



IFAC

INFORMATION BULLETIN

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**International Federation
of Automatic Control**

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New Member of IFAC

The Mexican Association for Automatic Control (Asociación Mexicana de Control Automático – AMCA) has recently joined IFAC who has now a total of 34 National Member Organizations.

The Executive Council of the AMCA consists of a President (*Dr. Roberto Canales* of the Instituto de Ingeniería de la Universidad Nacional Autónoma de México), a Vice-President (*Dr. Bernardo Retchkiman* of the Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional), a Treasurer, four Members, and a Secretary (*Ing. Antonio Alonso Concheiro*).

The address of the new organization is:

AMCA Secretariat
c/o Instituto de Ingeniería
Universidad Nacional Autónoma de México
México 20, D.F. / México

Digital Computer Applications to Process Control

Registration and other particulars are now available supplementing the announcements issued in IFAC Bulletin Nos. 56 and 61 about the 3rd IFAC/IFIP Conference on Digital Computer Applications to Process Control. The Conference will be held in Helsinki, Finland, on June 2–5, 1971, under the sponsorship of the Technical Committee on Applications of IFAC and will be cosponsored by the International Federation for Information Processing (IFIP). The organization of the Conference is in the hands of the Finnish Society of Automatic Control.

All papers will be written and printed in English. Authors are, however, entitled to use any of the four IFAC languages for the presentation of their paper.

Hard-bound proceedings including the discussions will be published in the English language by the Instrument Society of America (ISA) after the meeting.

Registration fee before April 1, 1971: US Dollar 50, after April 1, 1971: US Dollar 60. These registration fees include a set of preprints.

The fee for accompanying persons amounts to US Dollar 5.

Technical Visits, a Ladies Programme and a selection of Post-Conference Tours are planned.

2nd P.R.P. Automation Conference

The first information and call for papers relative to the IFAC Conference on Instrumentation and Automation in the Paper, Rubber and Plastics Industries – 'P.R.P.2' – was included in IFAC Bulletin No. 57. The Conference will be held in Brussels, Belgium, from May 24 to 28, 1971, and an International Exhibition on the same subject matter will take place simultaneously.

To give an idea of the scientific programme of the Conference, the section 'Process Instrumentation', for instance, will include contributions on subjects like:

- Measurement of pulp consistency by ultrasonic attenuation.
- Méthodes optiques pour le contrôle en continu de la consistance et du degré d'engraissement de la pâte à papier.
- Measurement of temperature of hot plastic film with an infra-red line-scanner.
- Some improvements to the instrumentation of a polymer processing plant.

Selected subjects to come under the section 'Process and Production Control' are:

- Computerised web tension control on a paper board machine.
- High precision digital feed forward speed control.
- Direct digital control of a process using on-line auto-tuning.
- Computerization of the 'Kamyr' continuous kraft pulping process.
- Coordinated wet end control and the use of a digital computer system on a paper machine.
- Methods for improving accuracy of papersheet moisture control.

The section 'Quality Analysis' will, for example, deal with papers on:

- On-line evaluation on paper quality.
- A comparative study between a scanner and a static fault detection system.
- Infra-red detection of hidden flows in tyres prior to failures during factory dynamic test runs.
- Röntgenfluoreszenz-Schichtdickenmessung mit Anregung durch Radionuklide.

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

Enquiries should be addressed to:

I.F.A.C./P.R.P. – Automation
Jan van Rijswijklaan 58
B-2000 Antwerp / Belgium

Digital Simulation of Continuous Processes

The announcement and the call for papers relative to the IFAC Symposium on Digital Simulation of Continuous Processes appeared in IFAC Bulletin No. 55. The Symposium, sponsored by both the IFAC Technical Committees on Theory and on Applications, will take place in Budapest, Hungary, from September 6 to 10, 1971.

An excerpt from the list of preselected papers will give an idea of the interesting programme:

- Simulation of transient regimes in fixed bed reactors.
- PGGC, a language for digital simulation of petrochemical processes.
- On digital simulation of multiple time scale systems.
- A high-level structure oriented simulation language for chemical plants.
- Digital simulation programs for optimizing DDC of industrial processes.
- Conversational digital simulation using a process control computer.
- The method of digital simulation of controlled continuous processes with unknown dynamics.
- Use of identification methods in connection with simulation languages.
- Mathematical modelling and training simulators.
- Mathematical modelling of the clinker burning process.

Management Control and Related Multilevel Systems Control

Problems of Management Control and Related Multilevel Systems will be treated at this IFAC Symposium to be held at Baku, USSR, from September 28 to October 1, 1971 (see also IFAC Bulletin No. 60). Apart from the sponsoring IFAC Technical Committee on Systems Engineering, the Symposium is also sponsored by the Baku Local Group of the National Committee of the USSR on Automatic Control and by the Academy of Sciences of the Azerbaijan SSR.

The papers to be presented at the symposium will cover the following areas:

- General system theory. System analysis and selection of criteria for management efficiency.
- Forecasting, planning, and decisionmaking.
- Data acquisition, storage and processing in management systems.
- Case studies of management systems.

The deadline for the submission of full papers for final selection has been extended to March 1, 1971.

At the symposium, the working languages will be English and Russian. Simultaneous translation will be provided. All material relative to the symposium will be available in the English language.

The Symposium will give the possibility to visit research institutes, development organizations and industrial enterprises in Baku and Sumgait amongst other the Institute of Cybernetics of the Azerbaijan Academy of Sciences. Excursions and a Ladies Programme are also scheduled.

Before June 1, 1971, the registration fee amounts to US Dollar 50, after that date to US Dollar 60, payable to:

Swiss Credit Bank
IFAC account number 33 99 80
2, Place Bel Air
Geneva / Switzerland

A copy of the cheque should be sent to the address given below, to which also any enquiries should be directed:

National Committee of the USSR
on Automatic Control
81, Profsoyuznaya Street
Moscow GSP-312 / USSR

Automatic Control in Space

The 4th IFAC Symposium on that subject (provisional information in Bulletin No. 57) will be held at Dubrovnik / Yugoslavia, September 6–10, 1971. It will be sponsored by the IFAC Technical Committee for Space and organized by the Yugoslav National Member Organization of IFAC, which is the Yugoslav Committee for Electronics and Automation (ETAN).

Over 70 technical papers will be presented and discussed, the majority of papers prepared by authors from the USA and the USSR. There will also be some invited survey papers, e.g. on Legged Walking Machines by *M. Vukobratovic*, on Automatic Control in Space Exploration by *B.V. Raushenbach*, on Underwater Control Problems by *I.E. Mikhaltzev*.

The preliminary programme will include session topics like: Roving Vehicles Walking Systems Manipulators; Reentry and Soft Landing; Attitude Control; Orbital Control; Satellite System; Underwater Control; Optimization Methods; Optimal Filtering; Stabilization; Space Systems.

Simultaneous translation from English into Russian and from Russian into English is planned for the Symposium.

Enquiries:

Yugoslav Committee for ETAN
Kneza Milosa 9/IV
P.O.B. 356
Belgrad / Yugoslavia

Space and Communications

An International Colloquium on Space and Communications (conference languages: French, English, German) will be held in Paris, March 29 to April 2, 1971, on the occasion of the International Exhibition of Electrotechnic Components (Paris, March 31 to April 6, 1971). The organizers of the conference are the U.A.T.I. (Union des Associations Techniques Internationales – Union of International Engineering Organizations) and the S.F.E.R. (Société Française des Electroniciens et Radioelectriciens).

The aim of the conference is to deal with the technical problems that communication raises in radioelectricity and electronics. These problems may be relevant to the use of space systems either as means of communication or for other applications.

Enquiries:

L'Espace et la Communication
16, Rue de Presles
F-75 Paris 15e / France

New Possibilities of Analogue Controllers

The Belgian and the French National Member Organizations of IFAC – the Institut Belge de Régulation et d'Automatisme (IBRA) and the Association Française pour la Cybernetique Economique et Technique (AFCET) – have joined together to organize a Conference with presentation of papers and round table discussions in Brussels / Belgium, February 4 and 5, 1971, dealing with new possibilities of analogue controllers.

The analogue controllers, having at all times been a very powerful instrument of industrial automation, has for the last few years been the object of improvement. Without doubt, the new competition of DDC has been a stimulating factor for these endeavours.

Will these analogue chains of the second generation continue to develop, or will it be more reasonable to consider that these techniques have come to a stage where further progress of automation ought to be left to the numerical techniques?

It is hoped that the IBRA/AFCET Conference will be a means of helping answer that question.

Enquiries:

Institut Belge de Régulation et d'Automatisme
(IBRA)
3, Rue Ravenstein
Bruxelles 1 / Belgium

IFIP Congress 1971

The fifth Congress of the International Federation for Information Processing (IFIP) will be held at Ljubljana, Yugoslavia, from 23rd to 28th August, 1971. Two kinds of papers will be presented at the Congress: 'Invited Papers' will comprise one-hour surveys of broad fields of information processing, or half-hour presentations of recent advances in topics of special interest; 'Submitted Papers' will report on original work or new results in infor-

mation processing. Seven major areas will be dealt with, viz. Numerical Mathematics; Mathematical Foundations of Information Processing; Computer Software; Computer Hardware and Systems; Systems for Management and Administration; Technological Applications; Sciences and Humanities.

Further information about the Congress, Exhibition, and organized travel arrangements is available from the organizing committee:

IFIP Congress 71
Congress Office
Mestni TRG 4
Ljubljana / Yugoslavia

Persons in North America should write to:

U.S. Committee for IFIP Congress 71
Box 4197
Grand Central Post Office
New York, N.Y. 10017 / USA

Computers and Automata – Towards a Common Theory

Under the aegis of the Microwave Research Institute of the Polytechnic Institute of Brooklyn, the twentyfirst in a series of annual international symposia will be held on the above topic in New York City on April 13–15, 1971. The following list of topics is also a tentative arrangement of sessions: Basic Limitations on Speed and Power; Real-Time and other Time-Bounded Computations; Artificial Intelligence and Computer Creativity; Principles of Languages, Programming and Compiling; Computer Architectures; Synthesis of Automata and Logical Circuit Design; Machine Diagnostics.

Enquiries should be addressed to:

Polytechnic Institute of Brooklyn
MRI Symposium Committee
333 Jay Street
Brooklyn, N.Y. 11201 / USA

RILEM Symposium 1971

RILEM (Réunion Internationale des Laboratoires d'Essais et de Recherches sur les Matériaux et les Constructions) will hold a symposium on application of computer-adapted statistical and optimizing methods for process control and performance testing within the field of building materials and component industries in Copenhagen, May 5 to 8, 1971. Deadline for final registrations: March 1, 1971.

Enquiries:

The Organizing Secretary
RILEM Symposium 1971
c/o Danish Building Research Institute
7, Lundtoftevej
DK-2800 Lyngby / Denmark

Systemotechnika 71

The international exhibition 'Systemotechnika 71' will take place in Leningrad, USSR, from October 6 to 17,

1971, and is meant to demonstrate the increased trend in the USSR to develop new methods of technology and business efficiency. The display will include, for instance, Data Acquisition and Transmission Systems, Data Processing Equipment, and others under the section Office Machinery and Equipment. Another of the six main sections, namely Inter-Office Communication Systems, will, for instance, include Automatic Telephone Answering Sets.

The purpose of the show is to demonstrate as many complete systems as possible in order to highlight automation effects of machinery and equipment on display.

A series of scientific symposia organized by the Institute for Automatic Information Processing, Darmstadt, Fed. Rep. Germany, will be held in conjunction with the exhibition.

Enquiries:

Glahe International GmbH & Co.
Postfach 800349
5 Köln 80 / Fed. Rep. Germany

New Publications

TECHNICAL AND BIOLOGICAL PROBLEMS OF CONTROL — A CYBERNETIC VIEW. Edited by *A.S.Iberall* and *J.B.Reswick*; 114 papers, 898 pages, hard cover, illustrated. Price: US Dollar 48. Published by Instrument Society of America (ISA), 400 Stanwix Street, Pittsburgh, Pa. 15222, USA. The availability of this volume was briefly announced in IFAC Bulletin No. 61. It is the English translation of Proceedings of the IFAC Symposium on the topic held in Yerevan, USSR, September 1968. The choice of subjects and papers for the conference was strongly conditioned by the characterization 'cybernetic'. In general, the international program committee interpreted this to mean that the papers attempted to discuss systems organization more complex than 'simple' control systems.

Topics in the book are: general problems of physiological mechanism (23 papers), models of neuronal structures (29 papers), movements control (18 papers), bio-electrical control and artificial organs (5 papers), computer use for biological information processing (6 papers), man-machine interaction in control systems (8 papers), pattern recognition (16 papers), and adaptive systems (9 papers).

Third Edition of ISA Book on STANDARDS AND PRACTICES FOR INSTRUMENTATION. Edited by *Glenn F. Harvey*, 550 pages, illustrated. Instrument Society of America (ISA), 400 Stanwix Street, Pittsburgh, Pa. 15222, USA, 1970. Price: US Dollar 30. The book includes copies of all standards currently available from ISA. It is a complete reference source of instrumentation and automatic control standards developed by U.S. standards organizations as well as by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

RICERCHE DI AUTOMATICA. A new journal on Automatic Control being published by the Italian

Association of Automatic Control (A.N.I.P.L.A.) with the financial support of National Research Council of Italy. It publishes original articles in both theoretical and experimental area of Automatic Control: system theory, automatical control theory, advanced problems of analysis and synthesis of control systems, automata theory, switching theory, advanced problems related to instrumentation, components and application of automatic control systems, etc. The Editor is *Antonio Ruberti*, Istituto di Automatica, University of Rome. Number 1 (Sept. 1970) of volume I includes, among others, the following papers:

- Non-Linear Stability Analysis of Multimachine Electric Power Systems by *U. di Caprio* and *F. Saccomanno*.
- Statistical Identification of Interconnected Power Systems, by *F. Donati*, *G. Fiorio*, *R. Genesio* and *V. Mauro*.
- Construction of Minimal Realizations under Coefficient Uncertainty, by *C. Roveda* and *R. Schmid*.
- A State Space Approach to Non-Interacting Controls, by *G. Basile* and *G. Marro*.

Ricerche di Automatica will be published three times a year entirely in the English language. Subscription rates are Dollar 12 abroad. For subscriptions apply directly to:

A.N.I.P.L.A.
Piazza Belgioioso 1
20121 Milano / Italy

PROCEEDINGS (in English) of the 'FORMATOR' SYMPOSIUM ON MATHEMATICAL METHODS FOR THE ANALYSIS OF LARGE SYSTEMS held in Liblice, Czechoslovakia, June 9–12, 1970; 250 pages, hard cover volume. Price: US Dollar 10. Obtainable from the Publisher: The Institute of Information Theory and Automation of the Czechoslovak Academy of Science, Prague 2, Vysehradská 49, Czechoslovakia.

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|--------------------------|---|
| <i>Beneš, J.:</i> | The control of complexes. |
| <i>Čuénod, M.:</i> | Analysis of linear, non linear and multivariable systems with non stochastic and stochastic inputs. |
| <i>Dastyč, P.:</i> | Space- and time-controlled service subsystem. |
| <i>Grim, J.:</i> | A discrete stochastic model of the diffusion boundary problem with an additional goal condition. |
| <i>Kolář, P.:</i> | Optimal development in time of a special type of structure, from the point of view of availability. |
| <i>Kulikowski, J.L.:</i> | Optimization of some organization components of information processing systems. |
| <i>Pudil, P.:</i> | An adaptive control of a stochastic system with incomplete information. |
| <i>Sladký, K.:</i> | Markovian approach for large scale stochastic system optimization. |
| <i>Vich, R.:</i> | About some problems of seismic signal processing. |
| <i>Voronov, A.A.:</i> | On some problems arising in decision making in large — scale systems control with uncertainty. |

A M E N D M E N T

to the IFAC Information Bulletin No. 62

According to a new information given by the Hungarian National Committee on Automatic Control, the IFAC Symposium on Digital Simulation of Continuous Processes, DISCOP, September 6 to 10, 1971, will not be held in Budapest but in **Győr**, which is a city half way between Budapest and Vienna, 150 km distance from both cities. There will be special bus services between Budapest air port and Győr.