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Newsletter

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From Oulu to Tallinn

IFAC Council- and Related Meetings Oulu, SF/Tallinn, USSR, June 13 - 18, 1988

This year the Finnish National Member Organization invited IFAC to hold its annual Council- and Related Meetings in Oulu, Finland at the Oulu Technical University in conjunction with the IFAC Symposium on Man-Machine Systems. In addition to providing the most excellent meeting facilities for the IFAC Meetings there was also a great number of social events permitting MMS participants and IFAC officers to get to know each other better. The major part of the meetings was held in Oulu. But this year, as a special feature, the Council Meeting took place in three parts, starting in Oulu, continuing on extraterritorial waters on board the ferry Georg Ots and completed in Tallinn, SU. The reason for this was that the President of IFAC, Professor B. Tamm, had invited the Council to come to Tallinn for a three-day visit to see the location of the 11th IFAC World Congress in 1990.

Before the Council Meeting the following IFAC bodies held their sessions at Oulu Technical University: The Technical Committees on Applications, Economic- and Management Systems, Manufacturing Technology, Mathematics of Control, Social Effects of Automation, Systems Engineering, Terminology and Theory; the International Program Committee of the 1990 IFAC World Congress; Policy Committee, Publications Committee, Administrative and Finance Committee, Technical Board, Executive Board; the Automatica Editorial Board and the Publications Managing Board held their meetings in Tallinn.

At the Council Meeting the reports of the President, the Secretary, the Treasurer, the Technical Board Chairman and the Executive Board Chairman were unanimously accepted. The budget for 1989 as presented by the Treasurer was approved. The stability of the budget from 1988 to 1989 is, among other factors, due to a productivity increase at the IFAC Secretariat. The Treasurer reported on countries in arrears with payment of membership fees. As a general policy, the Council decided that countries in arrears for two years would be informed that there might

be difficulties in getting events approved. After three years of non-payment of membership fees, no events will be approved and the measures provided for in the Constitution will be taken.

Another financial issue discussed was IFAC's long-term financial strategy. Assuming a further stable development of IFAC finances, some minor corrective measures might be necessary on a long-term basis to assure and continue this sound financial standing of the Federation.

With reference to the Secretariat the Council stated that it was working very efficiently and under very good working conditions. A special note of appreciation was given to Barbara Aumann for 10 years of dedicated work of excellent standard.

The Technical Board reported to the Council on discussions they had had during their meeting on most important aspects for the future of a technical organization such as IFAC. One important issue is the liaison of IFAC with industry. The general opinion held was that the participation of industry in various IFAC bodies is satisfactory but that, nevertheless, people from industry should be encouraged to take a more active part in IFAC and in the planning of technical events. It was also stressed as an important task for the National Member Organizations to create a good relationship with the industry of their countries respectively.

Another means of staying at the cutting edge of technology are the IFAC Working Groups. After some discussion on the procedure of Working Group formation, the TB-chairman announced that he would bring all future requests for new Working Groups to the TB meeting. It is expected that the applications for new Working Groups are well prepared, presenting a well-defined scope and aims, suggested working modes as well as a list of potential members. The chairman stressed that inactive Working Groups can be dissolved at the end of a triennium. One new WG on "Control and Instrumentation of

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Council Meeting on board the Georg Ots

Software for Computer Control SOCOCO '88

IFAC/IFIP Symposium

Johannesburg, South Africa, April 26-28, 1988

The participants of the 5th SOCOCO Symposium with experts representing 10 countries gathered in the industrial and technical centre of the host country to discuss a subject which is fundamental to the successful and profitable operation of virtually all modern industrial processes and manufacturing operations, namely, software for computer control.

The success of SOCOCO '88 was due in no small part to many years of preparatory work and participation by the National Organizing Committees of the International Federation of Automatic Control and of the International Federation for Information Processing. The symposium was organized by SACAC, the South African NMO of IFAC and co-sponsored by the IFAC TCs on Computers, Applications and Education and by the IFIP TC on Computer Applications in Technology.

Under the guidance of an International Program Committee representing most IFAC countries a wide-ranging program of 29 papers from the 60 abstracts originally submitted for consideration was selected. These were arranged into 11 sessions, covering "large real-time software projects", "software engineering", "distributed computer control systems", "expert systems for control" and several application-oriented sessions, including "electrical power systems", "control algorithms", "computer aided control system design", "robot programming", "computer vision and CIM".

The symposium program included five keynote papers by acknowledged international authorities, 14 papers from overseas countries and 15 papers by South African authors.

IFAC was represented at SOCOCO '88 by its Immediate Past President, Prof. M. Thoma (FRG), who delivered the opening address

and by Dr. Naude van Wyk (ZA), Chairman of the Policy Committee of IFAC. IFIP was represented by Mr. H. le Roux, Past Vice President of that Federation.

Keynote papers were presented by Dr. H. Halling (FRG) on "Real Time Software System Projects - Management During the Life Cycle"; Prof. B. Cronhjort (S) on "Specification and Quality Assurance of Real-Time Software"; Prof. R. Isermann (FRG) on "Process Failure Diagnosis Based on Process Model Knowledge"; Prof. P. Kopacek (A) on "Software for Simulation and Control of Robots and Manipulators"; and Prof. A. Halme (SF) on "An Interactive Task-Oriented Robot Programming System".

A penetrating and thought-provoking closing address was delivered by Dr. A. Heher, a member of the NOC and the SACAC Executive Committee and a leading figure in the Process Control Industry.

An innovation introduced by the SOCOCO '88 NOC was the adjudication by delegates of the papers (excluding keynote papers) in terms of presentation and contents. Attractive, industrially sponsored first, second and third prizes were offered to authors in each of these two categories. These prizes were presented during the closing session. This proved to be highly successful and improved the general standard of presentations and added a sparkle to the SOCOCO '88 technical program.

There was also a number of technical visits to various industrial computer control installations, including a gold plant milling circuit under multivariable computer control, a very deep mine, oil-from-coal technology (SAS-OL), a coal-based ammonia plant and a polythene plant.

Prof. I.M. MacLeod Prof. M.G. Rodd
Chairman NOC Chairman IPC



Authors and office bearers at the SOCOCO '88

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Biotechnological Processes" within the Applications Committee was approved. The major achievement of this Technical Board Meeting was the discussion and subsequent drafting of a master plan for future IFAC Symposia which will serve as a planning instrument. At present, the master plan lists 30 topics and should find wide publicity with TCs and NMOs to permit potential organizers to find slots. More detailed information will be published in one of the next issues of the IFAC Newsletter.

The International Program Committee for the Tallinn Congress in 1990 held its first meeting in Oulu and the IPC Chairman reported to the Council. (Information about the decisions at that meeting will be given in one of the next issues of the IFAC Newsletter)

In the framework of the Executive Committees and at the Council, questions relating to the awards program of IFAC were discussed. Upon recommendation of the Executive Board, the Council decided to install a Standing Awards Committee reporting to the Executive Board. The establishment of such a committee is fully in line with the IFAC Constitution. From among the Council members, H. Akashi was appointed chairman of this Committee.

Concerning the IFAC Congress Applications Paper Prize the Council accepted the proposal of the Executive Board to select 2 areas for the 1990 Congress, using input from the TB chairman, and publish them in the Call for Papers for the Tallinn Congress.

Furthermore the Council also approved the establishment of an "Outstanding Service Award".

Other points of consideration at the Council meeting were reports by A. Work (SU), B.D.O. Anderson (AUS) and S. Kahne (USA) on the 1990 (Tallinn), 1993 (Sydney) and 1996 (San Francisco) Congress preparations respectively.

For the 1999 IFAC World Congress four invitations have been received so far. The final decision will be taken at the next Council Meeting, taking into consideration all proposals that may be received before December 31, 1988.

The Council unanimously accepted the invitation of the Argentine NMO to hold the 1989 Council- and Related Meetings in Buenos Aires from 3-10 September, 1989, in conjunction with the Mining, Mineral and Metal Processing Symposium (4-8 September 1989).

Special Note to AUTOMATICA Subscribers

So far the IFAC Newsletter has been supplied to AUTOMATICA subscribers together with AUTOMATICA.

As a consequence the Newsletter arrived at our AUTOMATICA - Newsletter readers with a sometimes two-month delay.

For this reason the Newsletter will no longer be enclosed to AUTOMATICA as of the end of 1988.

AUTOMATICA subscribers interested in obtaining the Newsletter also in the future can order this publication free of charge from:

The Newsletter Editor
c/o IFAC Secretariat
Schlossplatz 12
2361 Laxenburg, Austria

It will be our pleasure to add your address to the Newsletter Mailing List

Strategic Plans of IFAC Technical Committees

Working Groups of the TC on Computers

In continuation of the "Strategic Plans of IFAC Technical Committees" in which scope and future strategies of the Technical Committee on Computers were published in Newsletter issue 3/88, the scopes of the Working Groups of the Computers Committee are given below:

Working Groups in the TC on Computers

1. WG on Distributed Computer Control Systems

Scope

The DCCS Working Group is concerned with problems on

- Distributed computer control systems architecture
- Human interfacing, programming, communication in distributed real-time control environments
- Development and maintenance of support methods and tools for distributed computer control systems

Activities will be coordinated with the corresponding Working Group of the Technical Committee on Components and Instruments which is concerned with instrumentation and actuator problems in distributed real-time environments.

2. WG on Artificial Intelligence in Real-Time Control

Scope

The scope of this Working Group includes the use of Artificial Intelligence Methods in the design, implementation, testing, maintenance and operation of real-time control systems

3. WG on Management of Software Projects

Scope

The scope of this Working Group covers all aspects of the management of software projects in the areas of supervision and control in a broad sense. In particular it comprises the collection and dissemination of qualitative and quantitative data concerning the use of methods and tools in the software life cycle, the productivity of programmers and technical and human factors which may influence it. The Working Group will also try to identify and monitor technical trends in the area of software project management and, if possible, issue recommendations.

In order to achieve these goals, the Working Group will organize special workshops and participate in the organization of paper and discussion sessions during IFAC conferences and congresses. It will also establish and maintain the necessary contacts to other technical and scientific organizations which are concerned with the problems of software management.

4. WG on Guidelines and Specifications for Computer Aided Control Systems Design

Scope

Was published in IFAC Newsletter issue 4/87

5. WG on Real-Time Programming

Scope

This Working Group is concerned with recent advances and current issues in real-time programming. The topics of immediate interest include: software engineering in real-time programming, specifications for real-time software systems, programming methodologies, environments, languages and operating systems for real-time systems.

News from NMOs BRAZIL

In the past two years the Sociedade Brasileira de Automatica (SBA), i.e. the Brazilian Society for Automation and Automatic Control has planned, organized and participated in many activities. Among them were:

1. Second Latin American Conference on Automatic Control

This Conference was held in Buenos Aires, Argentina in 1986. During this conference an "ad-hoc" Latin American Committee was created. Members of this Committee are the Latin American National Members of IFAC. The main objective of this Committee is to increase the level of cooperation among the Latin American Countries in Automatic Control research and education.

2. 6th Brazilian Conference on Automatic Control

This conference was held in Belo Horizonte in November 1986. It attracted over 500 participants from 6 different countries contributing more than 200 papers. A short course was given on Robust Control by Dr. R. Ortega. Dr. Ortega's participation was partially sponsored by IFAC.

3. In 1987 SBA started issuing the Brazilian Transactions on Control and Automation SBA. The articles published focus on Industrial Control Applications and trends in Control and Automation.

Future activities of the SBA are:

Consolidation of SBA: Controle & Automação as the major Brazilian periodical on Control and Automation, with a more steady influx of submitted papers.

Increased level of cooperation with the Latin American Societies on Automation.

Invitation to specialists on frontier areas for short courses, colloquia and seminars.

Increased participation of Brazilian researchers in IFAC Congresses (assisted by funds for the support of developing countries)

A more active participation of SBA in IFAC Committees.

IFAC Congratulates

On April 29, 1988, former IFAC President Professor Y. Sawaragi received the Imperial "Sacred Treasure Medal" from the Prime Minister of Japan, in presence of the Crown Prince, in the Imperial Palace, Tokyo. He was awarded this great distinction for his contributions in education and research and believes that his activity in IFAC played a major role in the selection of persons to be honored in this way.

The IFAC Community congratulates Professor Sawaragi on this great honor and wants to stress its gratitude to him for his contributions to our Federation.



Prof. Y. Sawaragi

Newly Approved Events

Title	Date	Place	Deadlines	Further Information
IMEKO/IFAC Symposium Technical Diagnostics	May 31- June 2 1989	Prague CSSR	-	Ing.J. Kozak IMEKO TC 10 Chairman House of Technology Libena Jarolimkova Gorkeho nam 23 CS-112 82 Prague 1 CSSR
IFIP/IFAC Conference System Modelling and Optimization	July 3-7 1989	Leipzig GDR	Dec. 15, 1988	Dr.K. Tammer Leipzig University of Technology Dept.of Math&Informat. PF 66, DDR-7033, GDR
IFAC/EFCE Symposium Dynamics and Control of of Chemical Reactors and Batch Processes	Aug. 21-23 1989	Maastricht NL	+	Prof.J.E. Rijnsdorp University of Twente POB 217 NL-7500 AE Enschede The Netherlands
IFAC Symposium Electric Power Systems and Devices	Aug. 24-27 1989	Seoul Korea	Nov. 30, 1988	Prof. Young Moon Park Dept.of Electr. Engrg Seoul National Univ. Shin-Lim-Dong Seoul 151-742, Korea
IFAC Workshop Control Engineering for Energy Generating Plants	Sept. 26-28 1989	Chatou F	Jan. 15, 1989	Prof.R.Davoust, EDF- DER, 6, quai Wattier BP 49, F-78400 Chatou France

- Deadline past

+ Deadline not yet known

Papers

Dynamic State Prediction and Hierarchical Filtering for Power System State Estimation (P. Rousseaux, D. Mallieu, Th. Van Cutsem, M. Ribbens-Pavella)

Distributed Actuator Control Design for Flexible Beams (S.E. Burke, J.E. Hubbard, Jr.)

Modelling of Nonlinear Discrete Time Systems from Input-Output Data (H. Diaz, A.A. Desrochers)

An Iterative Design Procedure for Simultaneous Stabilization of MIMO Systems (K. Wei, B.R. Barmish)

Fundamental Theorem of State Feedback for Singular Systems (V. Kucera, P. Zagalak)

Analysis of Continuous-Time Kalman Filtering Under Incorrect Noise Covariances (S. Sangsuk-Iam, T.E. Bullock)

Brief Papers

A Predictive Demand Model for Systems Planning, Using Noisy Realization Theory (L.K. Kher, S. Sorooshian)

Mathematical Model for Simulation of Hierarchically Distributed Process Control Computer Systems (J. Davidson, J.L. Houle)

On Robust Observer Compensator Design (C.C. Tsui)

Design of Observer-Based Robust Stabilizing Controllers (W.E. Schmitendorf)

Robust Stability Bounds for a Class of Discrete-Time Regulators with Computation Delays (T. Ishihara)

Balanced Minimal Realization Via Singular Value Decomposition of Sarason Operator (M.-C. Tsai, Y.-P. Shih)

The Optimal Regulation of Generalized State-Space Systems with Quadratic Cost (Z.-L. Cheng, H.-M. Hong, J.-F. Zhang)

Asymptotic Tracking for 2-D and Delay-Differential Systems (M. Sebek)

Book Reviews

Introduction to Random Processes with Applications to Signals and Systems by W.A. Gardner (D.W. Clarke)

Team Theory by K.H. Kim and F.W. Roush (G. Papavasiliopoulos)

Detection of Abrupt Changes in Signals and Dynamical Systems by M. Basseville and A. Benveniste (Ed.) (J.H. van Schuppen)

Systeme mit örtlich verteilten Parametern by D. Franke (R.F. Curtain)

Image Recovery: Theory and Application by H. Stark (Ed.) (M.G. Rodd)

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New Publication Automatic Control 1987

Proceedings of the
10th IFAC World Congress
Munich, FRG, July 27-31, 1987

Editor: R. Isermann

The Proceedings of the 10th IFAC World Congress "Automatic Control 1987" will be published in 10 volumes.

The volumes are subdivided according to the subject areas and the session titles. 583 papers were presented at the conference and are all included in these Proceedings in volumes 2 - 10. In an area of continuing development, research and advancement and with the ever increasing importance and use of automation and technology within industry, the Proceedings offer a well-balanced program of theoretical and applied papers, over the whole field of automatic control.

Contents of volumes 1-10

Volume 1 - Preface; plenary papers; summaries of discussion sessions and industrial problem sessions; contents of all volumes; author index.

Volume 2 - Control of electric generating plants and power systems; control in mineral, mining and metal processing; control of chemical processes and processes for natural products such as food, wood, agriculture.

Volume 3 - Industrial applications of modern control methods; control of vehicles and engines; control of electrical drives and power electronics.

Volume 4 - Digital computer control systems; automatic control in manufacturing, robotics control.

Volume 5 - Biomedical engineering; control systems approach to development; strategic planning of energy systems; modelling and control of socio-economic systems; automatic control in education; social aspects of automation.

Volume 6 - Automatic control in space and aeronautics; control of transportation systems; application of artificial intelligence and expert systems for automatic control.

Volume 7 - Large scale systems; improving international stability; industrial systems engineering; computer aided control system analysis and design; man-machine systems; water resources systems planning and management.

Volume 8 - Nonlinear control; control systems design.

Volume 9 - Linear systems theory; stochastic control and state estimation; distributed parameter systems.

Volume 10 - Adaptive control; modelling and identification

The Proceedings are available from
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WHO IS WHO IN IFAC



Prof. P. Uronen
Chairman of SECOM

Professor Paavo Uronen was born in 1938 in Viborg, Finland. He graduated from the High School of Lohja in 1956 and received his MSc. degree in Engineering from Helsinki University of Technology in 1961. He also has an MSc. degree in Physics which he received in 1966 and a PhD degree in Engineering from 1971, both from the University of Oulu.

His professional career includes the position of Research Fellow at the State Research Centre, Helsinki, 1961-63, in the Ore Dressing Laboratory, working with instrumentation and modelling in the mining and metallurgical industries.

From 1963-70 he was Chief Control Engineer in the chemical industry, responsible for design, purchase, installation and maintenance of the total instrumentation of a major chemical complex.

In 1969 he joined the staff of the University of Oulu as acting professor in Control and Systems Technology and in 1973 he was given tenure as Professor of Process Control in the Department of Process Technology of the University of Oulu.

He has worked as a visiting professor at Purdue University, West Lafayette, Indiana in 1978 and as Research Fellow and Project Manager at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria from 1979-81. Prof. Uronen has held several administrative and other positions of trust in Finland and also internationally. He was the Vice-Dean for the Schools of Engineering, University of Oulu from 1974-76, Dean from 1976-78 and 1985-87. He is now Vice-Rector of the University.

Further he has been member of the Board of the Finnish NMO for IFAC (Finnish Society for Automatic Control) from 1982-85 and Chairman from 1985-88. He is also a member of Council for SEFI and member of IFIP WG 5.7.

In IFAC, Professor Uronen has been active since 1970, being a member in the Applications- and Systems Engineering Technical Committees, participating in several IFAC events as active IPC member and/or presenting papers, etc. He served as vice-chairman of the Systems Engineering Committee from 1984-87 and was elected chairman of this committee at the Munich World Congress in 1987 for the period 1987-90.

Professor Uronen's scientific interest and work is focused on modelling and control of technological processes, especially in pulp, paper, metallurgical and chemical industries. He has been the leader of several major research projects in this area and is author of more than 200 publications on these topics. For his work and achievements he was awarded the Finnish decoration SR 1 in 1985 and The Prize of the Finnish Forest Industries Association in 1986.