



1982  
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# International Federation of Automatic Control

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# Newsletter

## 25th Anniversary of IFAC

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25th Anniversary of IFAC

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The announcement of an IFAC Anniversary Day has aroused great interest and brought numerous suggestions from NMOs, TCs and individuals with respect to both outstanding speakers and interesting topics.

IFAC Anniversary Day will be celebrated at the Old University of Heidelberg (FRG) on October 1, 1982, starting at 9 a.m. with a special meeting of the IFAC Council. This will be followed by an International Colloquium "The Impact of Automatic Control: Present and Future". Both events will be open to the public. The following time schedule has been tentatively accepted:

Friday, October 1, 1982

Heidelberg, Old University

9 a.m. — 10.30 a.m.

IFAC COUNCIL SPECIAL MEETING

Coffee Break

INTERNATIONAL COLLOQUIUM —

Impact of Automatic Control: Present and Future  
*on Technology*

Lunch

Impact of Automatic Control: Present and Future  
*on Society*

Impact of Automatic Control: Present and Future  
*on Economy*

Impact of Automatic Control: Present and Future  
*on Developing Countries*

Coffee Break

Panel Discussion

1.30 p.m. — 2.30 p.m.

2.30 p.m. — 3.30 p.m.

3.30 p.m. — 4.30 p.m.

5 p.m. — open end

The final program will be available by May. It will be distributed to IFAC NMOs and TCs, to all our Newsletter readers and to our sister organisations IFIP, IFORS, IMACS and IMEKO. The IFAC Secretariat will send further copies on request to anyone interested.

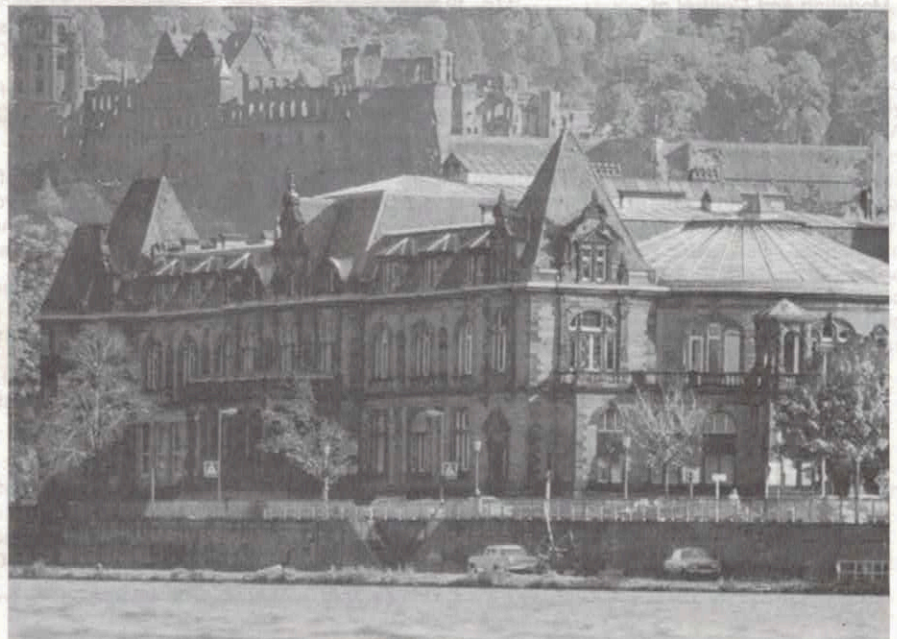
Participants will be requested to submit a registration card plus a fee of DM 80,— (covering admission, coffees and lunch) to the German organisers, the

VDI/VDE Gesellschaft für Meß- und Regelungstechnik

Postfach 1139

D-4000 Düsseldorf 1, FRG

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Layout: Margaret A. Gottfried

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# FORTHCOMING EVENTS

Title	Date 1982	Place	Deadlines	Further Information
IFAC Symposium on Control Aspects of Prosthetics and Orthotics	May 7-9	Columbus, Ohio, USA		Prof. Herman R. Weed Biomedical Engineering Center, Ohio State University, 2015 Neil Ave., Columbus, Ohio 43210 USA
Prolamat '82 5th International Conference on Programming Research and Operations Logistics in Advanced Manufacturing Technology	May 16-18	Leningrad, USSR		USSR 199164 Leningrad, Mendelejevscaya linia 1 Leningrad Research Computer Centre USSR Academy of Sciences PROLAMAT '82 Organizing Committee
4th IFAC Workshop on Distributed Computer Control Systems	May 24-26	Tallinn, USSR		Prof. B. Tamm DCCS 82 Tallinn Technical University Ehitajate tee 5 Tallinn 200026, Estonia USSR
6th IFAC Symposium on Identification and System Parameter Estimation	June 7-11	Washington, D.C., USA		IFAC-82 Symposium c/o Department of Electrical Engineering Systems, University of Southern California, Los Angeles, Calif. 90007, USA
IFAC Workshop on Computer Aided Design of Projects and Development Policies	June 22-24	Ankara, Turkey		Dr. Önder Yüksel Electrical Engineering Department, Middle East Technical University Ankara, Turkey
IFAC Workshop on Application of Non-Linear Programming to Optimal Control Problems	June 22-25	Rocquencourt, France		J. P. Yvon INRIA, Domaine de Voluceau — Rocquencourt, B. P. 105 F-78153 Le Chesnay Cedex, France
3rd IFAC Symposium on Control of Distributed Parameter Systems	June 29 — July 2	Toulouse, France		L. Le Letty Symposium IFAC/CDPS CERT-DERA 2, ave. Edouard Belin, BP 4025, F-31055 Toulouse, Cedex, France
IFAC/CISM Workshop on Singular Perturbations in Systems and Control	July 5-8	Udine, Italy		Dr. Marc Ardema N.A.S.A. Ames Research Center Moffet Field, Calif. 94305, USA
IFAC/ESA Symposium on Automatic Control in Space	July 5-9	Noordwijkerhout, NL		c/o K.I.V.I. Postbus 30424 2500 GK 'S Gravenhage, Netherlands
IFAC Workshop on Singular Perturbations and Robustness of Control Systems	July 13-16	Lake Ohrid, Yugoslavia	not yet known	Prof. Petkovski Institut za mernu tehniku i upravljanje, Fruskogorska 11, 21000 Novi Sad, Yugoslavia
IFAC Workshop on Modeling and Control of Biotechnical Processes	August 17-19	Helsinki, Finland	Abstracts: March 31 Papers: August 17	Prof. J. Virkkunen Control Engineering Lab. Helsinki University of Technology SF 02150 Espoo 15
IFAC Workshop on Management Control Systems — Modeling of Dynamics	September	Dubrovnik, Yugoslavia	not yet known	Prof. M. Rajkov, Fakultet Org. Nauka ul. Oslobođenja, Beograd, Yugoslavia
IFAC Symposium on Computer Aided Design of Multivariable Technological Systems	September 15-17	W. Lafayette, Ind., USA		Prof. G. Leininger Purdue University IFAC/CAD, School of Mechanical Engineering West Lafayette, Ind. 47907, USA
IFIP/IFAC Int. Symposium on Ship Operation Automation (ISSOA '82)	September 20-22	Genoa, Italy		Istituto Internazionale delle Comunicazioni Via Pertinace — Villa Piaggio I-16125 Genoa, Italy
IFAC/IFIP/IFORS/IEA Conference on Analysis, Design and Evaluation of Man-Machine Systems	September 27-29	Baden-Baden, FRG		VDI/VDE Gesellschaft Meß- und Regelungstechnik Postfach 1139, D-4000 Düsseldorf 1, FRG
ÖGI/IFAC Conference Industrial Robots: Chances and Problems for our Enterprises	September 28-30	Linz, Austria		Prof. Dr. Arno Schulz Institut für Informatik Johannes Kepler Universität A-4040 Linz, Austria



## FORTHCOMING EVENTS (ctd.)

Title	Date 1982	Place	Deadlines	Further Information
3rd IFAC/IFIP Symposium on Software for Computer Control (SOCOCO '82)	October 5—8	Madrid, Spain	Papers: April 15	SOCOCO '82 E.T.S. Ingenieros Industriales, Castellana 84, Madrid 6, Spain
IFAC Workshop on Safety of Computer Control (SAFECOMP '82)	October 11—14	W. Lafayette, Ind., USA	not yet known	Mr. Roy W. Yunker PPG Industries Corp. One Gateway Center Pittsburgh, PA, 15222, USA
4th IFAC/IFIP Symposium on Information Control Problems in Manufacturing Technology	October 26—28	Gaithersburg, Maryland, USA	—	M. Auman, Secretary IVth IFAC/IFIP Symposium, National Bureau of Standards Building 220, Room A 123 Washington DC 20234, USA
IFAC Symposium on Components and Instruments for Distributed Control Systems	December 9—11	Paris, France	—	Dr. Z. Binder Laboratoire d'Automatique de Grenoble — ENSIEG, B. P. 46, F-38402 St. Martin-d'Hères, France
INRIA/IFAC 5th International Conference on Analysis and Optimization of Systems	December 14—17	Sophia Antipolis, France	—	INRIA — Service des Relations Extérieures, Domaine de Voluceau, Rocquencourt B. P. 105, F-78153 Le Chesnay (France)

### 1983

IFAC/IFIP Symposium on Real Time Digital Control Applications	January 15—21	Guadalajara City, Mexico	Abstracts: April 15, 1982	Dr. Roberto Canales Ruiz, Chairman of IPC Dept. of Automation, Instituto de Ingenieria, UNAM Apdo Postal 70-472 Delegacion Coyoacan 04510 Mexico, D.F.
IFAC Symposium on Systems Approach to Appropriate Technology Transfer	March 22—24	Laxenburg, Austria	Abstracts: May 1, 1982	IFAC — Symposium "Appropriate Technology Transfer" O P W Z, Renngasse 5 1014 Vienna, Austria
4th IFAC/IFIP/IFORS Int. Conference on Control in Transportation Systems	April 20—22	Baden-Baden, FRG	—	VDI/VDE Gesellschaft Meß- und Regelungstechnik Postfach 1139, D-4000 Düsseldorf 1, FRG

## New Book Information

### Trends and Progress in System Identification

Edited by P. EYKHOFF, Eindhoven University of Technology, Netherlands

A substantial contribution to the development of the theory and practical applications of identification covering model considerations and aspects of building and use; identification methods, and necessary conditions for good identification experiments. For control engineers and system scientists.

**Contents:** Prologue, P. Eykhoff. The model method, J. Richalet. Models: equivalences, uses, extensions, A. Vanecek. Identification Methods: "Classical" methods and time series estimation, Y. Sawaragi, T. Soeda and T. Nakamizo. Least squares and regression methods, V. Strojic. Maximum likelihood and prediction error methods, K. J. Aström. Modern development of statistical methods, H. Akaike. Extensions to nonlinear and minimax approaches, N. S. Rajbman. Bayesian approach to system identification, V. Peterka. Experimental Conditions: Choice of input signals, R. K. Mehra. Choice and effect of different feedback configurations, I. Gustavsson, L. Ljung and T. Söderström. Index.

410pp \$ 70.00

Orders should be sent to:  
Pergamon Press  
Headington Hill Hall  
Oxford OX3 0BW, Great Britain

## New Director to IIASA



Professor C. S. Holling (left), widely respected expert in ecological systems from the University of British Columbia in Vancouver (Canada), has become the new Director of the International Institute for Applied Systems Analysis (IIASA) in Laxenburg near Vienna, Austria.

With effect from December 1, 1981, he succeeded Dr. Roger Levien (right), who was Director of IIASA during the past six years and has now returned to the United States. Under Dr. Levien's leadership the Institute has gained international recognition as a center of scientific excellence, whose work has significance for major international problems.

It was during this period that the IFAC Secretariat moved to Laxenburg and became IIASA's neighbour. Thanks to Dr. Levien's understanding this neighbourhood quickly developed into a close relationship of friendly and helpful cooperation.

At a first informal meeting with IFAC Honorary Secretary Prof. Fred Margulies, Prof. Holling suggested to look for ways of intensified collaboration between IIASA and IFAC.

"There have always been close links between our organisations" said Prof. Holling. "I am convinced that both IFAC and IIASA could benefit from even more active cooperation".

Professor Holling's main research interest now lies in the "dynamics of surprise" that are at the heart of today's challenging transformations as society, technology, and the environment interact in an increasingly interdependent world. He wants to take IIASA into its second decade with a strong focus on the risks, uncertainties, and opportunities facing society. "The increasing potential for conflict both on the national and international level calls for an institution able to act as an independent pool of expertise able to provide the factual basis for discussion of difficult issues when the need arises", said Prof. Holling, thus indicating further areas for future cooperation.

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## IFAC Workshop on Distributed Computer Control Systems

The 3rd IFAC Workshop on Distributed Computer Control Systems (DCCS) was held in Beijing, China, August 15 — 17, 1981 with 67 experts from 14 countries. It was the first IFAC meeting to be held in the Peoples Republic of China.

The program included 6 Workshop sessions and a panel discussion. Eighteen papers selected from 29 submitted abstracts were presented and discussed. One additional paper was distributed among attendees without presentation.

Prof. Jin Lan, IPC Chairman, and Dr. Thomas Harrison chaired the opening session. Prof. Liu Shi-hua, organizer of the Workshop, extended a warm welcome to attendees on behalf of the Chinese Institute of Automatic Control. Prof. Ing. Manfred H. Thoma, then 2nd Vice-President of IFAC, acting as the official IFAC-Representative, welcomed participants on behalf of President Prof. Sawaragi. The opening addresses were followed by case studies: DCCS for modernization of metal rolling mills by Mr. W. E. Miller and DCCS for electric power plants by Prof. P. M. Larsen.

Prof. Boris Tamm chaired the 2nd session in which 4 papers were presented. Three were devoted to the analysis of DCCS: from the viewpoint of control strategy by Dr. M. Cuenod; from the practice viewpoint by Mr. L. F. Natiello; and from the architectural viewpoint by Prof. Jin Lan. The fourth speaker, Prof. I. Ilzinya, described a computer network for systems research developed in the Academy of Sciences of the Latvian SSR.

The 3rd session chaired by Prof. Li Hua-tian and Prof. Jin Lan consisted of three papers on communication and synchronization concepts.

Dr. D. AlDabass presented a theoretical analysis of partitioning techniques for global algorithms and the inter-synchronization of the distributed segments, both in function and in time.

Dr. W. P. Paula Filho presented a mathematical model for optimization of the topology and capacities of a data communication network.

Dr. Sein Narita chaired the 4th session. Dr. Z. Binder discussed a modular multi-microprocessor DCCS to support the automation of complex processes. Prof. J. Y. S. Luh presented a paper on scheduling of DCCS for robot manipulators. Dr. M. Tsukamoto stated language structures and management method in a distributed real-time environment. Mr. J. Ludewig described specification systems for DCCS.

Session V led by Dr. R. W. Gellie was devoted to three case studies: Control of the CERN SPS accelerator by J. Altaber; electric power distribution by Dr. A. C. M. Chen; and the Bruce (Canada) nuclear power plant training simulator by Mr. Q. B. Chou.

Prof. P. M. Larsen chaired the 6th session and a panel discussion. Mr. G. S. Miller presented a case study of DCCS for an energy management system. Dr. T. J. Harrison

reported on the current status of standardization efforts for local area networks. Larsen then led the panel discussion on Human Engineering Aspects and Education of DCCS Operators.

In closing the Beijing Workshop, Mr. Doolittle announced plans for future Computers Committee symposia and workshops. The Fourth IFAC DCCS Workshop will be held May 24 — 26, 1982 in Tallinn, Estonian SSR.

It should be noted that, in addition to the well organized Technical Workshop, the Chinese hosts provided an excellent social and cultural program for the Workshop attendees, accompanying persons, and guests. Consequently, this IFAC Meeting provided the basis for a stimulating, memorable experience for all those who were fortunate enough to attend.

A more detailed summary of the technical presentations and discussions is being published in the next issue of "AUTOMATICA". Copies of this issue and of the proceedings volume may be ordered from Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, Great Britain.

W. E. Miller

### IFAC Membership

We take pleasure to announce that the Portuguese Association for the Development of Operational Research (APDIO) has been admitted as IFAC National Member Organisation for Portugal with effect from January 1, 1982.

By studying the APDIO constitution and by obtaining additional information from APDIO officers, the Council ascertained that the application meets the requirements of the IFAC Constitution and that the applicants have a strong interest in automatic control, though this is not evident from the association's name. The application was then put to a postal ballot in accordance with article 14 of the IFAC constitution. With all the votes cast "in favour" of admission, Portugal has become an IFAC Member Organisation. Together with Ireland and Venezuela, who were admitted by the General Assembly Meeting in Kyoto, IFAC has now 43 National Member Organisations.

The General Assembly, however, also had to take a vote with respect to several NMOs, who were in arrear with their payment of membership fees. Article 7 of the Constitution provides that "membership may be terminated by a vote of the General Assembly if a member is two years in arrear with payment of its membership fee".

Some of the NMOs concerned have meanwhile reacted to the reminders; with respect to the remaining countries the President might have to take action in the very near future to enforce the General Assembly's decision.

### WHO IS WHO IN IFAC



Prof. Dr. M. Mansour  
IFAC Treasurer

Born in Egypt on August 30, 1928, Professor Mansour is now resident in Switzerland. He has just now terminated a four month period as guest professor at the University of Illinois (USA) and returned to the Federal Technical University (ETH) in Zurich, where he is Director of the Institute of Automatic Control and Industrial Electronics.

Prof. Mansour studied electrical engineering at Alexandria University (Egypt), where he received his degrees of B.Sc. and of M.Sc. in 1951 and 1953 respectively. From 1951 to 1961 he worked as Assistant for Mathematics, Physics and Electrical Engineering at Alexandria University. In 1961 he moved to Zurich, where he became Research Assistant and in 1966 Chief Assistant and Lecturer at the ETH, Institute of Automatic Control and Industrial Electronics.

After a short interlude (1967 — 1968) at Queen's University, Canada, he returned to Zurich and became reader, later professor in ordinary and in 1976 director of the Institute of Automatic Control and Industrial Electronics. Also in 1976 he was elected Dean of the Department of Electrical Engineering for the two year period until 1978.

This rapid scientific career was accompanied by numerous publications in the field of Automatic Control, more particular in the research areas of Stability Theory, Stability of Power Systems, Oscillations in Nonlinear Sampled Data, Pulse-Width and Pulse-Frequency Modulated Control Systems and in Multidimensional Systems. He was awarded the Silver Medal of the ETH.

Much of Prof. Mansour's time and energy has been devoted to IFAC. He is president of the Swiss NMO and worked with the Education Committee, the Theory Committee and the Computer Committee of IFAC.

During the Kyoto Congress both the outgoing Executive Council and the General Assembly unanimously endorsed the proposal of the Nomination Committee to elect Professor Mansour to succeed M. Cuenod as Treasurer of IFAC.