dr. Sacerdoti is also a partner in a private video disk company and is interested in the application of computers to agriculture.

Three times he has been president of Associazione Italiana per l'Informatica e it Calcolo Automatico (AICA), the **IFIP** member for Italy. He has also led several other Italian and European cultural organizations.

Dr. Sacerdoti has served as Italy's representative to the **IFIP** General Assembly since 1977. In 1983, he was elected trustee. He is a member of the Activity Development Board and serves as Cognizant Officer of the Technical Committees on Programming and Computer Applications in Technology (TC2 and TC5, respectively).

In addition to his professional activity, *Dr.* Sacerdoti is involved in an organization for assisting the physically handicapped through electronic technology.

He lives in Milan with his wife Antonella and close to his daughter and grandchildren. His personal interest is in modern history, and his favorite sport is swimming. ■

HARDWARE DESIGN VERIFICATION

The ever increasing complexity of integrated circuits, coupled with the need to quickly and accurately produce new designs, has caused a surge of interest in mathematically based design and validation techniques. Established software engineering techniques, supported by formal theories, have begun to be successfully applied to the task of verifying design correctness. Research into hardware verification has reached a certain maturity, and a number of approaches have recently emerged.

Real problems occur when verification is attempted on completed designs. A solution has appeared with the close integration of design and verification throughout all the steps of the design process. The fusion of verification with VLSI design appears to be a promising methodology for the future, where the ultimate goal is the inclusion of formal verification within CAD systems.

An international Working Conference on *The Fusion of Hardware Design and Verification* will be held 4-6 July at the University of Strathclyde in Glasgow, sponsored by **IFIP's** Working Group on Digital Systems Descriptions and Design Tools (WG10.2). The Conference will explore issues related to the integration of design and verification, including the practical issues of applying formal techniques to CAD. This Conference will be the fourth in a series on related areas of hardware verification organized by WG10.2.

The Conference chairman is *Dr.* George *Milne* (GB). For further information, contact

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IFIP AWARDS continued from page 1

question. Thus, before every Congress, 2 juries will be active (one for the Fundamental Award and one for the Applied Award). The juries will consist of five persons each and will be *appointed by the GA*. Juries are free to make their own working arrangements (such as selecting a chairman, making use of expert advice, etc.). A person serving on a jury cannot be a candidate for an **IFIP** Award him- or herself. The juries will be chosen by the GA from proposals by the member societies; each of these may propose a maximum of two potential jury members. Such proposals will be accompanied by such information as affiliation, position, area of specialisation, etc. The procedure ought to ensure that well-known persons are likely to be appointed.

Schedule: The Award Ceremony is an integral part of an **IFIP** Congress. Juries report their decisions to Council in the spring of the year of a Congress; the announcement shall be given considerable prominence by **IFIP;** this will serve as additional publicity for the forthcoming Congress.

First time scheduling: Although presenting the **IFIP** Awards at the San Francisco Congress in 1989 would make good publicity, there simply is not the time to prepare this prestigious event properly, let alone ensure sufficient funding by the time **IFIP** must commit itself.

Fund raising: Several figures have been suggested for the capital needed to **support** the **IFIP** Awards, ranging from 2-8 million Sfr. Raising this is a formidable task. It may be a good idea to establish an "**IFIP** Award Fund Raising Committee" (consisting of the Executive, the External Awards Committee, and such persons as would appear helpful). ■

DEVELOPING COUNTRIES SUPPORT COMMITTEE ACTIVITIES

*by Mr. Luis Penedo (P) **

The largest Regional Meeting so far of the Developing Countries Support Committee (DCSC) was held in Bogota, Columbia on 12 November. The meeting was included in the program of the XIII Conferencia Latinoamericana de Informatica. This annual conference is the major international event in Latin America related to information processing. DCSC had asked the organizers to allocate time for the DCSC meeting, since the representatives of the computer societies of so many countries would be present.

The DCSC meeting was attended by 14 people, including Mr. Hector *Monteverde,* the Regional DCSC Coordinator and representative of Argentina to the **IFIP** General Assembly, who chaired the meeting, and Mr. *Luis* Penedo (P), DCSC Chairman, who made a presentation about **IFIP** and moderated the discussion that followed about the importance of **IFIP** work and resources to help Latin America in its technology development. More than that, the meeting proved to be an excellent forum to exchange ideas among countries of the same region, with many similar problems and experiences. Participants included representatives of Argentina, Bolivia, Brazil, Colombia, Chile, Dominican Republic, Mexico, Paraguay, Peru, and Venezuela.

The discussions will be reported to the **IFIP** Council in March, but we can say now that this meeting was a very useful event. **IFIP** became better known, and the motivation to work in our organization was reinforced. Latin America is, indeed, an area where many difficulties exist and must be overcome. **IFIP,** working in close cooperation with national and regional organizations, has many possibilities to help this area. It became clear that **IFIP** support at the regional level is most appropriate for an environment like Latin America.

CLEI, Centro Latinoamericano de Estudos en Informatica, a regional Full Member of **IFIP,** informed us that *Prof.* Jose *Pino,* from the University of Chile, was appointed as the new representative from CLEI to the IFIP General Assembly, succeeding *Prof. J. Vidart* (RA), who is President of CLEI. Also, CLEI announced that Mexico has joined, becoming its 11th member.

DCSC Regional Meetings are planned for New Zealand (Pacific Area) at the time of the **IFIP** Council meeting (29 February-3 March) and for Europe (Mediterranean Area) in May 1988, in addition to the routine meetings that will take place during the year in the other regions.

VLSI Design Course

A course in VLSI design was held 21-25 September in Lisbon, sponsored by the United Nations Economic, Scientific and Cultural Organization (Unesco), DCSC, and the Portuguese Computer Society, under the direction of *Prof.* ***R.*** *Hartenstein,* and the collaboration of *Profs.* M. Glesner, *K. Muller,* and *Th. Vierhaus,* (all from the Federal Republic of Germany). Nine participants were from Portugal, 7 from Spain, and 1 from Nigeria. The course may be repeated in Nigeria, and later in Southeast Asia, according to the initial plan, under the cooperation of Unesco, DCSC, and interested national computer societies.

* DCSC chairman, **IFIP** trustee, and representative of Portugal to the General Assembly

NEWS FROM TC5

IFIP's Working Group on Computer Aided Production Management (WG5.7) announces a Working Conference on Knowledge Based Production Management Systems, to be held 23-25 August in Galway, Republic of Ireland.

This Conference will deal with the current state of the art in Artificial Intelligence (AI) application to Production Management Systems (PMS) and seek to develop a greater understanding of likely future work and research trends. Recent years have seen the use of advanced AI techniques in industry. A prime application area in manufacturing is that of PMS. Lately, Knowledge Based PMS applications have been developed and installed in actual industrial situations. Scheduling, in general, is considered a prime target for application of AI techniques.

The number of participants in this Working Conference will be limited, and participation will be by invitation only. Small groups will be formed to address coherent sets of problems. Each group will produce a short report on the results of its work, and this report will appear in the subsequent conference proceedings.

For further information, one may contact

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APMS-87

WG5.7 held its 3rd International Conference on Advances in Production Management Systems (APMS-87) 11-14 Aug 1987 in Winnipeg. One hundred ten participants from 20 countries took part, and authors from 16 countries presented 48 papers. The purpose of the Conference was to present new results in the area of PMS and information systems for the factory of the future.

The first APMS was held in Bordeaux in 1982, and the second in Budapest in 1985. Prof. Andrew Kusiak (CDN) was chairman of the International Program Committee and also served as conference chairman.

Production Control Glossary

WG5.7 recently produced the ***IFIP*** *Glossary of Terms Used in Production Control,* written by *Prof. John Burbidge* (GB). In his preface, he wrote:

> For the majority of the members of WG5.7, English is not their mother tongue. This causes some problems in communication, but the main difficulty is that there is at present no universally accepted source giving definitions in

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The 1987 **IFIP** General Assembly (GA), meeting in Budapest in September (see the article on page 1 of the December 1987 ***IFIP*** *Newsletter),* approved the following Scopes and Aims for new Working Groups (WGs).

WG2.8: Functional Programming

The purpose of the Working Group is to encourage the exchange of information between researchers in the design, implementation, and use of functional (applicative) languages. Topics within the scope of the Group include

- semantic theories for functional languages
- specification and correctness for functional programs
- data- and demand-driven execution models
- programming with higher order functions
- functional approaches to input-output and persistent memory
- programming systems based on functional languages
- novel architectures for functional programming systems
- implementation based on functional languages
- multiple processor implementations
- programming styles and techniques appropriate for functional languages
- applications and experience

WG3.6: Distance Learning

SCOPE

1. To investigate distance learning methods for adult education in informatics in remote education (e.g., correspondence) universities.
2. To introduce methods of distance learning to postgraduate training on different levels.
3. To bring about the integration and the cooperation of distance learning educational systems with other public and high-level education system.
4. To cooperate with the telecommunication media (TV, radio, journals etc.).

AI MS

1. To prepare the whole society for living in the information age, using a distance learning system for
   - teaching the application of intelligent electronic tools, such as computers, terminals, CNC equipment etc.,
   - teaching possible use of informatics (databanks, information systems, program packages, software tools etc.) and the handling of such systems.
2. To investigate the technology of distance learning, to be aware of new and advanced methods and to support the spread of distance learning in the educational institutions of different countries.
3. To support the teaching of informatics with the technology of distance learning, particularly in countries where this technology is not currently applied.
4. To support cooperation, especially in the development of courseware and the exchange of teaching material (courseware).

WG **5.10: Computer Graphics**

AIM and SCOPE

The aim and scope of the working group are to promote and encourage the advancement of the field of computer graphics and its applications in technology. Its scope of work includes, but is not limited to, the following topics:

- Graphics Systems, Architectures and Workstations; VLSI for Graphics; Communication and Networking
- Graphics Software Engineering; Dialogue Programming; User Interface Managers; Window Managers; Graphics Algorithms and Packages
- Graphics Data Management and Archiving; Engineering Data Bases; Video Disk Technology
- Graphics Interfaces; Integration Issues; Data Transfer Techniques, Interfaces and Protocols
- Graphics for Simulation and Animation
- Integration of Text and Graphics; Documentation Systems; Electronic Publishing
- Graphics for Engineering
- Graphics and CAD (Electric, Electronic, Mechanical, Civil and Architectural Eng.)
- Graphics and Multi-Media Information Technology (Integration of general data types: Graphics, Vision, Video, Voice, etc.)
- Graphics and Artificial Intelligence
- Graphics for Robot Programming, Cartography, Land Survey, Transportation Systems, Machining Simulation and other topics

The working group will have the following specific tasks in its scope:

1. Maintain close cooperation with Working Groups WG5.2, WG5.3 and WG5.7 as users of computer graphics
2. Maintain liaison with other appropriate national and international organizations and Affiliate Members, Technical Committees and WGs working in related fields.
3. Conduct conferences, working conferences and symposia as deemed appropriate in furthering its scope.
4. Stimulate and sponsor research investigations and economic and social studies into the various aspects of the topics of its scope

WG11.1 : Security **Management**
(this WG is not new, but its Scope and Aims have not been published before)

AIM

To develop managerial tools for the coordination of protective techniques needed to achieve attained security.

SCOPE

- To study the process of setting security objectives and policies.
- To study the establishment and maintenance of protection of information processing systems.
- To study the control and evaluation of protection, with regard to objectives and policies.

WGI 1.2: Office Automation Security
(this WG is not new, but its Scope and Aims have not been published before)

AIMS

- To study and report on up-to-date, state-of-the-art security measures for office systems.
- To collect, exchange and disseminate information relating to office information security problems, as well as solutions, objectives and policies.
- To encourage and support the design and development of secure office automation systems.

SCOPE

Security aspects of office automation in standalone word processing and office systems, local area network systems and communications.

WG11.3: Database Security
(this WG is not new, but its Scope and Aims have not been published before)

AIM and SCOPE

To advance technologies that support

- the statement of security requirements for database systems
- the design, implementation, and operation of database systems that include security functions
- the assurance that implemented database systems meet their security requirements

To promote wider understanding of the risks to society of operating database systems that lack adequate measures for security or privacy.

To encourage the application of existing technology for enhancing the security of database systems.

WG11.4: Crypto Management
(this WG is not new, but its Scope and Aims have not been published before)

AIM

To spread the knowledge and know-how for implementing and using cryptographic techniques for the protection of data transmission.

SCOPE

- To study techniques and procedures for key management.
- To study the design and implementation of systems to control the use of cryptographic techniques in an OSI environment.
- To study administrative controls to be implemented when cryptography is used.

WG11.5: **Systems Integrity and Control**
(this WG is not new, but its Scope and Aims have not been published before)

AIM

To promote awareness of the need to ensure proper standards of integrity and control in information systems in order to ensure that data arc complete and in accordance with their owners' expectations.

SCOPE

- Study and promote the use of appropriate control measures to ensure data integrity requirements are satisfied within information systems.
- Study and promote the use of advanced auditing tools and techniques as means to identify integrity and control weaknesses.
- Promote the EDP Auditing function as a tool for senior management to obtain an independent and objective appraisal of the effectiveness and continuing appropriateness of integrity and control measures within information systems.
- Promote the mutual understanding of the EDP Audit, Security and Development functions between personnel engaged in those functions.

WG11.6: **Multiparty Transaction Security**

SCOPE

Security aspects of information processing systems for conducting transactions between parties with potentially conflicting interests.

AIMS

- To promote awareness of and encourage critical review of security issues in transaction systems.
- To provide a forum for the exchange of practical experience and proposals related to security in current transaction systems.
- To consider the possible future directions of transaction systems and the implications for security.

Revised Scopes and Aims and committee charters approved by the 1987 GA will be published in the June ***IFIP*** *Newsletter.*

PERSONAL AND CORPORATE MEMBERSHIPS IN IFIP PROPOSED

One of the novel ideas put forward at the 1987 **IFIP** General Assembly (GA) in Budapest (see the article on page 1 of the December 1987 ***IFIP*** *Newsletter)* was the concept of Personal and Corporate Memberships **in IFIP. IFIP** president *Mr. Ashley Goldsworthy* (AUS) presented his proposal to the GA during the discussion of restructuring **IFIP** (see the article on page 8 of the December 1987 ***IFIP*** *Newsletter).* There was no time to discuss the concept at the GA meeting, but it will surely be considered in the future. In the meantime, we print the proposal here:

Objectives:

i. To give individuals the opportunity to "belong" to **IFIP** and so create stronger (as opposed to non-existant) bonds between **IFIP** and individual practitioners.

ii. To promote knowledge of the existence and work of **IFIP** by creating direct contact between individuals and **IFIP.**

iii. To provide a potential source of substantial income.

iv. To reinforce the position of **IFIP** as the appropriate vehicle to nurture new activities.

v. To allow individuals from countries (particularly developing countries) that do not belong to **IFIP** to participate in **IFIP** affairs.

vi. Allow individuals to contribute financially to IFIP's efforts in advancing the state of the art and assisting developing countries.

vii. Give individuals early notice of **IFIP** events and **IFIP** publications.

Proposal:

i. Membership is open to anyone interested in the Aims of IFIP.

ii. A nominal annual membership fee (e.g., 40-75 Swiss francs.)

iii. No conflict with national organizations. Therefore no local or regional groupings of members will be made nor will any formal activities be organized, nor will **IFIP** support any formal structure in competition with an *existing* national organization.

iv. Members would receive copies of the ***IFIP*** *Newsletter,* advice of **IFIP** publications, meetings, etc., and (possible?) discounts on **IFIP** activities such as conferences.

v. Personal members will not have any vote or play any role in **IFIP** government but could, of course, participate in Working Groups and similar activities.

vi. We would need to develop some more tangible services to attract members. This should be an objective—not a constraint.

Although the preceding wording deals only with Personal Members, it would be expanded to describe Corporate Members.

ZIMBABWE JOINS IFIP

*by Geoff Fairall **

[The 1987 General Assembly, meeting in Budapest in September (see the article on page 1 of the December 1987 ***IFIP*** *Newsletter),* voted to admit the Computer Society of Zimbabwe as a Full Member. **IFIP** looks forward to Zimbabwe accepting by actively participating in **IFIP** work. This article describes the background, organization, and activities of the Society—Ed.]

Zimbabwe's first computer was installed in 1960 at the Government Treasury Department, and four years later there were sufficient installations in the region to warrant holding a Central African computer users' conference. However, it was not until August 1974 that the Computer Society of Zimbabwe came into being, with members drawn from commerce, industry, government and academia, with a wide cross-section of computer-related occupations. Membership grades include corporate status for computer specialists and affiliate level, which is open to anyone with an interest in computers. There is provision for both individual and institutional membership, which currently stand at 500 and 175, respectively.

The activities of the Society are controlled by a national council consisting of eight elected members and one additional member from each of the three chapters. The chapters themselves are run by elected committees and serve the two main cities of Harare and Bulawayo and what is known as the Midlands.

Through the chapter committees, the Society has been very active in the educational field, the following being some of the major achievements:

• Data processing and systems courses leading to a diploma were initiated at the technical colleges, with the syllabi, lectures, and examiners provided by the Society. Eventually, the colleges were in a position to take over running the courses.

• Since 1975, an annual seminar for businessmen and computer users, known as DATACOM, has been held in both main cities, varying from one to three days, with at least two foreign speakers.

• In May 1986, a regional INFORMATICS conference took place at Victoria Falls, where papers were presented, and workshop groups produced recommendations for consideration by the various countries represented.

• In 1987, the Society jointly hosted, with **IFIP's** Technical Committee on Data Communication (TC6), the AFRICOM '87 conference, which was attended by delegates from within Zimbabwe and neighbouring countries and was addressed by communications experts from nine countries. A hardware exhibition was mounted to coincide with this important event and was well supported.

• Since 1983, an annual residential "Summer School" has been held primarily for Society members, where updates on various computer topics are presented and Society policy is discussed. The organisation of this alternates each year between Harare and Bulawayo chapters. It is always well attended, and, where possible, external speakers are invited.

• Both main chapters have been active in supporting computer clubs at secondary schools, and an annual management games competition for schools, sponsored by a local computer company, receives assistance from members. A workshop for computer teachers held at the local university was also heavily subsidised by the Society.

continued on page 9

* secretary of the Comp. Society of Zimbabwe

News from Member Society: FINNISH INFORMATION PROCESSING ASSOCIATION

*by Prof. Martti Tienari **

The Finnish Information Processing Association consists of 21 societies with a total membership of over 14 000. Most member societies are regional societies, which gather together the data processing professionals living in the area around a sizeable city. The societies aim at advancing the professional development of their members by organizing various activities for information exchange and the promotion of mutual contacts between their members. No trade union type of activities are carried out. One of the constituent societies is the Finnish Computer Science Society, which represents computer science and information systems research among the learned societies in Finland.

The organization of the Finnish Information Processing Association has gone through several stages, and its name has been changed many times during the 30 years or so that computer people have organized themselves in Finland. Its predecessor in the fifties was the Punched Card Processing Society.

One important activity of the association has been publishing books and journals in the data processing area.

* representative of Finland to the **IFIP** GA

The Legislative issues related to the increasing computerization of Finnish society is an important field of activity for the Association. It has issued public statements about privacy and computer files on individuals, as well as the copyright protection of computer software—examples of recent computing-related legislation debated in the Finnish parliament.

The Association also sponsors and organizes research and standardization projects in data processing, which have national significance. An example of these activities is the successful Finnish ADP dictionary published every five years, approximately.

Besides belonging to IFIP, the Association belongs to the Nordic Union for Data Processing, which sponsors annual NordData Conferences and publishes two joint Nordic journals in the data processing area: the professional journal *Nordisk Datanytt* and the scientific journal *BIT*.

Finland has been active in most of IFIP's Technical Committees. The Association sponsors the participants by providing travel grants when no other financing is available. Several IFIP Working Group meetings have been organized in Finland, on the average of one per year.

Three questions that have arisen within the Association would be useful to discuss within IFIP:

1. The goals and tasks of the Finnish Information Processing Association have been recently put under scrutiny. It is felt that the goal "to promote the rational introduction of ADP..." should be replaced by something which emphasizes the qualitative objectives in using ADP. Discussions between IFIP member societies would be helpful if we are to achieve a balanced, up-to-date statement of the goals of a data processing association.

2. The Finnish Computer Science Society has expressed the wish to strengthen the role of IFIP as an international union of scientific societies. To this purpose, the activities of other similar unions, (International Mathematical Union, International Physical Union, etc.) should be investigated and emulated in **IFIP.**

3. IFIP should prepare an annual review of **IFIP** and its activities for the member organizations, in such a condensed form that it can be forwarded to our membership journal. ■

NEWS FROM TC5 cont. from page 5

English of the principal terms used in Production Control and in other closely related subjects. Most of the dictionaries and glossaries which do exist in this field, fail to cover the full range of ideas which need to be considered during an intelligent discussion of the subject. It is also notable that the definitions given in different sources for Production Control terms differ not only in wording, but also in many cases in the concepts which they cover.

The objectives of the IFIP Glossary and of other English language sources for Production Control terms, are not the same. Most other sources are attempting to record common usage. IFIP WG5.7 needs words to describe new ideas which are not yet in common use. Most other Production Control sources also attempt to restrict their coverage to terms special to Production Control. IFIP WG5.7 is deeply interested in the idea of "Computer Integrated Manufacture" (CIM). It sees Production Control as part of a much larger system. For this reason the IFIP Glossary contains a wider range of associated terms than most other sources.

The *Glossary* was published by North-Holland in late 1987.

Maintenance Strategies

IFIP's Working Group on Computer-Aided Manufacturing (WG5.3) held a Working Conference on Diagnostic and Preventive Maintenance Strategies in Manufacturing Systems 2-4 September 1987 in Dubrovnik. Thirty-eight participants from 14 countries attended.

New generations of manufacturing systems have a very complex hardware and software structure whose reliability, maintainability, availability, and repairability must be very high. The application of new technologies to the maintenance of the components of CIM systems has changed the maintenance philosophy of these systems, creating new fields of research, such as predictive maintenance, knowledge-based systems for maintenance, pattern recognition techniques, etc.

The Conference considered these issues. The paper by the chairman of the International Program Committee, Prof. Dr. *Vladimir Milacic,* (YU) and *Mr. Vidosav Majstorovic* (YU) summarized many of the approaches and stressed the importance of AI techniques. The following is taken from the abstract:

Diagnosis and maintenance of complex CIM systems include both hardware and software. Developing research activities in this field range from specialized hardware and software systems to the integrated CIM maintenance system, where the maintenance function is considered as an integral part of the life cycle of the system. This paper reviews new approaches to the development of maintenance in CIM systems from the aspect of the application and development of expert systems for maintenance. Special reference is made to a model of an expert system for maintenance of machining systems. ■

INTERACT continued from page 1

their work better and like it. You cannot figure out what people want, need, can do, and will do without talking to them. A first step in designing a system is to decide (a) who the users will be and (b) what they will be doing with the system. This should be done either *before* starting to design the system, or at a very early stage after obtaining some general ideas about it.

The key points are (a) learn enough about the users and their work that you can design a better system than they have; (b) develop a definition of who the users will be, and use this to guide you in the numerous design decisions you make; and (c) establish benchmark behavioral specifications against which you can measure your progress. Behavioral targets give phrases like "user friendly" and "easy to use" a technical basis.

Principle 2: *Integrated Design*

Integrated design has two characteristics: all aspects of usability need to evolve in parallel, and all aspects of usability should be under one focus. One group, at the very beginning, must be given sufficient resources (money, personnel, time, authority) to drive and control usability, and to invent what is needed to make usability good. Integrated design requires that this group *guarantee* good usability. Their duties include carrying out the methods described under each of the other three principles, or seeing that others do.

At the outset, work should begin on sketching the user interface, the user guides, other reading materials, the language translation approach, the help system, and so forth.

Integrated design may be tough to carry out in large organizations. It requires that the usability people be outstanding, be given the responsibility (and accountability), and have good tools.

Importance of Testing

Principle 3: *Early—and Continual—User Testing*

Your job is to design a system that works and has the right functions, so that users can do the right things. You won't know much about how you are doing until you start testing it. And you do not need a complete system before you can start testing.

From the very beginning of the development process, and throughout it, intended users should carry out real work, using early versions of training materials and manuals, and simulations and prototypes of the user interface, help system and so forth. E.g., create a scenario, simulation, or prototype, measure the performance of some users doing real work, get their reactions, modify the user interface, then repeat the process. Informal empirical and experimental work are very valuable and give an idea of where you stand vis a vis the behavioral targets you established earlier. Most of these activities can be carried out without some of the technical skills of trained human factors people.

When you find that users are having difficulty with your interface, manual, or training procedure, what to do about it may not be clear. There is no *principled* method to determine what the solution is. There are only *empirical* methods—to be used after careful analysis, critical thinking, and innovation have been applied. The empirical methods can be used either during system development or they, in effect, will be used after the system is delivered—which is usually an inopportune time.

Principle 4: *Iterative Design*

The key requirements for iterative design are: identification of required changes, an ability to make the changes, and a willingness to make the changes.

There is no point in measuring parts of a system if you cannot change it, based upon your results. You need good tools to do iterative design. In the past, particularly as deadlines approached, there has been great reluctance to make even simple changes to the user interface, because these changes might introduce bugs into the application code. That is, code for the user interface and the application were mixed together. Experience with this problem has led to the development of toolkits and user interface management systems.

We have started a new project to develop a language and an approach that will separate application content from interface style. Our approach, if successful, will (a) allow knowledgeable application specialists to describe or "program" the application's content and skilled user interface designers to develop the styles; (b) enforce consistent user interfaces; (c) allow the same application to work in multiple styles, should customers want this. A second component of this work is to build up an experimentally evaluated inventory of user-computer interaction techniques that these tools can call. In the long run, if we are successful, we expect to have an inventory of applications, styles and interaction techniques that can be independently combined.

Difficult to Implement

If all of this is so good, why doesn't everybody do it? These principles are hard to carry out, mainly for organizational and motivational reasons. In addition, designers in the early stages of work sometimes find it hard to map these principles and methods onto their work. Once a user group is defined, this becomes easier, however.

Following these principles is especially difficult for managers. Being willing to live in a sea of changes, which these principles require, on very large projects, with hundreds of people, presents a significant stumbling block. Groups that report using the principles typically have a strong, committed manager. These groups are often, but not always, relatively small.

The methods advocated here do not guarantee a GREAT system. As in all other professions, designers have a range of ability. By definition, most systems are designed by average designers. Following these principles greatly increases the probability that average designers will design systems with acceptable usability. To go beyond this and design GREAT systems requires innovation and creativity. Also required is an outstanding leader and very good people, dedication, hard work, and lots of self-imposed pressure.

ZIMBABWE continued from page 7

• Monthly talks are arranged by the chapters for members and interested persons, providing a regular meeting place and social contacts.

• Recently a scheme has been introduced whereby institutions offering computer training are invited to seek accreditation with the Society. This implies a commitment to an agreed Code of Conduct and provides a means of protection to the public. A similar move to register computer consultants is well advanced.

Apart from the educational aspects, which are the most important activities, the Society endeavours to address other areas which are critical to the industry. The acute shortage of foreign exchange for imported equipment presents a permanent problem' to all involved in the provision and use of computer services, with enormous difficulties in obtaining additional material, spare-parts and supply items. The Society does it best to assist central government and the various business sectors in their attempts to alleviate this by conducting surveys to determine priorities and helping the government to assess needs.

Whilst the education sphere covers virtually all aspects of computerisation, the data communications area has been sin-

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NEW IFIP PUBLICATIONS*

CONFERENCE PROCEEDINGS

Information Systems Assessment: Issues and Challenges
Procs. of the **IFIP** WG8.2 Working Conf.
Noordwijkerhout, NL, Aug 86
Bjørn-Andersen , Davies, Eds.

Micros Plus: Educational Peripherals
Procs. of the **IFIP** TC3/WG3.3 Working Conf. on The Educational Implications of Connecting Tools and Devices to Micro-Computers
Wollongong, NSW, Australia, Aug 86
Wills, Lewis, Eds.

Temporal Aspects in Information Systems
Procs. of the **IFIP** TC8/WG8.1 Working Conf.
Sophia-Antipolis, France, May 87
Rolland, Bodart, Leonard, Eds.

Computer Communications Systems
Procs. of the First **IFIP** TC6 IBERICOM Conf.
Lisbon, May 87; Cerveira, Ed.

Artificial Intelligence Tools in Education
Procs. of the **IFIP** TC3 Working Conf.
Frascati, Italy, May 87; Ercoli, Lewis, Eds.

Data Communications Systems **and their Performance**
Procs. of the **IFIP WG7.3/TC6** Intl. Conf.
Rio de Janeiro, Jun 87
de Moraes, de Sousa e Silva, Soares, Eds.

Issues in LAN Management
Procs. of the **IFIP** TC6/WG6.4A Workshop
West Berlin, **F.R.G., Jul** 87; Dallas, Spratt, Eds.

VLSI '87
Procs. of the **IFIP** TC10/WG10.5 Intl. Conf. (on Very Large Scale Integration)
Vancouver, Aug 87; Sequin, Ed.

** published by Elsevier/North-Holland in 1988*

National Abbreviations Used in Newsletter

A	Austria	GR	Greece	PL	Poland
AUS	Australia	H	Hungary	PRC	China
B	Belgium	I	Italy	RA	Argentina
BG	Bulgaria	IL	Israel	S	Sweden
BR	Brazil	IND	India	SEARCC	South East Asia Regional Computer Confederation
CDN	Canada	IQ	Iraq	SF	Finland
CH	Switzerland	IRL	Ireland	SU	U.S.S.R.
D	Fed. Rep. of Germany	IS	Iceland	USA	U.S.A.
DDR	German Demo. Rep.	J	Japan	YU	Yugoslavia
DK	Denmark	N	Norway	ZA	South Africa
E	Spain	NL	The Netherlands	ZW	Zimbabwe
F	France	NZ	New Zealand		
GB	United Kingdom		Portugal		

Diagnostic and Preventive **Maintenance Strategies in Manufacturing** Systems
Procs. of the **IFIP** TC5/WG5.3 Working Conf.
Dubrovnik, Sep 87; Milacic, Mc Waters, Eds.

Governmental and Municipal Information Systems
Procs. of the **IFIP** TC8 Conf.
Budapest, Sep 87; Kovacs, Straub, Eds.

IMIA PROCEEDINGS

Progress in **Computer-Assisted Function Analysis**
Procs. of the IFIP-IMIA Working Conf. on Biological Function Analysis by Computer Technologies
Berlin, G.D.R., May 87
Willems, van Bemmel, Michel, Eds.

JOURNALS

Computers in Industry, The International Journal of **IFIP** TC5 — six issues per year

Computers and Security, The International Journal of **IFIP** TC 1 I — four issues per year ■

ZIMBABWE continued from page 9

gled out for special attention, as the country has reached a critical stage in the demand for services. The communications committee meets regularly with the Posts and Telecommunications Corporation in an advisory capacity, and it is hoped that involvement with TC6 will be of assistance in the future.

The Society is extremely pleased to have been admitted to **IFIP** and hopes through this membership to increase contact with developed and developing countries. Visitors from **IFIP** member societies will be especially welcome in Zimbabwe, and details of the Society's calendar may be obtained from the secretariat. ■

FUTURE IFIP MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

GA	week of 5 Sep 88	New Delhi
Council	week of 6 Mar 89	Geneva
GA	week of 21 Aug 89	San Francisco

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

TC2	28-29 Mar 88	Munich
WG2.I	14 —18 Mar 88	Rome
WG2.2	20 —24 Jun 88	Warsaw
	1st quarter 89	San Francisco area
WG2.3	15 —19 Aug 88	Pittsburgh
WG2.7	Mar 88	Munich
	Sep 88	Kyoto (with seminar)
	1st quarter 89	U.K.
	Aug 89 (week before **IFIP** Congress)	Napa Valley, CA, U.S.A.
TC3	21-23 Jul 88	Lausanne
WG3.1	24-29 Jul 88	Lausanne
TC5	13 Jun 88	Dresden
TC6	12-13 May 88	Sofia
	7-8 Oct 88	Bali
	Mar 89	Israel, Belgium, or Germany
	Sep 89	U.S.A.
	May 90	Budapest
	Sep 90	**Spain**
TC7	26 Sep 88	London
TC8	Apr 89	Brussels
WG8.4	Aug 88	Linz, Austria
TC9	4-5 Jun 88	Namur, Belgium
WG10.5	10 Aug 88	Germany

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

IMIA

Board Meeting	May 88	Singapore
General Meeting	Sep 88	Geneva

CALLS FOR PAPERS

WG10.2 Working Conference on The **Fusion of Hardware Design and Verification**
4-6 Jul 88, Glasgow
papers due: I Mar 88
contact: George J. Milne
Dept. of Computer Science
Univ. of Strathclyde
26 Richmond St.
Galsgow GI 1XH, Scotland, U.K.
tel. (44) 41 552 4400, ext. 3551
telex: 77472 (UNSLIB-G)

IFIP-IFAC Sixth International Conference on **Computer Applications in the Automation of Shipyard Operation and Ship Design (ICCAS 88)**
15-19 Sep 88, Shanghai
papers **due:** 1 Apr 88
contact: The International Programme Committee, ICCAS 88
Shanghai Corporation of Shipbuilding Industry
9 Zhong Shan Dong 2 Lu
Shanghai, P.R. China

TC8/TC9 Working Conference on **Impact of Information Systems in Developing Countries**
24-26 Nov 88, New Delhi
papers due: 1 Apr 88
contact: Prof. S.C. Bhatnagar
Indian Institute of Management
Ahmedabad 380 015, India

IFAC-IFIP-IFORS-IEA Fourth Conference on **Man-Machine Systems**
12-14 Sep 89, Xi'an, China
abstracts due: 15 Apr 88
contact: Prof. Hu Bao Sheng
The Systems Engineering Institute
Xi'an Jiaotong Univ.
Xi'an, Shaanxi, P.R. China
tel. 721011, ext. 677 Xi'an
telex: 70123 XJTU CN

CHANGES IN IFIP

NEW APPOINTMENTS

GA MEMBERS

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71 Science Park Drive
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Singapore 0511
tel. 65 7783901/3309129
telex: POSBANK RS 25450

Mr. G.R. Fairall
Central Africa Building Society
P.O. Box 2798
Harare, **Zimbabwe**
tel. 263 (4) 729911

Prof. Dr. Z. Bubnicki
ul. T. Kosciuski 27 m. 9
50-024 Wroclaw, **Poland**
(succeeding Prof. Dr. L. Lukaszewicz)

WG OFFICERS

WG2.8 Chairman: J.H. Williams
I**BM** Almaden Research Center
K53/803
650 Harry Rd.
San Jose, CA 95120-6099, U.S.A.

WG11.5 Vice-Chairman: Mr. R.R. Moeller
Grant Thornton, 600 Prudential Plaza
130 E. Randolph St.
Chicago, IL 60601, U.S.A.
tel. I (312) 865 0200, fax. 1 (312) 565 4719
telex: 256220 grant thorn cgo

WG5.4 International ESONE Conference on VMEbus in **Research**
11-13 Oct 88, Zurich
papers due: 15 Jun 88
contact: Dr. Chris Eck
CERN, DD-Division
CH-1211, Geneva 23, Switzerland
tel. 41 (22) 834260
telex: 419000 CER CH
fax. 41 (22) 837155
uucp ...mcvax!cernvax!cec

WG5.3 Working Conference on Modeling and **Simulation for Optimization of Manufacturing Systems Design and Application**
8-10 Nov 89, Tempe, AZ, U.S.A.
abstracts due: I Aug 88
contact: D.L. Shunk
Director, Center for Automated Eng. and Robotics
Arizona State Univ.
Tempe, AZ 85287, U.S.A.

TC5 Third International Conference on **Computer Applications in Production and Engineering-CAPE'89**
2-5 Oct 89, Tokyo
abstracts due: 30 Sep 88
contact: Conference Secretariat-CAPE'89
c/o Conference Department
Business Center for Academic Societies Japan
2-40-14, Hongo Bunkyo-ku, Tokyo 133, Japan
tel. 03-817-5831, fax: 03-817-5836 Int'l
telex: 0 2722268 BCJSP J

11th World Computer Cong.—IFIP Congress '89
28 Aug-I Sep 89, San Francisco
papers due: 1 Nov 88
contact: Dr. Hervé Gallaire
ECRC, Arabellastrasse 17
D-8000 Munich 81, Federal Republic of Germany
tel. 49-89-92 69 91 00, telex: 5216910
fax. 49-89-92 69 91 70
e-mail: mcvax!unido!ecrcvax!ifip ■

NEW IMIA OFFICERS

Vice-President: Dr. Jos Willems
Afdeling Medische Informatics
Univ. Hospital
St. Rafael-Gasthuisberg
49 Herestraat
B-300 Leuven, Belgium

Vice-President (IMIA-LAC): Dr. R.J. Rodriguez
Hospital das Clinicas da Faculdade de Medicina
da Universidade de Sao Paulo
Caixa Postal 8091
Sao Paulo, Brazil

TC AND WG MEMBERS

TC2 Dr. S.N. Selloom (IQ)
TC3 Dr. M.A.L. Mahmoud (IQ)
(succeeding S.N. Saloum)
WG3.5:
D. Benzie (GB) B. Lindstrom (S)
P. Bleach (GB) H.Löthe (D)
W. Brauer (D) S. Morris (USA)
M.L. Crowley (CDN) C.L. Paris (USA)
H. Hafstad (IS) R. Rollak (USA)
R.S. Heller (USA) S. Rösvik (N)
R. Hutin (CH) M.G. Teague (USA)
B. Kochan (D) M. Valcke (B)
A. Lindblom (S) J.A. Williams (USA)
WG5.2 S.G. Dhande (IND)
WG5.7:
R. Companys Pascual (E) E. T. Radosinski (PL)
B.E. Hirsch (D) C. Walter (BR)
C.R. McLean (USA) Y. Guan Xun (PRC)
TC6 Dr. Z. Kassab (IQ)
Mr. A. Abrams (ZW)
TC7 Dr. S.N. Selloom (IQ)
G. Pentzaropoulos (GR)
(correction of spelling of name)
WG7.3 M. Chandy (USA)
WG7.4:
E. Balas (USA) B. Korte (D)
M. Balinski (F) M. Lucertini (I)
J. Barcelo (E) T. Magnanti (USA)
L. Bianco (1) G. Nemhauser (USA)
V. Chvatal (CDN) S. Pallottino (I)
M. Conforti (USA) M.R. Rao (IND)
H. Crowder (USA) G. Rinaldi (USA)
G. Gallo (I) B. Simeone (USA)
M. Grotschel (D) A. Tamir (IL)
P. Hammer (USA) P. Toth (I)
P. Hansen (USA) L. Trotter (USA)
M. Iri (J) S. Walukiewicz (PL)
E. Johnson (USA) L. Wolsey (B)
WG7.5 D. Frangopol (USA)
S. Garibba (I)
M. Hohenbichler (D)
TC8 M.A.M. Othman **(10)**
WG8.1 L. Bhabuta (GB)
WG8.3:
K. Blockowiak (USA) Y. Kobashi (J)
B. Lundberg (S) A. Kumar (NL)
D. Kjaergaard (D) A. Rossi Mori **(I)**
WG8.4:
B. Beetz (**D)** D. Tsichritzis (CH)
E. Cordingley (GB) R. Wagner (A)
C. Hewitt (USA) R. Zicari (I)
H. Sol (NL)
TC9 Prof. S. Munari (CH)
(succeeding K. Bauknecht)
Prof. A. Clement (CDN)
WG10.5:
G. Borriello (USA) T. Ohtsuki **(J)**
P. Capocelli (I) A. Postula (S)
E.R. Ditzel (USA) E. Schutz (B)
J.P. Moreau (F) H. Schwaertzel (D)
G. Noguez (F) Z. Wang (PRC)
TC11 Mr. A. Barakat (IQ)
WG11.1:
M. Duez (CDN) F. Urbanski (CDN)
J. Grant (CDN) T. Wiley (CDN)
A. Orsava (CDN) J. Essén (S)
G. Sakely (CDN)
WG11.3:
J. Biskup **(D)** T. Hinke (USA)
D. Bonyun (CDN) S. Jajodia (USA)
R. Burns (USA) W. de Jonge (NL)
J. Campbell (USA) E.L. Kaplan (USA)
L. Cox (USA) R. Kemmerer (USA)
S. Deduo (PRC) F. Lochovsky (CDN)
D.E. Denning (USA) G.H. MacEwen (CDN)
K. Dittrich (D) F. Manola (USA)
J. Dobson (GB) N. Matloff (USA)
M. Fugini (I) S. Miranda (F)
J.T. Haigh (USA) D. Spooner (USA)
P. Hawthorn (USA) S. Zdonik (USA)
R. Henning (USA)
WG11.5:
W.D. Allen (NZ) R.R. Moeller (USA)
M. Bariff (USA) D. Ong (Singapore)
A. Grissonnanche (F) T. Osvald (S)
L. Hutte (D) C.G. Richardson (GB)
L. Jackson (AUS) J. Saari (SF)
H. Kaerns (IRL) Y. Zhihui (PRC)
WG 11.6 I. Schaumuller-Bichl

NEW IFAC PRESIDENT: Acad. Boris Tamm
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CALENDAR OF EVENTS

Event	Date	Location	Organized by
Intl. Symp. on *Information Systems as a Resource for Management*	29 Feb-2 Mar 88	Sydney	TC8/WG8.3/ACS
Work. Conf. on *Info. Technology Mgt. for Productivity & Strategic Advantage*	7-8 Mar 88	Singapore	TC8/NUS
Intl. Seminar on *Digital Communications*	8-10 Mar 88	Zurich	ETH/TC6/IEEE/IEE
Work. Seminar on *Information Networks & Data Communications-INDC 88*	14-17 Mar 88	Copenhagen	TC6/SDF/SSI
Intl. Conf. on *Contribution of Artificial Intelligence to Manufacturing System*	15-17 Mar 88	Bordeaux	ADESO/TC5/WG5.3
Conf. on *Office Information Systems*	23-25 Mar 88	Palo Alto	TC8/WG8.4/IEEE-CS/ACM
Work. Conf. on *Computational Issues in Combinational Optimization*	Mar 88	Capri	TC7
Performance Driven Digital System Design	Mar 88	U.S.A.	TC10/WG10.2
Work. Conf. on *Artificial Intelligence, Data Bases and Information Systems*	4-8 Apr 88	Guangzhou, China	WG2.6/WG8.1
Open Seminar *Lectures on Device and Process Simulation 1988*	4-15 Apr 88	Zurich	TC10/WG10.5
Second Workshop on *High Speed Local Area Networks-HSLAN 88*	14-15 Apr 88	Liège, Belgium	TC6/WG6.4
Intl. Workshop on *Industrial Computer Systems*	18-21 Apr 88	W. Lafayette, IN, U.S.A.	Purdue/TC5/WG5.4
Work. Conf. on *Parallel Processing*	25-27 Apr 88	Pisa	TC10/WG10.3
Symp. on *Software for Computer Control-SOCOCO'88*	26-28 Apr 88	Cape Town	IFAC/WG5.4
Third Conf. on *Women, Work and Computerization*	27-29 Apr 88	Amsterdam	TC9/WG9.1/NGI/SAIA
Work. Conf. on *Fourth Generation Language in Health*	Apr 88	Amsterdam	IMIA
Work. Conf. on *Software Engineering for CAD Tools*	Apr 88	Bonn	TC10/WG10.2
First Intl. Conf. on *Information Resource Management*	3-5 May 88	Noordwijkerhout, NL	TC8/WG8.1/DUT
Intl. Symp. on *Network Information Processing Systems'88*	9-13 May 88	Sofia	TC6/TC8
Work. Conf. *Towards New Hospital Information Systems*	14-18 May 88	The Netherlands ?	IMIA
Intl. Conf. *EURINFO 88: Information Technology for Organisational Systems-Concepts for Increased Competitiveness*	16-20 May 88	Athens	CEC/IFIPcs
Fifth Intl. Conf. *IFIP/Sec'88: Computer Security in the Age of the Global Village*	19-21 May 88	Brisbane, Australia	TC11/ACS
First Intl. Workshop on *Queueing Networks with Finite Capacity*	20-21 May 88	North Carolina	TC7/WG7.3/NSF
Fifteenth Intl. Workshop on *Real Time Programming*	25-27 May 88	Valencia	IFAC/IFIP/WG5.4
Work. Conf. on *Hardware and Software for Real-Time Process Control*	30 May-1 Jun 88	Warsaw	TC5/WG5.4/IFAC
Work. Conf. on *Landscapes for an Information Society*	6-8 Jun 88	Namur, Belgium	TC9/WG9.2
Eighth Intl. Symp. on *Protocol Specification, Testing, and Verification*	7-10 Jun 88	Atlantic City	WG6.1 /AT&T-BL
Third Intl. Conf. on *Analysis, Design and Evaluation of Man-Machine Systems-MMS 88*	14-16 Jun 88	Oulu, Finland	IFAC/IFIP/ IFORS/IEA
Seventh Intl. Conf. on *Software for Manufacturing-PROLAMAT 88*	14-17 Jun 88	Dresden, G.D.R.	WG5.3/IFAC
Work. Conf. on *Organizational Decision Support Systems*	20-23 Jun 88	Como, Italy	TC8/WG8.3
Work. Conf. on *Control of Bounderies and Stabilization*	20-23 Jun 88	Clerm.-Ferr., France	TC7/WG7.2
Work. Conf. on *Computer in Nursing*	22-27 Jun 88	Dublin	IMIA/WG8
Work. Conf. on *Stochastic Processes and Their Use on PC*	27-30 Jun 88	Debrecen, Hungary	TC7/WG7.1
Intl. Symp. on *Distributed Intelligence Systems Methods and Applications*	27 Jun-1 Jul 88	Varna, Bulgaria	IFAC/IMACS/TC6 & 8
Work. Conf. on *Methodological Approaches to Medical Technology Assessment*	Jun 88	Montpellier, France	IMIA
Fourteenth Workshop on *Reliable Computing and Fault Tolerance*	Jun 88	Japan	TC10/WG10.4
Work. Conf. on *The Fusion of Hardware Design and Verification*	4-6 Jul 88	Glasgow	TC10/WG10.2
Work. Conf. on *The Role of Artificial Intelligence in Data Bases and Info. Systs.*	4-8 Jul 88	Guangzhou, China	TC2 & 8/WG2.6 & 8.1
Work. Conf. on *Inverse Problems in Control Theory*	10-16 Jul 88	Vienna	TC7/WG7.2
European Conf. on *Computers in Education-ECCE'88*	25-29 Jul 88	Lausanne	TC3/SCS
Work. Conf. on *Computer-Aided Testing on Analog-Digital VLSI Circuits*	8-9 Aug 88	Lengries, F.R.G.	TC10/WG10.5
Physical Design of Sea of Gates VLSI	11-12 Aug 88	Lengries, F.R.G.	TC10/WG10.5
Work. Conf. on *Office Information Systems: The Design Process*	15-17 Aug 88	Linz, Austria	TC8/WG8.4/ACS
Work. Conf. on *Distributed Digital Control in Process and Power Industry*	16-19 Aug 88	Bombay	TC7/IFAC/IEEE/IETE
Work. Conf. on *Mathematical Software for Asynchronous Computation*	22-26 Aug 88	Palo Alto	TC2/WG2.5
Intl. Conf. on *CAD/CAM and Technology Transfer to Latin America: Application of Computers to Engineering Design, Manufac. & Mgt. in Latin American Countries*	22-26 Aug 88	Mexico City	TC5/WG5.7
Work. Conf. on *Knowledge-Based Production Management Systems*	23-25 Aug 88	Galway, Ireland	WG5.7
Fourteenth Intl. Conf. on *Very Large Data Bases*	29 Aug-1 Sep 88	Los Angeles	VLDB/IFIP
Work. Conf. on *Management Aspects of Information System Development*	Aug 88	Noordwijkerhout, NL	TC8/WG8.2
Work. Conf. on *Stochastic Systems: Filtering and Optimization*	12 Sep 88	Warsaw	TC7/WG7.1
Work. Conf. on *Computerized Natural Medical Language Processing for Knowledge Representation*	12-15 Sep 88	Geneva	IMIA/WG6
Modelling Techniques and Tools for Computer Performance Evaluation	15-17 Sep 88	Mallorca	IFIP/ACM/IEEE/AFCET
Sixth Intl. Conf. on *Computer Applications in the Automation of Shipyard Operation and Ship Design-ICCAS'88*	15-19 Sep 88	Shanghai	CSNAME/IFIP/ WG5.6/IFAC
Work. Conf. on *Computerized Assistance during the Systems Life Cycle*	19-22 Sep 88	London	WG8.1
Work. Conf. on *Reliability and Optimization of Structural Systems*	26-28 Sep 88	London	TC7/WG7.5
Work. Conf. on *Knowledge Based Systems on Test and Diagnosis*	27-29 Sep 88	Grenoble	TC10/WG10.5
Work. Conf. on *Medical Informatics in Primary Care*	Sep 88	Oxford, England	IMIA
Seminar on *Formal Description of Programming Concepts*	Sep 88	Buenos Aires	TC2/WG2.2/DCSC
Work. Conf. on *Issues of Design, Development, Distribution and Evaluation of Courseware: Planning and Design of Computer-Aided Teaching*	Sep 88	Jerusalem	TC3
Work. Conf. on *Design Methodology in VLSI and Computer Architecture*	Sep 88	Pisa	TC10
Work. Conf. on *Message Systems*	Sep 88	Irvine, CA, U.S.A.	WG6.5
Second Workshop on *Artificial Intelligence in Economics and Management*	Sep 88	Singapore	SCS/IFIP
State-of-the-Art Seminar on *Database Principles and Practice*	Sep 88	Bombay	TC2/WG2.6
Intl. Workshop on *Industrial Computer Systems*	3-6 Oct 88	W. Lafayette, IN, U.S.A.	Purdue/TC5/WG5.4
Work. Conf. *SEACOMM'88*	5-6 Oct 88	Jakarta	TC6/SEARCC
Symp. on *Robot Control-SYR OCO'88*	5-7 Oct 88	Karlsruhe, F.R.G.	IFAC/IMACS/IFIP
Fourth Symp. on *System Analysis Applied to Management of Water Resources*	11-13 Oct 88	Rabat	IFAC/IFIP/IFORS/IAHR
Work. Conf. on *Recent Advances in Communication and Control Systems*	19-22 Oct 88	Louisiana, U.S.A.	TC7
Work. Conf. on *Impact of Information Systems in Developing Countries*	24-26 Oct 88	New Delhi	TC9/TC8/CSI
Workshop on *Techniques and Algorithmic Complexity of Simulation*	Oct 88	Udine, Italy	TC10/WG10.2
Work. Conf. on *Safety Related Comps. in an Expanding Market-SAFECOMP '88*	9-11 Nov 88	Fulda, F.R.G.	IFAC/IFIP/TC5/WG5.4
Workshop on *Concepts and Characteristics of Declarative-Based Environments*	Nov 88	Budapest	TC10/WG10.1
IFIP Congress 89 - 11th World Computer Congress	28 Aug-1 Sep 89	San Francisco	IFIP
IFIP Congress 92 - 12th World Computer Congress	31 Aug-4 Sep 92	Madrid	IFIP

Please see page 10 for schedule of IFIP administrative meetings.