IFIP newsletter
International Federation for Information Processing

Editor:
Dr. Jack L. Rosenfeld

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TASK GROUP ON RESTRUCTURING IFIP

*by Graham Morris **

A Task Group on Restructuring TC and which, indeed, may be of in-
was established by the 1983 IFIP terest to more than one TC or to
General Assembly (GA) in Paris, fol- none. Recent examples include public
lowing discussion at the Activity Plan- sector data processing, security, office
ning Committee (APC), during which automation, and artificial intelligence.
doubts were expressed about the ade- Establishing a new TC to deal with
quacy of IFIP's existing structure of each new field raises the question of
Technical Committees (TCs) and where we stop creating TCs. We
Special Interest Group (SIG), and must never forget the cost implica-
about relationships with our affiliate tions to our members in supporting
members. TC work.

There are an increasing number of fields of interest in information processing, often with a strong applications bent, which do not fall naturally within the scope of any one existing

* chairman of the Task Group on Restructuring, GA representative from the UK, and IFIP Trustee

The basic definition of an **IFIP** SIG seems to imply a degree of maturity and of financial independence. A SIG is therefore an inappropriate way of dealing with a new subject area.

Affiliate Members

Affiliate members usually have some form of application specialty, and their exact relationships with IFIP are not too clear. We have encouraged our TCs to invite participation from appropriate affiliate members, presumably to seek some contribution to our work by them and to give us the opportunity of contributing to theirs.

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ANDO RECOVERED

IFIP's president Dr. Kaoru Ando (Japan) returned to a normal work schedule early in June, after surgery and a long period of recovery. He wishes to express his appreciation for all the help IFIP members rendered to him during his absence. Welcome back, Dr. Ando! ■

BOBILLIER DEPARTS

After the General Assembly (GA) meeting this September, Prof. Pierre Bobillier will complete his long, active career in IFIP, having served as Switzerland's delegate to the GA since 1968, secretary from 1969 to 1975, trustee from 1975 to 1976, and president for an unprecedented two terms (1977-83).

In his final report to the GA last September he wrote, "What I consider as the most important achievements during the past year are the new fields in which IFIP is starting to be involved (Government and Municipal Data Processing, and Security); activities besides the Congress which are now established: World Conference on Medical Informatics (MEDINFO), World Conference on Computers in Education (WCCE), and Conference on Computer Applications in Production and Engineering (CAPE); new

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efforts such as those made by the Public Information Committee to better inform the public; *Computer Compacts;* and the many books and journals published by **IFIP.**

"During the last six years, IFIP developed significantly from several viewpoints:

"The IFIP family was increased by the admission of nine Full Members (including one Regional Member representing six new countries) and three Affiliate Members [now 44 Full Members and six Affiliate Members]. This increase is of particular interest, since IFIP membership is spreading in all parts of the world, including developing countries.

"Our relations with other international organizations are also developing, and this trend should continue.

"Nine new Working Groups were established and two disbanded [now nine Technical Committees with 34 Working Groups, and a Special Interest Group]."

Prof. Bobillier studied at the University of Lausanne (Mathematics) and the Swiss Federal Institute of Technology in Lausanne (Mechanical Engineering). He joined the International Telecommunication Union in Geneva in 1953. Since 1957 he has been with IBM Switzerland, where he has worked in various areas related to scientific computing, university relations, and large systems marketing. He has been a member of management since 1961.

Between 1966 and 1972 Prof. Bobillier taught at the IBM European Systems Research Institute in Geneva in the area of simulation and simulation languages. Since 1966, he has taught operations research and simulation courses at the Swiss Federal Institute of Technology in Lausanne, where he is an Associate Professor. He is the author of over twenty technical papers in the areas of scientific computing and operations research and of the book *Simulation with GPSS and GPSS V,* published by Prentice-Hall in 1976.

He received the **IFIP** Silver Core Award in 1977, the Marin Drinov gold medal of the Bulgarian Academy of Sciences in 1980, and honorary membership in the Information Processing Society of Japan in 1981.

Prof. Bobillier leaves IFIP after 16 years of service, because he feels that it is time for a new face to be seen. We in IFIP are extremely grateful for his tremendous contributions to the Federation. He will be sorely missed. ■

IFIP NEWSLETTER

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

The Secretariat can also answer inquiries about IFIP.

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

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RESTRUCTURING cont. from page 1

It isn't obvious that this is really successful. At the same time, we give our affiliates an important status within IFIP in allowing them to participate freely in GA and even to vote on some topics.

The key issue in all the debate seems to be "applications." **IFIP's** work has depended almost entirely on its TCs, and much of their work is usually described as "theoretical." The concern is not about what TCs do for IFIP, but about what they don't do.

IFIP's foundations were laid in the comparatively early days of information processing, in the infancy of applications when much of the work was, indeed, theoretical. We have kept pace with theoretical development and done a good job. But much of the international work on applications has taken place outside IFIP, usually by international groups with a specialist interest. At the same time, IFIP has been painfully slow in responding to new opportunities and has missed the boat.

Key Questions

Here are some of the key questions the Task Group on Restructuring is addressing:

1. What do our member societies expect from IFIP? What can IFIP do to serve their interests best?

2. To what extent should IFIP be involved in the generality of computer applications?

3. What critically important application areas are we not currently handling?

4. How should applications be covered in our current structure? Should there be more TCs or broader based TCs?

5. Should we redefine the nature of SIGs to use them for new application work and bring them much closer to **IFIP?**

6. What should be our relationship with affiliates? Should we minimise their number and tackle the application areas ourselves? Or should we seek to extend their number and develop the ways in which we work with them?

7. With what international bodies should we have closer links?

The Task Group on Restructuring is eager to have your ideas. Your opinions on the above questions may be mailed to

Mr. Graham Morris
International Computers Ltd.
Bridge House, Putney Bridge
London SW6 3JX, United Kingdom. ■

COMPUTER COOPERATION IN DEVELOPING COUNTRIES

ICID Working Conference

In September 1983, the IFIP Committee: Informatics for Development (ICID) held a 3-day working conference in Stockholm on *Regional Computer Cooperation in Developing Countries.* Also sponsoring the meeting was Sweden's Royal Institute of Technology. Program and organization coordinator Prof. Par Lind (Sweden) and then chairman of ICID Dr. Robert Kalman (Hungary) planned the program. (The article *Computer Messaging for Developing Nations* on page 5 of the February 1984 issue of the *IFIP Newsletter* reports one topic discussed at the conference.)

The workshop was organized because studies of actual computer installations in developing countries reveal some basic issues of concern. Lack of application software designed especially for a developing environment leads to inappropriate computer utilization. Focus on computer science rather than application-oriented education leads to discrepancies between theory and practice. Marketing activities of computer vendors with priority on the fulfillment of business objectives before local needs hampers the development of indigenous computer policies. The establishment of regional computer centers as well as other cooperative computer activities would provide a means of addressing those issues.

The workshop proceedings, *Regional Computer Cooperation in Developing Countries,* edited by Dr. Kalman and published by Elsevier Science Publishers (North-Holland), contains a paper *Computer Competence Centre—a Model for Regional Cooperation* by Prof. Lind. Following are excerpts from this paper. *

Computer Competence Centres

A closer cooperation between developing countries to foster the advancement of relevant computer applications and to adopt a more unified approach vis-a-vis the computer suppliers can be a step towards more indigenous computer strategies. Such cooperation needs, however, to be canalized through practical arrangements where missions are adequately formulated and working procedures are established. These practical arrangements can be embraced within the concept of a Computer Competence Centre (CCC) *as presented in this paper.*

A CCC *is thought of as a physical organization staffed with DP-professionals and additional experts as appropriate and with competence to provide support and guidance as to the appropriate use of computers in the region. The Centre should preferably be located in the region and be staffed with 10 to 20 professionals. The primary goal for a CCC is to constitute an interface between a developing region and a developed country (or countries) for the transfer of competence and skills.*

A vital part of this competence transfer is to contribute to the development of a computer procurement philosophy for the region, based on knowledge about technical and economical elements of relevance for the region and insight into social and cultural issues, and also on experience and knowledge of modern computer technology and methods. The procurement program, originating from this philosophy, will thus constitute a base for negotiations between users of the region and computer vendors, a base where maintenance and service agreements, education and training requirements and support issues have been suggested as a regional standard.

The CCC concept also comprises the opportunity for a hardware manufacturer, a software house or a computer consultant from a developed country to actively contribute its know-how to the region. A computer manufacturer with the intention to start marketing in the region would be able to benefit greatly by the CCC as an excellent source of information concerning application needs and characteristics of the region.

The CCC would provide excellent opportunities for researchers from the countries of the region to participate in the Centre activities on a temporary assignment basis. Researchers could also be invited from the developed countries involved (or other countries) to form research groups on subjects relevant for the computerization process of the region and within the mission of the Centre. As a follow-on effect this research would influence the further education in the countries of the region.

Software Development

The development of application software for the use in developing countries requires not only know-how about computers but also knowledge, understanding and experience of local conditions. It would be of primary importance for the CCC to foster the development of basic need-oriented computer applications. The CCC would also undertake the mission of creating the base for indigenous software development through small industrial enterprises. The CCC mission could here be extended to act as an interface between the enterprises of the region and an external counterpart, e.g., a consultant company in a developed country.

With CCCs established in different development regions in the world, experience would be transferred between existing and new Centres.

There are basic issues which have not been addressed at all. For instance, is regional cooperation between countries a viable solution in a world full of conflicts? Do cultural and traditional differences have too much of a hampering effect to reach common viewpoints, or are the competitive forces too strong for a fruitful cooperation?

These and other questions must with necessity be considered. Still, the concept should be comprehensive enough to constitute a base for further discussions about computers, cooperation and development. ■

* *IFIP*

OFFICE SYSTEMS CONFERENCE PLANNED

A general conference on *Office Systems* is planned by **IFIP** Technical Committee 8 (Information Systems) and the Finnish Data Processing Society. It will take place during the week of 14 January 1985. The organizers plan to set up a working group in this field, within TC8. Those interested in joining will get together at that time. If you have a personal interest in the systems aspect of office automation, please contact

Prof. A.A. Verrijn-Stuart
Institute of Applied Mathematics
and Computer Science
University of Leiden
P.O. Box 9512
2300 RA Leiden, The Netherlands ■

TWO CONFERENCES ON INFORMATICS EDUCATION

In Elementary Schools

Important issues associated with the introduction of computers into elementary schools were aired at a working conference *Informatics in Elementary Education* sponsored by **IFIP** Working Group 3.1 (WG3.1) on Informatics Education at the Secondary Education Level. Keynote speaker Prof. Bernard Levrat (Switzerland) summarized the major concerns. Selections from his talk, *Informatics in Elementary Education: Hopes and Fears,* follow. * The complete text can be found in the conference proceedings, edited by J. D. Tinsley and E. D. Tagg, and published by Elsevier Science Publishers (North-Holland).

Most use of computers in education is at the secondary and university level. In extrapolating our experiences to younger classes, we may remind ourselves that often a single person is in charge of a class for all the subjects. Rather than turning training in the use of computers over to teachers who are already technically oriented, one has first to convince and then to retrain the very dedicated personnel attached to the transmission of traditional values and skills.

It is not required, however, that the teacher become an expert on computers. If properly programmed machines were available in the classroom or in a somewhat enlarged school library, one could imagine the children sharing their time between the traditional classroom and the perhaps more stimulating computer environment.. This scheme might meet with the hostility of the teachers, if they should resent it as direct competition and a possible substitute for a sizeable number of them. This need not be: computers could reduce class size and provide additional services not previously available.

Computer-Aided Instruction

Elementary school teachers are experts in guiding children through learning sequences to suit their individual needs. With the help of an interactive computer, a teacher can ask every pupil in the class to work on the lessons best suited to his needs at a particular moment. Because of the time it takes to develop and test such materials, one has to realise that teams of teachers and computer professionals will be required to invest many man-years of effort until one has a reasonably complete set of useful courseware at one's disposal.

The first example which comes to mind is drill and practice. There exist countless programs for all kinds of machines to exercise spelling and arithmetic, enrich the vocabulary, tell correct sentences from incorrect ones, with the computer keeping score, pointing out mistakes and, in the best cases, offering relevant helping sequences.

If a true dialogue can be established between the child and the computer, which will present new knowledge and encourage its understanding by means of carefully planned questions, one enters the realm of tutorial programs. It must be pointed out, however, that the preparation is time-consuming and non-trivial with the consequence that no small adjustments can be made and teachers who want to use the product have to accept it as delivered.

Education about Computers

With computers in the classroom, it is reasonable to assume that school educators will consider a study of the computer as a natural part of their curriculum. I believe they are becoming part of everyone's cultural and professional environment; one cannot use them effectively without knowing something about them. Teaching about computers is non-trivial, and teachers will need advice on what concepts are appropriate at each stage of learning.

Computing and storage devices have been in constant progress since electronic computers were invented around 1945. It is not a steady growth of little improvements as in other industries but great leaps forward that change the complete scene and have unsettling effects on the long range planning necessary in education.

One can understand the predicament of governments which are to set up general facilities to make possible some of the above. The number of distinct, mutually exclusive options recommended by experts is already very large, and brave souls who are willing to push forward know already that advances in technology could make their solutions obsolete long before they are implemented.

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At the University Level

IFIP's Working Group on Advanced Curriculum Projects in Information Processing (WG3.2), sponsored a Working Conference on *Informatics Education for All Students at University Level* at Delft, The Netherlands. Prof. William Atchison (USA), chairman of WG3.2, was chairman of the Program Committee, and Prof. Ir. D.H. Wolbers (The Netherlands) chaired the Organizing Committee. Thirty-one participants from twelve countries assembled to report on the work in their own universities, to discuss the present state of the art, to exchange ideas and to argue whenever appropriate about the immediate future of this field.

Prof. Atchison made the following points in the foreword to the conference proceedings *(Informatics Education for All Students at University Level,* F.B. Lovis and E.D. Tagg, editors, published by Elsevier Science Publishers (North-Holland) in 1984). *

As suggested by the title of the conference, the aim was to look at the education and training of all university students in the use and application of computers in their own area of expertise. Separate departments of computer science have developed very rapidly, as well as programs related to computers in electrical engineering and electronics and also in some business areas. Now, however, with the advent of relatively inexpensive microcomputers and the greatly reduced cost of even larger computer systems, the role of the use of computers is expanding very rapidly. Almost all companies, departments, or groups can afford some type of computer and most, in fact, use it to their advantage. This raises the very important question of just how do we educate all of our college or university students to go out and meet this new world. It is a significant educational problem which we must face across all disciplines in the university.

Speakers from several subject areas were asked to comment on a number of questions related to the use of computers and computer science in the education of their students. Examples of the questions were: How should teaching be changed, if at all, due to the advent of widespread use of computers? How

* C) **IFIP**

will the pedagogic strategies of teaching change? How will data bases be used as an integral part of the curriculum? How do you manage to continue teaching the fundamentals of the subject matter along with new computer techniques?

Conclusions

From the papers and discussions some common ideas, conclusions and problems emerge.

a. Just what to teach and how to teach the fundamentals of Informatics in the various disciplines needs further thought.

b. Teachers do not wish to sacrifice the fundamentals of their subject in order to teach Informatics.

c. Most disciplines see the value of using computers, but there are still some teachers who do not.

d. Different courses are needed for different areas. There are not enough teachers of Informatics to teach all these courses, even if this were thought desirable. Most such teaching will need to be done by the faculties or departments concerned.

e. Most disciplines will need to use some basic Informatics material but even greater emphasis will have to be put on the use of the tools provided by Informatics.

f. There is not only a current problem of the use of computers in education, but also a continuing problem for the future as computers and computer science change. The solutions to these may clash at times.

g. Any future working group's efforts should involve both Informatics specialists and subject matter specialists.

h. The conference did not arrive at a consensus on the basic question posed in its title—how to teach Informatics to "all students" or "across the curriculum."

i. Informatics education needs to be construed in a broad context of teaching effective problem-solving, including such issues as arriving at creative solutions and deciding when not to use computers. ■

COMPUTERS IN FOOD PRODUCTION

*by Maj. Gen. A. Balasubrahmanian **

The Computer Society of India, in collaboration with the IFIP Technical Committee on Computer Applications in Technology (TC5), organised the Second International Working Conference on *Computer Applications in Food Production and Agricultural Engineering* in Delhi, India, 19-22 March 1984. It was attended by 65 participants from ten countries. IFIP was represented by Mr. Bryan Smith (Canada), TC5 vice-chairman.

Mr. Shri Shivraj V. Patil, Minister for Science and Technology, Atomic Energy, Space, Electronics and Ocean Development, Government of India, inaugurated the conference, and Prof. Yash Pal, Chief Consultant, Planning Commission, delivered the keynote address.

The following salient points emerged during the technical sessions:

An integrated plan for the use of computers in the disciplines of agriculture research, agricultural meteorology, post-harvest technology, agricultural extension (advisory) programmes, and marketing is called for. The computer would be particularly useful where timeliness, accuracy, and complex logistics are involved.

Modern Tools

Modern tools such as the microcomputer and direct data capturing devices; which are available at low prices today, can be used with advantage. Micro-computers would greatly enhance the information system both as stand-alone computers and also as parts of larger networks. They can support reasonably sized databases and function as expert systems to provide advice to farmers. Using microcomputers as part of agricultural extension programmes was considered very urgent and feasible.

The role of computers in the production of cash crops was discussed. Modelling many complex phases of agriculture would help in improving production. Yield forecast models are feasible today and should be exploited for long-term forecasting and planning of food production and buffer stocks.

The conference noted the increasing costs of software compared to hardware. The difficulties experienced in using some of the general data management software packages for applications in the agricultural area call for a more critical evaluation and development of database management software more suited for agricultural information.

In order to provide maximum benefit to farmers, it is necessary that agrometeorological advice should be made available speedily. A micro-processor based communication network would offer a feasible solution. This system should also provide information relating to pests and diseases and remedial measures. Advisory Centres could be established. Training programmes for extension workers and users could be organised through the Advisory Centres. It is also necessary to devise management practices, marketing, storage, and transportation with the aid of computer based information networks. ■

* chairman of the working conference Program Committee and GA representative from India

COMPUTERS IN ELEMENTAR Y SCHOOLS continued from page 4

Levrat concluded by saying, "It remains to be seen if we can agree on a set of recommendations about what must be started, what must be absolutely avoided and what requires more study and experimenting. There is a lot of work to do."

The interest in this topic was responsible for the IFIP General Assembly's creation of WG3.5 on Informatics in Primary/Elementary Education, in September 1983. ■

"MICROELECTRONICS MONITOR"

The Technology Programme of the United Nations Industrial Development Organization (UNIDO) is the publisher of *Microelectronics Monitor,* a quarterly newsletter monitoring developments in the area of microelectronics and related subjects. It contains news of activities sponsored by UNIDO, other similar events, and extensive excerpts from a variety of publications from around the world. Much of the material has to do with information processing.

For more information, one may write

UNIDO Microelectronics Monitor
Technology Programme
P.O. Box 400
A-1400 Vienna, Austria ■

IMPROVING INTERNATIONAL STABILITY

The following article is reprinted from the Newsletter of the International Federation of Automatic Control (IFAC), since it may be of interest to IFIP Newsletter *readers.*

Engineers and other control experts, accustomed to dealing with conditions of instability, believe that some of the world's boiling tensions can be resolved by means not normally known to diplomats, political leaders and other actors in public life. The engineers believe that the confrontation tactics used by many of these tend to worsen, rather than ease, some of these problems.

In the belief that they can help public leaders to understand the basic cultural differences and popular misperceptions of other peoples' views—differences which can often lead to disputes between countries or regions, sometimes to war and cataclysm—control engineers and other specialists from 14 countries concerned with system design met for three days in September 1983 at Laxenburg, Austria, to consider novel and peaceful ways to deal with some of the major disagreements in today's world. The meeting was sponsored by IFAC.

The inspiration for the meeting, *Supplemental Ways for Improving International Stability (SWIIS),* comes chiefly from Dr. Harold Chestnut (USA), a past president of IFAC and retired leader in industrial research. Chestnut said, "Ideas as well as funds are needed to focus the engineer's attention on new approaches to peace: more carrots must be found." Prof. Dr. Engelbert Broda, of the University of Vienna's Institute of Physical Chemistry, commented: "Because of their knowledge and key positions in life, engineers and scientists have special responsibilities in joining forces to prevent war, to avoid nuclear holocaust."

The group decided to propose a number of action-projects to be undertaken before its next meeting during the 9th IFAC World Congress in Budapest in July 1984.

The Workshop was organized by IFAC's Austrian member organization, The Austrian Centre for Efficiency and Productivity (OPWZ) and was supported by the Austrian Academy of Sciences' Institute for Peace Research, by the International Institute for Applied Systems Analysis (IIASA), by the International Federation for Systems Research (IFSR) and by Unesco.

Workshop proceedings are being published by Pergamon Press. For further information on SWIIS please refer to

Dr. Harold Chestnut
1226 Waverly Place
Schenectady, NY 12308, USA

[In a conversation with the *IFIP Newsletter* editor, Dr. Chestnut reaffirmed his belief that technical people can provide tools to assist—but not replace—decision makers in maintaining world stability. He pointed out that in many areas of the world, famine is no longer the problem it once was, due to the use of technology in planning; he is hopeful that similar gains can be made in peace-making. Chestnut stressed that the ideas and objectives of SWIIS (rhymes with "peace") appear to be heavily dependent upon information processing, and he urged that any readers of the *IFIP Newsletter* who are interested in SWIIS contact him at the address given above.] ■

CRIS RESCHEDULED

The next CRIS Conference (Comparative Review of Information Systems Design Methodologies) will take place 5-7 May 1986 in Noordwijkerhout, The Netherlands. An incorrect date was given on page 3 of the May 1984 *IFIP Newsletter.* ■

TC6 ACTIVITIES

IFIP's Technical Committee on Data Communication announces three major activities:

The first International Conference on Data Communications in the Integrated Services Data Network Era will be held 4-5 March 1985 in Tel Aviv, Israel. For further information, contact

Conference Secretariat, c/o ORTRA Ltd.
431 Namir Sq., P.O. Box 3473
Tel Aviv 61 033, Israel
telex: 361142

COMNET '85 will be held in Budapest, Hungary 1-4 October 1985. It will analyze the existing and future services accessible through computer networks and determine how the services interact with the networks. Attention will be given to the user work-stations and terminals connected to the networks. A special session will consider how networks help to form the "Information Society." Four to five hundred registrants are expected. Inquiries may be directed to-

COMNET '85 Conference Secretariat
P.O. Box 240
H-1368 Budapest, Hungary
telex: 22-5369

The subgroup of Working Group 6.1/B on Computer Satellite Communications has issued a bibliography on this subject, which includes about 110 paper titles. Copies can be obtained from

Jean-Louis Grange, Chairman WG6.1/B
Projet Pilote NADIR
c/o INRIA
F-78153 Rocquencourt, France ■

ARTIFICIAL INTELLIGENCE SYMPOSIUM IN LENINGRAD

The First IFAC Symposium on *Artificial Intelligence (Industrial Application)* was held in Leningrad, USSR, 4-6 October 1983. Over 200 participants from 15 countries attended. The symposium was sponsored by the International Federation of Automatic Control (IFAC), an IFIP affiliate, with the participation of members of **IFIP's** Technical Committee on Computer Applications in Technology.

The symposium was divided into four sessions: "Knowledge Representation and Industrial Expert Systems," "Robots and Flexible Manufacturing Systems," "Decision-Making in Computer-Aided Planning, Design and Control," and "Artificial Intelligence Applied Systems." A total of 83 papers were presented, many of which will appear in the IFAC journal *Automatica.*

Prof. Valentin Ponomaryov (USSR) was chairman of the local organizing committee and proceedings editor, and Prof. Hans-Jurgen Warnecke (FRG) was chairman of the international organizing committee. Chairing the program committee was Prof. Germogen Pospelov (USSR). Prof. Ponomaryov summarized the symposium in these words: *It showed not only the progress in the traditional methodological and research fields of the comparatively new-born science of Artificial Intelligence, but also the fast growth of its importance for different industrial applications. III*

CHANGES IN IFIP

NEW APPOINTMENTS

Representative of Spain to the GA
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telex: 27477 ibm e

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Representative of Denmark to the GA
Admissions Committee Chairman
Mr. A. Melbye
Morlenesvej 11
DJ-2840 HOLTE, Denmark
telephone: 45 (2) 422912

TELEPHONE/TELEX NUMBERS

Kindly note the following numbers of the IFIP Full Member for Portugal (API)
telephone: 351 (1) 535587
telex: 64653 apinf p

OTHER CHANGES

will appear in the IFIP Information Bulletin No. 18 - to be distributed shortly.

CALLS FOR PAPERS

1st International Conference on **Data Communications in The ISDN Era**
sponsors: IFIP TC 6
Mar 4-5 1985, Tel-Aviv University
Tel-Aviv, Israel
contact: ORTRA LTD. P.O. Box 3473
papers due: Mar 30 1984

Workshop on **Artificial Intelligence Pattern Recognition in Economics and Management**
sponsors: IFAC/IFORS/IFIP
Mar 12-14 1985, Zurich, Switzerland
contact: Prof. L.F. Pau, Batelle Institute, 7, Route de Drize, CH-1227 Carouge, Switzerland
full papers due: Dec 1 1984

Working Conference on **Theoretical and Formal Aspects of Information Systems 1985, TFIAS 85**
sponsor: IFIP WG 8.1
Apr 16-18, 1985, Sitges, Spain
papers due: Jul 1 1984
contact: Prof. Janis Bubenko, Jr. SYSLAB, Dept. of Information Processing and Computer Science Univ. of Stockholm, S-106 91 Stockholm, Sweden

IMEKO '85 10th World Congress: **New measurement Technology To Serve Mankind**
sponsors: IFAC/IFIP/OIML/EOQC
Apr 16-18, 1985 Prague, Czechoslovakia
contact: IMEKO World Congress Secretariat, House of Technology Gorkého nám. 23, 112 82 Prague 1, Czechoslovakia

6th Conference: **PROLAMAT 85, Software for Discrete Manufacturing**
sponsors: IFIP/IFAC, organized by AFCET
Jun 11-13 1985, Paris, France
papers due: May 1 1984
contact: AFCET, 156 Bd. Pereire, F-75017 Paris, France

Working Conference on **The Future of Command Languages Foundations for Human-Computer Communications**
sponsor: WG 2.7
Sep 23-27 1985, Rome, Italy
statement of intent to submit paper due: Oct 15 1984
papers due: Feb 1 1985
contact: Christian Gram, Dept. of Computer Science, Bldg. 344 Technical University of Denmark D-2800 Lyngby, Denmark

WCCE/85 - World Conference on Computers in Education
sponsors: IFIP TC 3 and AFIPS
Jul 29 - Aug 2 1985, Norfolk, VA, USA
papers due: Aug 1 1984
contact: John McGregor, Computer Science Dept., Christopher Newport College, Newport News, VA 23606, USA

Symposium on **Automation for Safety in Shipping and Offshore Petroleum Operations - ASSOPO '85**
sponsors: IFIP/IFAC
Jun 25-27 1985, Trondheim, Norway
contact: The Norwegian Society of Automatic Control, Kronprinsens gt.17, Oslo 2, Norway

3rd Symposium on **Computer Aided Design in Control and Engineering Systems**
sponsors: IFAC/IFIP
Jul 31-Aug 2 1985, Copenhagen, Denmark
contact: Prof. P.M. Larsen, Electric Power Engineering, Building 325, DK-2800 Lyngby, Denmark
full papers due: Jan 15 1985

Second IFIP WG 5.7 Conference on **Advances in Production Management Systems, APMS - COMP CONTROL 85**
sponsors: IFIP/GTE/MTA/CAEB/IFORS
Aug 27-30 1985, Budapest, Hungary
contact: APMS-COMPCONTROL 85, Gépipari Tudományos Egyesulet Kossuth L. tér 6-8, Pf. 451, 1372, Budapest V, Hungary

2nd Conference on **Analysis, Design and Evaluation of Man-Machine Systems**
sponsor: IFAC/IFIP/IFORS/IEA
Sep 10-12 1985, Varesa, Italy
contact: Mr. G. Mancini
c/o Engineering Division
Commission of the European Communities
Joint Research Centre, Ispra Establishment
1-21020 Ispra (VA), Italy

7th Symposium on **Digital Computer Application to Process Control**
sponsors: IFAC/IFIP/IMACS
Sep 17-20 1985, Vienna, Austria
papers due: Sep 15 1984
contact: Prof. Dr. A. Weinmann
Institut fur Regelungstechnik
Technical University Vienna
Gusshausstrasse 27-29
A-1040 Vienna, Austria

5th International Conference on **Control in Transportation Systems**
sponsors: IFAC/IFIP/IFORS
Jul 8-11 1986, Vienna, Austria
papers due: Jan 21 1985
contact: OPWZ, P.O. Box 131, A-1014 Vienna, Austria

NEW IFIP PUBLICATIONS*

CONFERENCE PROCEEDINGS

Production Management Systems
Proceedings of the IFIP WG 5.7 Working Conference on Strategies for Design & Economic Analysis of Computer Supported Production Management Systems, Vienna, Austria Sep 28-30 1983, (H. Hubner, Ed.)

Performance of Computer-Communications Systems, Proceedings of the IFIP WG 7.3 TC 6 2nd International Symposium Rüschlikon, Switzerland, Mar 21-23 1984 (W. Bux, H. Rudin, Eds.)

Integration of CAD/CAM,
Proceedings of the IFIP WG 5.2/5.3 Working Conference,
Gaullig, (Dresden) GDR, Nov 7-11 1983 (D. Kochan, Ed.)

JOURNALS

Computers in Industry, The International Journal of IFIP TC 5-four issues per year

Information & Management, the International Journal of Information Systems Applications-six issues per year

Microprocessing and Microprogramming. The Euromicro Journal-ten issues per year

Computer Networks, The official Journal of the International Council for Computer Communications-six issues per year

Computers & Security, The International Journal of IFIP TC 11-four issues per year

*published by Elsevier/North-Holland in 1984, unless otherwise noted

CALENDAR OF EVENTS

Event	Dates	Location	Organised by
Conf. on *Human-Computer Interaction, INTERACT84*	4-7 Sep 84	London, UK	IFIP/IFAC, et al.
Work. Conf. on *Stochastic Differential Systems*	4-7 Sep 84	Baku, USSR	WG 7.1
2nd Intl. Conf. on *Computer Security*	10-12 Sep 84	Toronto, Canada	TC11
Work. Conf. on *New Generation Computer Architecture*	17-19 Sep 84	Manchester, UK	WG 10.3
Work. Conf. on *Knowledge Based Systems for CAD*	17-19 Sep 84	Budapest, Hungary	WG 5.2
Work. Conf. on *System Programming Languages Experiences & Assessment*	17-21 Sep 84	Canterbury, UK	WG 2.4/IFORS
Intl. Conf. on *Women, Work, and Computerization - Opportunities and Disadvantages*	17-21 Sep 84	Riva del Sole, Italy	WG 9.1
Work. Conf. on *The Role of Informatics in Health Data-Coding and Classification Systems*	24-29 Sep 84	Ottawa, Canada	IMIA
Conference: *SEA RCC'84*	24-28 Sep 84	Hong Kong	SEARCC
Intl. Symposium on *Network in Office Automation*	25-30 Sep 84	Sofia, Bulgaria	TC 6
Work. Conf. on *Computer-Aided Decision-Making*	30 Sep-4 Oct 84	Prague, CSSR	IMIA
Work. Conf. on *Stochastic Differential Systems*	Sep 84	Visegrad, Hungary	WG 7.1/Hung. Acd. of Sci.
Work. Conf. on *Functional Programming Languages & Computer Architecture*	Sep 84	Nancy, France	TC 10/TC 2
Open Conference: *VLSI 84*	7-11 Oct 84	New York, USA	WG 10.5/IEEE
Intl. Conf. on *Mechanical Aspects of Electronic Design - Constronic '84*	9-11 Oct 84	Budapest, Hungary	TC 5
Symposium on *Data Communication and Computer Networks - Networks 84*	19-21 Oct 84	Madras, India	TC 6/CSI
Conference: *ICCC 84*	30 Oct-3 Nov 84	Sydney, Australia	ICCC
Intl. Conf. on *The Factory of the Future*	5-7 Nov 84	Tel Aviv, Israel	TC 5 co.sp.
Intl. Conf. on *Fifth Generation Computer Systems - FGCS '84*	6-9 Nov 84	Tokyo, Japan	ICOT
Work. Conf. on *Stochastic Modelling and Filtering*	10-15 Dec 84	Rome, Italy	WG 7.1
10th Anniversary Symposium: *Performance 84*	19-21 Dec 84	Paris, France	WG 7.3
Work. Conf. on *The Application of Computer Graphics in Ship Design*	late 84	Copenhagen, DK	WG 5.6
Work. Conf. on *Expert Systems Applied in Marine Activities*	late 84	Glasgow, UK	WG 5.6
Work. Conf. on *Ship Office Automation*	early 85	Gothenburg, Sweden	WG 5.6
Workshop on *The Benevolent Bureaucracy*	3-6 Jan 85	Namur, Belgium	WG 9.2
Work. Conf. on *Database Semantics (DS-I)*	7-11 Jan 85	Hasselt, Belgium	WG 2.6
Work. Conf. on *Office Systems*	14-16 Jan 85	Finland	TC 8
1st Intl. Conf. on *Data Communications in the ISDN Era*	4-5 Mar 85	Tel Aviv, Israel	TC 6/IPA
Workshop on *Artificial Intelligence in Economics and Management*	12-14 Mar 85	Zurich, Switzerland	IFAC/IFORS/ IFIP
Symposium *IFIP 25th Anniversary*	27 Mar 85	Munich, FRG	IFIP
Open Conf. on *Parallel Computing Techniques - CONPAR 85*	Mar 85	Hungary	TC 10/J.V. Newmann Soc.
Work. Conf. on *Home Computer and Education*	7-11 Apr 85	Interlaken, Switzerland	WG 3.2
Work. Conf. on *Theoretical and Formal Aspects of Information Systems*	16-18 Apr 85	Barcelona, Spain	WG 8.1
10th World Congress on *New Measurement to Serve Mankind - IMEKO '85*	22-26 Apr 85	Prague, CSSR	IMEKO
Workshop on *Technology Independent Design Rules*	Apr 85	France ?	WG 10.5
Intl. Symposium and Work. Conf. on *Nursing Use of Information Science and Computers*	1-8 May 85	Calgary & Banff, Canada	IMIA
Conference: *Telematica 85*	27-30 May 85	Rio de Janeiro, Brazil	TC 6/SUCESU
Work. Conf. on *Computerized ECG Analysis - Towards Standardization*	2-5 Jun 85	Brussels, Belgium	IMIA
Work. Conf. on *Human-Computer Communications in Health Care*	10-14 Jun 85	Stockholm, Sweden	IMIA
1st Intl. Conf.: *Image Science-85*	11-14 Jun 85	Otaniemi, Finland	Helsinki U. of Tech.
6th Intl. Conf. on *Software for Discrete Manufacturing - PROLAMAT 1985*	11-13 Jun 85	Paris, France	WG5.3/IFAC
Work. Conf. on *Pattern Recognition in Practice, II*	19-21 Jun 85	Amsterdam, NL	IMIA
Symposium on *Automation for Safety in Shipping and Offshore Petroleum Operations - ASSOPO '85*	25-27 Jun 85	Trondheim, Norway	WG 5.6/IFAC
Work. Conf. on *Problem Solving Environments for Scientific Computing*	Jun 85	France	WG 2.5
Seminar on *CAD/CAM*	Jun 85	Bangalore, India	WG 5.2 &5.3
15th Intl. Conf. on *Fault Tolerant Computing*	Jun 85	Ann Arbor, Ml, USA	TC 10/IEEE
Workshop on *Formal Aspects of Computer Science*	Jun 85	Edinburgh, UK	WG 10.5
4th World Conf. on *Computers in Education - WCCE '85*	29 Jul-2 Aug 85	Norfolk, VA, USA	TC 3
3rd Symposium on *CAD in Control and Engineering Systems*	31 Jul-2 Aug 85	Lyngby, Denmark	IFAC/IFIP TC 5 co sp.

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