



Two more IFAC Members

Another two organizations have, simultaneously, joined IFAC, namely the Deutsche Gesellschaft für Messtechnik und Automatisierung in der Kammer der Technik (German Society of Measurement and Automation in the Chamber of Technology), German Democratic Republic, and the VDI/VDE-Fachgruppe Regelungstechnik (VDI/VDE Group for Automatic Control; VDI = Verein Deutscher Ingenieure - Society of German Engineers; VDE = Verband Deutscher Elektrotechniker - Society of German Electrotechnical Engineers), Federal Republic Germany. IFAC has now a total of 37 National Member Organizations.

The mailing addresses of the two new members are:

Deutsche Gesellschaft für Messtechnik und Automatisierung (DGMA) in der Kammer der Technik (KDT)
Clara Zetkin-Strasse 115/117
Berlin / German Dem. Rep.

and

VDI/VDE-Fachgruppe Regelungstechnik
Postfach 1139
D-4000 Düsseldorf 1 / Fed. Rep. Germany.

Systems Approaches to Developing Countries

Sponsored by the Technical Committee on Systems Engineering of the International Federation of Automatic Control (IFAC) and co-sponsored by the International Federation of Operational Research Societies (IFORS) a Conference on Systems Approaches to Developing Countries will be organized by the Commissariat National à l'Informatique (C.N.I.), Algerian National Member Organization of IFAC. The Conference will be held 25 km west of Algiers, in the area of the Club des Pins, in May 1973.

Fields of interest are:

- Planning and Control of Production and Resources
 - Mining
 - Metallurgy
 - Oil industry
 - Food
 - Building materials
- Utilities
 - Power
 - Water supply
 - Communications
- Transportation Systems
 - Interrelation of transport with urban and regional planning
 - Transportation methods
 - Relation of transportation systems to overall country development
- Education and Development
 - Education strategy
 - Education and overall planning.

In these fields the following topics will be considered:

- definition of the needs and goals
- definition of the means at disposal
- role of finance and government in development
- formulation of optimal planning and strategy
- case histories.

This information is available for reproduction

Offers of papers classified according to the above topics with an abstract in English or French (200 - 300 words) should reach the

Chairman of the International Program Committee

Dr. M. Cuénod

c/o Prospective Engineering Gestion

71, avenue Louis-Casai

CH-1216 Cointrin-Geneva (Switzerland)

not later than March 31, 1972 for the purpose of preselection.

The full papers (max. 15 pages, preferably in English or else in French) should be submitted not later than September 30, 1972 for the subsequent final selection of the papers.

Simultaneous translation will be provided in English, French, Russian and Arabic.

All correspondence relative to papers should be addressed to the Chairman of the IPC (address see above). Correspondence relative to the organization of the Conference should be addressed to the

Chairman of the Organizing Committee

Mr. Y. Mentalechta

Directeur Général de la Formation et de la Recherche

Commissariat à l'Informatique

4, boulevard Mohamed V

Algiers (Algeria).

Copies of the printed First Announcement and Call for Papers with Provisional Registration Form may be obtained from the

IFAC Secretariat

Postfach 1139

D-4000 Düsseldorf 1 (Fed. Rep. Germany).

Identification and Process Parameter Estimation

A detailed report on the 2nd IFAC Symposium on Identification and Process Parameter Estimation held in Prague, Czechoslovakia, June 15 - 20, 1970, has been made available by the Czechoslovak Organizing Committee. In view of the 3rd IFAC Symposium on that subject planned to be held in the Netherlands in 1973 (call for papers will be published before long), the following excerpts from the report will surely interest the readers.

The Prague Symposium, attended by about 400 registered participants from 24 countries, was sponsored by the IFAC Technical Committees on Theory and on Applications and organized by the Institute of Information Theory and Automation, Czechoslovak Academy of Sciences. The international paper selection committee chaired by *V. Strejc*, Czechoslovakia, consisted of the following members: *J.K. Aström*, Sweden; *P. Eykhoff*, Netherlands; *V. Peterka*, Czechoslovakia; *N.S. Raibman*, USSR; *J.P. Waha*, Belgium.

A survey paper on system identification by *K.A. Aström* and *P. Eykhoff* was presented at the symposium as well as 72 technical papers by authors from almost 20 countries, dealing with the following topics: General problems; distribution-free methods; statistical error criteria; stochastic approximation and learning technique; self-adjusting models; adaptive control; special input signals; nonlinear systems; accuracy of identification; state estimation; applications.

The symposium offered the possibility to learn about the most recent achievements in the research of identification and process parameter estimation and the possibility to become acquainted with the attainable results with respect to the complexity of the models and the accuracy of the estimated parameters. It created the opportunity to compare the adequacy and complexity of individual methodical approaches and numerical solutions. Examples of practical applications were discussed, where identification methods had already been applied to tackle practical tasks. The symposium has not only brought forth a series of new most valuable ideas, developed into specific algorithm making a practical utilization possible, but also a number of important stimuli which will make it possible to develop this field of automation as well as to improve the working methods hitherto applied or to render more exact the methods already known. It can now be said that in the course of the period elapsed since the first symposium on Identification in Automatic Control Systems, Prague 1967, both the theoretical and the practical development of this discipline have reached noteworthy achievements and results. Most papers presented in 1970 contain verified results at least in simulated conditions, and a great number of them deal with methods already used on real systems.

The interest of specialists is now turning to the problems of convergence of the estimations, of accuracy of the estimations, to non-linear systems, multidimensional systems and to the non-conventional mathematical description of the dynamic behaviour of systems generalizing in this way the hitherto applied and already almost classical solutions.

The success achieved in the field of basic research of identification and also the practical application of the methods of identification so far evolved gave a stimulus to arrange round-table discussions aiming at future tendencies of identification and oriented toward the experience gained in the practice of identification of some systems in chemistry, power plants, aeronautics and similar systems. The views delivered at these round table discussions cannot be considered in a formal way. The theoreticians and scientists are able to solve many problems, but unfortunately not all problems appearing in practice and the complexity of some procedures is not always in reasonable relation to the attainable results. Those engaged in practical problems have reason to complain. It may be said that closer collaboration of theoreticians and those working in practice could establish better understanding and yield fruitful results.

It must be emphasized that the problems of identification concern not only estimation theory but also many other difficult problems to be solved in the future. Simple and efficient adaptive or self-learning or self-adjusting systems could remove many problems in this field, and this logical development according to the new achievements may be obtained in a few years.

Two volumes (altogether 750 pages) contain the survey paper and all the technical papers and cost US \$ 20.00. Orders can be placed with Academia, Publishing House of the Czechoslovak Academy of Sciences, Vodickova 40, Prague 2, and a cheque should be enclosed.

New IFAC Publications

PRP AUTOMATION 1971 - Very shortly, the proceedings of the IFAC Conference on Instrumentation and Automation in the Paper, Rubber and Plastics Industries (Brussels, May 24 - 28, 1971) will be on the market. The publication will contain not only the more than 70 papers presented in technical sessions on measurement and control of speed and tension, on process instrumentation, on process and production control, and on evaluation of quality, but also the general session reports and discussions. The price will be 1250 Belgian Francs and orders can already be placed with Messrs. Swets & Zeitlinger, Book Department, Keizersgracht 487, Amsterdam, The Netherlands.

THE CONTROL OF DISTRIBUTED PARAMETER SYSTEMS - 84 technical papers presented at the IFAC Symposium in Banff, Alberta, Canada, June 21 - 23, 1971, are included in a preprint

volume. Copies are still available and may be ordered at Canadian \$ 25.00 per copy from *Dr. M.H. Hamza*, The University of Calgary, Calgary 44, Alberta, Canada.

Topics dealt with in thirteen conference sessions are: Control of thermal processes; stability; optimal control; time lag systems; modelling and control of flow processes; controllability, observability and stabilization; stochastic control and filtering; computational aspects of optimal control; reactor control; stochastic control, identification and estimation.

It is expected that proceedings of the symposium will be printed to include not only the technical papers but also the discussions and the survey (technical) papers. The cost of the proceedings will be Can. \$ 30.00 and they will be available for sale sometime in December 1971. Orders should be addressed to: T.M.S. Services, Box 3243, Postal Station B, Calgary, Alberta, Canada.

INTERFACES WITH THE PROCESS CONTROL COMPUTER - THE OPERATOR, ENGINEER AND MANAGEMENT - comprises proceedings of the IFAC symposium on that subject, conducted August 3 - 6, 1971 in Lafayette, Indiana, USA. The 31 papers in English were written by authorities in process control systems from Australia, France, the Netherlands, Norway, U.K., U.S.S.R. and U.S.A. The book examines techniques for solving problems of specifying and designing the most effective means of communication between humans and computers; applications of process control computers also are covered.

Topics are: The programming interface as seen by the project engineer in carrying out applications of computer control; effects of computer control capabilities on the ultimate management structure; the human engineering of the operator's console; compatibility with the requirements of the engineer; subdivision of work in various processes between a computer control system and the operator; requirements for data presentation to management: types of data, response time, bandwidths required, etc.; case studies of new and successful installations of control centers and operator consoles; technical economic and human factors in computer control; interfaces with the process control computer; a review of progress in methods of operator communication.

Edited by *Theodore J. Williams*, Laboratory for Applied Industrial Control, Purdue University. 244 pages, illustrated, hard cover, 1971. Price US \$ 13.50. Distributed by Instrument Society of America (ISA), 400 Stanwix Street, Pittsburgh, Pa. 15 222, U.S.A. Purchasers in Europe or Japan should order from ISA's overseas distributors, viz. Pertel Ltd., Cursitor Street, Chancery Lane, London, E.C.4, England or Taisay Koheki Co., Ltd., Hogashinakano 1-46-19, Nakano-ku, Tokyo, Japan.

DISCOP - At the IFAC Symposium on Digital Simulation of Continuous Processes (DISCOP), Győr/Hungary, September 6 - 10, 1971, 74 technical papers were presented in ten parallel sessions on topics such as simulation of flow systems; parameter estimation for plant models; interactive simulation methods; modelling and simulation of dynamic systems; simulation of chemical reactors; steady state simulation methods; simulation of large industrial complexes; simulation of diffusional operations; simulation languages. All the technical papers as well as the survey paper on Modelling Continuous Plants for Process Control by *Th. J. Williams* and *R.S. Novack* are included in two preprint volumes (A to K and L to Z according to authors names) with a full authors and contents list in both volumes.

The price for the two volumes (500 pages) is US \$ 18.00 (surface mail postage included) and orders should be placed with the Organizing Committee, Symposium on Simulation, P.O.Box 63, Budapest 112, Hungary. Payment should be made either by enclosing a cheque or money order, or by simultaneously remitting the sum to the following account: Hungarian Foreign Trading Bank Ltd., Budapest, Hungary; IFAC-DISCOP Symposium, Automation Research Institute.