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No. 3  
May

# Newsletter

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### Who is Who in IFAC

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Layout: Margaret A. Gottfried  
published bimonthly

## November '83: IFAC Council to Meet in Laxenburg

In November this year IFAC's officers and officials will assemble again in Laxenburg for what has been phrased "Council and Related Meetings". This means to say that preceding the Council Meeting (November 4 and 5) the Technical Committees, the Technical Board, the Executive Board and the International Program Committee for the IFAC Congress 1984 will all meet to discuss topical issues of IFAC's past, present and especially future work and development.

The Technical Board for example will deal with some 40—50 applications concerning workshops and symposia to take place in 1985 and 1986. Apart from the attention to be given to more formal matters like dates, places, participation fees, location etc. the Board will also discuss ways and methods to improve advice and guidance for TC's with respect to the contents of their activities.

The Executive Board, supported by its three Standing Committees on Finance, Publications and Policy will have to deal with the most unpleasant problem of today, with financial matters. So far the Treasurer has succeeded to make ends meet. The future largely depends on the discipline of the NMO's paying their membership fee and on the success of IFAC publications. The latter will be on the agenda of both the Publications Committee and the Publications Managing Board.

IFAC's 9th Triennial World Congress, scheduled to take place in Budapest, Hungary, July 2—6, 1984, will be subject of intensive deliberations when the International Program Committee meets for two days. Preparations are well advanced, they have to be checked and modified as appropriate, papers have to be revised and selected and accommodated within the always too short time limits. The Congress will feature Plenary Sessions, Paper Sessions, Case Studies and Discussion Sessions.

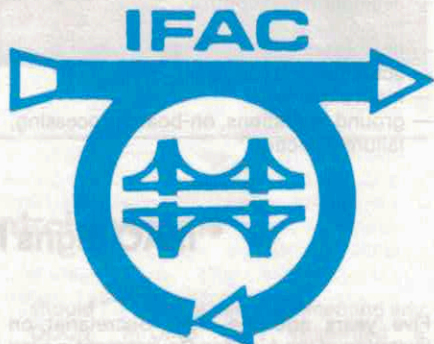
The aim of the Plenary Sessions is to give the participants an overview of the state of the art in the major fields of automatic control. It is intended to invite outstanding experts to deliver the plenary lectures.

The Paper Sessions are to provide a cross-section of recent results in automatic control in the broadest sense, including papers dealing with the theory, applications and implications of automatic control in technical, biological, economic and social/human systems. Most of the Paper Sessions will be arranged as Colloquia. Each Colloquium deals with a selected subject area and is organized by the respective Technical Committee of IFAC.

A significant part of the Congress program will be devoted to Case Studies and Discussion Sessions, the latter featuring panel and/or general discussions.

Special attention will be paid to industrial representation: practical problems collected beforehand from world-wide industrial sources will be discussed by expert panels during the Congress and the results summarized in a plenary report.

The IPC-meeting in Laxenburg, being the last one before the Congress, will have to take the final decisions and give the final touch to all these issues, which means a full work schedule for these two days.



A BRIDGE BETWEEN CONTROL SCIENCES AND TECHNOLOGY

The meeting of the IFAC Council will have reports on these and other important matters on its agenda, e.g. the nomination of officers for the 1984/87 term of office, the appointment of a Deputy Secretary, designated to replace the present Secretary when he retires after the Budapest Congress, the selection of the Quazza Medal Award Winner for 1984 etc. The Council will have before it the reports of TCs and NMOs concerning the experiences with the new Constitution and some proposals to amend the Constitution before the final approval by the General Assembly.

In spite of all this amount of work to be done, the representatives of the IFAC family will no doubt find time and opportunity to meet informally and to enjoy the pleasure and culture, the environment and the history which Laxenburg, the former summer resort of the Empress Maria Theresia and nearby Vienna have to offer.

All IFAC officers, including chairmen and vice-chairmen of Technical Committees are invited to attend these meetings. The IFAC Secretariat will do its best to make your stay pleasant and successful. We are looking forward to meeting you!

# Joint IFAC/ESA Symposium on Automatic Control in Space

## Symposium organisation

Noordwijkerhout, The Netherlands, 5—9 July 1982

The symposium was jointly sponsored by the IFAC Space Committee and ESA's European Space Research and Technology Centre (ESTEC). It was the ninth symposium of this kind sponsored by IFAC. Local organiser was the Royal Institute of Engineers (KIVI), Division for Automatic Control.

Close to 200 persons attended the symposium, representing 13 different countries.

### Technical programme

Purpose of the symposium was to bring together specialists in the field of control of space vehicles (altitude control, orbit and trajectory control and mission control from the ground).

A total of some 62 papers were presented, divided over 8 subjects areas, i.e.:

- systems under development
- theory
- estimation and control
- sensors
- flexible space structures
- actuators and robotics
- flight experience
- ground operations, on-board processing, failure detection.

Furthermore one evening a round table discussion was organised on "Non-rigid Spacecraft and Future Trends in AOCSS".

The papers presented provided a fair coverage of current issues in spacecraft control. Many authors had responded to the Programme Committee's desire to present practical papers, describing either applications of control theory of actual designs, systems and flight experience, rather than giving theory for theory's sake.

Especially the papers on sensors and actuators and those describing systems having actually flown were highly appreciated. Also some of the papers on control of large, flexible structures giving practical design approaches were of excellent quality.

It should however be mentioned that some participants were disappointed, because their high expectations with reference to the Soviet papers were not always met. Considering that these contributions came from one of the most active nations in space technology, the lack of relation with practical systems in some of the Soviet papers was considered frustrating. Fortunately this was offset to some extent by two Soviet papers on flight experience with an ion attitude sensor which were most interesting.

The congress facilities were rated by the audience as good to excellent. The social programme and technical excursions were highly appreciated. A small technical exhibition of Dutch space firms was held in the Centre and attracted a good portion of the attendants.

As the symposium was held in single sessions the technical interaction among participants was high. Attendance of sessions remained high throughout the symposium.

There was criticism on the lack of discipline of several authors and session chairmen to keep the presentation within the allotted time. It is felt that stricter instructions must be given by session chairmen and that the "sinners" should be "punished" more severely. One could also consider a programme less crowded with papers, thus breaking with the tendency to accommodate as many papers as one could possibly squeeze into one week. Thereby a more relaxed schedule would be possible, also allowing more time for discussion. In addition the quality of the symposium could be enhanced by applying a stricter selection procedure.

P. Kant

The symposium proceedings will be published by

Pergamon Press Ltd.  
Headington Hill Hall  
Oxford OX3 0BW  
England

Price: US \$ 145 / £ 72.50.

## IFAC Signs New Agreement with Austrian Government

Five years ago the IFAC Secretariat on invitation of the Austrian Government moved to Austria and established its new and permanent home in Laxenburg. This small town, some 12 miles south of Vienna, has become a place where IFAC really feels at home, with IIASA and other international scientific organizations as neighbours, with excellent facilities to work and to meet, with several UN organizations (like UNIDO, IAEA and others) situated 40 minutes car ride away just across the Danube, and last not least with the generous and friendly hospitality offered by the Austrian Government and by the Austrian Academy of Sciences.

To continue the already excellent relationship and in particular to intensify the cooperation between IFAC and Austrian scientific institutions, universities and industrial installations, a supplemental agreement with the Austrian Government was drafted. It was signed by Frau Dr. Hertha Firnberg, Federal Minister for Science and Research and by Academician Tibor Vamos, President of IFAC, on March 29. President Elect, Prof. M. Thoma, the Past Presidents Prof. Y. Sawaragi and Mr. U. Luoto as well as Prof. H. Akashi and Prof. M. Mansour attended the ceremony. They had all come to Vienna for the annual informal meeting of IFAC Presidents. Representatives of the Austrian Academy of Sciences, of the Technical University and of the Austrian NMO were also present.

According to this agreement, IFAC will provide easy access to its accumulated know-how concerning theory and practice of automatic control, cooperating with industries and research institutions in Austria and offering practical assistance in education, information and application. In return IFAC will receive financial support and practical

information about the problems of a small but highly industrialized and economically successful country, with a high percentage of small and middle-sized enterprises. It is hoped that this intensified cooperation will develop into a pattern applicable in other countries too.



## Symposium on "Real Time Digital Control Applications"

This symposium which took place from January 17—19, 1983 in Guadalajara, Mexico, was the first IFAC event ever organized in Latin America. About 200 participants from 16 different countries attended the meeting.

Its success must be attributed mainly to the untiring work of the Mexican members of the different organizing committees and to the effort and hospitality of the host NMO.

The aim of the symposium was to present, to discuss, and to summarize recent advances in the application of real time digital control systems in different industrial settings. The fact that four of IFAC's Technical Committees, namely the Committee on Application, on Computers, on Developing Countries and on Education supported this event which in addition was co-sponsored by the International Federation for Information Processing (IFIP), demonstrates the wide and multi-disciplinary interest in this subject.

The program contained four plenary lectures, 72 selected papers, and one round table session on metal and mineral processing.

The plenary papers were: "Evolution of Real-Time Control in Power Systems" by N. Cohn, "The Early Stages of Robotics" by R. P. Paul, "The Early Years of Digital Process Control" by L. Gould and "Real-Time Control of Water Systems" by R. Canales-Ruiz.

The majority of the technical papers dealt with industrial applications including problems in metal processing, fuel and heat control, chemical and biochemical processes, cement industry, glass industry, manufacturing processes (robotics) and power systems. Questions of monitoring and failure detection, adaptive control, education and modelling, identification, and software were also discussed. It should be noted that in

addition to the well organized symposium the Mexican hosts provided an excellent social and cultural program for the attendees.

At a reception given by the Lord Major of Guadalajara the honorary freedom of Guadalajara was bestowed upon the IFAC President-Elect, Manfred Thoma, as official IFAC representative. The picture shows the handover of the 'key of the city' and a honorary medal by the Lord Major.



## IFAC Workshop on Distributed Computer Control Systems

The 4th IFAC Workshop on Distributed Computer Control Systems (DCCS'82) was held in Tallinn, USSR, May 24—26, 1982. 75 experts from 13 countries attended the Workshop which was sponsored by the IFAC TC on Education. Vice-President of IFAC, Academician B. Tamm served as Workshop Chairman.

The IPC, chaired by R. Tavast (SU, Tallinn), selected 15 papers for presentation from the 31 submitted abstracts. Two of the originally selected 15 papers were substituted during the Workshop.

The President of IFAC, Academician T. Vamos, personally extended a welcome address to the attendees.

The papers presented and discussed in the Interclub of the Olympic Yachting Centre can roughly be divided into four topics.

### 1. Communication standards for DCCS.

T. J. Harrison (USA) brought up the latest achievements in the IEEE Project 802 and G. G. Wood (UK) introduced the current status of the PROWAY project.

### 2. Properties of particular DCCS communication systems.

Lan Jin (PRC) described a splitted-bus ring, M. G. Rodd (ZA) discussed the usage of twisted-pair ring in an extremely noisy

environment and A. Coscinski (PL) analysed the performance of an applied ring network. All three papers included interesting simulation results and practical knowhow.

### 3. Design and specification tools for DCCS.

E. A. Trakhtengerts (SU) handled problems of automatic parallelization and trade-offs between parallel and sequential execution. J. Davidson (CDN) suggested software tools for designing DCCS in close relation with the mathematical model of the physical process to be controlled. L. Motus (SU) proposed a mathematical model for specifying the DCCS software structure and proving its certain dynamic properties. S. Narita (J) discussed resource allocation and task scheduling in a parallel processing environment. S. V. Rotanov (SU) used state diagrams to formally describe and verify protocols.

### 4. Implementation tools for DCCS.

K. Takezawa (J) described a Japanese approach to designing, implementing and testing software — a software factory, T. Muto (J) suggested a standard sensor-base management system to facilitate DCCS software production. D. G. Dimmler (USA) and G. J. Suski (USA) presented interesting large dedicated DCCS, with a number of tricks that

should be useful when implementing any DCCS. M. Ollus (SF) presented a methodology based on a sound experience for distributing functions within a DCCS.

Session chairmen R. Tavast (SU), L. F. Natiello (USA), L. Roza (H), A. Work (SU), M. Maxwell (USA), M. G. Rodd (ZA), Lan Jin (PRC), G. G. Wood (UK) were excellent, providing a thorough discussion of papers.

The panel of five: T. J. Harrison (USA) — the Chairman, M. Maxwell (USA), G. G. Wood (UK), S. Narita (J), R. Tavast (SU), discussed the debottlenecking of DCCS design and implementation. Although the existence of software problems was admitted, the discussion was oriented towards equipment, system architecture, topology design and economics.

The participants and IPC members have commended on the level of organization and scientific quality of the Workshop.

The proceedings of the DCCS'82 will be published by Pergamon Press. The editors are R. W. Gellie and R. Tavast.

The 5th IFAC DCCS Workshop will be held May 18—20, 1983 in the Sabi-Sabi Game Reserve, Republic of South Africa. Workshop Chairman will be Professor M. G. Rodd.

L. Motus

## 6th IFAC Symposium on Identification and System Parameter Estimation

In the tradition of previous symposia, the 6th IFAC Symposium on Identification and System Parameter Estimation presented the "state of the art" in the field. It is evident that identification and estimation are now mature disciplines, so that while the Symposium presented many improvements in techniques

and a vast array of applications, there were no major new "breakthroughs". Nevertheless, it is also clear that the field continues to be dynamic and exciting, as demonstrated by the attendance of 360 persons from 36 countries.

The Symposium began with the papers presented at two Workshops on the State of the Art in "Systems Identification" and "Parameter and State Estimation", respectively. The workshops and other papers point to the increasing interrelationship between identification/estimation and other aspects of system theory, such as control theory, signal processing, experimental design, numerical mathematics, pattern recognition and information theory.

Three sessions were devoted to identification of nonlinear systems, attesting to the growing importance of nonlinearities in models of dynamic systems. The use of microcomputers in system-identification became evident at this conference. We believe that this trend will grow rapidly in the near future as microprocessors are dedicated to real-time identification and control of many industrial processes.

Of particular interest was a group of papers from the People's Republic of China which indicated the growing importance of identification in that country.

As in previous symposia, the application sessions revealed the broad spectrum of problems in engineering and science where identification and estimation are being used. Biological systems, traffic control geophysics, aeronautics, robotics, economics and power systems are examples of the application areas covered.

The Symposium and its Proceedings are dedicated to the memory of Professor Naum S. Rajbman of the USSR, the organizer of the 1976 Symposium, and an active participant in the other previous symposia. His presence was missed by his many friends and colleagues.

George A. Bekey, George N. Saridis

It is our sad duty to announce the death of

Prof. Dr. h. c. Eduard Gerecke

who died in Zürich on April 28, 1983, one month before his 85th birthday. He was one of the founders of IFAC, member of IFAC's Executive Council from the start and IFAC President 1960—63. We have lost one of IFAC's most dedicated officers, an outstanding scientist and engineer and a good friend. He will live on in our memories.

## WHO IS WHO IN IFAC



Prof. Dr. Henryk J. Leśkiewicz  
Chairman

IFAC-TC on Components and Instruments

Professor Leśkiewicz — born July 3, 1919, married, one daughter — began his studies at the Warsaw Technical University, Poland, in 1937. He received the M.Sc. degree in Mechanical Engineering from the Gdańsk Technical University, Poland, in 1949, and took his D.Sc. degree there in 1956. In 1958—59 he stayed at MIT, USA, for postgraduate studies and as a research associate. In 1967 he was appointed associate, and in 1974 full professor at the Warsaw Technical University where he organised the Institute of Industrial Automatic Control, and was in charge of it till his retirement from the University in 1981. He is still a technical and scientific consultant to the Mera Pniefal Works in Warsaw producing automatic control components and systems. Stemming from Mechanical Engineering Professor Leśkiewicz published papers and obtained patents in pneumatic and hydraulic components and instruments in automatic control. He promoted 34 D.Sc. theses. His industry-oriented approach led him to some problems of redundancy and reliability in distributed control systems. He was visiting professor at MIT (1974) and at Kyoto University, Japan (1981).

Professor Leśkiewicz is an ASME member since 1959. He has been member of the IFAC Components and Instruments Committee since 1961. In 1978 he was elected chairman of the Committee, and in 1981 reelected for the second term of office.

In 1982 he was elected chairman of the Automatic Control Subcommittee in the Polski Komitet Pomiarów i Automatyki NOT, the Polish NMO of IFAC.

Impressum:

Medieninhaber und Herausgeber:  
International Federation of Automatic Control (IFAC), Genf

Verlagsort:  
A-2361 Laxenburg

Redaktion:  
Dipl.-Ing. Fred Margulies  
Schloßplatz 12, A-2361 Laxenburg

Hersteller:  
Artur Scheffczyk & Sohn  
Kollergasse 7, A-1030 Wien

automatica

The Journal of IFAC the International  
Federation of Automatic Control

Special Issue — September 1984

### Call for papers on adaptive control

Automatica will be publishing a special issue on adaptive control in September 1984, and papers are now being solicited. It is hoped that the issue will contain two classes of papers

- survey, tutorial or expository papers providing a comprehensive description of the state of the art of some aspect of adaptive control, e.g. nonminimum phase plants, multivariable and other parametrisation issues, robustness and reduced order controllers, commercial general purpose controllers, general practical issues. Such papers will be readily comprehensible to graduate students in control and practising control engineers who do not have specific background in adaptive control
- conventional papers describing some novel theoretical or practical advance in adaptive control.

Intending authors of the first type of paper are encouraged to contact the first-mentioned guest editor below prior to writing their paper, in order to minimize overlap problems and to obtain further instructions pertaining to length, content and submission dates. Authors of the second type of paper should submit their work to the second editor below before September 30, 1983, noting in the letter of transmittal that the work is intended for the special issue. If there is an excess of quality papers in the second category, they will be published in other issues of Automatica.

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Professor Brian D. O. Anderson  
Department of Systems Engineering  
Research School of Physical Sciences  
Australian National University  
P.O. Box 4  
CANBERRA, ACT 2600, AUSTRALIA

# FORTHCOMING EVENTS

Title	1983	Place	Deadlines	Further Information
IFAC/IFIP Conference Training for Tomorrow: Educational Aspects of Computerized Automation	June 7 — 10	Leiden, NL	—	Mr. L. Immink c/o Twente University of Technology Dept. C.T., P. O. Box 217 NL-7500 AE Enschede, The Netherlands
4th IFAC/IFORS Conference The Modelling and Control of National Economies	June 17 — 19	Washington D.C., USA	—	Dr. M. Canzoneri 4th IFAC/IFORS Conf. Board of Governors, Federal Reserve Washington DC 20551, USA
IFAC Workshop Applications of Nonlinear Programming to Optimization and Control	June 20 — 22	San Francisco, USA	—	Prof. H. E. Rauch Lockheed 52-56/205 3251 Hanover Street Palo Alto CA 94304, USA
IFAC Workshop Adaptive Systems in Control and Signal Processing	June 20 — 22	San Francisco, USA	—	Mr. D. M. Auslander University of California Mechanical Eng. Dept. Berkeley, CA 94720, USA
3rd IFAC/IFORS Symposium Large Scale Systems: Theory and Applications	July 11 — 15	Warsaw, Poland	—	Dr. Z. Nahorski 3rd IFAC/IFORS LSSTA Systems Research Institute Polish Academy of Sciences ul. Newelska 6, 01-447 Warsaw, Poland
World Conference on Systems	July 11 — 15	Caracas, YV	—	Organizing Committee 1983 World Conference on Systems Fundasistemas Apartado Postal 47570 Caracas — 1041a, Venezuela
IFAC/IFIP/IFORS Symposium Fuzzy Information, Knowledge Representation and Decision Processes	July 19 — 21	Marseille, France	—	Prof. M. Roux Laboratoire de Biomathématique Faculté de Médecine 27, Blvd. Jeon-Moulin F-13385 Marseille, Cedex 5, France
4th IFAC Symposium Mining, Mineral and Metal Processing	August 22 — 25	Helsinki, SF	—	IFAC 4th MMM Symposium 1983 Secretariat P. O. Box 192 SF-101 Helsinki 10, Finland
IFAC Workshop Simulation and Validation Techniques to establish Control System Performance	August 22 — 26	Stanford, Univ., USA	—	Prof. D. B. DeBra Dept. Aero & Astro Stanford University Stanford CA 94305, USA
3rd IFAC Symposium Control in Power Electronics and Electrical Drives	Sept. 12 — 14	Lausanne, CH	—	Prof. H. Bühler Ecole Polytechnique Fédérale de Lausanne Laboratoire d'électronique industrielle 16, ch. de Bellerive CH-1007 Lausanne, Switzerland
IFAC Workshop Supplemental Ways of Improving International Stability (SWIIS)	Sept. 13 — 15	Laxenburg, A	—	ÖPWZ, „SWIIS 1983“ P. O. Box 131 Hohenstaufengasse 3 A-1014 Vienna, Austria
3rd IFAC Workshop Safety of Computer Control Systems SAFECOMP 83	Sept. 20 — 22	Cambridge, UK	—	Miss R. da Gama Computing and Control Division, IEE Savoy Place London WC2R OBL, UK
IFAC Workshop Modelling and Control of Electric Power Plants	Sept. 22 — 23	Como, Italy	—	Prof. C. Maffezzoni Politecnico di Milano Senior Researcher at ENEL Via Val. Peroni, 77 I-20133 Milano, Italy

# FORTHCOMING EVENTS (ctd.)

Title	1983	Place	Deadlines	Further Information
CIGRE/IFAC Symposium Control Applications for Power System Security	Sept. 26—28	Florence, Italy	—	CIGRE/IFAC Symposium Central Office of CIGRE 112 bd Haussmann F-75008 Paris
IFAC Symposium Artificial Intelligence in Manufacturing	October 4—6	Leningrad, SU	—	Prof. V. M. Ponomaryov LRCC USSR AOS 1, Mendeleevskaya Line Leningrad, 199164, USSR
5th IFAC/IMEKO Conference Instrumentation and Automation in the Paper, Rubber, Plastics and Polymerisation Industries (PRP automation 5)	October 11—13	Antwerp, B	—	PRP Automation 5 Jan van Rijswijklaan 58 B-2000 Antwerp, Belgium
IFAC Symposium Components and Instruments for Low Cost Automation and Applications	Oct. 17—21	Varna, BG	—	Dr. L. Lazarov/Vice-President National Centre for Cybernetics and Computer Techniques State Committee for Science and Technical Progress 8, Slavianska Street, Sofia, Bulgaria
IFAC Workshop Design of Work in Automated Manufacturing Systems (with special reference to small and medium sized firms)	Nov. 2—4	Karlsruhe, FRG	—	Mr. H. Wiefels VDI/VDE GMR Postfach 1139 D-4000 Düsseldorf, FRG
IFAC Workshop Human Gait Analysis and Applications	Nov. 24—27	Montpellier, F	—	Prof. P. Rabischong Unité de Recherches Biomécaniques, INSERM 395, Avenue des Moulins F-34000 Montpellier, France
IFAC Workshop Systems Engineering in Control Engineering	Dec. 12—14	Noord- wijkerhout, NL	—	H. Feikema Foundation for Post-Degree Education in Control Engineering Lorentzweg 1 NL-2628 CJ Delft, Netherlands
Title	1984	Place	Deadlines	Further Information
9th World Congress	July 2—6	Budapest, H	draft papers July 1, 1983	Computer and Automation Institute Hungarian Academy of Sciences P. O. Box 63 H-1502 Budapest, Hungary
IFAC Workshop Reconfigurable Spacecraft Systems Autonomous and Non-Autonomous	Sept. 11—13	Cambridge MA, USA	not yet known	John W. Hursh Aircraft and Spacecraft Division The Charles Stark Draper Lab., Inc. 555 Technology Square Cambridge, MA 021389, USA
Title	1985	Place	Deadlines	Further Information
7th IFAC/IFORS Symposium Identification and System Parameter Estimation	July 3—7	York, UK	not yet known	Prof. H. A. Barker University College of Swansea Dept. of Electrical and Electronic Engineering Singleton Park Swansea SA2 8PP, UK
1st IFAC Symposium Automation for Mineral Resource Development	July 9—11	Brisbane, AUSTRALIA	not yet known	Prof. Alban J. Lynch Julius Kruttschnitt Mineral Research Centre University of Queensland Isles Road Indooroopilly, QLD 4068 Australia
3rd IFAC/IFIP Symposium Computer Aided Design in Control and Engineering Systems	July 31— Aug. 2	Copenhagen, DK	not yet known	Prof. P. M. Larsen Electric Power Engineering Building 325 DK 2800 Lyngby, Denmark
7th IFAC Symposium Digital Computer Application to Process Control	Sept. 17—20	Vienna, A	not yet known	Dr. P. Kopacek Ö P W Z Postfach 131 1014 Vienna, Austria