5th World Congress of IFAC

The 5th Congress of the International Federation of Automatic Control (IFAC), Paris, June 12-17, 1972, will be organized in close cooperation with the Association Francaise de Cybernetique Economique et Technique (AFCE) which is the French National Member Organization not only of IFAC but also of IMEKO (International Measurement Confederation), IFIP (International Federation for Information Processing) and IFORS (International Federation of Operational Research Societies). These international associations as well as AICA (Association Internationale pour le Calcul Analogique) have been invited by IFAC to cooperate in the preparation of the Congress.

It is planned that the following topics will be treated at the technical sessions of the Congress:

1. Control Theory
New theoretical methods likely to lead, in a reasonable future, to useful practical achievements in large-scale industrial systems, ecological and environmental systems (water and air pollution control), biomedical systems (including bio-engineering of artificial organs), control of natural resources, urban development and traffic control, automatic control in space, economic and management systems, models of societal, psychological and education problems.

2. Systems
2.1. Systems engineering needs and tools for developing countries
2.2. Methodology of systems engineering
2.3. Can the systems approach aid in the solution of problems of man and his environment (housing systems, urban problems, transportation control, water and air pollution control, destruction of the physical environment resulting from the exploitation of natural resources etc.)?

3. Control Components
3.2. Processing of data from measurement.
3.3. Information acquisition in computerized control systems.
3.4. New means for signal processing in control systems: Data converters, New memory devices (analog and digital) and logic circuits, Sensor-computer and computer-actuator interfaces.
3.5. New ideas for the design of actuators and output devices: Special rotary and linear motors (electric, pneumatic, hydraulic) and their control circuits.

4. Control Applications
4.2. Minicomputer applications to dedicated control tasks.
4.3. Application of remote time-sharing computers to control.

Dear Reader –

IFAC provides you with an Information Bulletin on a complimentary basis. The number of readers is steadily increasing. The printing costs of the Bulletin and, in particular, the expenses for postage, mainly air mail, are increasing with it. Many readers have been on the mailing list for years – and may have lost interest for various reasons. If you feel that the Bulletin is not of real value to you please sign and return the enclosed postcard in order to avoid unnecessary expense and labour.

Thank you for your cooperation.

The IFAC Secretary

4.4. Management control of large-scale systems (combining information processing, process control and/or business management).
4.5. Operator, engineer and management interfaces in process computer controlled systems.
4.7. Testing automation.
4.8. Automatic inspection in materials handling.
4.9. Case histories of:
   - Applications of modern control theory to specific systems
   - Applications of fluidics technology to specific uses in aerospace, biology, ecology, electric power, industry, transportation, automation in mining and mineral processing

5. Control Education
5.1. Automatic Control education on the higher level (with special reference to postgraduate education).
5.2. Continuing education in Automatic Control.
5.3. Automatic Control education and training in developing countries.

6. Control Terminology
International and national developments in Automatic Control terminology.

A detailed brochure "First Information and Call for Papers" is sent by AFCE in large quantities to the National Member Organizations of IFAC for further distribution. Potential authors will receive a copy from them either automatically or upon request, whereas potential authors from a country without an IFAC member organization should apply to AFCE. Offers of a paper should include an abstract and additional information as outlined in the brochure and should be submitted for international selection by April 15, 1971, after having passed a pre-selection by the National Member Organizations of IFAC who will propose an earlier date at which they wish to receive the abstracts. Authors from countries not represented in IFAC are asked to submit their abstracts directly to AFCE by March 1, 1971.

The submission of the full papers is stipulated for summer 1971.

Details about the languages to be used are given in the brochure. In the authors' own interest, preference should be given to English.
Digital Computer Applications to Process Control

After the first information on this 3rd International IFAC/IFIP Conference on the subject, to be held at the Technical University Otaniemi near Helsinki/Finnland, June 2 - 5, 1971, this second information shall give some ideas about the scientific programme. Far over a hundred offers of papers and abstracts from authors of 18 countries were received and processed by the International Selection Committee. More than 70 have been accepted, out of which, for instance, 15 from U.K., and 10 each from U.S.A. and U.S.S.R.

A glance on the provisional programme shows that the session on Pulp and Paper Processes includes, for example, a paper "A Kinetic and Dynamic Mathematical Model of the KAMYR Digester and its Use in Automatic Control Systems Development" and another "Computer Control of a Yankee Paper Machine". Some significant papers of the three planned sessions on Metallurgical Processes will certainly be:

"On-line Identification for the Computer Control of a Cold Rolling Mill",
"Optimal Methods of Automatic Hot Rolling of Plates on a Reversing Stand",
"Computer Software Techniques and Practices for Metal Industry Systems" and
"Influence of the Process Computer on the Basic Instrumentation and on the Communication between Operator and Process",
"Chemical and Petroleum Processes", to which three sessions will be devoted, include such papers as
"A Real Time File System and Job Initiation Routines for Process Computers" and
"Hierarchic Automated Control Systems for Chemical Works",
"Effect of Computers on the Design Control and Management of Cement Processses", and
"Application of State Variable Technique to the Control of a Cement Plant"

Selected subjects for the two sessions on Systems Structuring, Software, Hardware are:
"The Structure and Comparison of Three Real-Time Operating Systems for Process Control",
"Software Organization for Minicomputer Systems",
"Control of Sewage Purification with a Computer" and
"New Digital Computer Interface for Process Control",

and for the sessions on Power Plants and Systems:
"The Site Commissioning of the On-line Control Programmes for 2000 MW Thermal Generating Stations",
"The Optimal Control of a Pilot Steam Generator" and
"Programmed and Wired Automatic Systems to Control and Operate Hydroelectric Projects",

For further information contact:
3rd IFAC/IFIP Conference
Box 10192
Helsinki 10/Finnland.
Higher Education in Automatic Control

The IFAC Education Committee is planning a Workshop on "Higher Education in Automatic Control" to be held in Dresden, German Democratic Republic, on March 15 - 17, 1970. This Workshop is open by invitation only and will consist of a series of panel discussions with extensive audience participation. This is a rather unusual format for IFAC activities, but is felt necessary in this case because of the rather specialized nature of the subject matter.

The following topics will be discussed at the Symposium. They are all of course related to automatic control:

1. Post Graduate Education
2. The Teaching of Modeling Principles in Automatic Control
3. Computers in Automatic Control Education
4. Control Theory and Mathematics
5. Control Applications and Laboratory Courses
7. Education in Automatic Control Components and Measurement Techniques
8. Control Education in Developing Countries

The Chairman of the Organizing Committee is Professor H. Kindler (GDR) and the Chairman of the Program Committee is Professor L.A. Hylgaard-Jensen (Denmark).

Additional information may be obtained from the following persons:

Dipl.-Ing. oec. G. Klotz, Secretary of the Organizing Committee of the IFAC Workshop on Education, DGMA, Kammer der Technik, 108 Berlin, GDR, Clara Zetkinstrasse 115/117.

Prof. H. Kwakernaak, Secretary of the Program Committee of the IFAC Workshop on Education, Twente University of Technology, P.O. Box 217, Enschede, The Netherlands.

Prof. S.J. Kahne, Member of the Program Committee of the IFAC Workshop on Education, Dept. of Electrical Engineering, University of Minnesota, Minneapolis, Minnesota 55455, USA.

The Second International Fluid Power Symposium

Final details of the Second International Fluid Power Symposium, to be held at the University of Surrey, Guildford, Surrey, England from 4th - 7th January, 1971, have been announced by the organizers, The British Hydromechanics Research Association (B.H.R.A.).

Some 40 papers from authors in 7 countries will be presented in 10 - 12 technical sessions. These deal with control systems/serve systems, fluids, transmission systems, valves, pumps and motors, filtration/contamination, testing and instrumentation, and general aspects.

The inclusive charge for delegates attending the three-day Symposium is £36 10.0.0, which will include registration fees, preprints of papers and full accommodation.

Intending delegates are advised to write immediately for registration forms and further details to:


Automatic Control and Computers in the Medical Field

The Institut Belge de Régulation et d'Automatisme (IBRA), Belgian member organization of IFAC, in collaboration with the Société Belge pour l'Application des Méthodes Scientifiques de Gestion (SOGESCI), will be organizing a symposium on Automatic Control and Computers in the Medical Field to be held under the sponsorship of the IFAC Applications Committee in Brussels, Belgium, from September 27 to October 1, 1971. The cosponsorship of the IFIP TC-4 (Technical Committee 4 of the International Federation for Information Processing) is being sought.

Papers are invited in the following fields:

I. Multiple branched approach of applied automation and data processing techniques
II. The medical record
III. Optimisation of the doctor's work (increasing the doctor's productivity)
IV. Intervention of the computer in the management of health expenses
V. Teaching of automation, data processing and connected branches in medicine.

Admissible languages: English, French, German, Dutch. Simultaneous translation will be provided.

Potential authors should submit the title of their proposed paper and an abstract (two type-written pages, single- spaced) to IBRA (address see below) by December 15, 1970, in the language as chosen by the author for the presentation of his paper. An English translation should be added. Only original papers will be acceptable.

Full manuscripts must reach IBRA by March 15, 1971. All correspondence should be addressed to:

Institut Belge de Régulation et d'Automatisme (IBRA)
3 Rue Ravenstein
Brussels/Belgium.

The Theory of Machines and Computation

An international symposium on that subject will be held at the Technion (Israel Institute of Technology), Haifa, August 16 - 19, 1971 under the sponsorship of the Technion departments of Computer Science and Electrical Engineering and in cooperation with the IEEE Technical Committee on Switching and Automata Theory and the ACM Special Interest Committee for Automata and Computability Theory. Papers (in English) describing original research in the general areas of switching theory, automata theory, formal languages, computability theory are being sought.

Potential authors should request further information from:

The Organizing Committee
The International Symposium on the Theory of Machines and Computation
P.O. Box 16271
Tel Aviv, Israel.

Automation in Land Transport

An international conference in connection with the 11th International Automation and Instrumentation Conference and Exhibition, Milan/Italy, November 20-26, 1970 (details see in Bulletin No. 56), is devoted to "Automation in Land Transport" on November 25 and
Amendments to the List of IFAC Publications

Readers are invited to modify and to supplement the list issued in Bulletin No. 55.

The address of the INSTRUMENT SOCIETY OF AMERICA (ISA), the publisher of a number of IFAC symposium proceedings, has changed and reads now:

Instrument Society of America (ISA)
400 Stanwix Street
Pittsburgh, Pa., 15222/USA

Purchasers in Europe or Japan are requested to order from ISA's overseas distributors:

Europe: Japan:
Pertel Ltd. Taisay Koheki Company
30 Cursitor Street, Ltd.
Chancery Lane, Higashinakano 1-46-19

The above overseas distributors will accept orders in local currency and will fill orders from their inventory, thus, assuring quick delivery.

IFAC/IFIP Symposium, Toronto, June 1968 on DIGITAL CONTROL OF LARGE INDUSTRIAL SYSTEMS

There will be no hard-bound proceedings from ISA as originally planned. Continued sale of preprints at US $ 20 from

E.M. Gruetznor, Ass. Director
University of Toronto, Div. of University Extension,
84 Queen's Park
Toronto 181/Canada.

IFAC Symposium, Yerevan, September 1968 on TECHNICAL AND BIOLOGICAL PROBLEMS OF CONTROL

English-language version (Russian papers translated into English) at US $ 48 available from

Instrument Society of America (ISA)
400 Stanwix Street
Pittsburgh, Pa., 15222/USA.

New Publications

IFIP/IFAC PROLAMAT Conference, Rome, Sept. 1969 Proceedings 'NUMERICAL CONTROL PROGRAMMING LANGUAGES'; edited by W.H.P. Leslie, 1970; approx. 400 pages, Contents: Applications; Some input languages; Implementation of processors; Cutting technology; General; Background information.

Available at Hfl. 75,— (US $ 21,—) from:
North Holland Publishing Company
P.O. Box 3489
Amsterdam/The Netherlands.

IFAC/IFIP Symposium, Versailles, June 1970 on "TRAFFIC CONTROL"

A full set of preprints (9 volumes of technical papers) may be obtained at 90 French francs plus postage and individual volumes at 10 French francs plus postage from

AFCE T
Centre Universitaire Dauphine,
Place du Maréchal de Lattre de Tassigny,
Paris 16e/France