



For immediate release

Systems Approaches to Developing Countries

Under the joint sponsorship of three Technical Committees of IFAC, viz. the Systems Engineering Committee, the Economic and Management Systems Committee, the Education Committee, and co-sponsored by the International Federation of Operational Research Societies (IFORS), a Conference on Systems Approaches to Developing Countries will be held under the auspices of the Commissariat National à l'Informatique, Algerian National Member Organization of IFAC, in the vicinity of Algiers (Club des Pins), Algeria, May 28 - 31, 1973. The scientific program will include more than 80 papers to be presented by authors from 25 countries. It consists of three sections which cover the following areas to be dealt with in parallel sessions:

- Management; development policies; agriculture and food.
- Utilities; urban planning and industry.
- Methodology; education; human resources; international co-operation and development.

An introduction into and a summarized conclusion of each section will be presented by invited section chairmen, and a survey report on "Application of the System Approach in Development" will be delivered by the Director for Science and Technology of the United Nations, Mr. G. B. Gresford. The last day of the Conference will be devoted to Round Table Discussions.

The Conference languages are English and French with simultaneous translation in both these languages and Arabic.

To round off the Conference, a social and a ladies program as well as pre- and post-conference tours of cultural interest are offered.

Registration fee (incl. proceedings handed to participant on arrival): US \$ 50 before April 1st, 1973; US \$ 60 after April 1st, 1973 (reduced fees for authors and chairmen of conference sessions, for students and accompanying persons). Remittance should be made to:

Crédit Suisse, 2 Place Bel Air, 1211 Genève 11 (Switzerland), Compte No. 339.985, with the mention: "IFAC-IFORS Conference, Algiers, May 1973". Copies of the Advance Program with registration and hotel accommodation forms may be obtained from the IFAC Secretariat.

Enquiries regarding the Conference should be directed to the Algerian Organizing Committee:

Commissariat à l'Informatique
4, Boulevard Mohamed V
Algiers, Algeria.

Identification and System Parameter Estimation

The third in a series of IFAC symposia on that subject will be held in The Hague, The Netherlands, June 12 - 15, 1973, sponsored by the IFAC Technical Committees on Theory and on Applications and organized by the Division for Automatic Control of the Royal Institution of Engineers in the Netherlands (KIvI).

The aim is to present, discuss and summarize recent advances in modelling methods, quantitative evaluation of parameters and practical results of such methods. They may be applied to systems in industry, economy and biology with the principal purpose of a better understanding or of improvement of the control of such systems.

Out of almost 250 offered papers about 150 were provisionally accepted. The large number of high quality papers made a distinction between "full papers" (max. 10 pages, 10 min. oral presentation by author) and "short papers" (max. 4 pages, no oral presentation) necessary. However, all the papers will be discussed, included in the preprints and in the post-conference proceedings.



The PAPERS will be classified and treated under the following TOPICS:

- Correlation techniques
- Model adjustment techniques
- Problems on structures
- Testsignals
- State estimation
- Adaptive control
- Observability and identifiability
- Systems with distributed parameters
- Estimations on nonlinear systems
- Chemical and other production processes
- Power generation and transportation
- Biological objects
- Transportation systems
- Economic and ecologic systems

SURVEY LECTURES on methods and applications of identifications will be given by invited speakers:

- Industrial applications in the USSR
by *N.S. Rajbman*, USSR
- Power generation and distribution
by *R. Baeyens, B. Jaquet*, Belgium
- Biological systems
by *G.A. Bekey*, USA
- Chemical and physical processes
by *I. Gustavsson*, Sweden
- Aeronautics and space vehicles
by *A. Rault*, France.

The scientific program will further include:

CASE STUDIES on

- Drum boiler dynamics
by *K. Eklund, I. Gustavsson*, Sweden
- Distillation processes
by *C. Foulard*, France
- Aircraft flight tests
by *J.A. Mulder, O.H. Gerlach*, The Netherlands
- A glass furnace
by *J.E.N. Richalet*, France
- Time series analysis and econometric modelling; a critical appraisal
by *P.C. Young*, UK.

ROUND TABLE DISCUSSIONS are scheduled to deal, tentatively, with subjects such as:

- Observability, identifiability, detectability, stabilizability
- Applicability of identification
- Estimation and control in a fuzzy environment
- Identification and pattern recognition.

TEST CASES for the comparison of several identification and estimation methods.

TUTORIAL SESSIONS on mathematical aspects of identification and estimation, on the responsibility of the Dutch Organizing Committee, are planned for Monday, June 11, 1973, to be continued each morning during the time of the symposium. Invited speakers: *K.J. Aström, A.V. Balakrishnan, P. Sage, H.W. Sorenson*, et al. Admission free of charge and exclusively for symposium participants.

A number of technical visits as well as a social and a ladies program will be provided.

Registration fee (including a set of preprints, luncheons and refreshments) before March 15, 1973: Hfl. 210.00 (US \$ 65.00); after that date: Hfl. 240.00 (US \$ 75.00).

For the Preliminary Program with registration form address:

IFAC 1973 c/o KIVI
23 Prinsessegracht
The Hague, The Netherlands.

Sensitivity, Adaptivity and Optimality

This third IFAC Symposium on the subject will take place at Ischia, Gulf of Naples, Italy, from June 18 - 21, 1973. The paper selection has resulted in an acceptance of 58 papers which will be presented in sessions on:

- Sensitivity analysis
- Sensitivity methods
- Techniques of sensitivity reduction
- Optimization under uncertainty
- Adaptive systems
- Min-max strategies and differential games
- Large scale systems

In addition to that, a number of invited papers by outstanding experts in the field are included in the program.

Registration fee (incl. preprints) before March 31, 1973: US \$ 40; after that date: US \$ 50.

Enquiries and requests for further details should be addressed to:

A. Locatelli
Istituto di Elettrotecnica ed Elettronica
Politecnico di Milano
Piazza Leonardo da Vinci 32
20133 Milano, Italy.

Ship-Operation-Automation

This IFAC/IFIP Symposium will be held in Oslo, Norway, July 2-5, 1973, with the purpose of promoting an exchange of information and experience among shipping people, engineers and scientists in the field of ship automation. About 60 papers to come under the four main topics of the symposium were pre-selected on the basis of submitted abstracts. Some titles which are given below might arouse the interest of the readers:

GENERAL SYSTEMS

- Use and experience of computers at sea
- Computerized super-automation system of the TOTTORI MARU, turbine driven tanker

BRIDGE SYSTEMS

- Integrated navigation systems for the VLCC
- Computer-based collision avoidance and integrated bridge systems

ENGINE ROOM SYSTEMS

- The design of a discrete multivariable control system for a 35.000 hp capacity ship boiler
- A computerized system for engine condition monitoring and predictive maintenance of large bore diesel engines

CARGO HANDLING

- What are the benefits of computerized load calculations?
- The application of systems technology to container handling

Registration fee before April 1st, 1973: US \$ 50; after that date: US \$ 65.

Potential attendees should apply for the Provisional Program and registration forms by addressing:

Kjell Lind
The Ship Research Institute of Norway
7034 Trondheim - NTH, Norway.

Automatic Control in Glass

Here is some information to update the first announcement (in Bulletin No. 72) of this IFAC Symposium to be held at Purdue University, Lafayette, Indiana, USA, September 25 - 28, 1973.

In December 1972, a preliminary paper selection on the basis of submitted abstracts was made and a tentative program was developed which includes, at this stage, about 40 technical papers coming under the following provisional session subjects:

- Control of the Melting Process
- Melter Modeling
- Control in Forming and Finishing
- Modeling in Forming and Finishing
- Topics in Instrumentation
- Temperature Measurement
- Computer Control

Each technical session will be preceded by a survey lecture session. Proposed topics under consideration are:

- Process Models and Automatic Control
- Automatic Control in Forming and Finishing
- Automatic Inspection in the Glass Industry
- Survey of the Glass Industry

Interested readers should contact:

Symposium on Automatic Control in Glass
Division of Conferences
Room 116, PMC
Purdue University
Lafayette, Indiana 47907, USA

and apply for a copy of the "Preliminary Program" which is being prepared.

Automatic Control in Space

This is a preliminary announcement of the Sixth IFAC Symposium on Automatic Control in Space planned to be held in the USSR, August 26 - 31, 1974.

The following problems are suggested for discussion:

- OUTER SPACE SYSTEMS: navigation, guidance and control of: space shuttle, space launch vehicles, spacecraft for rendezvous and docking, control of combined vehicles: reentry and landing; orbiting laboratories; scientific experiments in space (e.g., space telescopes); lunar and planetary exploration systems.

- EARTH SPACE SYSTEMS: special multi-dimensional problems of guidance and control, such as of surface vehicles and underwater objects.
- SPECIFIC AUTOMATIC CONTROL PROBLEMS IN SPACE: teleoperator, robot and rover techniques; man-machine interactions; simulation of complex space scientific experiments.

Authors willing to offer a paper on the aforementioned problems are kindly requested to submit an abstract which should contain the title of the paper, a short formulation of the problem treated, methods for solution, results (preferably with practical examples) and the full name of the author, title, position, and private and/or professional addresses.

The abstract should contain about 300 to 600 words of typewritten text in five copies in English or French or Russian. The deadline for submission is April 1973.

Preference will be given to papers which include the aspects of technical realization and applications.

Authors should write to one of the following addresses:

For USSR and East Europe:

Academician *B.N. Petrov*
National Committee on Automatic Control
Profsoyuznaya 81
Moscow V-279, USSR

For West Europe:

Professor *J. Lagasse*
Laboratoire d'Automatique et de ses Applications
Spatiales de C.N.R.S.
B.P. 4036
31 Toulouse 04, France

For USA and other areas:

Dr. *W. Haeussermann*
Associate Director for Science
Science and Engineering Directorate
NASA/Marshall Space Flight Center
Huntsville, Alabama 35812, USA.

NON-IFAC MEETINGS

- 20th INTERNATIONAL SCIENTIFIC CONGRESS ON ELECTRONICS; Rome, Italy, March 28 - 31, 1973. Scope: Applications of electronics to the automation in telecommunications, in the medical and health fields, and in postal services. Contact address: Scientific Committee, 20th International Congress on Electronics, 9 Via Crescenzo, 00193 Roma, Italy.

- CONFERENCE ON INDUSTRIAL APPLICATIONS OF ADAPTIVE SYSTEMS; Freiburg, Federal Republic of Germany, April 2 - 3, 1973. In a 2 days' Franco-German Colloquium, the state-of-the-art and accomplished industrial applications of adaptive systems will be presented and discussed in a convention of designers, users, and scientists. Contact address: VDI/VDE-Gesellschaft für Mess- und Regelungstechnik, P.O.B. 1139, D-4000 Düsseldorf 1, Fed. Rep. of Germany.

New IFAC Symposium Proceedings

The proceedings of the IFAC Symposium on Systems Engineering Approach to Computer Control, conducted August, 1970 in Kyoto, Japan, are now available for sale. The two-part proceedings consist of a preprints volume and a discussion volume. The preprints volume (softbound, illustrated, 651 pages) contains 107 English language papers grouped under the following topics: Optimal control; modeling, simulation and applied system identification; computer applications; reliability; modern system theory; modal control; sensitivity; stochastic control and estimation; identification; computing methods; learning and adaptive control; differential games. The discussion volume (softbound, 60 pages) presents transcribed discussions of 64 papers between the authors and symposium attendees.

The two-part proceedings are available from the Instrument Society of America (ISA), 400 Stanwix Street, Pittsburgh, Pa. 15222, USA, at US \$ 20. Attendees of the IFAC Kyoto Symposium who already have the preprints volume may purchase the discussion volume at US \$ 7.

Publications

REAL-TIME CONTROL OF ELECTRIC POWER SYSTEMS - Proceedings (papers and discussion) of an international symposium organized by the Brown, Boveri Group Research Center at Baden, Switzerland, September 1971.

Topics of sessions: Analytical Methods and Algorithms (Chairman *G. Quazza*); Optimal Control (Chairman *K. J. Aström*); System Security (Chairman *F. C. Schweppe*); Power Station Control, Human Interaction (Chairman *K.N. Stanton*).

Edited by *E. Handschin*, Brown, Boveri & Co. Ltd. 1972, 320 pages. Price: Dfl. 75.00 (abt. US \$ 23.50). Published by Elsevier/Northholland, 305-311 Keizersgracht, Amsterdam, The Netherlands.

INTRODUCTION TO STOCHASTIC CONTROL THEORY by *K.J. Aström*, Lund Institute of Technology, Sweden; 1970, 324 pages; price US \$ 14.50
and

NONLINEAR PARTIAL AND DIFFERENTIAL EQUATIONS IN ENGINEERING by *W. F. Ames*, University of Iowa, USA; 1972, 320 pages; price US \$ 16.50

Each of these two books is a volume of "Mathematics in Science and Engineering", a Series of Monographs and Textbooks. Series Editor: *R. Bellman*. Published by Academic Press, 111 Fifth Avenue, New York, N.Y. 10003, USA.

HARDWARE TESTING OF DIGITAL PROCESS COMPUTERS - A new ISA Recommended Practice establishing a basis for evaluating functional hardware performance of digital process computers.

Prepared by the ISA Standards Committee on Hardware Testing of Digital Process Computers, chaired by *K.A. Whitman*, Allied Chemical Corporation. 1971, 56 pages,

illustrated. Price US \$ 5.00. Published by Instrument Society of America (ISA), 400 Stanwix Street, Pittsburgh, Pa. 15222, USA.

BIOMEDICAL SCIENCES INSTRUMENTATION - Vol. 9, comprises proceedings of the 9th Annual Rocky Mountain Bioengineering Symposium and the 10th International ISA Biomedical Sciences Instrumentation Symposium, Omaha, Nebraska, USA, May 1972, and presents 35 papers covering the most current information available on bioengineering research accomplishments.

Edited by *G.G. Meyers*, University of Nebraska. 1972, 194 pages, softbound, illustrated. Price: US \$ 13.00. Published by Instrument Society of America (ISA), address as above.

PETROCHEMICAL UNIT PROCESSES, Part 1: DISTILLATION - This book, proceedings of the 4th Annual ISA Education Symposium, Wilmington, Delaware, USA, April 1972, focuses on 21 tutorial presentations describing current techniques in the application of distillation instrumentation and control.

Edited by *R.L. Moore*, E.I. Du Pont de Nemours & Co. 1972, 193 pages, softbound, illustrated. Price: US \$ 11.00. Published by Instrument Society of America (ISA), address as above.

INTERNATIONAL TELEMETERING CONFERENCE PROCEEDINGS - Vol. 8, contains 98 papers on the state-of-the-art and current practices of telemetering for instrument recording, transportation, communications, urban systems, life sciences and aerospace presented at the October 1972 Conference in Los Angeles, USA. This is an annual event conducted by the International Foundation for Telemetering, a nonprofit technical/professional organization dedicated to serving the "telemetering community" throughout the world.

The book, hardbound, illustrated, 917 pages, is available exclusively from the Instrument Society of America (address as above) at US \$ 25.00.

ISA TRANSDUCER COMPENDIUM, Part 3, 2nd Edition, is a comprehensive guide to performance data on 2,000 electrical-output, sensing transducers - 237 model series - for the variables: Temperature, Heat Flux, Nuclear and Penetrating Radiation, Electromagnetic Radiation (above radio frequency), Magnetic Field Strength, Humidity and Moisture. Transducers are grouped by range for quick search and easy product comparison. Chapter introductions on each variable, written by authorities in the field, cover measurement problems, state-of-the-art, and future trends.

Edited by *G.F. Harvey*, Instrument Society of America (ISA). 1972, 277 pages, hardbound, illustrated. Price: US \$ 27.50 (USA and Canada), US \$ 32.50 (elsewhere). Reduced prices for more than one part (Part 2 contains performance data on 8,000 transducers - 520 model series - for the variables: sound, force and torque, motion, and dimension. 1970, 323 pages. Part 1 contains data on 3,000 transducers - 338 model series - for the variables: pressure, level, and flow. 1969, 212 pages). Published by the Instrument Society of America (ISA), address as above.