

STREAMLINING THE IFAC CONSTITUTION

by J. GERTLER

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Who is Who in IFAC

IFAC has adopted its present constitution and by-laws in 1966. Since that time, the Federation has undergone considerable development. The number of National Member Organisations has grown from 31 to 40. The technical area of automatic control has expanded significantly and, accordingly, several new technical committees have been established, such as the TC's on computers, on economic and management systems, on biomedical engineering, on manufacturing technology, on mathematics of control and on social effects of automation.

The extended technical activities of the Federation have been reflected by the dramatic increase of technical meetings sponsored by IFAC, the average number of symposia in non-congress years having increased from 3 to 29. This includes the new kind of meeting, the workshop, which has been gaining in popularity.

Several non-technical committees have been formed to respond to expanding needs, like those on policy, public affairs and developing countries. The decision to establish a single IFAC publisher and the consequent agreement with Pergamon Press have been a milestone in IFAC's history.

All these developments call for an updating of the fundamental regulations of IFAC, in order to adapt them to the changed situation and practices and to provide a more flexible framework for future activities. These needs were recognized by the Executive Council in 1977, when Uolevi Louto, the then president, appointed the Constitution Committee comprising John Coales (chairman), Steve Kahne and Janos Gertler. The task of the Committee was set as preparing a draft of the revised constitution and by-laws. First the philosophy of the revision was formulated and this document was adopted by the Executive Council in 1977.

Some of the highlights of the new constitution are the following:

- An ever greater emphasis will be placed on the preparation and organisation of technical meetings (workshops, symposia, conferences) that constitute the fundamental activities of the Federation.
- To acknowledge the increasing role of publication activities, a special committee will be set up to deal with publication matters properly.

- The new organisation will provide for direct involvement of the elected officers in the technical and executive activities of the Federation.
- Responsibilities will be further decentralized to comply with the principle that decisions should be made where most of the relevant information is available. The Council, while maintaining an overall knowledge and control of all activities, shall concentrate more on the principal issues.
- The nominating, appointing and electing procedure will be further decentralized and democratized. In selecting office-bearers, more attention will be paid to both the continuity of technical work and the involvement of new, able and active people.

By now the updated text of the constitution and by-law has been drafted along these lines. It will be discussed by the Executive Council in June, 1980. If the Executive Council agrees on the new documents, these will be consequently submitted to the National Member Organisations and then put up for voting at the Kyoto Congress in 1981.

Visitors to IFAC



Harold Chestnut, the first president of IFAC in 1968 and L. Kirchmayer who both attended the IIASA/IFAC Symposium in Laxenburg also paid a visit to the IFAC Secretariat.

NEXT IFAC EVENTS

IFAC/IMACS/WGMA Symposium on Systems Analysis and Simulation (Berlin, German Democratic Republic, September 1 - 5, 1980)

Organised by:

The Academy of Sciences of the German Democratic Republic, Central Institute of Cybernetics and Information Processes.

Sponsored by:

IFAC-SECOM (TC on Systems Engineering and EDCOM (TC on Education)

IMACS (International Association for Mathematics and Computers in Simulation) and

WGMA (Wissenschaftliche Gesellschaft für Meß- und Automatisierungstechnik der Kammer der Technik.)

Purpose:

The aim of the conference is to present new results in systems analysis, mathematical modeling and simulation techniques of complex systems. Contributions concerning the interactive influence of new results in systems theory on systems analysis and mathematical modeling and vice versa, are a matter of special interest.

All correspondence should be addressed to Zentralinstitut für Kybernetik und Informationsprozesse der Akademie der Wissenschaften der DDR Secretariat of the Symposium on Systems Analysis and Simulation DDR 1199 Berlin, Rudower Chaussee 5

IFAC Workshop on the Impact of Automatic Control and Information Systems on Organisation in the 1980's (Youngstown State University, Youngstown, Ohio, USA, September 29 - October 1, 1980)

Sponsored by:

IFAC - Social Effects of Automation Committee, AACC - Social Effects of Automation Committee and Youngstown State University.

Purpose:

The explosive development of automatic control and information processing technology has major implications for organisational structure. This workshop will examine possible impacts on organisation in eight specific fields:

- Manufacturing
- Administration
- Research
- Medicine
- Education
- Government
- Service Industries and the
- Media.

Abstracts:

Deadline for receiving abstracts of participant's approach to the subject will be August 1, 1980

All correspondence should be addressed to A.R. Curran Social Effects of Automation Committee c/o Department of Management, Youngstown State University Youngstown, Ohio 44555, USA

ISAO/IFAC Symposium on Control Aspects of Artificial Organs (Warsaw, Poland, September 24 - 26, 1980)

Organised by:

Institute of Biocybernetics and Biomedical Engineering of the Polish Academy of Sciences.

Sponsored by:

ISAO - The International Society for Artificial Organs
IFAC - TC on Biomedical Engineering.

Inquiries concerning the scientific programme of the Symposium should be sent to the symposium secretary:

Dr. Wojciech Zmystowski

Institute of Biocybernetics and Biomedical Engineering
00-818 Warszawa, KRN 55
Poland

automatica

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Preview for the Next Issue July 1980

PAPERS

- A Multivariable Self-Tuning Controller (H.N. Koivo)
Estimation of Pulse Heights and Arrival Times (H. Kwakernaak)
Models for National Energy Policy Analysis and Planning (I. Kavrakoglu)

BRIEF PAPERS

- Multivariable Tuning Regulators for Unknown Systems (J. Penttinen, H.N. Koivo)
Fast Projection Methods for Minimal Design Problems in Linear System Theory (S. Kung, T. Kailath)
Experiment Design for Maximum-Power Model Validation (T. Bohlin, L. Rewo)
Team-Optimal Closed-Loop Stackelberg Strategies in Hierarchical Control Problems (T. Başar, G.J. Olsder)
A Basic Attitude Instability of Spacecraft with Imperfect Momentum Wheels (S.W. Tonkin)

TECHNICAL COMMUNIQUE

- An Output Error Identification Interpretation of Model Reference Adaptive Control (C.R. Johnson)
Computational Experience with the Constrained Minimum Variance Input-Output Estimator (J. Gertler, G. Varga, F. Sipoş)

IFAC REPORT

- 1979 IFAC Symposium on "Computer Applications in Large Scale Power Systems" (B.T. Nagrani)

NON-IFAC EVENTS

IEEE Symposium on Foundations of Computer Science - October 1 - 3, 1980

The Twenty-First Annual Symposium on Foundations of Computer Science, sponsored by the IEEE Computer Society Technical Committee on Mathematical Foundations of Computing, will be held in Lake Placid, New York, on October 1 - 3, 1980. Papers describing original research in the theoretical aspects of Computer Science are being sought.

Authors are requested to send eight copies of a detailed abstract (not a complete paper) to the Program Chairman:

Professor Andrew C. Yao
Computer Science Department
Stanford University
Stanford, California 94305, USA

Local arrangements are being handled by

Professor David Bray
Department of Electrical and Computer Engineering
Clarkson College
Potsdam, New York 13676, USA

IFORS International Conference on Transportation - November 26 - 28, 1980

The International Federation of Operational Research Societies (IFORS) and the Operational Research Society of India (ORSI) are organising the International Conference on Transportation at New Delhi during November 26 - 28, 1980.

The Conference aims at discussing managerial problems in land, sea and air transport systems and their solutions by modern scientific management techniques.

Detailed two page abstracts of the papers proposed to be presented at the Technical Sessions should be forwarded to the Conference Secretariat

Further inquiries may be addressed to The Conference Secretariat ICOT Indian Statistical Institute 7, S.J.S. Sansanwal Marg New Delhi - 110029, India

Modeling of Large Scale Energy Systems

Report on the IIASA/IFAC Symposium held in the Laxenburg Conference Centre
from February 25 - 29, 1980

This symposium, which was held in Laxenburg near Vienna, Austria by the International Institute for Applied Systems Analysis was co-sponsored by the Systems Engineering Committee of the International Federation for Automatic Control.

The aim of the symposium was to provide a survey of the present state-of-the-art of energy modeling and the applicability of such models to concrete decision making issues. Methodological questions were not explicitly addressed, but implicitly treated in the presentation of the various models. The audience included a representative cross-section of modelers and model-users from the scientific, industrial and decision making communities.

Altogether, more than forty papers were presented, including contributions from Eastern and Western countries, as well as industrialized and less developed ones. Several international organisations, among them the World Bank and the EC were represented. The symposium itself was organised along six sessions. The opening session comprised three introductory papers dealing with the more general aspects of the energy problem and energy modeling. The remaining sessions addressed the issues related to integrated sets of models, to energy demands, energy supply systems, energy resources and theoretical decision problems. Two panel discussions dealt with the interactions between the economy, energy, capital and productivity and the possible improvements in energy models to aid policy decisions.

The symposium was very successful with regards to providing a comprehensive view of present energy modeling and in promoting the information flow among the various modelers and the modeling groups. Yet it also revealed several weak spots of energy modeling in general.

First of all, in spite of the great number of existing modeling approaches a lot of work remains to be done to improve and streamline the available instrumentarium in order to answer the question clearly which methodologies are best suited to a certain type of problem. Secondly, assumptions and their influence on model results still often need to be more explicitly formulated. It is in this connection that a certain tendency to "believe" rather what the model says than to initially examine its results could be observed. Thirdly, an improved exchange of experience between modelers might help to prevent repeating mistakes and pursuing dead ends.

On the positive side, the symposium has shown an increasing tendency on both the modeler's and the decision-maker's side to communicate and foster the use of models in actual policy making processes. Within the various modeling groups the economists and technologists have also improved their

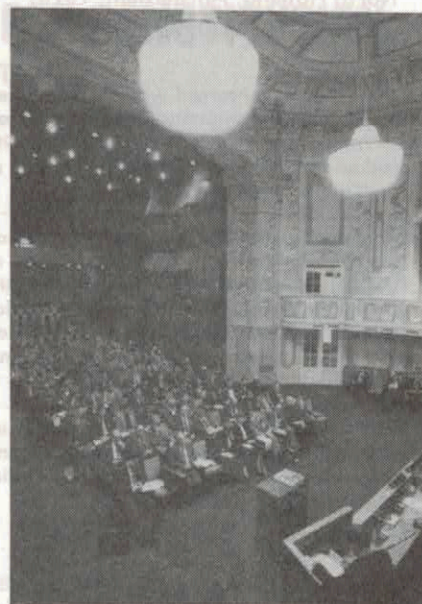
understanding for each others efforts. Related to this issue is the attempt of several groups to use energy modeling as a means to describe the entire energy issue as a systems problem and not in its partial aspects only. In this context, some efforts trying to examine today's implications of more long-term consideration and the regional implication of global relationships are thus opening up a new dimension for energy modeling.

In conclusion it might be said that the symposium has revealed the very significant contributions energy modeling could make to decision and policy making processes and indeed already now has an important place there. Most of us have conscientiously or unconscientiously become model users, yet, the limits and possibilities of energy models remain to be fully explored and there is still a lot of work to be done in this field.

M. PORIAS

The IIASA/IFAC meeting was held in the new Laxenburg Conference Area near Vienna. This Conference Area, which is installed in the newly renovated former Imperial Theatre and dining wing of Schloß Laxenburg was generously made available for IIASA by the Austrian Authorities and will also be open to other scientific organisations for their meetings.

New Conference Centre in Laxenburg



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Western Australia

Note:

Papers on UFO (Unidentified Flying Objects) or ESP (Extra Sensory Perception) will not be considered.

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BOOK REVIEWS



WHO IS WHO IN IFAC

Computer-Aided Design of Digital Electronic Circuits and Systems.

Proceedings of a Symposium, Brussels, November 1978.

Edited by Gerald MUSGRAVE, Brunel University, Uxbridge, Middlesex, UK. North Holland, Amsterdam, 1979. 305 p. S 44.00/Dfl. 90.00

This book is concerned with the computer-aided design of digital systems at all levels — from the conceptual design and specification through the levels of synthesis, simulation and test pattern generation.

The symposium was the result of a study project initiated by the Commission of the European Communities (EEC) in the field of CAD of digital systems which called for a worldwide data collection on existing tools and methods and their analysis.

This work will be of value to those involved in research and development, technical management, government policy bodies and education.

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CAD Systems. Proceedings of the IFIP Working Conference on Computer Aided Design Systems.

Edited by John J. ALLAN III, The University of Texas at Austin, USA. North Holland, Amsterdam, 1977. 458 p. S 41.50/Dfl. 85.00.

This book presents the principles of many of the fundamental aspects of CAD-systems. It encompasses the fundamentals of CAD systems. It is organised into five sections: Executive Systems — Command Languages — Data Structures — Hardware — General Overview.

This book serves as a text for professors, a reference for planners, and a guide for CAD professionals.

*

IFAC Workshop on Urban, Regional and National Planning, Kyoto, 1977. Edited by Toshiharu Hasegawa and K. Inoue. Elmsford, NY, Pergamon, 1978. 233 p. S 33.

Applications of systems science to various aspects of urban, regional and national planning. The book presents the technologist's rather than the politician's approach to finding solutions to pressing problems.

Contents: Socio-economic aspects of health care planning. Structural modelling in a class of systems by fuzzy sets theory. Solid waste system planning in Calcutta Metropolitan District. Target setting by Delphi method in regional planning. Societal response profile assessment matrix. Environmental evaluation and accessibility criteria in planning. Computer simulation of economy management systems. A simulation model of district heating system. A model for reduction and control of pollution. Water resources system optimal control. Some possibilities to consider environmental aspects in urban planning models. Integration of environment into regional development: an IIASA framework. Urban, regional and national planning in India. A dynamic model of transportation and land use.

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World Directory of Institutes Providing Higher Education in Measurement and Instrumentation.

Compiled by Prof. L. FINKELSTEIN, the City University, London, Chairman of the IMEKO Technical Committee on Higher Education and Prof. H. FEIKEMA, Delft University of Technology.

40 pages containing relevant data from 15 countries where the International Measurement Confederation is represented through a National Member Organisation and a list of IMEKO Member Organisations with their delegates to the General Council of the Confederation and a list of members of the TC on Higher Education as additional information.

To be ordered at the price of US \$ 10.— from the IMEKO Secretariat, 1371 Budapest, POB 457, Hungary.

NEXT EC- AND RELATED MEETINGS

will take place in Cleveland, Ohio, June 1 — 5, 1980. All Chairmen and Vice-Chairmen of IFAC Technical Committees are entitled and have been invited to attend.

PLEASE SEND YOUR REGISTRATION NOW

to Prof. Steve Kahne
Case Western Reserve University
Cleveland, Ohio, USA

copying IFAC Secretariat



Prof. Dr.-Ing. Manfred THOMA
Second Vice President 1978-81

Manfred Thoma was born on February 24, 1929 in Neumarkt/Oberpfalz, Germany. He is married and has three children. He took his Ingenieur (B.Sc.)-Degree in Electrical Engineering from the OHM-Polytechnikum, Nürnberg in 1954, graduated as electrical engineer in 1957 and became a doctor of engineering sciences in 1963 both from the Polytechnic University, Darmstadt. Since July 1967 he has been a full professor and director of the Institut für Regelungstechnik (Control Engineering) at the University of Hannover. Apart from this, he has been a visiting professor at Purdue University, Lafayette, Indiana, USA in 1964/65 and in 1977 at the University of Kyoto, Japan.

Professor Thoma served as a Vice-Chairman of the IFAC Theory Committee 1972-75 and as an elected member of the Executive Council 1975-78. At present he is second Vice-President of IFAC. At the same time he is a member of the board of the VDI/VDE-Gesellschaft Meß- und Regelungstechnik, the West German NMO of IFAC.

His research interests lie in control engineering and application of modern theory to control problems in particular. He has published well over 30 papers mainly in the area of stability, optimal control and lately in hierarchical control. His book "Theorie linearer Regelungssysteme" (Theory of Linear Control Systems) was published in 1973.

He was made Dean of the Engineering Faculty in the academic year of 1971/72 and is currently a member of the Senate of the University of Hannover as well as member of the "Braunschweigische Wissenschaftliche Gesellschaft" and member of the board of INTERKAMA.

Professor Thoma is the editor of the Springer Lecture Note Series on Control and Information Sciences as well as the German language Springer series "Messen — Steuern — Regeln". Apart from this, he is a member of the editorial board of several international journals.