



1986

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IFAC Council and Related Meetings Zurich, August 27-31, 1986



The Swiss NMO (Schweizerische Gesellschaft für Automatik) invited IFAC to hold its annual meeting in Zurich, in conjunction with the 4th IFAC/IFORS Symposium Large Scale Systems: Theory and Applications (August 26-29 at the ETH-Zentrum).

In the centre of interest at the Council and Related Meetings will be IFAC's next World Congress in Munich, July 26-31, 1987. The agenda of the Council meeting includes important items such as the preparation of the election and nomination of IFAC officers for the period 1987-90 and the examination of new membership applications. The

IFAC Council will also nominate the next winner of the Giorgio Quazza Medal. This IFAC award to distinguished control engineers is awarded by the IFAC Council on the recommendation of a selection committee and is presented at each IFAC Triennial World Congress.

The meeting of the International Program Committee for the Munich Congress will be one of the most important events of this IFAC week in Zurich. The IPC-chairman will report on the situation of the paper selection process. This meeting is the most crucial step in the preparation of the final scientific program of our Congress.

11th Triennial Conference on Operations Research — IFORS '87

Buenos Aires, Argentina, August 10-14, 1987

The plenary and mainstream sessions will be organized to cover the wide scope of applications and methodological developments in Operational Research. The theme stresses the close involvement of operational researchers in the decision supporting and decision making actions of successful institutions. Among several issues the conference will focus on the reasons for successful and unsuccessful applications of Operations Research, identifying and analyzing the relevant factors involved. The topics and session chairs have been selected by the program committee and will include topics in manufacturing, health, energy planning, water resources management, optimization, stochastic processes, simulation, expert systems, OR in developing countries, among others.

As a new feature, this conference will include a number of tutorial sessions aimed at students and practitioners seeking an update or an introduction to a particular topic. These will be presented by prominent operational researchers and will cover a wide range of technique-oriented and applied OR topics.

Important Dates:
September 1, 1986
Deadline for abstracts of National and invited papers

October 13, 1986
Deadline for abstracts of contributed papers

For further information please write to:
Organizing Committee, Moreno 584, 9°,
1091 Buenos Aires, Argentina

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FORTHCOMING EVENTS

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Title	1986	Place	Deadlines	Further Information
IFAC Workshop Use of Technology incl. Systems Cooperation for International Conflict Resolution	June 3—5	Cleveland OH, USA	—	Dr. Harold Chestnut SWIIS Foundation Inc. 1226 Waverly Place Schenectady, N.Y. 12308, USA
IMACS/IFAC Symposium Modelling and Simulation for Control of Lumped and Distributed Parameter Systems	June 3—6	Lille, F	—	Prof. P. Borne IDN, B. P. 48 F-59651 V. N. D'ASCQ France
IFAC Workshop Digital Image Processing in Industrial Applications — Vision Control	June 10—12	Espoo, SF	—	Mr. Martin Ollus Technical Research Centre of Finland Otakaari 5 I SF-02150 Espoo, Finland
IMEKO/IFAC Symposium Intelligent Measurement	June 10—14	Jena, GDR	—	Prof. D. Hofmann Friedrich-Schiller University Section Technology GDR-6900 Jena
5th IFAC/IFORS/IFIP/IIASA/UNIDO Conference Modelling and Control of National Economies	June 17—20	Budapest, H	—	Dr. Margit Ziermann Institute of Economic Planning Roosevelt tér 7—8 H-1051 Budapest V, Hungary
7th INRIA/IFAC Conference Analysis and Optimization of Systems	June 25—27	Antibes, F	—	A. Bensoussan President of INRIA INRIA — B. P. 105 78153 Le Chesnay Cedex, France
4th IFAC Symposium Control of Distributed Parameter Systems	June 30 July 2	Los Angeles, CA, USA	—	Mr. G. Rodriguez Jet Propulsion Laboratory 3800 Oak Grove Drive Pasadena, CA 91109, USA
IFAC Workshop Adaptive Systems in Control and Signal Processing	July 1—3	Lund, S	—	Prof. K. J. Åström Dept. of Automatic Control Lund Institute of Technology Sweden
6th IFAC Workshop Control Applications of Nonlinear Programming and Optimization	July 6—10	London, UK	—	Prof. R. W. H. Sargent Imperial College of Science and Technology Prince Consort Road London SW7 2BY
5th IFAC/IFIP/IFORS International Conference Control in Transportation Systems	July 8—11	Vienna, A	—	ÖPWZ, Mr. W. Stejskal POB 131 A-1014 Vienna, Austria
IFAC Symposium Microcomputer Application in Process Control	July 22—25	Istanbul, TR	—	Prof. E. Adali P. K. 175 Levent-Istanbul, Turkey
IFAC Workshop Modelling, Decisions and Games with Applications to Social Phenomena	August 11—15	Beijing, PRC	—	Prof. Zhang Si-Ying Dept. of Automatic Control Northeast Inst. of Technology Shenyang, Liaoning Province, PRC
IFAC Symposium Power Systems and Power Plant Control	August 12—15	Beijing, PRC	—	Mr. Ma Guobin Chinese Society of Electrical Engg. No. 1, Lane 2, Baiguan Road POB 2905, Beijing, China
IFAC Symposium Automation in Aquaculture	August 18—21	Trondheim, N	—	Prof. J. G. Balchen Norwegian Inst. of Technology N-7034 Trondheim NTH, Norway
5th IFAC Symposium Automation in Mining, Mineral and Metal Processing	August 24—29	Tokyo, J	—	Prof. Y. Yoshitani Technological University of Nagaoka Dept. of Control Engineering Kamitomioka Nagaoka 949-54, Japan

FORTHCOMING EVENTS (ctd.)

Title	1986	Place	Deadlines	Further Information
4th IFAC/IFORS Symposium Large Scale Systems: Theory and Applications	August 26—29	Zurich, CH	—	Prof. M. Mansour IFAC/IFORS Symposium ETH Zentrum CH-8092 Zurich, Switzerland
IFAC/IFIP/IFORS Symposium Economics and Artificial Intelligence	September 2—4	Aix-en- Provence	—	Ms. E. Fayola & Ms. C. Frachon AFCET 156 Bd. Péreire F-75017 Paris, France
IFAC Workshop Skill Based Automated Manufacturing	September 3—5	Karlsruhe, FRG	—	Dr. P. Brödner Kernforschungszentrum Karlsruhe GmbH Projektträger Fertigungstechnik P. O. Box 3640 D-7500 Karlsruhe 1, FRG
3rd IMEKO/IFAC Symposium Measurement in Clinical Medicine	September 9—11	Edinburgh, UK	—	Prof. E. R. Carson Centre for Measurement & Information in Medicine The City University Northampton Square, London EC1V OHB, UK
2nd IFAC Workshop Modelling and Control of Electric Power Plants	September 16—18	Philadelphia PA, USA	—	Dr. H. G. Kwatny, Prof. of Systems Engineering Drexel University Dept. of Mechan. Engg. & Mechanics Philadelphia, PA 19104, USA
IFAC/IMACS Symposium Simulation of Control Systems	September 22—26	Vienna, A	—	Dr. P. Kopacek Technical University Karlsplatz 13 A-1040 Vienna, Austria
IFAC Workshop Fault Detection and Safety in Chemical Plants	September 28— October 1	Kyoto, J	—	Prof. T. Takamatsu Dept. of Chemical Engineering Kyoto University Kyoto 606, Japan
IFAC Workshop Distributed Computer Control Systems — DCCS 86	October 13—15	Mayschoss- Bad Neuenahr, FRG	*	Mr. H. Wiefels VDI/VDE GMR Postfach 1139 D-4000 Düsseldorf, FRG
IFAC/EWICS Workshop Safety of Computer Control Systems — SAFECOMP '86	October 14—17	Sarlat, F	*	Mr. J. M. A. Rata Chargé de Mission EDF Service IMA 1, Ave. du Général de Gaulle F-92141 Clamart, France
IFAC Workshop Mass Spectrometry in Biotechnological Process Analysis and Control	October 23—24	Graz, A	—	Prof. E. Heinze Institute for Environmental Research Elisabethstrasse 11 A-8010 Graz, Austria
6th IFAC/IFIP/IMEKO Conference Instrumentation and Automation in the Paper, Rubber, Plastics and Polymerization Industries	October 27—29	Akron OH, USA	—	Prof. A. Kaya The University of Akron Dept. of Mech. Engg. Akron, OH 44325, USA
IFAC Symposium Automatic Measurement and Control in Woodworking Industry — Lignoautomatica '86	November 17—21	Bratislava, CS	—	Dr. Branislav Hruz The State Forest Products Res. Institute Lamacská 1 CS-84411 Bratislava, CSSR
IFAC Symposium Components, Instruments and Techniques for Low Cost Automation and Applications	November 27—29	Valencia, E	—	Prof. Pedro Albertos Polytechnical University of Valencia P.O. Box 22012 Valencia, Spain
IFAC/IFIP/IMACS Symposium Theory of Robots	December 3—5	Vienna A	—	Dr. P. Kopacek Technical University of Vienna Karlsplatz 13 A-1040 Vienna, Austria
IFAC Symposium Control of Distillation Columns and Chemical Reactors	December 8—10	Bournemouth UK	*	Ms. Rosamund da Gama UK Automatic Control Council c/o The Institute of Measurement and Control 87 Gower Street, London WC1E 6AA, UK
IFAC Symposium Automation and Instrumentation for Power Plants	December 15—17	Bangalore IND	—	Dr. M. Ramamoorthy Central Power Research Institute P.O.B. 1242 Bangalore 560 012, India

* deadline not yet known

Modelling and Control of Biotechnological Processes

IFAC Symposium

Noordwijkerhout, The Netherlands,
December 11-13, 1985

Following in the footsteps of the very successful IFAC workshop held in Helsinki in 1982 this symposium attracted about twice as many participants as its predecessor, 200 in all, from 24 different countries. It was sponsored by the IFAC Committees on Applications (APCOM) and Theory (THEORY) and co-sponsored by the European Federation of Biotechnology (EFB) and the Royal Netherlands Academy of Sciences (KNAW). The organization of the symposium was entrusted by IFAC to the Automatic Control Division of the Royal Institution of Engineers in the Netherlands in co-operation with the Netherlands Biotechnological Society (NBV) and the Royal Netherlands Chemical Society (KNCV).

The symposium was opened by the Chairman of the National Organizing Committee, Prof. Eykhoff (IFAC), Prof. Kijlstra (KIVI) and Mr. Vellenga (NBV) welcomed the participants during the opening session.

The scientific program of the symposium consisted of 35 papers, three invited survey papers, 30 posters and a variety of technical excursions. The survey papers were:

1. "The control of fermentation processes" by A. Johnson (NL) which described the two different approaches employed at present to control fed-batch fermentation processes.
2. "Modelling of biotechnological processes" by K. Schugerl (FRG) which classified and explained the various types of models used by microbiologists.
3. "The industrial application of modern measurement and estimation techniques in biotechnology" by A. Halme (SF) which gave the audience some insights into the author's considerable practical experience in this field.

The paper sessions into which the program was divided reflected the major areas of research including adaptive control theory and applications, measurement techniques and sensors, the control and modelling of bioreactors, Kalman filtering techniques, identification and parameter estimation, optimization of production processes, optimization theory and lastly a session on the modelling of microkinetics. The poster sessions were very successful and provoked much lively discussion.

The consensus of opinion seemed to be that the symposium had well justified its existence and that there is considerable interest and activity in both the academic and industrial worlds of biotechnological control. If this is sustained, and there is no reason to doubt that it will be, a second IFAC symposium would be worthwhile scientifically and well attended.

The proceedings of the symposium will be published by Pergamon Press in the summer of 1986.

A. Johnson
Chairman NOC

automatica

The Journal of **IFAC** the International
Federation of Automatic Control

Papers from the Next Issue — July 1986

Papers

A Riccati Equation Approach to the Stabilization of Uncertain Linear Systems
(I. R. Petersen, C. V. Hollot)

Robustness of Luenberger Observers: Linear Systems Stabilized via Nonlinear Control
(R. Barmish, A. R. Galimidi)

Observations Weighted Controllers for Linear Stochastic Systems
(M. J. Grimble)

Feedback Gain Optimization in Decentralized Eigenvalue Assignment
(D. R. Sebok, S. Richter, R. Decarlo)

Almost Disturbance Decoupling by a Proportional-Derivative State Feedback Law
(V. A. Armentano)

Identification of Nonminimum Phase Linear Stochastic Systems
(J. K. Tugnait)

A New Forward-Pass Fixed-Interval Smoother Using the U-D Information Matrix Factorization
(K. Watanabe)

Brief Papers

Optimal Estimation for the Satellite Attitude Using Star Tracker Measurements
(J. Ting-Ho Lo)

Analysis of Robust Stochastic Approximation Algorithms for Process Identification
(S. S. Stankovic, B. D. Kovacevic)

Higher-Order Dynamic Equivalents for Power Systems
(S. Ahmed-Zaid, P. W. Sauer, J. R. Winkelman)

Examination of the SPR Condition in Output Error Parameter Estimation
(B. Riedle, L. Praly, P. Kokotovic)

Technical Communiques

Book Reviews

Estimation and Control of Systems by T. F. Elbert
(H. Nijmeir)

Safety Systems Reliability by A. E. Green
(S. Humble)

Control System Synthesis: A Factorization Approach by M. Vidyasagar
(F. M. Callier)

Applied Digital Control by J. R. Leigh
(D. W. Luse)

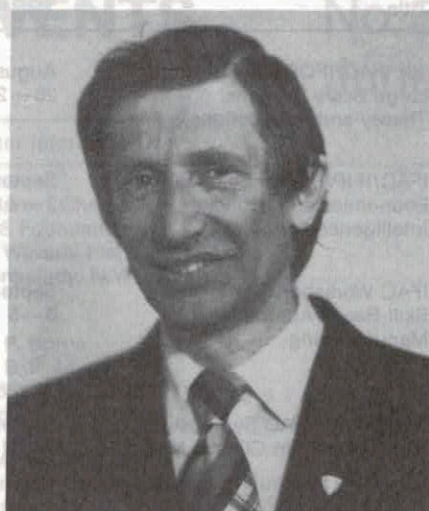
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WHO IS WHO IN IFAC



Prof. Dr. Vadim I. Utkin
Vice-Chairman of the Technical Board

Prof. Vadim I. Utkin was born in Moscow, USSR, on October 30, 1937. He graduated from the Moscow Power Institute in 1960 and received the Candidate and Doctor of Technical Sciences Degrees from the Institute of Control Sciences, Moscow in 1964 and 1972, respectively. He has been working at the Institute of Control Sciences since 1960 and now is head of the Laboratory of Discontinuous Control Systems.

He started lecturing for students in 1966 (since 1974 as a full professor) at the Moscow Steel and Alloys Institute; presently he holds a teaching position as professor at the Polytechnical Institute, Moscow.

His research interests are nonlinear control systems asymptotic methods, control of multidimensional plants under uncertainty, mathematical methods of studying discontinuous dynamic systems. As one of the originators of the variable structure systems concept, Prof. V. Utkin was awarded the Lenin Prize in 1972, the highest Soviet scientific award. Together with his colleagues he participated in the application of sliding mode control to automation of technological processes (electrical drives for transport vehicles and metal-cutting machine tools, in chemical industry, metallurgy and fishery).

Prof. V. Utkin is the author of three books (one of them translated into English by the Soviet Publisher "Mir" in 1978), and over 110 papers. He is a member of the Scientific Council at the Institute of Control Sciences and the editorial board of the Soviet journal "Automation and Remote Control".

In 1975-76 he was visiting professor at the University of Illinois, Urbana, USA. In 1978 he received an honorary doctorate of the University of Sarajevo, Yugoslavia.

For many years he has participated in IFAC activities; as Associate Editor of "Automatica" since 1973, as member of the Theory Committee and W. G. on Asymptotic Analysis and Singular Perturbation, and Vice-Chairman of the Theory Committee. He participated in IPC's of several IFAC conferences. Presently Prof. V. Utkin is Vice-Chairman of the IFAC Technical Board and Vice-Chairman of the IPC of the Xth IFAC Congress.