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# International Federation of Automatic Control

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# Newsletter

## Contents:

Automatic Control Education  
for Development Projects

Forthcoming Events

3rd IFAC Symposium  
on Control of Distributed  
Parameter Systems

Who is Who in IFAC

"Measurement" —  
IMEKO's New Journal

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Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung und der Österreichischen Akademie der Wissenschaften in Laxenburg.  
Der „IFAC Newsletter“ erscheint sechsmal jährlich in englischer Sprache unter der Redaktion des Generalsekretärs der IFAC, Prof. Dipl.-Ing. Fred Margulies. Die Zeitschrift dient der Information über die Aktivitäten der IFAC. Sie wird kostenlos an Abonnenten in 48 Ländern versandt, die Kosten werden von der IFAC aus den Beiträgen der derzeit 41 Mitgliedsländer getragen.  
Präsident der IFAC ist für 1981/84 Akademiemitglied Prof. Dr. T. Vámos (Ungarn), Vizepräsidenten sind Prof. Dr. M. Thoma (BRD), Akademiemitglied Prof. Dr. B. Tamam (UdSSR) und W. E. Miller (USA). Die komplette Liste der Vorstandsmitglieder wurde im Newsletter Nr. 5 (Oktober 1981), ein Auszug aus den Statuten im Newsletter Nr. 6 (Dezember 1981) veröffentlicht. Alle Funktionen werden ehrenamtlich ausgeübt.

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## Automatic Control Education for Development Projects

Contribution to a Round Table Discussion by the IFAC Committee on Education

Automatic Control Education in Developing Countries is of great importance for successful implementation of Development Projects, and its many aspects have been discussed in several Round Tables sponsored by the Education Committee, of which the most recent took place in Rabat, Morocco in 1980, in Kyoto, Japan in 1981 (during the IFAC Congress) and in Ankara, Turkey in 1982 on the occasion of an IFAC Workshop on Computer Aided Design of Projects and Development Policies.

At that workshop P. Martin Larsen, Technical University Lyngby (Denmark), gave a brief description of the activities of the IFAC Education Committee (EDCOM) with special emphasis on topics related to Developing Countries. He referred to the "IFAC Exchange Program", which had been proposed by EDCOM for teaching and research institutions within the IFAC countries in order to promote the technology transfer between industrialised and developing countries (a more extensive description of that proposal, drafted by M. Cuénod and M. Schaufelberger can be found in Newsletter No 4, July 1982).

M. Larsen further reported on a Round Table Discussion held at an IFAC Workshop in Beijing, China, in 1981 dealing with education of operators specifically in relation to Distributed Computer Control Systems.

Efficient plant design and operation in developing countries was the topic of M. Cuénod's (Geneva, Switzerland) contribution to the Ankara Workshop. He quoted a high ranking government official of a developing country stating that the implementation of a plant would require twice the effort in time and money, rendering half the result in output and length of service as compared with an industrialised country. Thus developing countries often appear as "graveyards" of industrial installations, which have gone out of operation among other reasons for lack of trained managers and operators. To avoid such waste, future managers and operators should be trained during the design stage of the plant; they should be involved with the design and the implementation of the respective project. Furthermore it would be appropriate for them not only to acquire a deep knowledge of the plant and of its equipment, but also to have the possibility to express their wishes and suggestions, starting from the first steps of the design.

More details concerning education and training programs could be found in the contribution of Z. Strezova (Sofia, Bulgaria). A close cooperation between IFAC and the Intergovernmental Bureau for Informatics (IBI) — which is promoting a number of ambitious training programs in developing countries — was recommended.

A. F. Konar (Minneapolis, USA), drew on his experiences indicating that on-site workshops had proved to greatly enhance the transfer of technology; especially if the generation of software tools was involved in the development, these workshops almost become mandatory.

The on-site workshop provides the technologist with the opportunity to transfer the knowledge to audiences of varying adversity. It not only facilitates participation but also helps to assess the real needs of the participants. Results had been extremely positive.

The benefits in using interactive packages and graphical displays as an aid in undergraduate instruction and project development was explained by C. Süleyman, France, while W. H. Erik de Man (Enschede, Netherlands) dealt with multidisciplinary investigations for development planning.

These various contributions by the Round Table Panel led to a vivid interchange of experiences and opinions on different aspects of "Education of Design Engineers and Operators for Development Projects", which was finally summarised by the chairman P. Martin Larsen. He concluded that education of people in the developing countries on all levels is of utmost importance for the technology transfer. The international organisations and the national governments should be pushed to spend more money on education, because better education is a fundamental requirement in the world of tomorrow.

Within IFAC all personal contacts should be used for promotion of science and technology of automatic control and systems engineering. In this respect IFAC is operating in the same spirit as the old guilds. However, the financial support for educational programs must be obtained from private funds and especially in relation to developing countries from international organisations like UNESCO and UNIDO.

# FORTHCOMING EVENTS

This list has been brought up to date in accordance with decisions taken by the meeting of the Technical Board on September 28/29, 1982 in Baden-Baden.

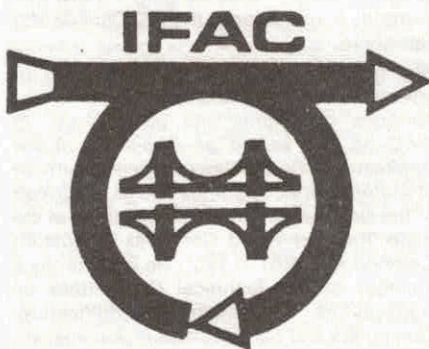
Title	1983	Place	Deadlines	Further Information
IFAC Symposium on Systems Approach to Appropriate Technology Transfer	March 21—23	Vienna, Austria	—	IFAC — Symposium "Appropriate Technology Transfer" Ö P W Z, Renngasse 5 1014 Vienna, Austria
12th IFAC/IFIP/Workshop on Real Time Programming	March 29—31	Hatfield, UK	—	Real Time Programming Organizing Committee, Dr. G. M. Bull, School of Information Sciences The Hatfield Polytechnic, P. O. Box 109 Hatfield, Herts, AL10 9AB, England
4th IFAC/IFIP/IFORS Int. Conference on Control in Transportation Systems	April 20—22	Baden-Baden, FRG	—	VDI/VDE Gesellschaft Meß- und Regelungstechnik Postfach 1139, D-4000 Düsseldorf 1, FRG
IMACS/IFAC Int'l Symposium Simulation in Engineering Sciences	May 9—11	Nantes, France	—	A.F.C.E.T. IMACS Symposium 1983 156, Bd. Péreire 75017 Paris, France
5th IFAC Workshop Distributed Computer Control Systems	May 18—20	Sabi-Sabi Game Reserve South Africa	—	Prof. M. G. Rodd University of the Witwatersrand 1 Jan Smuts Avenue, Johannesburg, South Africa
IFAC Workshop Management Control Systems Modelling of Dynamics	May 3—6	Dubrovnik, YU	—	Dr. Rajkov Faculty of Organizational Sciences/ University of Belgrade Jove Ilica 154 11000 Beograd, Yugoslavia
AFCEC/IFAC/IFIP Symposium New Techniques and Ergonomics	May 31 — June 2	Valenciennes, F	—	University of Valenciennes Le Mont Houy 59326 Valenciennes, Cedex France
IFAC/IFIP Conference Training for Tomorrow: Educational Aspects of Computerized Automation	June 7—10	Leiden, NL	—	Mr. L. Immink c/o Twente University of Technology Dept. C.T., P. O. Box 217 NL-7500 AE Enschede, The Netherlands
4th IFAC/IFORS Conference The Modelling and Control of National Economies	June 17—19	Washington D.C., USA	—	Dr. M. Canzoneri 4th IFAC/IFORS Conf. Board of Governors, Federal Reserve Washington DC 20551, USA
IFAC Workshop Applications of Nonlinear Programming to Optimization and Control	June 20—22	San Francisco, USA	—	Prof. H. E. Rauch Lockheed 52-56/205 3251 Hanover Street Palo Alto CA 94304, USA
IFAC Workshop Adaptive Systems in Control and Signal Processing	June 20—22	San Francisco, USA	—	Mr. D. M. Auslander University of California Mechanical Eng. Dept. Berkeley, CA 94720, USA
3rd IFAC/IFORS Symposium Large Scale Systems: Theory and Applications	July 11—15	Warsaw, Poland	—	Dr. Z. Nahorski 3rd IFAC/IFORS LSSTA Systems Research Institute Polish Academy of Sciences ul. Newelska 6, 01-447 Warsaw, Poland
World Conference on Systems	July 11—15	Caracas, YV	April 1, 1983	Organizing Committee 1983 World Conference on Systems Fundasistemas Apartado Postal 47570 Caracas—1041a, Venezuela
IFAC/IFIP/IFORS Symposium Fuzzy Information, Knowledge Representation and Decision Processes	July 19—21	Marseille, France	—	Prof. M. Roux Laboratoire de Biomathématique Faculté de Médecine 27, Blvd. Jeon-Moulin F-13385 Marseille, Cedex 5, France

## FORTHCOMING EVENTS (ctd.)

Title	1983	Place	Deadlines	Further Information
4th IFAC Symposium Mining, Mineral and Metal Processing	August 22—25	Helsinki, SF	—	IFAC 4th MMM Symposium 1983 Secretariat P. O. Box 192 SF-101 Helsinki 10, Finland
IFAC Workshop Simulation and Validation Techniques to establish Control System Performance	August 22—26	Stanford, Univ., USA	—	Prof. D. B. DeBra Dept. Aero & Astro Stanford University Stanford CA 94305, USA
3rd IFAC Symposium Control in Power Electronics and Electrical Drives	Sept. 12—14	Lausanne, CH	—	Prof. H. Bühler Ecole Polytechnique Fédérale de Lausanne Laboratoire d'électronique industrielle 16, ch. de Bellevue CH-1007 Lausanne, Switzerland
IFAC Workshop Supplemental Ways of Improving International Stability (SWIIS)	Sept. 13—15	Laxenburg, A	—	ÖPWZ, „SWIIS 1983“ P. O. Box 131 Hohenstaufengasse 3 A-1014 Vienna, Austria
3rd IFAC Workshop Safety of Computer Control Systems SAFECOMP 83	Sept. 20—22	Cambridge, UK	—	Miss R. da Gama Computing and Control Division, IEE Savoy Place London WC2R OBL, UK
IFAC Workshop Modelling and Control of Electric Power Plants	Sept. 22—23	Como, Italy	—	Prof. C. Maffezzoni Politecnico di Milano Senior Researcher at ENEL Via Valv. Peroni, 77 I-20133 Milano, Italy
CIGRE/IFAC Symposium Control Applications for Power System Security	Sept. 26—28	Florence, Italy	—	CIGRE/IFAC Symposium Central Office of CIGRE 112 bd Haussmann F-75008 Paris
IFAC Symposium Automatic Control in Chemical Processing and Extraction Metallurgy	Sept. 26—30	Pretoria, South Africa	—	The Symposium Secretariat IFAC Symposium S. 282 Council for Scientific and Industrial Research P. O. Box 395 Pretoria 0001 Rep. of South Africa
IFAC Symposium Artificial Intelligence in Manufacturing	October 4—6	Leningrad, SU	—	Prof. V. M. Ponomaryov LRCC USSR AOS 1, Mendeleevskaya Line Leningrad, 199164, USSR
5th IFAC/IMEKO Conference Instrumentation and Automation in the Paper, Rubber, Plastics and Polymerisation Industries (PRP automation 5)	October 11—13	Antwerp, B	—	PRP Automation 5 Jan van Rijswijklaan 58 B-2000 Antwerp, Belgium

## 9TH WORLD CONGRESS

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A BRIDGE BETWEEN CONTROL SCIENCES  
AND TECHNOLOGY

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# 3rd IFAC Symposium on Control of Distributed Parameter Systems

June 29 — July 2, 1982 (Toulouse, France)

This Symposium following those of Banff, Canada (1971) and Coventry, England (1977) was organized scientifically and materially by the Centre d'Etudes et de Recherches de Toulouse and the Laboratoire d'Automatique et d'Analyse des Systèmes in collaboration with the Institut National de Recherche en Informatique et Automatique (Professor J. L. Lions).

In its capacity as an IFAC Symposium the conference benefited from the sponsorship of the following IFAC committees:

- Theory Committee
- Mathematics of Control Committee
- Applications Committee.

and was placed under the financial and administrative responsibility of the Association Française de Cybernétique Economique et Technique which represents IFAC in France.

90 communications were selected by the International Programme Committee, and were distributed over 24 sessions on the following themes:

- Modelling  
(2 sessions, 6 communications)
- Identification and Estimation  
(4 sessions, 16 communications)
- Stabilisation  
(1 session, 3 communications)
- Stabilisability and Controllability  
(1 session, 4 communications)
- Optimal Control  
(2 sessions, 6 communications)

## "MEASUREMENT" — IMEKO's New Journal

A new quarterly publication which will give a world-wide report on the state and progress of the science and technology of measurement is being published by the International Measurement Confederation (IMEKO) with the title "Measurement". The first issue is dated January — March 1983.

This international A4 size journal is to be published by the Institute of Measurement and Control, (UK). The contents will be guided by a specialist international Editorial Board appointed by the IMEKO Council, and including ex officio the Chairmen of IMEKO Technical Committees.

The contents will be based on the work of IMEKO. There will be original information on advances in the science and technology of measurement as well as reports and communications from conferences and symposia. Surveys and review articles will be included, and there will be special issues reviewing specific areas of equipment, application and theory.

Papers and other contributions are invited.

The subscription rate is £ 40 per year (US \$ 80) including surface mail. Orders should be sent to the Subscription Dept, "Measurement", 20 Peel Street, London W8 7PD. UK.

- Optimisation  
(3 sessions, 11 communications)
- Optimal Design  
(2 sessions, 7 communications)
- Methods and Techniques of Control  
(5 sessions, 21 communications)
- Stochastic Processes  
(1 session, 4 communications)
- Flexible Structures  
(1 session, 4 communications)
- Thermal Process Control  
(1 session, 3 communications)
- Energy Systems  
(1 session, 5 communications).

The seven themes (either original or survey papers) debated in the course of the plenary sessions were the following:

J. L. Lions (I.N.R.I.A. France)  
"Sur le contrôle optimal des systèmes distribués instables"

A. J. Pritchard (Control Theory Centre, Warwick, UK)  
"Nonlinear infinite dimensional systems theory"

R. F. Curtain (Math. Institut, Groningen, Holland)  
"Compensator design for distributed parameter systems"

H. T. Banks  
(Lefschetz Center for Dynamical Systems, Brown University, Providence, USA)  
"Distributed system optimal control and parameter estimation: computational techniques using spline approximations"

A. G. Butkovskiy (Institute of Control Sciences, Moscow, USSR)  
"Some new results in distributed parameter system control" (a review)

M. P. Polis  
(Département du Génie Electrique — Ecole Polytechnique de Montréal, Canada)  
"The distributed system parameter identification problem: a survey of recent results"

C. S. Kubrusly and H. Malebranche  
(Department of Research and Development — LCC/CNPq, Rio de Janeiro, Brazil)  
"A survey on optimal sensors and controllers location in distributed parameter systems".

The participants numbered 125, including 50 French and 75 visitors from abroad.

A permanent exhibition with a simulation apparatus, the "Delft Parallel Processor", was organized by Professor Decker's team from the University of Delft, Holland.

**This Newsletter may be reproduced in whole or in part. We encourage reprinting in national and local automatic control periodicals. Acknowledgement to IFAC would be appreciated.**

## WHO IS WHO IN IFAC



Nat Cohn

One of IFAC's outstanding personalities recently joined a distinguished list of technical pioneers when he received the 1982 Edison Medal Award from the Institute of Electrical and Electronics Engineers (IEEE) at its International Conference and Exhibition in Boston.

Nat Cohn was honored "for a career of creative achievement and leadership in the instrument, control and process computer industry — and in the control and economic dispatch in large interconnected electric systems".

The Edison Medal Award was established in 1904 by friends and associates of Thomas Edison to commemorate his 25 years of achievements in the art of electrical lighting. Past recipients of this medal include George Westinghouse and Alexander Graham Bell. It is IEEE's principal annual award.

Nat was born on January 2, 1907 at Hartford CT (USA) and thus has just celebrated his 76th birthday. After a 48-year career with Leeds & Northrup, where he started as a trainee in 1927 and worked himself up to become Executive Vice President (1968 — 1972) and Company Director in 1963, he retired in 1975, only to continue his activities as Consultant to Process and Power Industries.

He has been active for more than 50 years in the measurement and automatic control fields and is well known as a pioneer in the development and application of control techniques for electric power systems. Many of the fundamental concepts and techniques he devised helped make possible the geographically wide-ranging networks currently in operation in the US, Canada and elsewhere.

His biography contains a long list of affiliations and memberships, of awards and honours, of patents and publications. In IFAC he has served as Chairman of the Applications Committee, as Vice-Chairman of the Advisory Committee and as Chairman of the National Organising Committee of the Sixth Triennial World Congress at Boston/Cambridge (USA) in 1975. He is currently a member of the Technical Committees on Applications, Systems Engineering, Computers and Social Effects of Automation. He has attended all eight IFAC Congresses and many symposia and workshops all over the world, he was with us, when IFAC celebrated the 25th Anniversary in Heidelberg and we are looking forward to meeting him again in 1984 in Budapest.