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Editor:
Dr. Jack L. Rosenfeld
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IFIP Congress 2000 Is a Huge Success

President of China Welcomes Delegates

By all measures, IFIP Congress 2000, held 21-24 August in Beijing, was a huge success: the delegates were greeted by the President of China. Mr. Jiang Zemin; the number of delegates was larger than it has been in a decade: many of the participants were young Chinese information technologists; the number of papers presented may have set a record; and the organization was excellent, as were the facilities.

Chinese President Jiang (left) greets IFIP President Bollerslev

The number of Congress delegates from each nation was as follows, for the ten largest delegations:

China	828
Japan	124
USA	87
Germany	49
Australia	39
Norway	39
Finland	33
UK	32
Italy	26
France	25

These ten countries accounted for 88% of the number of delegates registered for individual conferences. An additional 113 registrants not registered for a specific conference brought the total to 1567. The Chinese delegation made up 57% of the individual-conference registration.

The attendance figures for the eight component conferences of the Congress are given in the table on page 6. The first column of numbers gives the number of registrants for each conference and the total registration. The second column gives the registration of each conference as a percentage of the total. The third column gives the number of Chinese attending each conference, as a percentage of the conference registration. The next column gives the number of technical sessions held by each conference. The final column gives the number of papers *published* for each conference. The total exceeds the number of delegates. The number of papers *accepted* was 1579. The biggest conferences, by far. were Signal Processing (ICSP) and Communication Technologies (ICCT), which accounted for almost half of the delegates. These two conferences also had the greatest fraction of Chinese attendees and the largest number of "no-shows," authors of accepted papers who registered for the Congress but

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This issue of the ***IFIP*** *Newsletter* contains all the material from the electronic-only issue of December 2000 as well as much new material. The articles on IFIP Congress 2000 and the General Assembly have been expanded considerably.

IFIP to Advise UNESCO

The following press release was issued by the **IFIP** Secretariat 14 February.

A new alliance was born on Valentine's Day at a meeting in UNESCO House, Paris. At the invitation of the UNESCO Director General, **IFIP,** represented by its President and its Executive Director, and 11 other international non-governmental professional organizations (NGOs) met to establish an advisory group on information and communication technologies (ICTs). The meeting was chaired by Mr. **A. Modoux,** UNESCO

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General Assembly Meets In Beijing

The Federation Maintains a Steady Course

The 2000 IFIP General Assembly (GA) met in Beijing 28-29 August, following the 16th World Computer Congress and three days of meetings of committees and other **IFIP** bodies. The meetings were notable more for continuity of established activity than new programs or directions.

The highlights of the meetings are as follows:

- The election of officers determined the leadership of **IFIP** for the next three years (see the article on page 5).
- Jerusalem was chosen as the site of Congress 2004.
- Two new Working Groups (WGs) were formed, and five were discontinued.
- At the time of the GA, 70 technical **IFIP** events were scheduled for 2000, which is more than the number scheduled at the same time in 1999. Of the 70 events, **IFIP** is the full sponsor of 25 and the main sponsor of 22.
- The financial situation of the Federation is excellent.
- Outstanding Service Awards were made to four **IFIP** volunteers (see the article on page 22).
- **A** resolution was presented that calls for IFIP Member societies to establish strict standards for security auditors (see the article on page 11).
- The GA established a task force on Entertainment Computing (see the article on page 15).

Mr. Zhang Yutai, vice-president of the Chinese Association for Science and Technology, welcomed the GA to Beijing. The Association is the largest nongovernmental professional society in China, whose aim is to promote science and technology throughout the country. He said that the Congress had been very important to China. He wished the GA a successful meeting. In reply, **President Bollerslev** expressed the gratitude of **IFIP** for the support and great hospitality received.

Congresses

The **IFIP** Congresses were a primary topic of discussion at the GA.

The major news is the choice of Jerusalem as the site of Congress 2004 (5-10 September). The other contenders for the Congress site were Cape Town, South Africa, and Toulouse, France. We observe that Israel was the only one of the contenders that did not organize a reception for the GA attendees. It is also noteworthy that Jerusalem was chosen despite the present unrest in the Middle East. The organizers expect to attract delegates from the entire region. Of course, the host society must guarantee, according to **IFIP** policy, that its government will allow all nationals to attend.

The financial books have long been closed on Congress '98 (Vienna/Budapest) because of good management by the host societies.

Mr. Zhang Yutai (second from left) welcomes the GA to Beijing. Also in the picture (left to right): Prof. Ashley Goldsworthy (AU), Secretary Roger Johnson (GB), and President Peter Bollerslev (DK).

The plans for Congress 2002 (in Montreal 25-30 August) were reviewed by the GA.

The just-completed Congress 2000 in Beijing (see the article on page 1) was analyzed by the various **IFIP** bodies. **President Bollerslev** presented the view that "this was a very **successful IFIP** Congress" and one of "sterling merit." Both the accomplishments and shortcomings of the Congress were discussed.

Prof. Basie von Solms (ZA), chair of the Technical Committee on Security and Protection in Information Processing Systems (TC 11), informed the GA that its annual conference, which had just been held in conjunction with Congress 2000, went well. Its proceedings were the only one of the Congress conference proceedings that were issued by the principal IFIP publisher (Kluwer Academic Publishers). Two hundred papers had been submitted, of which 50 had been accepted by the International Program Committee (IPC) and printed in the proceedings. An additional 78 of the papers, mostly from China, were presented in a parallel security conference created by the Congress Organizing Committee (OC) unbeknownst to the Congress IPC. Its proceedings were published by the OC.

In his report on TC12 on Artificial Intelligence, the TC chair, **Prof. Berndt Neuman** (DE), commented on the conference in Congress 2000 that was organized by TC12. About 1/3 of the 200 submissions were considered acceptable by the IPC. However, additional papers were accepted by the Chinese conference chairs, resulting in 97 papers appearing in the program. The TC plans to produce a book, to be published by Kluwer, that will contain the best papers from the conference.

Technical Activities

New Working Groups (WGs) were formed, and some were discontinued because of inactivity or duplication of activity. The new WGs were on

- Software Architecture (WG2.10)
- Electronic Commerce — Communication Systems (WG6.11), which was provisionally approved

Provisional approval was also granted for existing WG9.6 on Information Technology: Mis-Use and the Law to be managed jointly by TC9 (Relationship between Computers and Society) and TC 11. It will be designated WG9.6/11.7. The discontinued WGs are

- WG8.7 on Informatics in Multinational Enterprises
- WG10.6 on Neural Computer Systems
- WG10.7 on Microsystems
- TC7 WGs on Discrete Event Systems and on Chaos and Fractals, which were recently approved, will be discontinued.

Also discontinued, owing to lack of progress, was the project on the Harmonization of Professional Standards.

We trust that the discontinuation of activities is an indication that **IFIP** is continually initiating new activities, with the understanding that some will succeed while others may not.

Reporting for TC 1 on Foundations of Computer Science, **Prof. Giorgio Ausiello (IT)**

Continued on page 19

Forum Reveals Concerns of **IFIP** Member Societies

Before the August IFIP General Assembly (GA) was called to order in Beijing, a session was held to discuss the activities and concerns of our Member societies. This annual Member Society Forum, first held at the 1999 GA in Kuala Lumpur. is intended to provide GA representatives with ideas to take back to their national societies and to give IFIP, as embodied in its GA, information to help it better serve its Members.

Australian Computer Society

The Forum began with a prepared presentation by Mr. Prins **Ralston** about the state of the Australian Computer Society (ACS). Just recently. the ACS has been admitted to the Australian Council of Professions, which means that Information Technology (IT) is now recognized as a profession by its peer groups such as doctors and lawyers and that the ACS is the primary group with which the Australian government consults on matters related to IT. This accomplishment was made over the past decade through a painful process of transforming the Society into a body strictly for IT professionals. In the early 1990s. it was found that young university IT graduates wanted to belong to a professional society — not the user society that the ACS was at that time. In an attempt to bring them and the academic community "back into the fold.- the ACS set new standards for membership. and the nonprofessional category of membership was eliminated. In the process, the membership decreased by over 4000 out of 15 000. The change, however, has made the Society more attractive to young professionals. and the membership is now approximately **16 000.** During 2000, the membership increased by over 9%, mostly from individuals joining four to five years after university graduation. **Mr. Ralston** also discussed the ACS interest in digital libraries and proposed that **IFIP** provide a "portal" through which **all** Member societies might access the libraries of others.

Canadian IP Society

Next, **Mr. George Boynton** outlined the problems faced by **the** Canadian Information Processing Society, which has difficulty in maintaining its membership of 8500. Many individuals join the Society and leave shortly thereafter. Getting students to join the Society is not too **difficult, but** retaining them as full members after graduation is very difficult indeed. Most Canadian provincial governments do not consider IT a profession.

Danish Data Association

Mr. **Peter Bollerslev,** president of IFIP, gave some information about the Danish Data Association (Dansk Dataforening, or DD), which is a very visible organization. Two pages in each issue of the Danish edition of *Computer World* are devoted to the DD, and practically every other day, the DD is quoted in the national press. Among the techniques used by the DD to gain and retain members are providing free Internet access for members and setting the fee for nonmembers who attend DD technical events equal to the fee for members plus the annual DD membership fee. (Unfortunately, however, members who join through this inducement do not generally remain members.) **President Bollerslev** also discussed the DD involvement with the European Computer Driver License (ECDL). There are nearly 400 ECDL test centers throughout Denmark. An advanced CDL is being granted, and "CDL Lite" will soon be offered to school children.

Computer Society of India

Dr. R. Srinivasan informed the Forum about activities in the Computer Society of India (CST), especially with regard to youth. The Society has 10 000 student members in 70 student branches and charges its student members only a nominal membership fee ($4 US for four years). In addition, the Society holds a competition for youth under 13, the winners of which receive a free membership in the Society. The Society has 15 000 full members. Anyone who attends a Society technical event automatically receives membership in the Society. The CSI airs a few minutes of television news per week. Finally, they have an annual award for successful women in IT.

Brazilian Computer Society

Prof. Ricardo Reis told the Forum about some membership concerns of the Brazilian Computer Society (SBC), most of whose members are in research or education. There are few members from industry because there are few research people in industry in Brazil. Membership is increasing, but not as rapidly as desired. The Society holds regional summer schools for young people. Most of the people in the office of the Brazilian ministry related to IT are members of the SBC.

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IFIP NEWSLETTER

Editor:

Dr. Jack L. Rosenfeld
15 Eldridge Ave.
Ossining, NY 10562-4403, U.S.A.
telephone: +1 (914) 941-5222
e-mail: j.l.rosenfeld@alum.mit.edu

Published quarterly by

IFIP Secretariat
Hofstrasse 3
A-2361 Laxenburg, Austria
telephone: +43 2236 73616
facsimile: +43 2236 736169
e-mail: ifip@ifip.or.at

CORRESPONDENTS

TC1 R. Gorrieri (IT)
TC2 R. Kurki-Suonio (FI)
TC3 B. Samways (GB)
TC5 J. Vlietstra (US)
TC6 0. Spaniol (DE)
TC7 J. Dolaal (CZ)
TC8 B. Glasson (AU)
TC9 J.A.N. Lee (US)
TC10 E. Dirkx (BE)
TC13 J. Hammond (AU)

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

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Reprinting in national and local information processing periodicals is encouraged. Acknowledgement to **IFIP** would be appreciated.

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

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

IFIP on the Internet

IFIP information (including this *Newsletter)* is available through the Internet as follows:
anonymous ftp: ftp.ifip.or.at
WWW: http://www.ifip.or.at

MEMBER FORUM *cont. from prey. page*

Thailand Internet Association

Prof. Srisakdi Charmonman offered very interesting comments about the Thailand Internet Association. He urged IFIP to concentrate its efforts more on the Internet. The Society, which has 20 000 members, changed its name from Thailand Computer Society to its present name in order to emphasize that focus. **Prof. Charmonman** suggested that **IFIP** establish an **IFIP** chat room on the Internet. He also told of books published by the Association that have had large sales primarily on the basis of sensational titles, such as *Internet Sex, How to Get Rich on the Internet,* and *Hacking* (200 000 copies were sold). Also, the Association has created an "Internet Police" to inform the authorities of dubious Internet activity.

Computer Society of S. Africa

Mr. Peter Aspinall, president of the Computer Society of South Africa and an observer at the GA, presented information about the Society. He said that the CSSA is not succeeding in attracting new younger members and that they need to think very seriously about how to do so. This needs to be addressed in **IFIP** and in most IFIP Member societies. The CSSA has introduced a new grade of membership, "Professional Member," along with new criteria for admitting new members, based on a combination of academic qualifications, training, and experience in IT. The CSSA supports and endorses the First Tuesday Organisation, which holds "First Tuesdays," free meetings sponsored by industry that feature speakers from industry. The concept originated in London in 1999 and was so named because the meetings were held on the first Tuesday of each month. These meetings, which appeal to the Internet community and younger professionals (70% are under 30 years of age and many are under 23), have attracted 3500 people so far, including 1200 in Johannesburg and 400 in Cape Town. They provide the participants a good opportunity to network with their peers. (The representative from Singapore said that his society also has a First Tuesday program as well as a Last Friday program for young people.)

Other Comments

Various other comments were heard during the Forum. The German Member society is also having difficulty recruiting young professionals to membership in the 23 000-member society. The country is trying to satisfy some of its shortage of IT professionals by immigration. The Belgian Member is having difficulty surviving financially. The Swiss Member, a federation of Swiss societies, finds that its young members are not interested in **IFIP** (despite the prior president of **IFIP** having been from that organization). The US/IEEE-CS Member finds competitions to be a good way to get young people involved. Continuous, challenging activity is also desirable. More than one representative stressed the need to start to interest children in IT at the primary-school level. ❑

Rolstadås Addresses Member Society Presidents

Value of **IFIP** to Members Is Discussed

[At the meeting of the presidents of **IFIP** Member societies that took place during the Beijing **IFIP** Congress in August, **Prof. Asbjørn Rolstadås** (NO), president from 1992 to 1995 and recipient of the 2000 Isaac Auerbach Award, addressed those present on the relationship between **IFIP** and its Member societies. Following is the text of that talk, which stresses the value of **IFIP** to its Members.]

IFIP has undergone a substantial change from its founding in 1960, under the auspices of UNESCO, to its current position. This process of change was initiated under the presidency of **Ashley Goldsworthy** (AU) and continued by presidents **Sendov (BG), Bauknecht** (CH), **Bollerslev** (DK), and myself.

I think we can talk about three eras or stages in the **IFIP** history. Each stage is characterised by its focus.

The first stage can be called "the Congress focus." In the beginning, each **IFIP** president was responsible for his Congress. He was elected one year before a Congress and served as President-Elect, to be trained. Then he had three years to prepare his own Congress, by the end of which the next president took over. Then he served for another year as Past-President, to secure continuity.

A program committee was assigned and later took over much of the responsibility for the technical program. It was very prestigious to be chairman of this committee. The chairman was appointed by the president but was nominated from and by the outgoing committee.

Technical Committees (TCs) arose and started to organise their own events, and a conflict between the Congress program committee and the TCs developed. This led to the second stage, which can be called "the TC focus." The TC chairmen had little influence in the GA. They were called upon to report, answer some questions, and then thanked for their contribution. The GA felt this was wrong , since the activity of the TCs really was the backbone of **IFIP.** To remedy this, the Technical Assembly was created, TCs received control over their own funds and the TC chairmen became ex-officio members of the GA. Today the TCs also have the responsibility for the program of the Congresses, to a large extent.

In this process, the Member societies were forgotten. No one talked about what **IFIP** should do for its Members. **IFIP** and its TCs lived their own lives. There was little change of representatives in the GA and in the TCs.

The third stage, therefore, has a "Member focus." Some **IFIP** presidents started to visit IFIP's Members and solicit their views on **IFIP's** services and performance. Questions like "What is the added value of **IFIP?"** and "Do we need **IFIP?"** are from time to time raised at board meetings of our Member societies. These are some of the negative questions that have been put forward:

- Is the scientific quality of **IFIP** activity diminishing?
- Does **IFIP** fail to attract young researchers?
- Is interest in conferences and publications declining?
- Is it too expensive to travel to meetings?
- Are membership dues too high?
- Does **IFIP** have an academic bias?

Some of the answers are partly positive. Fortunately, these problems are now on the agenda of the **IFIP** executives.

The value of **IFIP** to Member societies is difficult to determine. Probably the best value IFIP can return to its Members is a worldwide network developed over 40 years. It's the best in the world. It works, but it can still be improved and extended. It is there for the Members to use. But the output you get from it depends on the input you give. **IFIP** can be compared to a telephone network. You will not get any return on the investments in the network unless you use the telephone — and it takes two to make a tele-

Continued on following page

Aiken Is President-Elect

Other Officers also Elected by General Assembly in Beijing

The Beijing IFIP General Assembly, meeting in August, chose **Prof. Robert Aiken** (US/ACM) as President-Elect **and the following other officers:**

Vice-Presidents:

Prof. Klaus Brunnstein (DE, 1-year term)
Dr. Takeo Miura (JP, 3-year term)*
Prof. Ricardo Reis (BR, 1-year term)

Trustees (five w ere **nominated** for five vacancies):

Prof. Kiril Boyanov (BG, 3-year term)*
Prof. John A.N. Lee (US/IEEE, 3-year term)
Prof. Reino Kurki-Suonio (FI, 3-year term)
Prof. Srisakdi Charmonman (TH, 2-year **term)**
Mr. Prins Ralston (AU, 1-year term)

*** re-elected**

The complete list of officers is in the box on **this page.**

In addition. the following new appointments **as committee chairs** were made by the **IFIP president. Mr. Peter Bollerslev (DK):**

Technical Assembly:
Prof. Klaus Brunnstein (DE)
Activity Management Board:
Prof. Ricardo Reis (BR)
Admissions **Committee:**
Prof. Ricardo Reis (BR)
Con gress C ommittee:
Prof. Robert Aiken (US/ACM) ❑

IFIP Conference on Personal Wireless Communications Is Held in Poland

by Prof Jozef Wozniak (PL) and Mr. Jan Slavik (CZ)***

An IFIP Conference on Personal Wireless Communications was held September 14–15 in Gdansk, Poland, the fifth of a series of events on this topic sponsored by the **IFIP** Working Group on Wireless Communications (WG6.8) of the Technical Committee on Communication Systems (TC6). The preceding events in the series were workshops.

The Conference (PWC2000), meeting at the Technical University of Gdansk and chaired by **Prof. Jozef Wozniak** (PL), gathered about 40 members of the worldwide community of wireless communications researchers plus an additional audience, mostly university students, that brought the total number of participants to 100 at times. They listened to four invited presentations by prominent experts in the area, **Prof. Adam Wolisz** (DE), **Prof. Samir Tohme** (FR), **Prof. Wojciech Burakowski** (PL) and **Prof. Villy B. Iversen** (DK), and to 16 scheduled regular presentations. The accepted regular papers were selected by the 28-member International Program Committee on a peer-review basis. Among the authors' countries of affiliation were Austria, Denmark, France, Germany, Italy, Spain, Sweden, UK and Poland. The Program Committee was an even more international body, including also experts from Bulgaria, the Czech Republic, **Finland, India,** Japan, Malaysia and the USA.

A wide spectrum of wireless systems design and implementation issues was covered at the Conference, as reflected by the topics of the 6 regular sessions:

- Wireless LAN and ATM Access
- Cellular Systems
- Mobile Communications System Design
- Teletraffic Modelling and Analysis in Wireless Networks
- Wireless IP
- Signal Processing for Wireless Systems

Addressing hot subjects, most presentations stimulated lively discussions, both during and after the sessions. All the material presented is now available in a volume of proceedings edited by **Prof. Wozniak** and **Dr. Jerzy Konorski (PL)** and published by **Kluwer** Academic Publishers. Two invited presentations, on high-speed data transmission and 3G cellular systems, were given by the conference's two main supporters (Polkomtel SA and Nokia Poland) to complement the technical content.

The technical and social programs as well as the smoothness with which they were carried out by the Technical University of Gdansk and the Faculty of Electronics, Telecommunications and Informatics met with the warm approval of all the participants. The next event in the PWC series is planned for August 8-10, 2001 in Lappeenranta, Finland.

* chair of PWC2000
** chair of **IFIP** WG6.8

ROLSTADÅS ADDRESS *continued from prior page*

phone communication. You have paid for the network. so it's **about time** you started to use it.

At a time **when industry is** becoming global, it is important to maintain a global structure like **IFIP. There is a** need for a worldwide computer **society.** The only way you, as **Members, can "win" the** global market is by cooperating in an alliance. IFIP is that alliance.

Answers to the Quiz on Page 14

1. IFIPS: International Federation of Information Processing Societies.
2. Six: New York in 1965, Toronto in 1977, Tokyo and Melbourne in 1980, San Francisco in 1989, Canberra **in** 1996, and Beijing in 2000.
3. Hofstrasse.
4. **Mr. Isaac Auerbach** (US), the first president, for five years. The longest term was that of **Prof. Pierre Bobillier** (CH), for six years.
5. TC2 has nine WGs.
6. Twelve: TC1 to TC13, but there is no TC4.
7. 7 July 1995.
8. Eleven: **CEPIS,** EUROMICRO, FACE, IAPR, IASC, ICCC, IJCAII, IMIA, INFORMS, SEARCC, and VLDB.
9. 1979.
10. **Wang** (her given name is **Qingsheng).** ❑

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P. Ralston	AU	00-01

Chinese President Jiang Zemin Addresses **IFIP** Congress 2000

*by Hou Mingjuan**

[Since we have been unable to get an English transcript of the address to IFIP Congress 2000 by **Mr. Jiang Zemin,** president of the Peoples' Republic of China, we use this article from *China Daily*, an English-language newspaper published in China. It appeared on 22 August, the day after the opening of the Congress in Beijing. (Also see the article on page 1.)]

Information technology is one of China's top priorities and a driving force behind the country's economic development, **President Jiang Zemin** said at the opening ceremony of the 16th World Computer Congress yesterday in Beijing.

This is the first time that China has hosted the biannual event since it made its debut in Paris in 1959. The congress is known as the Olympic Games of the IT industry.

"The world is embracing a technology revolution, for which information and gene technology will become flagships," said **Jiang.**

He said digitalization will become a powerhouse in the modernization process.

More than 2,000 IT experts and business leaders from around the world are in the city for the conference, and 1,500 scientific papers will be submitted and discussed during the conference, which began yesterday and will run until Friday.

* staff member *of China Daily*

As the former Minister of the Electronic Ministry, the predecessor of the present Ministry of Information Industry, **Jiang** said he had read several of the 1,500 papers to be presented, despite having a very busy work schedule.

President Jiang's handwritten inscription, wishing complete success to the 16th World Computer Congress 2000.

"Physical resources are limited. Information resources will become more and more important," said **Jiang.**

Electronic commerce, remote medical care and remote education will be instrumental in the drive to develop China's economy and society, he noted.

"The hardware sector should be integrated with the software sector; we need traditional industries and the information network to converge," said **Jiang.**

As an electronic engineer in his youth, the president is greatly interested in the latest **IT** developments.

Jiang also said, however, that the technology gap between the developed and the developing world is widening.

"Developed countries have a duty to help developing nations narrow the digital gap," he said.

Jiang also warned that the Internet is plagued by hackers, the violation of privacy, misleading information and security problems.

He called on the international community to launch an international Internet convention to better serve and safeguard Internet users.

...Peter Bollerslev, president of the International Federation for Information Processing, [said that holding the Congress in Beijing] "is a clear sign of the international community's commitment to strengthening China's IT sector."...

Conference	Number of Registrants	Fraction of Registrants	Fraction of Registrants from China	Number of Sessions	Number of Papers Published
Signal Processing	395	27%	67%	33	470
Communication Technologies	301	20%	69%	66	360
Software: Theory and Practice	154	11%	48%	30	160
Information Security	137	10%	43%	23	78
Information Technology for Business Management	132	9%	42%	26	140
Chip Design Automation	124	9%	49%	17	83
Educational Uses of Technologies	123	9%	18%	32	95
Intelligent Information Processing	88	6%	61%	24	95
Total	1454	100%	57%	251	1481

IFIP Congress 2000 Attendance Statistics
(for delegates registering for individual conferences)

CONGRESS 2000 *continued from page 1*

did not attend (the overall no-show rate was 14%). The ICCT conference also had the largest number of sessions (twice as many as ICSP).

In addition to those who registered for one of the eight component conferences of the Congress. there were an additional 500 who attended such peripheral events as Pioneer's Day. the Youth Forum, the East Asian Universities' Computer Science Workshop, the Security Application Forum, and the opening ceremony.

Opening Session

At the registration desk, the delegates were met by a *large.* helpful, obliging staff in yellow tee shirts. At no time did this observer see any significant queues.

The delegates attending the opening session passed by X-ray devices necessitated by the presence of the Chinese President, entered the *main* **hall** of the Beijing International Convention Center. and were welcomed by a string octet_ Nearly 2100 attendees filled the hall. The venue of the opening session was originally planned to be in the Great Hall of the **People.** China's national Congress hall, which unfortunately was closed for renovations.) **Mr. Wu Bangguo,** Vice-Premier of the State Council of China, Honorary Chair of the Congress, introduced the speakers on the program, starting with Mr. **Peter Bollerslev** (DK), the president of **IFIP,** who welcomed the delegates to this sixteenth **IFIP** Congress, one of "sterling merit." He thanked the International Program Committee (IPC) and the Organizing Committee (OC) for their very successful efforts. He noted that the Chinese Institute of Electronics became a Full Member of **IFIP** 20 years ago.

Mr. Hu Quill (CN), co-chair of the Congress, delivered the Welcome Speech. He announced that 2219 papers had been submitted to the Congress. (The acceptance rate was 71%.) He also pointed out that this was the first **IFIP** Congress in a developing country since 1971 (when the Congress was held in Ljubljana, Yugoslavia).

Chinese President's Address

The opening session concluded with the address by **President Jiang Zemin.** When the leader of the world's most populous country speaks about information technology (IT), it behooves us to pay attention. He observed that the **IFIP** Congresses have had an important impact, worldwide, on the development of IT. A summary of his address is on page 6.

After he delivered his formal speech in Chinese, which could be heard translated into English over headsets, he made some "off-the-cuff' remarks in English. He pointed out that he was educated as an electrical engineer in the 1940s, specializing in power engineering. He recalled that while serving as head of the Electronic Ministry, he visited the then Bell Telephone Laboratories in the US and saw their advances in transistors, integrated circuits, and VLSI.

Keynote Speeches

The remainder of the first day's program, comprising keynote speeches, was prefaced by brief addresses by the chair and vice-chairs of the Congress IPC. **Prof. Ben Wah** (US), chair of the IPC, announced the winners of a programming competition held for Chinese students, who were enthusiastically applauded by the delegates.

The first keynote speaker, **Mr. Lu Xinkiu,** Vice Minister of the Chinese Ministry of Information Industry, presented statistics concerning

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Congress opening ceremony. Presidents Jiang and Bollerslev (hand to head) are in the center. Photographers stand in front of President Jiang.

The Congress chairs (from left to right): Prof. Reinhard Posch (AT), IPC vice-chair; Mr. Peter Bollerslev (DK), Congress co-chair; Prof. Benjamin Wah (US), IPC chair; Prof. Yang Fuqing (CN), IPC vice-chair.

Cartoon of **IFIP** President Bollserslev (DK), from *China Daily*.

Entrance of Convention Center.

Part of the always-cheerful, helpful Congress office staff.

Presenting the Isaac Auerbach Award to Prof. Asbjorn Rolstadås

President Bollerslev (right) presenting Award to Prof. Rolstadås.

Prof. Rolstadås addressing Congress delegates.

Entrance to site of Congress farewell dinner.

Grounds being prepared in the afternoon for farewell dinner that evening.

Chairs of the next Congress: Mr. George Boynton (CA, left) and Mr. Jan Wibe (NO).

CONGRESS 2000 *continued from page 7*

the size and growth of the IT industry in China. For example. he stated that 3.5 million computers had access to the Internet. He welcomed the opportunity for the exchange of views afforded by the Congress.

He was followed by Mr. Christopher Gavin (US). chair and CEO of the Motorola Corporation, **who noted that IFIP** Congresses are "forums **of great importance." Part of his talk dealt with new products, which are currently under development for months or weeks, he said_ He described a competition held for an application to be developed in six hours! He mentioned products we can expect in the future, which included a toilet equipped with - smart chips" and connected to the Internet. for the purpose of analyzing the health of the - user." He displayed a device built in China for recognizing** Chinese **characters. Mr. Gavin used the platform of** the Congress to announce his company's plan to invest S 1.9 **billion US in two sites in Northern China for the manufacture of semiconductor devices and telecommunication** products, which **will make his company the largest** foreign **investor in China.**

The next talk, by the eminent computer scientist **Prof. Sir Tony Hoare** (GB), was entitled simply "Legacy" and concerned the maintenance of the vast number of older computer programs that are still in use. An increasing amount of effort by today's programmers is devoted to updating legacy code. Many problems exist in this area — for example, the amount of legacy code is continually increasing; the programmers who update legacy code rarely keep the documentation up to date; the modification of one legacy program may affect others; and legacy code must handle current situations not anticipated when it was originally designed. **Prof. Hoare** said that research into tools for helping to maintain legacy code is very important. Also needed are advances in programming for the rapid development of products that take advantage of legacy code. He ended his address as follows:

> One of the most important roles for basic science is in the education of the professional engineer. An understanding of general scientific principles enables the engineer to take an intellectual interest in the embodiment of the principles, however obscurely, in existing legacy products, written perhaps in a legacy language designed to meet an immediate market need at a time when economy of cycles and storage was of far greater urgency than elegance of programming style. And commitment to the scientific ideal provides a constant incentive to improve the reliability, robustness, and general quality of delivered products, whether they are new developments or based on legacy software.
>
> The role of science as a driver for innovative technology is well recognised and respected. Following Dijkstra, I have always hoped that my academic research into the theory of programming would prove useful in the engineering of new software and applications. But I now think that there are grounds for hope that the same fundamental science, discovered in academic and industrial laboratories throughout the world, can be applied to the less glamorous but equally important (and certainly more challenging) problems of the maintenance of legacy code....

Prof. Hoare's speech can be found on the Congress CD-ROM. (Double-click on index.htm in the main directory of the CD-ROM. Then click **on "enter"; then on "Gen-**

Continued on following page

CONGRESS *continued from prior page*

eral Information"; then on "Plenary Keynotes.")

The next speaker, **Mr. Richard Li** (CN), received a lot of attention by the media because of a recent merger involving his company, Pacific Century CyberWorks. He predicted an 80% growth of Asian Internet users over the next five years; also that the number of Asian broadband subscribers will exceed the number of American subscribers in 2001.

Dr. Yang Yuanquing (CN) discussed the introduction of computers into China by foreign corporations and the current state of IT business in China. He urged greater ease of use of PCs and the information received from the Internet. Past PCs, he said, did not conform to Chinese culture. (He noted how difficult it had been to teach his father how to "point and click.") He forecast that ultimately systems will be tailored to individuals' needs, so that, "I will get whatever I need, and whatever comes is just what I want."

The keynote speakers in the afternoon were **Mr. Henry Chow** (CN), **Prof. Makoto Nagao** (JP), a group from Hong Kong, **Mr. Sun Pishu** (CN), **Mr. Wang Juntao** (CN), and **Mr. Zhu Jianqui** (CN). Among the nuggets of information that were learned were the following:

• 30% of Japanese homes have PCs; the use of mobile phones in Japan is greater than in the US, but the connection of schools to the Internet is much less in Japan; an active academic program links classrooms at Kyoto University with classrooms at the University of California in Los Angeles.

• In Hong Kong, 1/3 of the population uses the Internet, and over half of the households have PCs.

Auerbach Award

The evening of the first day of the Congress featured a reception in the Congress hall, the highlight of which was the presentation of the IFIP Isaac Auerbach Award to **Prof. Asbjorn Rolstadås** (NO). (An article about **Prof. Rolstadås** and the Award is on page 2 of the September 2000 ***IFIP*** *Newsletter.)* The presentation had been planned for the opening ceremony, but the organizers were unable to find time for it then.

Main Technical Sessions

The technical sessions of the eight component conferences of the Congress began Tuesday morning, and the closing session took place Thursday afternoon (the organizers recommended that the delegates go sightseeing on Friday). Consequently, all the technical sessions were held in less than three days, fewer than for any previous **IFIP** Congress. This resulted in some sessions having large numbers of papers presented in a short amount of time. For example, in some sessions of the conference on signal processing, 16 papers were presented and discussed in 3° hours, little more than 10 minutes per paper. In some of the education-conference sessions, only 10 minutes were allocated to each paper. More time was available, however, in sessions of other conferences. Another result of the truncated schedule was that many sessions were run in parallel. In the signal-processing conference itself, up to nine sessions were run in parallel. At one point, seven sessions of the communication-technologies conference, six from the software conference, and many others took place simultaneously.

Some sessions included papers almost entirely from China, while others were more international.

Some sessions were well attended, and others were only sparsely so. In one session attended by this observer, only ten people were present, including the three presenters, but not the chair, who arrived 20 minutes late.

The mechanics of paper presentation worked very well. Many presenters made PC-based slide presentations with the equipment available, with no problems at all.

Closing Session

The closing session was very well attended. IPC chair **Wah** opened the meeting by pointing out that this was the first professional congress that Chinese president **Jiang Zemin** had ever addressed. He then presented the attendance statistics.

Prof. Teng Zesheng, president of the China Computer Federation, thanked all those responsible for the Congress. He expressed the hope that the delegates were carrying home not only the heavy proceedings but the friendships made at the Congress.

Mr. Peter Pfannes (DE), organizer of the Youth Forum (see the article on page 12), described their background and process. He then introduced members of the group, who presented the conclusions reached by the two teams.

Mr. George Boynton (CA), chair of the Organizing Committee for **IFIP** Congress 2002, encouraged all delegates to come to Montreal 25-30 August 2002 for the Congress, which has the theme Information Technology for our Times: Ideas, Research, and Application in an Inclusive World. More information can be found on the Congress Web site at www.wcc2002.org.

President Bollerslev pronounced the Congress a major success of which IFIP is proud. Seventy-two nations were represented. Many of the delegates were young professionals. He expressed gratitude that the Congress was recognized by **President Jiang.** who had even written an inscription for the Congress (see page 6); that the facilities were so beautiful; that the staff was so enthusiastic and helpful; that the members of the Youth Forum had participated; and that the cultural experience had been so rich. He adjourned the Congress, saying that we should all meet in Montreal.

Social Events

The final official event of the Congress was the farewell banquet (see photographs on page 9), held on a large field near the conference center, where delicious Chinese specialties were served. The week had been filled with enjoyable social events. The delegates were welcomed at a cocktail party Sunday evening, the eve of the opening session. The following night featured an opening reception (at which the Auerbach Award was presented, as described above). Tuesday evening, the delegates were treated to a wonderful concert by the China Radio Orchestra, which included music from various parts of China played on traditional instruments. In addition, the orchestra played some Western music that ranged from "Beer Barrel Polka" to selections from Bizet's "Carmen." These social events provided a flavor of China and formed a welcome contrast to the days' activities during the Congress.

IFIP Congress 2002

Are you making plans to attend the 17th World Computer Congress, in Montreal 25-30 August 2002? You can find out all about the Congress at www.wcc2002.org.

TC1 Holds Its First International Conference on Theoretical Computer Science

*by Prof Giorgio Ausiello (IT)**
*and Prof Wilfred Brauer (DE)***

The **IFIP** Technical Committee on Foundations of Computer Science **(TC1),** which was established in 1996, held its first international conference in Sendai, Japan, 17-19 August, as a precursor to the **IFIP** World Computer Congress 2000 in Beijing (see the article on page 1). The Conference, with the theme Exploring New Frontiers of Theoretical Informatics, was cosponsored by the Information Processing Society of Japan, the Japan Society of Software Science and Technology, the European Association for Theoretical Computer Science, ACM-SIGACT, and the Association of Symbolic Logic. There were 140 participants (40 from Europe, 10 from the USA, and 85 from Japan). The proceedings were published by Springer in the series *Lecture Notes in Computer Science* and were edited by the International Program Committee co-chairs: **Jan van Leeuwen** (NL). **Osamu Watanabe** (JP), **Masami Hagiya (JP), Peter Mosses** (DK) and **Takayasu Ito (JP).**

The **Conference,** which was co-chaired by the **TC1 chair. Giorgio Ausiello** (IT), was **excellently** organized by **Takayasu Ito** (JP) and his team. The steering committee for the conference consisted of **G. Ausiello** (IT), **W. Brauer (DE), T. Ito** (JP), **M.O. Rabin (IL), J. Staples (AU)** and **J. Traub** (US). Organizing Committee co-chairs were **T. Ito** (JP), **Setsuo Arikawa** (JP) and **Yasuyoshi Inagaki (JP).**

The technical program of the Conference was of very high quality, consisting of

- three plenary keynote lectures

  "Reconciling Two Views of Cryptography" by **Martin Abadi** (US)

  "Theory and Construction of Molecular Computers" by Masami Hagiya (JP)

  "List Decoding: Algorithms and Applications" by **Madhu Sudan** (US)
- two parallel tracks, each with three invited lectures:

  Algorithms, Complexity, and Models of Computation (18 contributed papers)

  Logic, Semantics, Specification, and Verification (14 contributed papers and an additional tool demonstration)
- a panel discussion on new challenges for TCS, which was coordinated by **Jozef Gruska** (SK), founding chair of TC1
- two "open lectures" at the end of the conference, which were also attended by students from Tohoku University, by **Jan van Leeuwen** (NL) and **Peter Mosses** (DK).

The invited talks in the two tracks covered various hot topics and were given by **Ernst Mayr** (DE), **Shu Tezuka** (JP). **Mihalis Yannakakis** (US), **Naoki Kobayashi** (JP), **Thomas A. Henzinger** (US) and **Gordon Plotkin** (GB).

Wilfred Brauer, who was asked to give a banquet speech, presented some stimulating thoughts about intelligent agents and the knowledge society.

The next **IFIP** Conference on Theoretical Computer Science (TCS 2002), which will have the theme Foundations of Information Processing in the Era of Network and Mobile Computing, will take place in Montreal, Canada, as part of the next **IFIP** World Computer Congress.

More information on the activity of TC 1 can be accessed through the TC 1 Web site at URL http://www.dis.uniroma1.it/—ifip-tc1/ ❑

* chair of TC1
** former chair of TC3, GA representative of Germany, and vice-president of **IFIP**

IFIP ADVISES UNESCO *cont. from p.1*

Assistant Director General for communications and information and was attended by other senior UNESCO officers and representatives of the International Telecommunication Union and the World Bank.

The broad objective of this core group of NGOs is to assist the development and implementation of a "common strategic and operational platform" on cyberspace and ICTs. This first meeting addressed the working methods and the definition of common positions on principles related to the educational, scientific, cultural, informational, ethical and legal aspects of ICTs.

Part of the work was dedicated to information related to the Digital Opportunity Task Force (DOT Force) set up by the G-8. **IFIP** and the other NGOs were requested to assist the DOT Force in preparing a report as a follow-up to the Okinawa Charter on the Global Information Society. The DOT Force, in broad consultation with UN agencies and NGOs, is expected to prepare a final report paving the way for an action plan for consideration during the next summit meeting of the leaders of Canada, France, Germany, Italy, Japan, Russia, UK and USA.

The other NGOs represented at this first meeting were:

International Council on Archives
International Council for Educational Media
International Council for Philosophy and Humanistic Studies
International Council for Science
International Council for Engineering and Technology
International Social Science Council
International Federation of Library Associations and Institutions
International Federation of Journalists
Internet Society
International Publishers Association
World Press Freedom Committee ❑

Requirements for Information Security Professionals

At the August 2000 **IFIP** General Assembly in Beijing, the following statement was presented by the Technical Committee on Security and Protection in Information Processing Systems (TC11).

TC 11 Statement on Information Security Professionals

TC11 requests all Member societies of **IFIP** to urge their relevant government and education bodies to ensure that proper education and certification requirements are set for those people who intend to become Information Technology Security Professionals and who therefore intend to audit the security of IT systems.

In particular, TC11 recommends that:

a) minimum education and training requirements be set for any such professionals

b) any such minimum educational and training requirements should reflect similar standards in like professions

c) such education and training requirements be developed in line with emerging international standards in the area of information security. ❑

Youth Forum Meets in Beijing in Conjunction with **IFIP** Congress 2000

*by Mr. Peter Pfannes (DE)**

The Future Forum is an international not-for-profit organization, incorporated in Germany and Ireland, whose goal is to bring together young people from all over the world to further the discussion of topics vital to the youth of today, particularly technology-related subjects, and to promote the results of their work on a national and international level. We are creating an international cybernetwork set up by and for motivated, proactive young people from diverse countries and fields of study, providing empowering "links" around the globe — links that open up new choices for education, career, participation, for new possible understandings of the world and new political and highly personal choices.

For the 1998 **IFIP** Congress in Vienna and Budapest, **Prof. Egon Hörbst** (DE), chairman of the International Program Committee, invited **Mr. Peter Pfannes** (DE) to organize a Youth Forum (see the article on page 7 of the March 1999 ***IFIP*** *Newsletter).* Its goal was to assemble the best and brightest young people from around the world to meet during the Congress, attend sessions, engage in dialogues with Congress delegates, deliberate the issues of Information Technology (IT) that are of importance to today's youth, and report the conclusions of these deliberations to the Congress delegates at its closing session. The goal of the Forum for the 2000 Congress in Beijing was the same. Its theme was Choose Your Own Future.

M. Kleinschmidt (DE, left) and P. Pfannes (DE) leading Youth Forum meeting.

The Beijing Forum

The national computer societies of many countries chose the forum participants on the basis of their application forms, which included an essay, "How can today's IT-literate generation shape the global society of tomorrow?" The delegates were not necessarily IT specialists (in fact, only 1/3 of them were students of computer science). Not all were even computer users. Most of them, however, had some tie to computer studies (e.g., students of economics). The funds needed to support their participation were provided by their countries, the computer societies, and the participants themselves, in some cases.

The Forum was attended by 41 students altogether, from ages 18 to 26, consisting of about 50% Chinese students. We are very proud that we could realize such a high percentage of Chinese participants, and we are appreciative of the work our Chinese hosts and coorganizers did for all of us. We are also very proud to have had such a variety of countries represented. We had students from New Zealand, India, Canada, Macedonia, Ireland and Germany, just to name a few. And we believe that this diversity contributed very positively to our work and deliberations.

We started the conference on the 19th of August, two days before the Congress started, with a Global Village, our first get-together, where each participant brought some specialty from his or her country, which were eaten while we listened to some typical music from different countries.

The next day we started our team building on the campus of Peking University, to give everyone an opportunity to get to know everyone else and have some outdoor activities together. The method is comparable to those applied at management retreats and is quite useful in forming a team spirit. The following days consisted of work done in two committees, one on Economic Globalization and the other on Social and Cultural Effects of IT.

In order to increase the awareness of Congress participants, we had an information stall in the lobby of the conference center housing the Congress, where we distributed to the delegates our newsletter and invitations to join our committee work as well as our General Assembly (GA). The GA, held on Wednesday and Thursday, was a complete success, attracting scientists from the Congress as well as starting interesting debates about our proposals and the issues raised.

Finally, we had a chance to present our results at the closing ceremony of the Congress, where we reached a large audience with our ideas and could raise awareness for our upcoming Future Forum activities, which we see as a good basis for a partnership with scientists as well as with **IFIP** as a whole. The details of this work are currently being discussed, and we will definitely follow up on the positive response from so many Congress participants.

Summary of Issues

The two Forum committees identified the following core issues as needing the attention of IFI**P.** These reports can also be found on our Website at

http://www.futureforum.org.

Committee on Social and Cultural Effects of Information Technology

1. Human Computer Interaction **(HCI)** is a growing research area; however, its importance is often overlooked in the technological development process. In what areas should the focus of HCI be directed?

• IT should adapt to the needs and abilities of different people, for example those who are illiterate, who do not speak English, or who are disabled.

President of Future Forum and chair of the Youth Forum at **IFIP** Congress 2000

• Design methodologies that include a partnership with the end user need to be promoted in order to create more natural and intuitive interfaces.

• Should communication technologies aim to emulate one-on-one human interaction or should communication technologies strive to meet other ideals?

2. The growth of IT has raised issues in the realms of psychology and sociology. These adverse effects include Internet addiction and problems stemming from false identity, isolation, and exposure to inappropriate material. How can this negative impact be minimized?

• Can all negative psychological effects of information and communication technologies (ICTs) be avoided?

• What aspects of IT appear to be linked to Internet addiction?

• Is it possible to find a reasonable way to protect individuals from the negative effects of ICTs?

• Can a compromise be found between anarchy and complete control of Internet content?

• What measures should be taken to counteract a shift towards increased isolation of individuals?

3. There is a growing knowledge gap between users and nonusers of IT. How can this inequality be addressed?

• Is it realistic to expect all individuals to incorporate IT into their daily lives? Is it feasible to provide Internet access to everyone?

• Does the technically literate portion of society perceive global knowledge of and access to IT as a threat to their societal status?

• What is the most efficient and commercially viable means of educating the population about IT?

4. Credit cards are the primary means of payment in current business-to-consumer e-commerce. In countries where the financial infrastructure is in transition, credit card services are not readily available. This severely limits access to global markets. To enable developing countries to participate in e-commerce, a universal payment infrastructure is necessary. How should this be implemented?

• Using a cash-on-delivery system rather than electronic payment.

• Creating a prepaid purchasing option in which customers procure credit for future use.

• Encouraging online banking, especially in developing countries.

Committee on Economic Globalisation

IT is making business faster, cheaper and easier. New technology is contributing to the globalisation of production, financial markets and the labour market. Nevertheless, globalisation faces several challenges, namely the increasing gap between developed countries (DdCs) and newly developed countries (NDCs), the comparative disadvantage of local firms compared to multinationals, the uneven distribution of IT resources in different nations, and the widespread violation of intellectual property rights (IPRs), mostly in developing countries. This resolution is intended to solve the following four issues. After the statement of each issue are the committee's recommendations.

1. With IT as a tool for economic globalisation, how can DdCs effectively cooperate with NDCs while emphasizing mutual benefits?

a) The DdCs should transfer IT infrastructure of intangible value, as it may be possible for NDCs to produce advanced goods without working their way laboriously up the ladder.

b) DdCs can share their expertise in setting up e-governance in NDCs to help bring about efficiency / transparency in government operations.

c) DdCs can derive benefit from this cooperation by increasing the economic and political stability in NDC markets in order to avoid a globalisation backlash. They can also gain from the enhanced purchasing power of these NDCs and consequently from an increased market share in these countries, characterized by mass consumption.

d) Bilateral agreements can also be signed between DdCs and NDCs, ensuring mutual benefit in specific areas of cooperation.

2. How can the role of the government and international organizations (IOs) be redefined in order to increase the competitiveness of national companies or industries in the face of growing multinational dominance?

a) Governments should create and strengthen the regulatory framework to ensure the functioning of a free market economy (control of production and quantity, and imposing high taxes if multinational companies [MNCs] don't comply).

b) Governments should increase the competitiveness of local firms by providing them with tax incentives (tax reductions, tax rebates, tax holidays, etc.), to compensate for economies of scale enjoyed by MNCs.

c) Develop or improve the functioning of stock markets so that people can invest in these MNCs. Whenever MNCs grow, the individuals would benefit from it.

d) On the international level, the role and mode of operations of the IMF, the World Bank, etc. should be redefined in order to ensure a better monitoring of financial capitalism.

e) Loans can be given to governments by the IMF and World Bank, for example, in order to help them achieve the above discussed functions. Let the concerns of the minor countries be heard and their points of view taken into consideration in order to avoid all decisions being taken by DdCs.

3. What measures to benefit the common man can be implemented within the educational system and labour market to take advantage of economic globalisation?

a) International organizations and MNCs should take initiatives to pool financial resources to assist students in NDCs and improve their educational and training opportunities. These initiatives could be in the form of granting interest-free educational loans, scholarships, developing research centres, and providing free Internet access to students from disadvantaged backgrounds.

b) Alternative employment should be provided to those who have lost their jobs as a consequence of economic globalisation.

4. How can the legal framework be restructured in order to protect IPRs and consequently maintain Foreign Direct Investment (FDI)?

a) IOs should help and encourage NDCs to adjust their IPR legislation to comply with the international standards by helping them define and implement a legal framework.

b) Governments of NDCs should increase tariff rates on blank CDs and audio cassettes to a level that would make it unprofitable to buy them instead of the originals.

c) MNCs should provide special offers to certain societal groups such as students and educational institutions, to make their products more attractive compared to illegally copied versions.

d) The governments of NDCs should provide MNCs with incentives such as land, labour facilities, and tax reductions, so that DdCs invest in the country even though

Continued on following page

President Bollerslev Gives 40th-Anniversary Address

[During **IFIP** Congress 2000 in Beijing last August, **IFIP** held a cocktail party to celebrate the Federation's 40th anniversary, which was followed by a dinner hosted by the Chinese Institute of Electronics. During the party, **Mr. Peter Bollerslev** (DK), president of **IFIP,** addressed those assembled with the following words.]

We have come together at this reception to celebrate ourselves. IFIP has now been in existence for more than 40 years. In fact, it all started about 43 years ago, when the idea of establishing an international organisation in the field of information processing came up in the committee that prepared the first international conference on information processing for UNESCO.

The UNESCO conference took place in Paris in June 1959. During the conference, the decision was taken: An international organisation should be created if seven or more national technical societies agreed to ratify the statutes before January 1st. 1960.

The Birth of IFIP

Thirteen national professional technical societies did agree to the statutes before the deadline, and **IFIP** was born, though with a different name (International Federation of Information Processing Societies—IFIPS), which was given to the organisation in October 1961. In order to have something more to celebrate, we could hereafter call the 1st of October the name day of **IFIP.**

Two more societies joined before the **IFIP** Council met for the first time in Rome in June 1960. The member countries at that time were, in alphabetic order: Belgium, Canada, Czechoslovakia, Denmark, Finland, France, Germany, Japan, Netherlands, Spain, Sweden, Switzerland, United Kingdom, United States, and USSR. One way or the other, all these nations can still be found as members of **IFIP** today.

But we have grown during the 40 years. We would like to cover the whole world and to have some 180 member societies but are happy right now with approximately 60 members. I will here quote the founding President of **IFIP, Mr. Isaac Auerbach** (US), who said, "The future of **IFIP** should be devoted to reaching out to developing nations, holding regional congresses and conferences in countries in Africa, South America and Southeast Asia, which have been slow to integrate data processing into their societies. We have worked in the past to educate and disseminate knowledge, and we have shown that a meeting of the minds is essential in dealing with the complexities of a technical revolution. With information processing being such an integral aspect of everyday life around the world, **IFIP** can continue to be an important force in shaping the future."

IFIP Is Reaching Out

I feel we have reached out now. We have members in all continents except the very, very cold one. We are arranging conferences in all parts of the world. Within the last five years, we have been in AustralAsia twice with a Congress. I really do feel that with all the efforts the members of our Technical Committees and Working Groups put into the work of **IFIP,** we live up to what **Mr. Auerbach** said: **IFIP** is an important force in shaping the future. However, we are not yet satisfied with what we have achieved. We still strive to do things better and better. We would like to be recognised as a federation that helps diminish the gaps between the haves and the have-nots. We would like to be seen as the leading, truly international, apolitical organisation that encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

Now I arrive at festive points. As mentioned earlier, we are celebrating the 40th anniversary, the so-called ruby anniversary, which is why nearly all our publications from the Secretariat this year are in the ruby colour. Some of our member societies are older than **IFIP.** about half of them. Hurrah for them. Some of them are younger, but we find them to be just as eager as the older ones. So also a hurrah for them.

The Secretariat's Anniversary

Finally, I feel there is another anniversary that we ought also to celebrate. In 1995 on the 7th of July, five years ago, the **IFIP** Secretariat in Laxenburg was officially opened. Let me here congratulate **Dorothy Hayden** and Pia men Ned kov with the five-year jubilee. You have done such an excellent job in Laxenburg, and **IFIP** is proud of the way its administration functions.

YOUTH FORUM *cont. from prior page*

there might be a risk of IPR piracy.

e) NDCs should make firm commitments that they will enter international treaties on IPRs such as Trade Related Intellectual Property agreements within the shortest feasible period of time.

Looking back, we see this event as a complete success, not only for us, as a student organization and cybernetwork, but also for the participants, for **IFIP** Congress 2000, and for **IFIP.** ❑

A Quiz about **IFIP**

During the reception for the 40th anniversary of **IFIP** in Beijing (see the other article on this page), our president, **Mr. Peter Bollerslev** (DK), presented the following quiz (an actual written quiz) to the General Assembly members present.

1. What was the original acronym of the organisation, and what did it stand for?
2. How many **IFIP** World Computer Congresses have been held in non-European countries?
3. What is the name of the street where you can find the **IFIP** Secretariat?
4. Which president of **IFIP** has been in the seat for the second-longest period?
5. Which Technical Committee has the largest number of Working Groups?
6. How many Technical Committees do we have today?
7. What date and year was the I **FIP** Secretariat in Laxenburg officially opened?
8. How many Affiliate Members does **IFIP** have today?
9. When did China join I **FIP?**
10. What is the family name of the Chinese GA representative?

The answers can be found on page 5. The highest score was that of **Prof. Reino Kurki-Suonio** (FI), who received a free registration to **IFIP** Congress 2002 (in Montreal) as an award.

Entertainment-Computing Activity

[The following document was presented to the **IFIP** General Assembly (GA), meeting in Beijing last August, by the Committee for Cooperation with Industry. Proposed by **Dr.** Takeo Miura (JP), a vice-president and chair of the Committee, it is an example of **IFIP** activities that could attract more industry representatives to **IFIP.** The GA approved the formation of a task force to proceed with this activity.]

Entertainment-Computing Initiative

Entertainment is a key motivation for introducing IT into the home. It is the most frequently used application, with enormous variety. It raises significant technical problems. It may be passive entertainment; it may be human-to-machine; and it may be human-to-human, i.e., interactive. It is state-of-the-art technology with no compatibility amongst manufacturers; it lacks generational compatibility; and its focus on video games prevents it from being a true entertainment platform. Software for many conventional games at the PC level is of a poor standard, e.g., chess, Shogi. GO.

There are many research topics in the area:

Hardware
- Entertainment-use hardware in PCs
- Video game computer technologies
- Signal processors for entertainment use
- Interface hardware for entertainment

Software
- Real-time computer game (CG) technologies for entertainment
- Real-time audio technologies for entertainment
- CG-animation-description language and its standardisation
- Algorithms for various games and modeling of players

Systems
- Motion-capture technologies
- Authoring system, for real-time animation programs
- Cyber communication
- Networked toys

Human Interface
- Human factors of video games
- Human interfaces for senior people
- Cognitive science of video games
- Modeling and representation of information

Applications
- From entertainment to edutainment
- Networked entertainment
- Cyber communication
- Entertainment-computing-platform architecture
- Computer algorithms to play GO
- 3D CG animation description/markup language
- Modeling and representation of human/animal emotion
- Audio acoustics control by computer

It is proposed that a Specialist Group on Entertainment Computing be established, with the following charter:

(i) To position **IFIP** in a leadership role in home entertainment computing.
(ii) To organise as soon as possible an appropriate activity under the auspices of **IFIP** to bring together leading experts in fields related to the topic in hardware, software, systems, human interface and applications.
(iii) To consult with relevant bodies within the **IFIP** community, e.g., Technical Committees, Working Groups, Member societies, and Affiliate Members, to avoid unproductive overlap and promote beneficial collaboration.
(iv) To build links with existing organisations already in the field that might prove useful in nurturing future collaborative ventures.
(v) To move towards the eventual establishment of a Technical Committee, if this should prove to be the most desirable outcome.

This is an opportunity for **IFIP** to take the leadership in a rapidly growing area. **IFIP** should take technical leadership in entertainment computing. It should take leadership in related research. By these means, **IFIP** will contribute greatly to disseminating IT into the home.

Summit Meeting between UNESCO and **IFIP**

The following press release was issued by the **IFIP** Secretariat 31 January 2001.

An **IFIP** delegation consisting of **IFIP** President **Peter Bollerslev** (DK), **IFIP** President-Elect **Robert Aiken** (US/ACM) and **IFIP** Executive Director **Plamen Nedkov** met today in Paris with the UNESCO Director-General, **Koichiro Matsuura** (JP), and his team of deputies.

The United Nations Educational, Scientific and Cultural Organization is an intergovernmental agency with over 187 Member States. Its main objective is to contribute to peace and security in the world by promoting collaboration among nations through education, science, culture and communication.

Mr. Matsuura was appointed on November 12, 1999 to serve a six-year term. Born in Tokyo in 1937, he has served as Japan's Ambassador to France since 1994. Other posts held by **Mr. Matsuura** include those of Director-General of the Economic Co-operation Bureau of Japan's Ministry of Foreign Affairs (1988), Director-General of the North American Affairs Bureau, Ministry of Foreign Affairs (1990), and Deputy Minister for Foreign Affairs.

Topics related to the Information Society hold a high priority in UNESCO's scope of activities. **IFIP** has maintained a formal Consultative Status with UNESCO since 1997 and is an elected Member of the NGO-UNESCO Liaison Committee, a body of nine representing all NGOs in Formal and Operational Relations with UNESCO.

The high-level meeting is a result of the process of growing interactions between **IFIP** and UNESCO. Today's consultations gave the opportunity for a review of the current state of relations, with the objective of outlining a future framework for joint projects and initiatives for the benefit of the worldwide information technology community.

GA Representative of Thailand Appointed Judge

The Secretariat received the following message from **Prof. Srisakdi Charmonman,** GA representative of Thailand, just before the March Council meeting in Capri:

I have just received a royal appointment to be an Associate Judge of the Central Intellectual Property Court of Thailand and elected Chairman of the IP Associate Judges. I shall have to be on the Bench hearing cases and render judgement about once a month. Unfortunately, the next date requires that I have to miss the **IFIP** Council. I shall try to catch up through the Internet.

Best regards,
Srisakdi

The Secretariat's Move to Laxenburg: A Personal Recollection

*by Mr. Plamen Nedkov**

[The following article was posted on the **IFIP** Web site to commemorate the fifth anniversary of the **IFIP** Secretariat's move to Laxenburg in 1995. It makes such a good tale, and the efforts of the staff deserve such credit, that we reprint it here. — Editor]

On 16 September 1994, I touched ground in Vienna after being appointed as Administration Manager of the Laxenburg Secretariat at the September 1994 General Assembly (GA) in Hamburg. I was just about to turn 40. During my previous employment with the Bulgarian Academy of Sciences, I worked closely on **IFIP** affairs with **Acad. Blagovest Sendov,** president of the Academy and also president of **IFIP** for the period 1989-1992. Since 1989, I had been **IFIP** Contracts Officer, and **I** had been recently named IFIP–UNESCO Liaison Officer. My **IFIP** involvement and my duties as Head of the Academy's Department for International Organizations gave me significant international experience in working with specialized agencies of the UN system and non-governmental organizations. However, I had a lot to learn about **IFIP's** administrative affairs and the intricacies of Austrian administration. To sum up, I considered this appointment as a challenging new beginning, and I was dedicated to make the best of it.

Prior Arrangements

Before my arrival, several important arrangements had been made and agreements signed with the Austrian Federal Ministry for Science, Research and the Arts (AFMSRA), the Austrian Academy of Sciences (AAS) and our landlord, for the premises of the **IFIP** Secretariat in Laxenburg. The Ministry had agreed to support **IFIP's** operations in Austria by providing a subsidy and rent-free premises. The Academy had been requested to act on behalf of **IFIP** as the formal employer of the Secretariat staff and to deal with salaries and social security matters. **In** Laxenburg, an elegant village south of Vienna, comprising mainly a baroque palace and park, **IFIP** joined a small community of international organizations: the International Institute for Applied Systems Analysis (IIASA) and the International Federation for Automatic Control (IFAC).

The implementation of IFIP's plans to transfer its office from Geneva to Laxenburg was just starting, and I made the following important promises to myself:

- Don't rush to do anything blindly before you understand how things are done in Austria.
- Make friends and stimulate partnerships.
- Keep information flowing.
- Assess the implications of decisions on a long-term basis.
- Work on a communication and information infrastructure to support the **IFIP** administration for many years to come.
- Be flexible and open to new ideas.
- Optimize the relative advantage of a new beginning.

On the other hand, I had to perform under a very tight schedule with established quality requirements by IFIP. Deadlines were set for everything — negotiating contracts, recruiting an assistant, furnishing the office, buying equipment, arranging the transfer and conversion of files and archives, i.e., everything associated with moving house from one country to another. Almost no provisions were allowed for unexpected circumstances and delays.

The First Phase

In the beginning, temporary office space was provided to **IFIP** at the premises of the Austrian Computer Society (OCG). With OCG assistance, telephone lines, furniture and office equipment were ordered and contacts with our future suppliers were established. An administrative assistant was identified, donations of computer equipment were arranged and the legal implications of matters associated with the establishment of our Secretariat and Headquarters in Austria were further investigated. The network of **IFIP** friends and supporters grew quickly after a series of meetings with the AFMSRA, the AAS, the University of Vienna, IIASA and IFAC.

By the end of January 1995, everything seemed to be falling into place and our premises were turning into a modern Secretariat of which **IFIP** could be proud. It looked as if the first phase of the transfer to Laxenburg was successfully completed. **Mr. Aage Melbye** (DK), **IFIP** treasurer and our management consultant at that time, and I evaluated the progress in February, and the developments were reported to the March 1995 Council in New York.

Alas, soon after the Council meeting, several unexpected developments occurred which returned us to "square one." The promised donations of equipment to the Secretariat were delayed, there were problems with the conversion of the Geneva databases, the administrative assistant who started work at the **IFIP** Secretariat resigned and so on.

The months of April, May and June were strenuous. I was alone, working over **14** hours a day, 7 days a week, trying to plug leaking holes. We had to be careful in selecting a new assistant; she/he should have an excellent command of English and German, be experienced in office work and computer systems, feel comfortable in a rather secluded village 17 km from Vienna and be motivated to work for an NGO with worldwide operations and a staff of only two fully employed persons.

By early June, I was under serious pressure and began to doubt whether I could meet the expectations of **IFIP** in getting the Secretariat quickly in a fully operational mode. I shared this with the IFIP president, **Prof. Asbjørn Rolstadås** and the **IFIP** secretary, **Mr. Graham Morris.** Their support and trust gave me the vital energy to continue. I am also indebted to many other Austrian and international friends who supported me in this critical moment.

A Revised Plan

We reassessed the situation and broke down the originally ambitious and somewhat complicated plan into easily achievable and comprehensive stages. First priority was given to the preparations for the Opening Ceremony, scheduled for 6 July. The organization was excellent, owing in great part to the support of the AFMSRA. **Minister Scholten** and other Austrian dignitaries and representatives of **IFIP** and international organizations contributed to this memorable event, which announced IFIP's presence in Austria.

In parallel to the preparations for the opening ceremony, work for the establishment and maintenance of the **IFIP** communication and information network was in progress. **Prof. Gerald Quirchmayr,** the Director of the Institute for Applied Informatics, and I depleted the Secretariat's coffee reserves during many working sessions. With donations of computer equipment from Sun (Switzerland), Compaq (Switzerland and Austria),

• **IFIP** Executive Director

NEC and DEC, the backbone of the network was formed. An Internet communications link was provided via IIASA and the Vienna University. **Mr. Jurgen Stager,** a student of **Prof. Quirchmayr,** started work on the Secretariat's LAN and databases. Several list servers were quickly established, and by mid-July the **IFIP** homepages were up and running.

"A shoe maker always wears shabby shoes," **Past-President Sendov** often said in the past. Luckily, with these simple achievements, **IFIP** was in a position to start harvesting the fruits of IT. Communications with GA members, **IFIP** Member societies and Technical Committees (TCs) improved tremendously. The Secretariat became more transparent in its everyday work. Its problems and the cost-effectiveness of **IFIP** information deliverables steadily improved.

Following the opening ceremony, all efforts were directed towards the preparations for the IFIP GA in Calgary, Canada, 6-10 September 1995. This was the first GA managed by the Laxenburg Secretariat and, in a sense, its baptism by **IFIP.** With the new communications capacity and **Mr. Ken Chapman** from the Canadian Information Processing Society in Alberta as a partner, nothing went wrong, and nothing was overlooked.

July and August are hot, vacation months in Austria and quite inconvenient for recruitment of personnel. Luckily, **Mrs. Elfriede Schrott,** a former employee of the IFAC Secretariat was available to temporarily help me with the routine Secretarial work. In addition, we had "kitchen" sessions on "the Austrian Way of Life," in which patience, understanding and respect were fundamental principles. This was complimentary to what I had previously heard from **Dr. Norbert Rozsenich,** Section Chief at the AFMSRA, a supporter and friend of **IFIP** and a leading Austrian policy maker in science and technology, who shared with me on a number of occasions experiences in the field of Austrian decision-making.

Hiring Mrs. Hayden

Friday, 25 August was a lucky day. An appointment for an interview was scheduled with **Mrs. Dorothy Hayden.** Five minutes after she arrived, I was quite sure that I wanted her to join the Secretariat. **Dorothy** had significant experience with Avis, Bank Austria and Brother, and on top of that she was full of charm. We talked about the importance of trust and discussed the importance of TCs to I **FIP.** She had scheduled another interview, and we agreed to meet once again, which would give her time to think it over. We met next week. **Mr. Morris** was also at the Secretariat, finalizing with me the arrangements for Calgary. We were both delighted that **Dorothy** confirmed her willingness to start work, and the three of us rushed to Vienna to request the AAS, the formal employer of the Secretariat's staff, to start the employment procedure. **Dorothy** joined the Secretariat on 11 September.

In addition to the excellent arrangements for Calgary, the Secretariat was proud of several important achievements, which were reported to the GA. Among these were the substantial progress in the development of the **IFIP** Address and Events Databases, the **IFIP** homepages and the extensive use of e-mail communications. Many GA members expressed their satisfaction with the Secretariat's communications capacity and urged it to consider further development and improvements. At the Technical Assembly, I was invited to demonstrate the new **IFIP** homepages. **Mr. Howard Funk, IFIP** vice-president and a former Internet Society Executive Director, who for a long time encouraged IFIP to make better use of e-mail, showed his appreciation by exclaiming "IFIP has finally moved into the 20th century." Another communications professional, **Dr. Ron Uhlig,** former chairman of TC6 and president of the International Council for Computer Communication (ICCC), expressed his satisfaction by requesting the **IFIP** Secretariat to create a link for the ICCC homepage and to assist the new ICCC office in New Delhi with respect to electronic communications. The Secretariat was still far from the perfect prototype of a fully operational international office, but such compliments were quite encouraging.

Returning from Calgary, I was happy to share the positive reactions of GA with **Dorothy** and **Jürgen .** The outcome gave us additional stimulus. Now, it was more pleasant and redeeming to break further ground. We developed a concrete performance schedule vis-a-vis the requested actions by the Executive Board and GA. We were eager to prove that we could do better. This helped us develop a strong sense of responsibility and respect for one another and resulted in a good working team capable of serving the interests of **IFIP.**

Communications Infrastructure

In October 1995, the **IFIP** President took the initiative to form a Steering Committee with the aim to prepare and submit for funding by the AFMSRA (with an agreed sum of ATS 600,000) a project proposal with a working title **"IFIP** Communications Infrastructure." The project aims to provide an easy-to-use communications infrastructure, addressing the needs of the **IFIP** Secretariat and the I **FIP** network of Member societies, TCs and Working Groups (WGs). The prime objective is to further develop the database environment for supporting IFIP 's administration, which in turn would serve the construction and maintenance of our Internet services. A multilevel approach would be initiated, so that information could be sent out and retrieved using appropriate technology, from the WWW at the top level, file transfer and electronic mail at an intermediate level, down to fax and traditional paper mail. A second project phase is envisaged: to develop a modem Multi-Technology Electronic Conferencing system, a cornerstone of which will be document management. The spin-off effect of the project would be to create a model for the communications infrastructure of interested IFIP Member societies and other international organizations.

In operational terms, the project work started soon after the GA meeting in Calgary, and the **IFIP** Events and Address Databases were significantly improved. Mail servers for GA, Council, Executive Board, Publications Committee, Activity Management Board, **IFIP** Member Society Editors and the Project Steering Committee were established, and the **IFIP** Web homepages were further enhanced with links to existing homepages of **IFIP** Member societies, TCs and WGs . The *IFIP Bulletin, Newsletter* and various other important IFIP information were made available on-line.

Another project to develop homepages of **IFIP** Member societies that did not have their own Web sites was initiated by the Secretariat in January 1996 in cooperation with our GA representative from Sweden, **Prof. Dipak Khakhar,** and **Prof. Quirchmayr.** The project was targeted at giving further exposure to the activities of **IFIP** Members via the Internet, and arrangements were made so that **Ms. Lisbeth Swenson,** a Swedish student who was in Austria with an EU Erazmus grant, could assist the Secretariat in this important endeavor.

Activity Calms Down

By the end of January 1996, **Dorothy** had overcome the initial stage fright of joining a new organization and was fully involved in

Continued on following page

IFIP Grants Enable Scientists from Developing Countries to Attend Conference on Human-Computer Interaction

*by Mrs. Judy Hammond (AU)**

One of the main scientific activities of **IFIP** Technical Committee 13 on Human–Computer Interaction (HCI) is to sponsor/organise international seminars, workshops and conferences. In 1996, a number of scientists in the Asia Pacific region concerned with HCI problems organised the first Asia–Pacific Computer–Human Interaction (APCHI) conference in Singapore, which was supported scientifically by TC 13. In 1997, the organisers of the second APCHI agreed that APCHI '97 should be held as part of TC13's INTERACT '97 conference. The third APCHI was held in July 1998 at Kanagawa, Japan, with TC 13 being a co-sponsor. It too was very successful and brought together 193 participants from 10 countries. It was then decided that APCHI would be held biennially, with the next conference taking place in Singapore in 2000.

Financial Problems

Since July 1997, there has been a catastrophic deterioration in the general economic situation in the Asia–Pacific region. Some countries are still in great financial difficulty. Many authors of papers accepted by APCHI 2000, particularly those from Indonesia and Malaysia, indicated that they would not be able to obtain sufficient travel funds to enable them to attend and present their papers. At the same time, APCHI 2000 in Singapore was the best chance for them to attend any HCI conference, as it was closest to their home country.

Therefore, the organisers decided to request a grant from the IFIP Developing Countries Support Committee (DCSC) to assist scientists from developing countries in the Asia–Pacific region whose submitted papers had been accepted but who had insufficient funds to travel to the conference. Most of the requests for financial assistance came from Malaysia and Indonesia, more than twenty requests being received. The DCSC responded with a grant of 4,000 Swiss francs (CHF), which was enthusiastically received by the APCHI 2000 organisers. It was decided that the scientists in greatest need were from Indonesia, so the funds were used to partially assist ten scientists to travel from the University of Udayana, Denpasar, Bali, to the conference. The **IFIP** grants were supplemented by funds from the International Ergonomics Association and the conference itself, which amounted to 5800 CHF.

The Conference

The APCHI 2000 conference was well attended, with over 100 participants from 16 countries, of which 49 participants were from 6 developing countries in East Asia. The quality of the papers was fully up to the regional and national standards supported by **IFIP.** The four invited speakers, from the USA, UK, France and Malaysia, were world-class scientists and practitioners in the field of **HCI.** The International Programme Committee of 51 HCI experts selected 68 papers for presentation. All papers were printed in a volume of proceedings, *4th Asia Pacific Conference on Computer Human Interaction and 6th S.E. Asian Ergonomics Society Conference*, published by Elsevier (ISBN 0-08-043894-6).

The attendance of the Indonesian **HCI** scientists at APCHI 2000 was undoubtedly a great success. They were able to present a number of papers and posters on their work outside their own country, which meant that they reached a much wider regional audience. They also presented a special session on HCI in their own country. Attendance at this conference allowed them to establish further contacts for future work, as well as become aware of **IFIP** and its INTERACT conference.

IFIP TC13 especially wishes to thank the DCSC for this grant and the support of TC13 activities in developing countries. ❑

* TC13 chair

SECRETARIAT'S MOVE *continued from prior page*

operational matters. Routine administrative activities became easy to handle. Event administration was no longer a serious bottleneck, as long as information came from **IFIP** conference organizers. The communications flow soared, but thanks to e-mail the 1995 communications expenses were remarkably low compared to previous years. This was also true with respect to other expenses, and it turned out that the Secretariat had greatly assisted the consolidation of **IFIP's** financial foundation during 1995.

With the magic power of electronic communications, we were able to demonstrate that the Secretariat can serve the various needs of **IFIP** as a focal point of an open, responsive and productive community. All queries and assignments were handled promptly. From our contacts with **IFIP** Members and volunteers, we were pleased to find that they were happy and satisfied with the services and performance of the **IFIP** Secretariat. This is our greatest recognition. ❑

ITALIAN MEMBER SOC. *from page 20*

- organizes conferences — in particular its annual National Congress — seminars, and tutorials
- participates in and promotes studies and research
- contributes people and ideas to international bodies operating in the field of informatics.

AICA is actively involved in projects of national relevance. For example, AICA is cooperating with the Ministry of Education in the definition of the new informatics curricula in schools, from the primary to the secondary grades. Also, AICA has been given responsibility by the Ministry for organizing the national participation in the International Olympiad of Informatics (I0I). In fact, in September 2000, an Italian team participated, for the first time in the 10I, in Beijing. AICA is involved in the European Computer Driving Licence (ECDL) project and in its forthcoming developments. To support its adoption, it has established agreements with the Ministry, private businesses, and other professional bodies. Besides **IFIP** and its Technical Committees, AICA has relationships with other leading associations in the informatics field, both in Europe and in the United States — in particular, establishing agreements for joint memberships.

To further support its activities and to convey information to its members and the community at large, AICA publishes an on-line monthly newsletter, available in Italian on its Web site, and a printed quarterly magazine, *Rivista di Informatica,* containing papers in Italian or English on all aspects of informatics.

AICA has set up a Web site from which more information on the Association and its activities may be obtained. The URL of the site is: www.aicanet.it.

AICA looks forward to hosting the **IFIP** Council this March in Capri. ❑

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spoke of the first world conference on Theoretical Computer Science, organized by TC 1 in Japan just before Congress 2000. Some 130 attended, which was considered to be a good number. The TC plans to hold the conference every other year.

Mr. Brian Samways (GB), chair of TC3 on Education, reported that it is finalizing a booklet on Teacher Education, the next in the series on Good Practice.

He also announced the completion of the first phase of the UNESCO-sponsored Modular University Informatics Curriculum Framework (see the article on page 3 of the June 1999 *IFIP Newsletter).* The study was well received by UNESCO and will be the basis of UNESCO efforts to help developing countries initiate informatics education. The second phase, an activity led by WG3.2 on Informatics and ITC in Higher Education, is designed to produce a global university IT curriculum. Some of this work will be done in collaboration with ACM and IEEE—CS. TC3 is also working on the Elementary ICT Teacher Training Curriculum, another UNESCO-funded activity.

Mrs. Judy Hammond (AU) reported for TC 13 on Human—Computer Interaction that the TC "is going from strength to strength." A large fraction of the TC members attended the latest meeting. There is a great deal of industry involvement in their conferences.

Prof. Reino Kurki-Suonio (FI), while reporting for TC2 on Software: Theory and Practice, noted that its WGs have been seminal forums for most of the major ideas in software.

Dr. Takeo Miura (JP), a vice-president and chair of the Committee for Cooperation with Industry, reported the results of a survey concerning the demographics of **IFIP** (see the article on page 8 of the September 2000 *Newsletter).* He also mentioned the plan to hold a session in Congress 2002 related to industry. He further proposed that **IFIP** engage in the promotion of international standards in the IT field. Two further committee proposals regarding changing the way Working Group and TC members are selected were not approved by the GA.

Dr. Miura suggested that, in order to attract more people from industry, **IFIP** consider undertaking more work attractive to industry. As an example, he proposed the field of entertainment computing and introduced **Dr. T. Kamae** (JP), who presented a proposal entitled Entertainment Computing Initiative (see the article on page 15). The GA approved the formation of a task force to carry out the preliminary work. One of the members appointed to the task force commented that it might be more appropriate to have his grandchild serve on it.

The following activities in developing countries were reported:

- WG2.1 on Algorithmic Languages and Calculi was planning a state-of-the-art seminar to be held in Bolivia in January 2001.
- WG2.2 on Formal Description of Programming Concepts planned a workshop and school in Argentina for September 2000.
- TC11 will hold its annual conference in Egypt in 2002.
- TC6 on Communication Systems was planning tutorials in Mexico and Costa Rica for September 2000.

WG2.1 on Algorithmic Languages and Calculi was considering a new electronic *Journal of Algorithmic Languages and Calculi.*

TC12 is considering the formation of a WG on Computational Biology.

Finances

The treasurer's report reiterated the excellent results for the 1999 fiscal year and projected a surplus of approximately 132K EUR (132 000 euros) for the year 2000. As of the end of July 2000, the Federation assets were approximately 1900K EUR, an increase of approximately 200K EUR from the end of 1999. The GA approved a budget for 2001 that projects a surplus of nearly 50K EUR. The GA also approved changing the dues paid by seven Member societies, in accordance with their UN membership contributions. These resulted in increases in their **IFIP** dues ranging from 33% to 100%. In addition, a new dues category of 800EUR was added, half of the previously lowest amount, to help some developing countries afford full membership in **IFIP.**

Our treasurer, **Prof. Dipak Khakhar** (SE), encouraged TCs to invest their funds in "new business." He reminded them that the TC funds are **IFIP** money and do not really belong to the TCs. We shouldn't be accumulating assets; instead, we should be spending money on new activities especially in developing countries. Proposals made by **Prof. Khakhar** (who is also chair of the Developing Countries Support Committee) to provide financial support to developing countries, in order to enable them to organize **IFIP** events locally or to host GA or Council meetings, did not meet with support in the GA.

Publications

Satisfaction was expressed in the area of IFIP publications. Ms. Yana Lambert. representative of Kluwer Academic Publishers, reported that twenty-four **IFIP** books will be published in 2000. Some 68% of the sales are to libraries; the remainder of the sales are bulk sales of conference proceedings to the conference organizers and individual sales. For the first half of 2000, sales revenues were up 16% over the previous year's revenues. **IFIP** will receive royalties of nearly 50K EUR for the first half of 2000. Sales of "frontlist titles" (books published since the beginning of the year) constituted 48% of the revenues. Royalties to **IFIP** were up 6.5% over those in the first half of 1999. The leading TCs with regard to sales revenue were TC6, TC5, and TC3. She hoped that 30 volumes would be published in 2001.

Ms. Lambert reminded all those present that conference organizers and volume editors should "contact Kluwer *as early in the conference planning process as possible,* and to consult the 'Guidelines for Editors of IFIP Conference Proceedings' as well as the `Timeline for the Publication Process' posted on [the Kluwer Web site devoted to **IFIP,** www.wkap.com/ifip] . Early planning benefits all involved... This is particularly important when it comes to pre-conference volumes."

She also reported on a price-elasticity experiment that is being performed in response to the frequently expressed opinion that **IFIP** books would have greater sales if the price of the volumes were less. One volume of a series was sold for $100 US, compared to the $160 charged for the prior volume in the series. Some 88 copies of the lower-priced volume were sold in less than three months, compared with the 113 copies of the higher-priced volume sold since its publication in April 1999. This experiment is being monitored continually.

The TC3 journal, *Education and Information Technologies,* which is owned by Kluwer, is being published on schedule. The number of individual subscriptions, however, is unsatisfactory (only seven have been purchased) despite the extremely low subscription cost of $60 US per year and the large

Continued on following page

The Italian Member Society

The Italian Association for Informatics and Automatic Computation (AICA), an independent association of computer professionals, is the Italian Member of IFIP and also the Italian representative to the Council of European Professional Informatics Societies (CEPIS). Founded in 1961, AICA is a nonprofit association whose principal aim is the creation and dissemination, among its members and in the Italian community in general, of knowledge on all aspects of informatics: scientific, technical, applied, economic, and social.

AICA offers an ideal meeting point for the three main actors on the scene of informatics: universities and research centers that advance theoretical and methodological knowledge, public and private users of informatic tools in specific applications, and producers

and suppliers of informatic products and services. However, the pervasive penetration of informatics in all sectors of human activity has introduced additional interactions with many other components of present-day society, e.g., schools at all levels, public institutions, information providers, and media publishers. This total capability of AICA thus makes it the ideal seat for debating the themes of professional development of informatics workers and of basic education for larger and larger sections of the population. Both themes are indeed dealt with, taking into account not only the specific characteristics of the Italian situation but also the experiences gained in other nations.

AICA is governed by a Central Council elected by the members' assembly, and its activities, based on voluntary work of its members, are supported by a permanent Central Office, located in Milan. The activities are subdivided among Territorial Sections, from a geographic point of view, and Working Groups, from a thematic point of view.

To accomplish its mission, AICA

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GA *continued from prior page*

number of members of TC3 and its WGs. The organizers of the TC3 World Conference on Computers in Education in 2001 plan to purchase one-year subscriptions for all participants, which should stimulate interest in the journal.

The sales figures for IFIP books for the second half of 2000 would have been larger had the proceedings of IFIP Congress 2000 been published by Kluwer rather than by the Chinese organizers. Some TC chairs discussed the idea of having Kluwer publish volumes containing edited collections of the proceedings of the individual conferences that constituted the Congress. This would be more satisfying to those contributors who want their papers published by a recognized publisher in a volume that is actively marketed.

Digital libraries were discussed only briefly at the Publications Committee meetings. The committee decided to request the Executive Board to take over responsibility for this activity, which had been previously referred to the committee.

Some discussion was devoted to on-line publication of conference proceedings (i.e., making the papers from a conference available on-line) for registrants in advance of the conference. This was done for Congress 1998 and is done by other conference organizers.

Miscellaneous Observations

Mr. Samways reported that attendance by people from developing countries at TC3-sponsored conferences was not good. He also reported that the TC desires better links with industry.

In reporting for TC9 on Relationship between Computers and Society, **Prof. Jacques Berleur (BE),** its chair, noted that IFIP Member societies rarely respond to TC9 requests for information. This has been especially true with regard to the WG9.2 study on ethics.

Prof. Reino Kurki-Suonio stated that TC2 is experiencing low numbers of paper submissions to its conferences.

The matter of no-shows (authors whose papers have been accepted but who do not attend to present them) at **IFIP** conferences and Congresses was raised. This is a problem we have in common with many other similar societies. It will be addressed in the future. **Mrs. Hammond** pointed out that there was not even one no-show at the INTERACT '99 conference, because any no-shows would be shunned by the HCI community.

New Zealand has changed its status in **IFIP** from Full Member to Corresponding Member.

The length of reports to the Technical Assembly (TA) and GA by TC chairs is still being debated. A suitable balance between concise reports and sufficient information (as well as permitting the TC chairs to air their issues before the GA) has yet to be found.

The TA made the following proposal:

> The TA would like the GA to consider the concept of a "horizontal TC." As new fields emerge (such as Electronic Commerce and Entertainment Computing), **IFIP** needs to be proactive. Many of these fields will cut across areas of interest to several TCs. In order to move quickly to reach out to the leaders of such activities, the TA believes that the concept of a horizontal TC might allow us to quickly and effectively create an organizational structure appropriate to the rapid evolution of these areas.

The GA took no action on this matter.

The meetings were frequently punctuated by the sound of cell phones ringing. This problem will surely increase as time passes.

Mr. **Plamen Nedkov,** Executive Director of **IFIP.** called the attention of the GA to the work of **Ms. Dorothy Hayden,** Events Facilitator and Administrative Assistant. She has accomplished more and more for **IFIP,** arranging the files and providing more and more information for the **IFIP** family.

A certain continuity was observed in the election of **Prof. Robert Aiken** (US/ACM), a longtime member of TC3, as president-elect, to succeed **Mr. Peter Bollerslev** (DK), the current president, who was formerly TC3 chair.

President Bollerslev closed the meeting with many thanks to the Chinese hosts for their friendliness and excellent technical support. ▭

UNESCO Congratulates **IFIP** on Its 40th Anniversary

In September, the president of **IFIP. Mr. Peter Bollerslev** (DK) received the following letter from UNESCO congratulating **IFIP** on its 40th anniversary. (This is the last item celebrating the ruby anniversary year of IFIP that we plan to print.)

Dear Mr. Bollerslev,

It is both an honor and a pleasure to congratulate the International Federation for Information Processing, on the occasion of its 40th Anniversary, on behalf of the Director-General of UNESCO. I express my warmest wishes to you and to all the member organizations of your Federation. You will undoubtedly continue to play a key role, representing your profession in the increasingly challenging world of information and communication technologies.

Ever since **IFIP** came into existence during the 1959 International Conference organized under the auspices of UNESCO, the relationship between our organizations has been not only close but has steadily strengthened as we respond to the challenges that the new information and communication technologies have posed for our societies. This partnership has been mutually enriching for our organizations. UNESCO particularly appreciates the professional contributions that **IFIP** is making to its activities and programmes.

All this time **IFIP** has been a driving force in the promotion of technologies and their applications. The large attendance at its sixteen [Congresses] shows the authority your Federation is enjoying within the professional community. Today we are confronted with new challenges. Technology has developed to such an extent that its impact on societies is growing rapidly. We have now to address the ethical, legal and societal issues that arise from the application of these technologies. UNESCO is increasingly concerned with these aspects and is organizing the third INFOethics Congress in November [2000] to look into these issues. I am convinced that we can continue our cooperation with **IFIP** in finding solutions to these new challenges.

Yours sincerely,

Alain Modoux
Assistant Director General a.i.
for Communication and Information ❑

FUTURE **IFIP** MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

GA	2-6 Sep 2001 (Sun—Thu)	Natal, Brazil
Council	3-7 Mar 2002 (Sun—Thu)	Bled or Portoroz, Slovenia
GA	30 Aug — 3 Sep 2002 (Fri—Tue)	Montreal, QU, Canada
GA	Sep 2003	Bilbao, Spain (tentative)
GA	11-15 Sep 2004 (Sat—Wed)	Jerusalem, Israel

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS

TC1	Jul 2001	Crete, Greece
WG1.2	Jul 2001	Vienna, Austria
WG1.3	30-31 Mar 2001	Genova, Italy
WG1.6	25 May 2001 (in conjunction with conf.)	Israel
TC2	1-2 Jun 2001	San Miniato, Italy
WG2.1	10-14 Sep 2001 (tentative)	Ameland, the Netherlands
	Jun 2002	Dagstuhl, Germany (tentative)
WG2.4	1-2 Jun 2001	San Miniato, Italy
	Apr 2002	Cape Town, South Africa
WG2.5	26-27 May 2001	Amsterdam, the Netherlands
WG2.7/13.4	11-14 May 2001	Toronto, ON, Canada
WG2.9	Apr 2001	Prague, the Czech Republic
TC3	28 Jul & 4 Aug 2001	Copenhagen, Denmark
	15-16 Feb 2002	France
WG3.1	30 Jul 2001	Copenhagen, Denmark
	2002	Dortmund, Germany
WG3.2	29 Jul 2001	Copenhagen, Denmark
	8 Aug 2002	Florianopolis, Brazil
WG3.3	30 Jul 2001	Copenhagen, Denmark
WG3.4	29 Jul 2001	Copenhagen, Denmark
WG3.5	2 Aug 2001	Copenhagen, Denmark
	Jul 2002	France

(continued on following page)

TECHNICAL COMMITTEE CHAIRMEN

TC1:	G. Ausiello	IT	00-02
TC2:	A. Haeberer	AR	01-03
TC3:	B. Samways	GB	00-02
TC5:	G. Doumeingts	FR	00-02
TC6:	A. Casaca	PT	01-03
TC7:	P. Kall	CH	98-01
TC8:	B. Glasson	AU	99-01
TC9:	J. Berleur	BE	99-01
TC10:	J.-C. Laprie	FR	00-02
TC11:	B. von Solms	ZA	98-01
TC12:	B. Neumann	DE	01-03
TC13:	J. Hammond	AU	98-01

National Abbreviations Used in Newsletter

AR	Argentina	DK	Denmark	MY	Malaysia
AT	Austria	FI	Finland	NL	The Netherlands
AU	Australia	FR	France	NO	Norway
BE	Belgium	GB	United Kingdom	PL	Poland
BG	Bulgaria	HU	Hungary	PT	Portugal
BR	Brazil	IL	Israel	SE	Sweden
CA	Canada	IR	Iran	SK	Slovakia
CH	Switzerland	IT	Italy	TH	Thailand
CN	China	JP	Japan	US	USA
CZ	The Czech Republic	KR	South Korea	ZA	South Africa
DE	Germany				

Future Events, continued from prior page.

WG3.6	1 Aug 2001	Copenhagen, Denmark
	Aug 2002	Montreal, QU, Canada
WG3.7	3 Aug 2001	Copenhagen, Denmark
	Jul 2002	Helsinki, Finland
TC5	15 Jun 2001	Geneva, Switzerland
WG5.7	26 Aug 2001	Aalborg, Denmark
WG5.10	28 Sep 2001	Geneva, Switzerland
TC6	31 May – 1 Jun 2001	Cape Town, South Africa
	6-7 Oct 2001	Zurich, Switzerland
WG6.7	5 Sep 2001	Espoo, Finland
TC7	23-27 Jul 2001	Trier, Germany
WG7.4	23-27 Jul 2001	Trier, Germany
TC8	20-22 Jun 2001	Salzburg, Austria
	23-24 Aug 2002	Montreal, Canada
WG8.2	Jul 2001	Boise, ID, USA
	Dec 2002	Barcelona, Spain
WG8.4	Jul 2001 (tentative)	Salzburg, Austria
WG8.6	Apr 2001	Banff, Canada
TC9	19-20 May 2001	Namur, Belgium
	24-25 Aug 2002 (tentative)	Montreal, QU, Canada
WG9.1	17 Sep 2001	Bonn, Germany
WG9.2	7-8 Jul 2001	Linkoping, Sweden
	19-20 Jan 2002	Namur, Belgium
WG9.6	17 June 2001	Bratislava, Slovakia
TC 10	10 Sep 2001	Brasilia, Brazil
WG10.4	4-8 Jul 2001	Stenungsunds Baden, Sweden
TC11	10 Jun 2001	Paris, France
WG11.5	15 Nov 2001 (in conjunction with conf.)	Brussels, Belgium
TC 12	7-9 Aug 2001	Seattle, WA, US
TC 13	8 Jul 2001	Tokyo, Japan
WG13.1	Apr 2001	Seattle, WA, US
WG 13.4/2.7	see WG2.7 above	
WG13.5	14 Jun 2001	Glasgow, UK

This information is furnished to the *Newsletter* by the Secretariat. Will TC and WG chairs 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.

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

Four Outstanding Service Awards Granted by General Assembly

Four Outstanding Service Awards were granted by the IFIP General Assembly in August 2000 for services rendered to IFIP. Established in 1988, this award is given to Technical Committee (TC) and Working Group members, on recommendation of TC chairmen and approval by the Internal Awards Committee. Eligible for nomination are individuals not normally eligible for the Silver Core Award. The recipients for 2000 are

TC 7: Prof. Keiji Yajima (JP)
TC 12: Prof. Boi Faltings (CH)
Prof. Mark Musen (US)
Prof. Zhongzhi Shi (CN)

We congratulate them and thank them for their devotion and contributions to IFIP. ▭

PowerPoint Presentation on **IFIP** Available from **IFIP** Web Site

The IFIP PowerPoint Presentation is available at the IFIP Web site. This presentation, developed in 1998, has been updated to reflect the current status of the Federation. It can be tailored by the insertion of additional slides with concrete data related to Working Groups, Technical Committees, or Member societies. This makes it ideal for presentations at meetings and conferences. Instructions for installing are provided. Go to http://www.ifip.or.at or directly to ftp://ftp.ifip.or.at/pub/presentation/pres.html and download it.

An updated PDF version of the flyer *This is IFIP* is also available there. ❑

Calls for Papers

Fourth IFIP TC11/WG11.5 Working Conf. on Integrity and Internal Control in Information Systems — Connecting governance and technology
15-16 Nov 2001, Brussels, Belgium
papers due 1 Apr 2001
contact: http://www.ifip.tu-graz.ac.at/TC11/CONF/IICIS2001

Fourth IFIP/IEEE Intl. Conf. on Management of Multimedia Networks and Services — MMNS 2001
29 Oct. – 1 Nov 2001, Chicago, IL, USA
papers due 20 April 2001
contact: http://www.nmlab.cs.depaul.edu/mmns2001/

Eleventh IFIP TC10/WG10.5 Intl. Conf. on Very Large Scale Integration — VLSI-SOC 2001
3-5 Dec 2001, Montpellier, France
papers due 27 May 2001
contact: http://www.lirmm.fr/–w3mic/VLSI-SOC/

IFIP WG9.4 Conf. on ICTs and Development: New Opportunities, Perspectives & Challenges
29-31 May 2002, Bangalore, India
papers due: 31 August 2001
contact: http://is.lse.ac.uk/ifipwg94/Conference2002/first_call.htm

Fourteenth IFIP TC6/WG6.1 Intl. Conf. on Testing of Communicating Systems — TestCom
19-22 March, 2002, Berlin, Germany
papers due 8 September 2001
contact: http://www.fokus.gmd.de/events/testcom2002

IFIP Congress 2002, the seventeenth World Computer Congress
25-30 Aug 2002, Montreal, Canada
papers due 3 Dec 2001
contact: Mr. Jan Wibe
e-mail: jan.wibe@seu.allforsk.ntnu.no

Will event organizers please send calls for papers to both the **IFIP** Secretariat and the *Newsletter* editor. Note that calls cannot be listed in this column until the events have been approved by **IFIP.** ▭

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Formal Methods for Distributed System Development

New!

edited by **Tommaso Bolognesi,** *CNR, Istituto IEI, Pisa, Italy*
Diego Latella, *CNR, Istituto CNUCE, Pisa, Italy*

This book addresses Formal Methods (FMs) applicable to the specification, verification, implementation, and testing of complex distributed systems and communication protocols. The early, pioneering phases in the development of Formal Methods, with their conflicts between evangelistic and skeptical attitudes, are essentially over. Many FMs have reached maturity, and a number of papers in this book report on successful experiences in specifying and verifying real distributed systems and protocols.
The main topics covered are:

- model checking theory and applications;
- verification and theorem proving;
- testing theory and applications;
- multicast protocol analysis and simulation;
- hardware specification, implementation, and testing;
- FMs for security.

TC 6

This work compiles the proceedings of the Joint International Conference on Formal Description Techniques for Distributed Systems and Communication Protocols (FORTE XIII) and Protocol Specification, Testing, and Verification (PSTV XX), sponsored by the International Federation for Information Processing and held in Pisa, Italy, in October 2000. This volume is suitable as a secondary text for graduate-level courses on software engineering, distributed systems, communications, and as a reference for researchers and industry practitioners.

Hardbound, ISBN 0-7923-7968-3 September 2000, 424 pp. EUR 213.50 / USD 185.00 / GBP 130.00

Managing QoS in Multimedia Networks and Services

New!

edited by **Jose Neuman de Souza,**
Federal University of Ceara, Brazil
Raouf Boutaba, *University of Waterloo, ON, Canada*

This book focuses on the critical challenges facing the future deployment and management of multimedia services over the Internet. It covers a broad scope of issues related to the integrated control and management of multimedia networks and services, and presents practical solutions as well as new research directions in managing QoS in the context of the Multimedia Internet. The following are considered, among others:

- QoS in Internet networks;
- Managing multimedia networking;
- Network programmability;
- Policies and service management;
- Advanced techniques for network management.

This volume contains the proceedings of the Third International Working Conference on Management of Multimedia Networks and Services (MMNS'2000), sponsored by the International Federation for Information Processing Technical Committee 6 (TC6) held in Fortaleza, Ceará, Brazil, September 2000. MMNS'2000 is co-sponsored by the Communications Society (ComSoc) of the Institute of Electrical and Electronics Engineers (IEEE). It is essential reading for engineers, network managers, and designers of multimedia services, as well as for graduate students and researchers in multimedia networking

Iardbound, **ISBN** 0-7923-7962-4
;September 2000, 312 pp.
EUR 172.50 / USD 150.00 / GBP 105.00

TC 6

Formal Methods for Open Object-Based Distributed Systems IV

edited by **Scott E Smith**
The Johns Hopkins University, MD
Carolyn L. Talcott
Stanford University, CA, USA

This edited work presents the leading edge in the fields of object-oriented programming, open distributed systems, and formal methods for object-oriented systems. With increased support within inlusty regarding these areas, this book raptures the most up-to-date information an the subject.

The papers focus on the following:

- components;
- mobile code;
- JavaTM;
- The Unified Modeling Language (UML);
- refinement of specifications;
- types and subtyping;
- temporal and probabilistic systems.

TC 6

This volume comprises the proceedings of the Fourth International Workshop on Formal Methods for Open Object-Based Distributed Systems (FMOODS 2000), sponsored by the International Federation for Information Processing and held in Stanford, California, USA, September 2000.

Hardbound, ISBN 0-7923-7923-3
August 2000, 432 pp.
EUR 204.00 / USD 180.00 / GBP 125.00

Published by KLUWER ACADEMIC PUBLISHERS on behalf of the International Federation for Information Processing

Advances in Networked Enterprises

Virtual Organisations, Balanced Automation, and Systems Integration

TC 5

New!

edited by Luis M. Camarinha-Matos,
Universidade Nova de Lisboa, Portugal
Hamideh Afsarmanesh,
University of Amsterdam, The Netherlands
Heinz-H. Erbe,
Technical University of Berlin, Germany

The main emphasis of this book is on virtual enterprises and other networked organizations, with special focus on: supporting infrastructures and management of distributed business processes, intelligent multi-agent systems, knowledge management, human interfaces, and socio-economical aspects. Also included are related topics on automation, both in manufacturing and transportation. Special attention is assigned to the fact that advances in information technology and new organizational paradigms will be used not only to induce new economic structures, but also to help a sustainable migration of existing systems towards the new economy. When electronic business initiatives attract such widespread attention, it is important to conciliate the `old' and 'new' economies under a balanced perspective.

Essential reading for researchers and engineering students in production engineering, computer science, electrical engineering, mechanical engineering, industrial sociology, and transportation, as well as for engineers and practitioners in manufacturing and transportation systems organization & planning.

Hardbound, ISBN 0-7923-7958-6
September 2000, 504 pp.
EUR 222.50 / USD 195.00 / GBP 136.00

E-Business and Virtual Enterprises

Managing Business-to-Business Cooperation

New!

edited by **Luis M. Camarinha-Matos**
Universidade Nova de Lisboa, Portugal
Hamideh Afsarmanesh
University of Amsterdam, The Netherlands

TC 5

Ricardo J. Rabelo
Federal University of Santa Catarina, Brazil

This work contains selected articles from PRO-VE 2000, the second working conference on Infrastructures for Virtual Enterprises, sponsored by the International Federation for Information Processing and held in Florianópolis, Brazil in December 2000. The included articles represent relevant examples of the current state of the art in virtual enterprises and support for electronic business. Together with a diversity of application domains, the emphasis is mostly on: the new forms of virtual organizations, support for agility, modeling and execution of distributed business processes, management of enterprise clusters, distributed/federated information management, knowledge management, logistics for electronic commerce, and safe communication. The book is mainly focused on the management of business-to-business cooperation in virtual and smart organizations.

The implantation of electronic business and the virtual enterprise area is not only a technological problem. Therefore, socio-organizational transformations, training needs, legal and ethical issues, and intellectual property rights are also addressed. This book is essential reading for researchers, engineers, practitioners, and engineering students in production engineering, computer science, electrical engineering, mechanical engineering, organizational science, and industrial sociology.

Hardbound, ISBN 0-7923-7205-0
September 2000, 552 pp.
EUR 224.50 / USD 195.00 / GBP 137.00

Computers and Networks in the Age of Globalization

New!

edited by **Leif Bloch Rasmussen,** *Copenhagen Business School, Denmark*
Colin Beardon, *University of Plymouth, UK;* **Silvio Munari,** *Universite de Lausanne, Switzerland*

TC 9

In modernity, an individual identity was constituted from civil society, while in a globalized network society, human identity, if it develops at all, must grow from communal resistance. A communal resistance to an abstract conceptualised world, where there is no possibility for perception and experience of power and therefore no possibility for human choice and action, is of utmost importance for the constituting of human choosers and actors. This book therefore sets focus on those human choosers and actors wishing to read and enjoy the papers as they are actually perceiving and experiencing their lives in a diversity of social and cultural contexts. The book tries to imagine in what kind of networks humans may choose and act based on the knowledge and empirical evidence presented in the papers. Topics covered include: People and Their Changing Values; Citizens in a Network Society; The Individual and Knowledge Based Organisations; Human Responsibility & Technology; Exclusion & Regeneration.

This valuable new book contains the edited proceedings of the Fifth World Conference on Human Choice and Computers (HCC-5), sponsored by the International Federation for Information Processing held in Geneva, Switzerland, August 1998. Since the first HCC conference in 1974, **IFIP's** Technical Committee 9 has endeavoured to set the agenda for human choices and human actions vis-a-vis computers.

Hardbound, ISBN 0-7923-7253-0 November 2000, 416 pp. EUR 188.50 / USD 165.00 / GBP 116.00

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Information and Communication Technologies in Education:

The School of the Future

New!

TC 3

edited by **Harriet Taylor,**
Louisiana State University, Baton Rouge, USA
Pieter Hogenbirk,
CPS, Amersfoort, The Netherlands

Information and Communication Technologies (ICT) have already had a significant impact on education in many countries around the world. As the "Information Revolution" has an impact on world society, education is seen as a priority for the developed as well as the developing countries. It is an opportune moment to reflect on current practice and consider how schools can retain what is best, while changing to meet the needs and demands of the new world. This volume examines the many aspects of the integration of ICT into the school of the future. It describes the experiences of different countries in developing school models of the future with ICT at the foundation. Insights are provided Into the essential conditions for developing future new learning environments supported by ICT. It includes perspectives from both developed and developing countries as they prepare for future educational systems of the Information Age. The main themes presented are:

— Experiences from a variety of national initiatives, policies, and strategies;
ICT tools for teaching and learning;
Distance and online learning;
Preparation of teachers for new ICT-rich learning environments;
- Change and impact on learning of ICT;
— The influence of ICT on school culture and organisation;
— Cultural and historical perspectives;
__ Future perspectives for the use of ICT in schools.

This volume contains the selected proceedings of the International Conference on The Bookmark of the School of the Future, sponsored by the International Federation for Information Processing, held in April 2000 in Villa del Mar, Chile. Contributions from experts around the world make this volume an essential addition for professionals in the fields of education, government, informatics and development.

Hardbound, ISBN 0-7923-7298-0
January 2001, 344 pp.
EUR 181.50 / USD 165.00 / GBP 115.00

The Architecture of Scientific Software

New!

TC 2

edited by **Ronald F. Boisvert**
National Institute of Standards and Technology,. MD, USA
Ping Tak Peter Tang,
Computational Software Lab, Intel Corp., CA, USA

Scientific applications involve very large computations that strain the resources of whatever computers are available. Such computations implement sophisticated mathematics, require deep scientific knowledge, depend on subtle interplay of different approximations, and may be subject to instabilities and sensitivity to external input. Software able to succeed in this domain invariably embeds significant domain knowledge that should be tapped for future use. Unfortunately, most existing scientific software is designed in an ad hoc way, resulting in monolithic codes understood by only a few developers.

Software architecture refers to the way software is structured to promote objectives such as reusability, maintainability, extensibility, and feasibility of independent implementation. Such issues have become increasingly important in the scientific domain, as software gets larger and more complex, constructed by teams of people, and evolved over decades. In the context of scientific computation, the challenge facing mathematical software practitioners is to design, develop, and supply computational components which deliver these objectives when embedded in end-user application codes.

The Architecture of Scientific Software addresses emerging methodologies and tools for the rational design of scientific software, including component integration frameworks, network-based computing, formal methods of abstraction, application programmer interface design, and the role of object-oriented languages.

This book comprises the proceedings of the International Federation for Information Processing Conference on the Architecture of Scientific Software, which was held in Ottawa, Canada, in October 2000. It will prove invaluable reading for developers of scientific software, as well as for researchers in computational sciences and engineering.

Hardbound, ISBN 0-7923-7339-1
March 2001, 384 pp.
EUR 193.00 / USD 175.00 / GBP 123.00

New!

TC 8

Diffusing Software Product and Process Innovations

edited by **Mark A. Ardis,** *Rose-Hulman Institute of Technology, Terre Haute, IN, USA*
Barbara L. Marcolin, *University of Calgary, AB, Canada*

This valuable new book addresses the problems and issues surrounding successful diffusion of innovations in software. Everett Rogers' classic text, Diffusion of Innovations, provides a valuable framework for evaluating and applying technology transfer methods. In today's new economy, the most important innovations may well be new software products and processes.

Topics include: Implementation and coordination issues; New interpretations of diffusion theory; Diffusion of software processes; Contextual factors; Communication of information; and Experience reports.

This volume contains the edited proceedings of the Fourth Working Conference on Diffusing Software Product and Process Innovations, sponsored by the International Federation for Information Processing Working Group 8.6, held in Banff, Canada in April 2001. It reflects the latest experiences of practitioners and theories of academics in this fast-changing field.

March 2001, 320 pp. Hardbound, ISBN 0-7923-7331-6 EUR 201.00 / USD 175.00 / GBP 123.00

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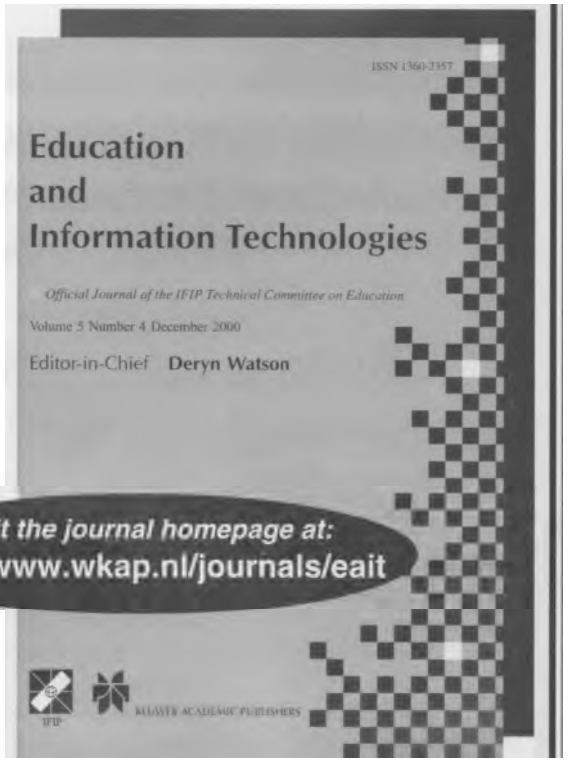
EDUCATION AND INFORMATION TECHNOLOGIES



Official Journal of the IFIP Technical Committee on Education

Editor-in-Chief: **Deryn Watson,** *King's College, London, UK*
Associate Editors: **John Olson,** *Queen's University, Kingston, Canada*
Brian Samways, *British Computer Society, UK*

This journal is a platform for the debates and issues that are current in the field. Broad in scope, it provides perspectives at all levels. The strength of this breadth lies in the opportunity to raise and debate fundamental issues at all levels, to discuss specific instances and cases, draw inference and probe theory. This journal is embedded in the research and practice of professionals. It will not proselytize on behalf of the technologies, but rather provoke debate on the complex relationship between information and communication technologies and education.

Topics include: tools and techniques of educational computing; computer literacy; computing in the workplace; educational computing networks; communication and telematics; integration of IT into education and training; educational software and hardware infrastructures; changes in teaching and learning, as well as examples of good practice and innovative ideas.

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Editorial; *Deryn Watson* • Guest Editorial; *Ian Selwood, Tassos Mikropoulos, Denise Whitelock* • Using VR for Efficient Training of Forestry Machine Operators; *Jean-François Lapointe, Jean-Marc Robert* • Young Children's Spatial Representations Developed through Exploration of a Desktop Virtual Reality Scene; *Silvia Gabrielli, Yvonne Rogers, Mike Scaife* • Construct3D: A Virtual Reality Application for Mathematics and Geometry Education; *Hannes Kaufmann, Dieter Schmalstieg, Michael Wagner* • Perfect Presence: What Does This Mean for the Design of Virtual Learning Environments? *Denise Whitelock, Daniela Romano, Anne Jelfs, Paul Brna* • Design of Interactivity in Virtual Reality Applications with Emphasis on Educational Software Using Formal Interaction Specification; *Costas N. Diplas, Panayotis E. Pintelas* • EIKON: Teaching a High-School Technology Course with the Aid of Virtual Reality; *A. Kameas, T.A. Mikropoulos, A. Katsikis, A. Emvalotis, P. Pintelas* • The Representation of Virtual Reality in Education; *Alessandro Antonietti, Chiara Rasi, Ernesto Imperio, Marco Sacco* • Experimental Comparison of Virtual Reality with Traditional Teaching Methods for Teaching Radioactivity; *Joanna K. Crosier, Sue V.G. Cobb, John R. Wilson* • Design of Virtual Reality Systems for Education: A Cognitive Approach; *Álvaro Sánchez, José María Barreiro, Víctor Maojo*

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Nurit Zehavi, *The Weizmann Institute of Science, Israel*

You are cordially invited to submit articles to the journal. For the purpose of reviewing, please send 3 hard copies of your final paper and an electronic version to:

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Calendar of Events

(continued from page 28)

Event	Date	Location	Sponsored by	Org. Contact
Personal Wireless Conference 2001	8-10.8.2001	Lappeenranta, Fl Fax: +358 5 6212899	IFIP WG6.8	http://www.kareltek.fi/sem/pwc2001/cfp.htm ,
IFIP TC6 WG6.1 Join(Intl.Conf.on Formal Description Techniques for Distributed Systems & Communications Protocols	28-31.8.2001	Cheju Isl., KR	IFIP TC6, Korean Science Found., ETRI	mckim@icu.ac.kr, http://nalab.icu.ac.kr/ Fax: +82 42 8666154
lntl.Symposium on Telecommunications	1-3.9.2001	Tehran, IR	IFIP TC6, Alcatel, Ericsson, Siemens	marvasti@itre.ac.ir, http://www.itrc.ac.ir/ist2001/, Fax: +9821 80098
Forum on Design Languages	3-7.9.2001	Lyon, FR	IFIP WG10.5	anne.mignotte@insa-lyon.fr, http://www.ecsi.org/ecsi/fdl/fdl.html, Fax: +33 472 438518
llth Advanced Research Work.Conf.on Correct Hardware Design & Verification Methods	4-7.9.2001	Livingston/Edinburgh, GB	IFIP WG10.5, Inst.f.Syst.-Level Integr.	tfm@dcs.gla.ac.uk, Fax: +44 141 3304913 http://www.dcs.gla.ac.uk/CHARME2001
IHM-HCI 2001	10-14.9.2001	Lille, FR	IFIP TC13	pdg@dcs.gla.ac.uk, Fax: +44 141 3304913
Intl.Work.Conf.on Distributed Applications and Interoperable Systems	17-19.9.2001	Krakow, PL	IFIP WG6.1	al@cs.agh.edu.pl, http://www.cs.agh.edu.pl/DAISOI, Fax: +48 12 6173966
8th IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design and Evaluation of Human-Machine Systems	18-20.9.2001	Kassel, DE	IFAC, IFIP TC13	rosenzweig@vdi.de, Fax: +49 211 6214161 http://www.imat.maschinenbau.uni-kassel.de/ hms2001/index.html
Symposium on Inf. Control Problems in Manuf.Techn.	20-22.9.2001	Vienna, AT	IFAC, IFIP TC5	incom@ihrt.tuwien.ac.at, Fax: +43 1 58801 31899
8th Work.Conf.on Information Security Management & Small System Security	27-28.9.2001	Las Vegas, US	IFIP WG11.1/11.2, Univ.of Nevada Las Vegas	rossouw@ml.petech.ac.za, Fax: +27 41 5043313
The Challenge of Technological Development	27-29.9.2001	Vienna, AT	IFIP TC9	kopacek@ihrt.tuwien.ac.at, Fax: +43 1 58801 31899
Intl.Conf. on Social Computing 2001	1-3.10.2001	Bremen, DE	GI-FB 8, IFIP TC9, FIfF, CPSR, ITG-FB 1	kreo@informatik.uni-bremen.de , Fax: +49 421 2183308, http://icsc2001.informatik.uni-bremen.de
1st IFIP Conf.on e-Commerce, e-Business, e-Government	4-5.10.2001	Zurich, CH	IFIP TC6/8/11	baukn@ifi.unizh.ch, Fax: +41 1 6356809 http://www.ifi.unizh.ch/I3E-conference
3rd Intl.Conf.on Info-Tech & Info-Net	29.10.-1.11.2001	Beijing, CN	IFIP, IEEE	mqzhou@public.bta.net.cn, Fax: +86 10 68239572 http://www.cie-china.org/ICII2001/
11th Intl. IFIP TC5 Conf. PROLAMAT	7-10.11.2001	Budapest, HU	IFIP WG5.2/5.3, EU, ERCIM	gkovacs@sztaki.hu , Fax: +361 4667503 http://www.sztaki.hu/conferences/prolamat
4th Intl.Work.Confon Integrity and Internal Control in Information Systems	15-16.11.2001	Brussels, BE	IFIP WG11.5	stijns@worldonline.nl, Fax: +31 492 548636 http://www.ifip.or.at/ICII2001
Intl.Conf.on Accelerator and Large Experimental Physics Control Systems	27-30.11.2001	San Jose, CA, US	IFIP TC5	rusty@slac.stanford.edu, http://icalepcs2001.slac.stanford.edu
IFIP WG3.2 Work.Conf.on Informatics Curricula, Teaching Methods and Best Practice	7-9.8.2002	Florianopolis, BR	IFIP WG3.2, SBC	raul@inf.ufsc.br, http://www.inf.ufsc.br/ifip2002/, Fax: +55 48 3319770
IFIP Congress 2002 - 17th World Computer Congress	**25-30.8.2002**	**Montreal, CA**	**IFIP**	**george@cips.ca, http://www.wcc2002.org**
Conf.on E-Training Practices for Professional Organizations	14-18.7.2003	Pori, FI	IFIP WG3.3/3.4	multisil@pori.tut.fi, http://www.pori.tut.fi/etrain/, Fax: +358 **39** 6272727

For future IFIP events please refer to the regularly updated electronic calendar at http://www.ifip.or.at/cal_even.htm
This calendar information is furnished to the *Newsletter* by the Secretariat. It contains only approved IFIP events, arranged by the local Organizing Committees.
IFIP does not assume any financial or legal liability. A schedule of IFIP administrative meetings can be found elsewhere in this *Newsletter.*

Calendar of Events

Event	Date	Location	Sponsored by	Org. Contact
4th IFIP WG8.6 Work.Conf.on Diffusing Software Process and Product Innovations	7-10.4.2001	Banff, AB, CA	IFIP WG8.6, SEI, CMU	maa@research.bell-labs.com, Fax: +1 630 713 4982 http://www.sei.cmu.edu/community/ifip/
9th IFIP Work.Conf. on Database Semantics - Semantic Issues in e—Commerce Systems	24-28.4.2001	Hong Kong, CN	IFIP WG2.6, Hong Kong Polytech.Univ., ACM Hong Kong	csqli@cityu.edu.hk, http://www.comp.polyu.edu.hk/ds9/, Fax: + 852 2788 8614
Intl.Symposium on Hardware/Software Co-Design	25-27.4.2001	Copenhagen, DK	IFIP WG10.5	jan@it.dtu.dk, http://www.codesign-symposium.org, Fax: +45 4593 0074
Work.Conf.on Eng. for Human-Computer Interaction	11-13.5.2001	Toronto, ON, CA	IFIP WG2.7, ACM	kazman@sei.cmu.edu, http://lihs.univ-tlsel.fr/ehci0l/
Conf.on Communications and Multimedia Security	21-22.5.2001	Darmstadt, DE	IFIP TC6/TC11, Ericsson. Microsoft, Platanista	yvonne.sobon@darmstadt.gmd.de, Fax: +49 6151 8696847, http://www.darmstadt.gmd.de/mobile/cms/start.html
Workshop on Electronic Government and Knowledge Management	22-24.5.2001	Siena, IT	IFIP WG8.3/8.5	traunm@ifs.uni-linz.ac.at, Fax: +43 732 24689308 http://falcon.ifs.uni-linz.ac.at/news/cfp_siena.html
4th Intl. Symp.on Environmental Software Systems	22-25.5.2001	Banff, AB, CA	IFIP WG5.11, EII, CRLE Guelph	ralf.denzer@enviromatics.org, Fax: +49 6223 970236 http://isess.crle.uoguelph.ca/isess.html
Intl. Workshop on Quality of Service	6-8.6.2001	Karlsruhe, DE	IFIP WG6.1, Univ.of Karlsruhe	Iars.wolf@uni-karlsruhe.de, Fax: +49 721 32550 http://www.uni-karlsruhe.de/–iwqos/iwqos_top.htm
16th Intl. Information Security Conference	11-13.6.2001	Paris, FR	IFIP TC11, SEE CLUB 63	congres@see.asso.fr, Fax: +33 1 44496049 http://www.ifip.tu-graz.ac.at/TC11/SEC2001
Feature Modelling and Advanced CAD-for-the-life-cycle-systems	12-14.6.2001	Valenciennes, FR	IFIP WG5.2/5.3, IFAC, IEEE, CIRP	feats2001@univ-valenciennes.fr, Fax: +33 3 27141288 http://www.univ-valenciennes.fr/LGIL/FEATS2001/
Work.Conf.on Security and Control of IT in Society - II	15-16.6.2001	Bratislava, SK	IFIP WG9.6/11.7	fischer@informatik.uni-hamburg.de, Fax: +46 54 7001446 http://www.conference.sk/ifip
Work.Conf.on Multi-disciplinary Research in E-Commerce/E-Business	22-23.6.2001	Salzburg, AT	IFIP TC8	sreich@salzburgresearch.at, http://www.salzburgresearch.at/suntrec/IFIPTC8Conference/
9th IFIP Work.Conf.on Performance Modelling and Evaluation of ATM & IP Networks	27-29.6.2001	Budapest, HU	IFIP WG6.3/6.4, IEEE & Ericsson Hungary	henk@ttt.bme.hu, http://www.diamond-congress.hu, Fax: +36 1 2012680
Intl.Confon Dependable Systems & Networks	1-4.7.2001	Goteborg, SE	IEEE, IFIP WG10.4	torin@ce.chalmers.se, http://www.dsn.org, Fax: +46 31 7723663
Intl.Confon Human-Computer Interaction - INTERACT 2001	9-13.7.2001	Tokyo, JP	IFIP TC13	interact2001@eie.eng.osaka-u.ac.jp, http://www.interact2001.com,Fax: +81 3 5489 7472
2nd World Conf.on Information Security Education	12-14.7.2001	Perth, AU	IFIP WG11.8, E.Cowan Univ.	h.armstrong@ecu.edu.au, Fax: +61 893706100, http://www.scis.cowan.edu.au/research/wise
15th WG11.3 Work.Conf.on Database Security	15-18.7.2001	Niagara on the Lake, ON,	CAIFIP WG11.3	sylvia@csd.uwo.ca, Fax: +1 519 6613515
IFIP WG8.1 Work.Conf.on Organizational Semiotics: Evolving a Science of Information Systems	23-25.7.2001	Montreal, CA	IFIP WG8.1	elsayed@vax2.concordia.ca, Fax: +1 514 848 2824 http://www.soc.staffs.ac.ukJresearch/groups/IFIP2001/call.html
20th IFIPTC7 Conf. on System Modelling and Optimization	23-27.7.2001	Trier, DE	IFIPTC7, University Trier	sachs@uni-trier.de, http://ifip200l.uni-trier.de/ Fax: +49 651 201 3973
Work.Conf.on Realigning Research & Practice in Inf. Systems Dev.: The Social and Organizational Perspective	27-29.7.2001	Boise, ID, US	IFIP WG8.2, Boise State Univ., Northern Illinois Univ.	riswojt2@cobfac.BoiseState.edu, http://afis.ucc.ie/ifip2001 Fax:+1 208 4263779
7th IFIP World Computer Conf. on Computers in Education	29.7.-3.8.2001	Copenhagen, DK	IFIP TC3	wcce2001@uni-c.dk, http://www.wcce2001.dk, Fax: +45 35824076

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