IFAC International Federation of Automatic Control
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# Newsletter

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## Council- and Related Meetings

### Buenos Aires, Argentina

### 4 - 8 September, 1989

Congress Centre Buenos Aires

The Argentine Association of Automatic Control (AADECA), the Argentine NMO of IFAC has invited IFAC to hold its annual Council- and Related Meetings in Buenos Aires, in conjunction with the 6th IFAC Symposium on Mining, Mineral and Metal Processing (Sept. 4-8, Buenos Aires, Sheraton Hotel).

One of the most important parts of this year's consultations will be the meeting of the International Program Committee for the next World Congress in Tallinn, August 1990. The structure of the technical sessions and the program of the plenary sessions will be the major topics of discussion. The final selection of the contributed papers and the entire structure of the technical program will then be the task of a further IPC meeting to be held in Vienna Nov. 13 - 14, in conjunction with the Skill Based Automated Production Symposium.

At this year's Council Meeting very important decisions are going to be made, i.e. the Congress venue for the 1999 Congress is going to be decided, proposals for the elections for the 1990-93 triennium will be made and the Quazza Medal Selection Committee will report.

So far, already more than 30 officers have stated their intention of participating in the meetings, which are organized in the Southern Hemisphere, in the heart of South America, for the the first time in IFAC history. This is considered to be an important step towards strengthening the ties to the South American National Member Organizations of IFAC. There will also be the opportunity of meeting representatives of these NMOs and to discuss the specific aspects of IFAC in South American countries.

Following the official meetings in Buenos Aires, the IFAC Council was also invited to Rio de Janeiro by the Sociedade Brasileira Automatica (SBA).

We are all looking forward to these meetings in South America and will report the results achieved and experience made to our readers in one of our next issues.

## New President of IFORS

William P. Pierskalla

William P. Pierskalla, Ph.D. is the Director of the Huntsman Center for Global Competition and Leadership at the Wharton School, as well as the Ronald A. Rosenfeld Professor, Chairman and Professor of the Health Care Systems Department, Director of the Graduate Program in Health Care Administration, Professor of Decision Sciences and Professor of Systems Engineering at the University of Pennsylvania. He holds a B.A. in economics and M.B.A. degrees from Harvard University, an M.A. from the University of Pittsburgh and M.S. in statistics, and Ph.D. in Operations Research from Stanford University. His current research interests include operations research, operations management and the management aspects of health care delivery. Dr. Pierskalla is President of the International Federation of Operational Research Societies, 1989-91, is a Past President of the Operations Research Society of America and is past Editor of the Journal of Operations Research. He has given numerous lectures and seminars at universities and organizations in the United States, Europe and Japan and has published over fifty refereed articles in mathematical programming, transportation, inventory, maintenability and health care delivery.

# NEWLY APPROVED EVENTS

| Title | Date | Place | Deadlines | Further Information |
|---|---|---|---|---|
| IMEKO/IFAC Conference Measurement in Clinical Medicine | Aug. 29-31 1990 | Sopron Hungary | 15 Jan. 1990 | 6th IMEKO Conf. on Biomedical Engg Méréstechnikai és Automatizálási Tudományos Egyesület POB 457, H-1372 Budapest, H |
| IFAC/IEEE/IFIP/IMEKO Symp. Intelligent Tuning and Adaptive Control | Jan. 15-17 1991 | Singapore | * | Dr. Kang Chang Guan Instr.&Control Society 1 Science Park Drive, Nr.61A The Fleming, Singapore Science Park, Singapore 0511 |
| IFAC/(IFIP) Workshop Computer Software Structures Integrating AI/K BS Systems | May 29-30 1991 | Bergen Norway | * | N.P.Sundby, Norwegian Soc. of Automatic Control, Kronprinsensgate 17, N-0251 Oslo, N |
| IFAC Workshop Electric Power Systems Control Centers | June 17-20 1991 | Vienna or Semmering Austria | * | K.Schenk, Senior Director, Siemens Österreich AG Gudrunstr. 11, A-1101 Vienna, A |
| IFAC/IFORS Symposium Identification and System Parameter Estimation | July 8-13 1991 | Budapest Hungary | * | G. Hencsey, Computer and Automation Institute, HAS Kende u. 13-17, H-1111 Budapest, H |
| EFMI/IIASA/IFAC Intl. Conference Medical Information Systems and Expert Systems | Aug. 19-22 1991 | Vienna Austria | * | K.P. Adlassnig, MIE '91 Secr. General, c/o Inst. f. Medizin. Computerwissenschaften Garnisong.13, 8.Hof A-1090 Wien, A |
| IFAC Symposium Fault Detection, Supervision and Safety for Technical Processes - SAFEPROCESS '91 | Sept. 10-13 1991 | Baden-Baden FRG | * | R.Isermann, Inst.f.Regelungstechnik, TU Darmstadt, FB 19 Schlossgraben 1 D-6100 Darmstadt, FRG |
| IFAC/(IFIP/IMACS) Symposium Robot Control - SYROCO 91 | Sept. 16-18 1991 | Vienna Austria | * | I. Troch, TU Wien Wiedner Hauptstr. 6-10 A-1040 Wien, A |
| IFAC Symposium Adaptive Control and Signal Processing | April 1992 | Grenoble France | * | L. Dugard, Lab. d'Automatique de Grenoble-ENSIEG, BP 46 F-38402 St.Martin d'Heres, F |
| IFAC/(IFORS) Workshop Support Systems for Decision and Negotiation Processes | June 1992 | Warsaw Poland | * | R. Kulikowski, Systems Res.Inst Newelska 6, PL-01-447 Warsaw Poland |

# New Publications

During the last months IFAC and its publisher, Pergamon Press have been very active preparing and publishing Proceedings in the IFAC Symposium- and Workshop Proceedings series. That all volumes could be published within a fairly short time, thus giving the reader the really most up-to-date information, is due to the dedication of all editors for the respective meeting and the great amount of work put into this task by J. Gertler, the Symposia Proceedings Editor and P. Eykhoff, the Workshop Proceedings Editor. We would like to thank all persons involved.

**Proceedings of the IFAC Symposium Computer Aided Design in Control Systems - CAD '88**

**Beijing, China, P.R. 23 - 25 August, 1988**

Editor: Chen Zhen Yu, Qin Hua Shu
Application Committee of Chinese Association of Automation

This volume contains 73 papers presenting the state of the art in computer-aided design in control systems (CADCS). The latest information and exchange of ideas presented at the Symposium illustrates the development of computer-aided design science and technology within control systems. The Proceedings contain six plenary papers and six special invited papers, and the remainder are divided into five themes: CADCS packages; CADCS software and hardware; systems and design methods; CADCS expert systems; CADCS applications, with finally a discussion on CADCS in education and research.

**Proceedings of the IFAC/IFORS Symposium Identification and System Parameter Estimation**

**Beijing, China, P.R. 27 - 31 August, 1988**

Editor: Chen Han Fu
Institute of Systems Science

These Proceedings present the state of the art not only in identification and estimation but also in adaptive control. In addition to the traditional topics, attention has been brought to relatively new problems, for example robustness analysis of adaptive control. The first volume contains many of the theoretical aspects and the second volume the applications of identification and system parameter estimation. The extent of these Proceedings shows that system identification and adaptive control remain one of the most active areas in automatic control.

**Proceedings of the IFAC Symposium Adaptive Control of Chemical Processes**

**Lyngby, Denmark 17 - 19 August, 1988**

Editor: M. Kümmel
Technical University of Denmark

These Proceedings present adaptive control, a method for controlling and regulating industrial plants, processes and systems, within the chemical industry. Contains 33 papers, direct adaptive control and the self-tuning regulating method are discussed and reviewed and practical applications of this system are illustrated, for example within biochemical engineering, thermal processes and distillation columns.

**Proceedings of the IFAC Symposium Trends in Control and Measurement Education**

**Swansea, UK 11 - 13 July, 1988**

Editors: D.A. Linkens
Department of Control Engineering, University of Sheffield
D.P. Atherton
School of Engineering and Applied Sciences, University of Sussex

This volume is the published Proceedings of selected papers from the above Symposium, where a forum was provided for discussion of the latest advances and techniques in the education of control and instrument engineers. Seven major topics were covered to aid lecturers in understanding, developing and presenting systems engineering - control and measurement - as a subject to undergraduate and postgraduate students. The teaching of real-time computer control as a topic and laboratory experiments for both continuous and discrete systems were discussed, as was process control, with the emphasis on providing the student with engineering experience by using scaled-down equipment which would teach practical skills. Included in the Proceedings are papers on measurement and instrumentation, an area felt to be neglected within academic instruction. The development of software tools for systems design within systems engineering was included, as was the exchange of teaching packages and methods between academics, and the education curriculum of systems engineering within developing countries. These Proceedings will prove to be a useful up-to-date guide and reference source for all lecturers and professors involved in curriculum development and the teaching of control and measurement in systems engineering.

**Proceedings of the IFAC Workshop Model Based Process Control**

**Atlanta, GA, USA 13 - 14 June, 1988**

Editors: T.J. McAvoy
University of Maryland, USA
Y. Arkun
(Georgia Institute of Technology)

Presented at this workshop were mathematical models upon which process control is based and the practical applications of this method of control within industry; case studies include examples from the paper and pulp industry, materials industry and the chemical industry, among others. Containing 19 papers, these Proceedings will be a valuable reference work for all those involved in the designing of continuous production processes for industry and for the end user involved in the practical application of process control within their manufacturing process.

**Proceedings of the IFAC/IMACS Symposium Distributed Intelligence Systems: Methods and Applications**

**Varna, Bulgaria 27 June - 1 July, 1988**

Editor: D. Mladenov
Bulgarian Academy of Sciences

This volume focuses on the recent advances in distributed intelligent control systems. Topics covered include: applications and case studies of distributed control systems, design methodologies for distributed intelligent systems and architectural considerations of computer design for this type of control system. Containing 54 papers, the Proceedings will be a useful source for all those involved in the designing and implementing of distributed control systems.

**Proceedings of the IFAC Symposium Robot Control 1988 SYROCO '88**

**Karlsruhe, FRG 5 - 7 October, 1988**

Editor: U. Rembold
Institut f. Prozessrechentechnik und Robotik, Universität Karlsruhe, FRG

Containing 88 papers, the emphasis of this volume is on the control of advanced robots. These robots may be self-contained or part of a system. The applications of such robots vary from manufacturing, assembly and material handling to space work and rescue operations. Topics presented at the Symposium include sensors and robot vision systems as well as the planning and control of robot action. Main topics covered include the design of control systems and their implementation; advanced sensors and multisensor systems; explicit robot programming; implicit (task oriented) robot programming; interaction between programming and control systems; simulation as a progamming aid; AI techniques for advanced robot systems and autonomous robots.

**Proceedings of the IFAC Workshop Artificial Intelligence in Real-Time Control**

**Clyne Castle, Swansea, UK 21 - 23 September, 1988**

Editors: M.G. Rodd
Institute for Industrial Information Technology, University of Wales, Swansea
G.J. Suski
(Lawrence Livermore National Laboratories, Livermore, CA

Containing 24 papers, these Proceedings are the result of the first IFAC Workshop on AI in real-time control. The ever-increasing interest of AI as applied to engineering processes and computer control systems was reflected in the breadth of the papers presented - from applications in power systems to telecommunication, through to the steel industry. These Proceedings will provide an up-to-date reference source for anyone wishing to be kept informed on developments in this field.

**For further details and pricing information on the above publications please contact:**

**Marketing Department**
**Pergamon Press plc**
**Headington Hill Hall**
**Oxford OX3 0BW**
**UK**

automatica

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## Papers from the Next Issue - Sept. '89

**Survey Papers**

Robustness of Adaptive Controllers: A Survey
(R. Ortega, Y. Tang)

**Papers**

Simultaneous Design of Measurement and Control Strategies for Stochastic Systems with Feedback
(R. Bansal, T. Basar)
A Model for Developmental Systems Part I: Generating Word Without Any Operating System
(S. Wegrzyn, J.C. Gille, P. Vidal)
A Model for Developmental Systems Part II: Generating Word With an Operating System
(J.C. Gille, S. Wegrzyn, P. Vidal)
FIR Filters and Recursive Forms for Discrete-Time State-Space Models
(O.K. Kwon, W.H. Kwon, K.S. Lee)
A Bound Approach to Asymptotic Optimality in Nonlinear Filtering of Diffusion Processes
(L. Saydy, G.L. Blankenship)

**Brief Papers**

Stochastic Control for Stabilization of Sludge Loading Characteristic in Aerobic Waste-Water Treatment System
(R. Tenno. R. Vilu, H. Oit)
Double Loop Iterative Strategies for Hierarchical Control of Industrial Processes
(M. Brdys, P.D. Roberts, M.M. Badi, I.C. Kokkinos, N. Abdullah)
On Generalized Predictive Control: Two Alternative Formulations
(P. Albertos, R. Ortega)
Optimal Policies for Passive Learning Controllers
(F. Casiello, K.A. Loparo)
On the Accuracy of Total Least Squares and Least Squares Techniques in the Presence of Errors on All Data
(S. Van Huffel, J. Vandewalle)
An Algorithm for the Computation of the Structured Complex Stability Radius
(D. Hinrichsen, B. Kelb, A. Linnemann)
Stability Testing of Time Delay Systems
(G. Gu, E.B. Lee)
Existence of Coordinating Prices in Dynamic Systems
(A.W. Berger, F.C. Schweppe)

**Book Reviews**

Robot Dynamics Algorithms by R. Featherstone
(H. Tolle)
Fuzzy Sets and Applications by R.R. Yager, S. Ovchinnikov, R.M. Tong, H.T. Nguyen. Selected papers by L.A. Zadeh
(H.J. Zimmermann)
Discrete-Time Control Systems by K. Ogata
(A. Halme)
Process Control Systems, 3rd Ed., Application, Design and Tuning, by F.G. Shinskey
(B. Wittenmark)
Mess- und Regelungstechnik, Mathematische Grundlagen, Entwurfsmethoden, Beispiele by H.P. Geering
(H.H. Wilfert)

## New President of IMEKO

Meng Zhaoqian was born in Hebei Province, China, P.R. on November 28, 1932. He graduated from the Beijing Mechanical Engineering Institute in 1954 and worked in the field of measuring instruments in the subsequent four years. In 1958 he started work in the China National Institute of Metrology in Beijing and there dealt with the field of geometrical quantities measurement and optic metrology both for research and calibration. Prof. Meng also headed the Optic and Geometric Quantities Laboratory for many years. Between 1979 and 1982 he was director of the China Metrology Press and China Information Service for Metrology. From 1983 to 1985 he was director of the China National Institute of Metrology. and from 1986 to 1988 Deputy Director of the China State Bureau of Metrology. His present position is the one of director of the Department of International Cooperation of the China State Bureau of Technical Supervision, in charge of the international cooperation affairs of the People's Republic of China in the field of standardization, metrology and quality management.

The Chinese Society for Measurement (the Chinese Member Organization of IMEKO) was established in 1962. Prof. Meng has been an active member of the Society since its very beginnings. In 1978 he was elected Secretary General and Standing Council Member of the Society. In 1984 he was elected its Vice President, Secretary General and Standing Council Member, which positions he is still holding.

Since 1985 Prof. Meng has been Council Member of the China Association for Science and Technology and he has been member of the China National Instruments Program Committee of the China State Commission of Science and Technology from 1980 on.

Prof. Meng is the delegate of the Chinese Member Organization to IMEKO and actively supports and participates in IMEKO activities. He was elected President of IMEKO for the period 1988 - 1991

Meng Zhaoqian

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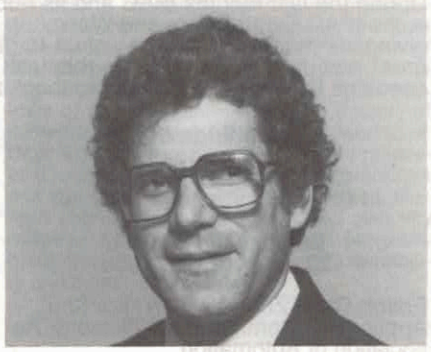
## WHO IS WHO IN IFAC



Prof. W.S. Levine
Chairman of TC on Biomedical Engineering and Technology

Prof. William S. Levine was born in Brooklyn, New York. From 1958-62 he studied at the Massachussetts Institute of Technology and completed this course with an S.B. in E.E. He continued his studies at the M.I.T. and took his S.M. in E.E. and the Ph.D. in E.E. in 1969.

In 1964 he joined Data Technology, Inc., Watertown, MA as project engineer with the responsibility for the design and development of high precision analog-digital shaft position encoders.
From 1964-1969 he was graduate assistant at the Department of Electrical Engineering, M.I.T. and from 1969-1973 assistant professor of the Department of Electrical Engineering, University of Maryland. Between 1973 and 1981 he held the position of associate professor of the above department and became professor thereof in 1981 - a position which he is still holding.

Prof. Levine has also held several visiting positions in the course of the years: July 1985 - June 1986 as a research scientist at the Institut National de Recherche en Informatique et en Automatique in Rocquencourt, France. Summer 1969 as a NASA, ASEE Summer Faculty Fellow in Aeronautics and Space Research at Goddard Space Flight Center and in the summer of 1967 at NASA Electronics Research Center as a research scientist.

In addition to his many activities in IEEE, Prof. Levine was also active in the AACC committee that prepared the proposal for the 1996 IFAC World Congress to be held in San Francisco. In IFAC, he has been Editor for Rapid Publications: Technical Communiques and Correspondence, Automatica since 1985. Prof. Levine was vice-chairman of the Technical Committee on Biomedical Engineering from 1984 - 1987 and at present holds the chairmanship of this committee until 1990.

His research interests are the following
1. Application of modern control theory to the study of the nervous system's control of movement and robotics
2. Control theory and applications with emphasis on computer aided control system design
3. Application of computers and computation to network control
4. Applications of modern control and estimation theory to biomedical and aerospace problems.

In addition to his greatly varied research activities, Prof. Levine has a profound teaching experience on the undergraduate as well as on the graduate level. In addition, he developed and taught 30 hour courses as well as tutorials.