



For immediate release

Digital Computer Applications to Process Control

This 4th International Conference sponsored by IFAC and co-sponsored by IFIP (International Federation for Information Processing), IMEKO (International Measurement Confederation) and RILEM (Réunion Internationale des Laboratoires d'Essais et de Recherches sur les Matériaux et les Constructions) and organized by the Swiss Federation of Automatic Control will be held at the Kongresshaus in Zurich, Switzerland, March 19-22, 1974.

The International Programme Committee consisting of *Dr. Th. Ankel* (FRG), *Dr. M. Cuénod* (CH), *Prof. P.M. Larsen* (DK), *Prof. W. Leonhard* (FRG), *Mr. R.G. Lex* (USA), *Prof. M. Kümmel* (DK), *Prof. M. Mansour* (CH), *Prof. B.N. Naumov* (USSR), *Prof. A. Niemi* (SF), *Prof. A. Nomoto* (J), *Dr. I. Plander* (CSSR), *Prof. P. Profos* (CH), *Mr. Ph. Sahut d'Zarn* (F), *Prof. J.H. Westcott* (GB), *Dr. J.D.N. van Wyk* (South Africa) has selected about 85 technical papers which will be presented in sessions on the following topics:

- Digital control algorithms
- New developments of process computers hardware and software
- Digital control in chemical and oil industries
- Digital control in cement industry
- Digital control in pulp and paper industries
- Digital control in metallurgical processes
- Digital control in power systems
- Digital control in other processes: material handling and storage etc.
- Reliability of digital control
- Economics of digital control.

Round table sessions are planned in which the subjects of the presented survey papers listed below will be discussed:

- Digital control algorithms by *Prof. A.P. Sage*, USA
- Interface problems for process control by *Prof. T.J. Williams*, USA
- Software for process computers by *Dr. J. Gertler*, Hungary and *Dr. J. Sedlak*, CSSR
- Digital computer applications in metallurgical processes by *Mr. W.E. Miller*, USA and *Mr. W.G. Wright*, USA
- Digital computer applications in power systems by *Mr. L. Ernst*, FRG
- Digital computer applications in chemical and oil industries by *Dr. H. Amrehn*, FRG.

A number of technical visits as well as a social and a ladies programme will be arranged.

The Advance Programme together with registration and hotel accommodation forms can be obtained from

IFAC/IFIP Conference
Gloriastrasse 35
8006 Zurich, Switzerland.

Registration fee (incl. proceedings) before January 20, 1974: 270.— Swiss Francs; after that date: 320.— Swiss Francs.

Non-IFAC Events

International events of IMEKO (International Measurement Confederation) on the subjects of RECENT DEVELOPMENTS IN FORCE MEASURING DEVICES, Udine, Italy, May 31 - June 3, 1974, on UP-TO-DATE VERIFIABLE WEIGHING MACHINES, Szeged, Hungary, September 3 - 6, 1974, and on PHOTON-DETECTORS, Södöfok, Hungary, September 16 - 19, 1974. Detailed information available from the IMEKO Secretariat, 1371 Budapest 5, POB 457, Hungary.

4th Iranian Conference on ELECTRICAL ENGINEERING, Shiraz, Iran, May 12 - 16, 1974. Technical papers in the fields of circuit theory, communication theory, control and systems theory, electromagnetic theory, electronics, power systems and invited survey papers by internationally known experts from various countries. Enquiries: Organizing Committee, 4th ICEE, POB 737, Shiraz, Iran.

2nd International Joint Conference on PATTERN RECOGNITION, Copenhagen, Denmark, August 1974. Under the chairmanship of *Prof. C.J.D.M. Verhagen* (Delft University of Technology, Netherlands), the Conference will cover all aspects of theoretical and applied pattern recognition. Papers on industrial applications, feature extraction, image processing, and scene analysis are particularly welcomed. Deadlines: First drafts of papers by March 15, 1974. Notification of paper acceptance by May 1, 1974. Camera-ready copies of papers by June 15, 1974. Additional information available from *Mr. E. Backer*, E.E. Department, Delft University of Technology, Delft, The Netherlands.

3rd International Symposium on AUTOMATION OF ENGINE TESTING: Performance, Emission, and Diagnostics, London, UK, September 25 - 27, 1974. Title and abstracts (100 - 150 words) by January 31, 1974 and draft manuscripts by April 30, 1974 to *Dr. J.I. Soliman*, Dept. of Mech. Engrg., Queen Mary College, Mile End Rd., London E1 4NS, UK.

7th IFORS INTERNATIONAL CONFERENCE ON OPERATIONAL RESEARCH, Tokyo-Kyoto, Japan, July 17 - 23, 1975. Theme: "Operational Research in the service of developing economies". Paper submission according to three categories, viz. a) Theme papers: 3 copies of full paper in English or French together with abstract in both English and French not later than August 1974 to *Mr. René Mercier*, Directeur Général, Société d'Etudes pour le Développement Economique et Social, 67 Rue de Lille, Paris 7e, France. Advance offers of paper submission appreciated by *Mr. Mercier*. b) National contributions: On any operational research subject; through IFORS member societies. c) Forum papers: No selection; no inclusion in preprints and proceedings. Titles and abstracts (max. 50 words) in English or French not later than December 1974 to *Dr. W.S. Jewell*, Scientific Director, Teknekron Inc., 2118 Milvia Street, Berkeley, Calif. 94704, USA. Authors should bring sufficient copies of papers to conference for distribution and discussion.

New Publications

COMPUTER LANGUAGES FOR NUMERICAL CONTROL, proceedings of the 2nd IFIP/IFAC PROLAMAT Conference, Budapest, Hungary, April 1973. 66 papers by authors from 14 countries cover interactive, conversational and graphic programming; integrated CAD/CAM systems; standardization; NC program implementation; surface description programs; technological programming and production control; CNC, DNC and post-processing. This volume will remain the standard text on the present and future trends of discrete manufacturing software systems throughout the world until the next PROLAMAT conference in 1976.

Edited by *J. Hatvany*, Computer and Automation Institute, Hungarian Academy of Sciences, Budapest. 758 pages, hardbound. Price Dfl. 125.00. Published by North-Holland Publishing Company, POB 103, Amsterdam-West, Netherlands. Distributor for USA and Canada: American Elsevier Publ. Co., 52 Vanderbilt Ave., New York, N.Y. 10017, USA.

IDENTIFICATION AND SYSTEM PARAMETER ESTIMATION, proceedings of the 3rd IFAC Symposium, The Hague/Delft, Netherlands, June 1973. 150 contributions by authors from 29 countries are contained in the two-volume set covering the opening address (by *V. Strejc*), survey papers and practice- and theory-oriented technical papers, case studies, notes on round-tables and test case experiments. Topics: Biological objects; chemical processes; economic and ecologic systems; power systems; transportation systems; various processes; adaptive control; correlation-like techniques; distributed parameter systems; model adjustment techniques; non-linear systems; observability, identifiability, state estimation; problems on structures; test signals.

Edited by *P. Eykhoff*, University of Technology, Eindhoven, Netherlands. 1179 pages, hardbound. Price Dfl. 180.00. Published by North-Holland Publishing Company, POB 103, Amsterdam-West, Netherlands. Distributor for USA and Canada: American Elsevier Publ. Co., 52 Vanderbilt Ave., New York, N.Y. 10017, USA.

AUTOMATIC CONTROL IN SPACE. The fifth in a series of IFAC symposia was held in Genoa, Italy, June 1973. More than 70 invited and submitted papers were presented in sessions on space launch systems, reentry and soft landing; attitude control, pointing control, sensors; optimization methods, optimal filtering; stabilization, actuation; satellite systems, docking and rendez-vous; man/computer communications, on-board planning; aerospace vehicle control; orbital control, navigation and guidance; roving vehicles, walking systems, manipulators; earth surface system; underwater control. Preprints are available for sale at Italian Lire 10,000, — per copy. Orders, accompanied by remittances, should be placed with the Secretary of ANIPLA, *Dr. R. Mathis*, Corso Venezia 47, 20121 Milano, Italy.

DYNAMIC MODELLING AND CONTROL OF NATIONAL ECONOMIES. This is the title of an International Conference held at the University of Warwick, UK, July 1973, which was sponsored by IFAC and co-sponsored by IFORS and organized by the Control and Automation Division of the Institution of Electrical Engineers, London, in association with the Control Theory Centre and School of Economics of the University of Warwick and the United Kingdom Automation Council. It is also the title of No. 101 in the IEE Conference Publication Series which contains the texts of the 29 technical papers presented at the Conference in sessions on concepts and methods in macroeconomic modelling; empirical macroeconomic models; growth and cycles; optimization; optimum stochastic control; estimation; as well as on special problems. The soft-bound volume with 429 pages altogether, published by the Institution of Electrical Engineers, is available from the IEE Publication Sales Department, Station House, Nightingale Road, Hitchin, Hertfordshire SG5 1RJ, UK, with whom orders, accompanied by remittances, should be placed. The price per copy is £ 11.90 including postage by surface mail. Airmail rates are obtainable on request from the afore-mentioned address.

AUTOMATIC CONTROL IN MINING, MINERAL AND METAL PROCESSING, an IFAC Symposium held in Sydney, Australia, August 1973, at which 44 technical papers were presented. In the selection of these papers, preference was given to those relating to practical applications. These included operating experience with existing control systems, investigations into proposed systems and analyses of developmental trends both in Australia and overseas. The papers therefore reflected the industrial view-point and stimulated considerable discussion, particularly in the areas of modelling, identification and control. Among the papers was an important group in the field of mineral dressing. The papers covered modelling, scale-up and control of ball mills including some practical techniques for automatic size analysis and control. Another group dealt with flotation control and their topics ranged from modelling through on-line analysis of process streams to attempts to assess and compensate for changing feed arc characteristics.

The proceedings of the symposium consisting of a pre-prints volume and a volume of discussions and special addresses can be obtained from the Secretary, The Institution of Engineers, Australia, Science House, 157 Gloucester Street, Sydney, N.S.W. 2000 Australia, at the price of \$ 20 (Aust) per set.

REGULATION AND CONTROL IN PHYSIOLOGICAL SYSTEMS, proceedings volume of a symposium sponsored by IFAC in cooperation with the American Physiological Society, the International Union of Physiological Sciences, the American Society of Mechanical Engineers, IFIP and IFORS, and held at the University of Rochester, USA, August 1973. The book includes 123 papers under 20 chapters devoted to biochemical processes; pharmacokinetics; membrane transport; microvascular dynamics; growth; visual systems; auditory and vestibular responses; thermoregulation; aspects of respiratory control, of the heart, of CV regulation; glucose metabolism; neurons and neuron populations; single neural units and CNS complexes, and other subjects. Each chapter starts with an additional contributor's paper.

Edited by *A.S. Iberall*, General Technical Services, Inc., Upper Darby, Pa., USA, and *A.C. Guyton*, Univ. of Mississippi Medical Center, Jackson, Miss., USA. 607 pages, hard-bound;

and

AUTOMATIC CONTROL IN GLASS, proceedings volume containing the papers (28 techn. papers, 4 survey lectures) presented at the IFAC Symposium on Automatic Control in Glass, Purdue University, USA, September 1973. The papers are arranged in sessions on forming and finishing; melting; temperature measurement; computer control et al. Although the symposium definitely has been application oriented, both theoretical and application papers have been included in order to illustrate where and how theory is effectively applied in the development of solutions to practical problems.

Edited by *R.J. Mouly*, PPG Industries, Inc., Creighton, Pa., USA. 255 pages, hard-bound.

These 2 ISA-published proceedings (and prices) can be obtained from the Instrument Society of America, 400 Stanwix Street, Pittsburgh, Pa. 15222, USA.

LINEAR OPTIMAL CONTROL SYSTEMS by *H. Kwakernaak* and *R. Sivan*. The book combines modern linear control theory with classical control theory. Presents design methods, employing modern techniques for obtaining control systems that stand up to the requirements that have been so well developed in the classical expositions of control theory. An entire chapter is devoted to a description of the analysis of control systems, mostly following classical lines of thought. Heavy emphasis is placed on the stochastic nature of control problems. 544 pages, 1972, price US \$ 24.95. Published by John Wiley & Sons Ltd., Baffins Lane, Chichester, Sussex, UK.