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No. 2
April

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The IFAC Secretariat 20 Years in Laxenburg – Austria

Last year marked the 40th anniversary of IFAC. This anniversary was celebrated, among others, by a special session in the framework of the Council meeting in Japan, by a special issue of the IFAC Newsletter and also by special reference to this event here in Laxenburg.

This year it is 20 years that the IFAC Secretariat found its permanent home in Laxenburg, Austria. The IFAC President used the opportunity of the dinner with representatives of the Austrian Ministry of Science, the Austrian Academy of Sciences and the Technical University in Vienna held in the framework of the Informal Meeting of the IFAC Officers in Laxenburg to thank the Austrian authorities for providing such excellent facilities for the Secretariat. IFAC not least owes its strength to a stable Secretariat. That we have this stability is due to the persons who work there but also to the support given by the Austrian government and the Academy of Sciences.

20 years ago the IFAC Secretariat was temporarily located in Finland, following a longer period when it had been based in Germany. It was thanks to the efforts of the IFAC Secretary of that time, Fred Margulies, that a contract could be negotiated with the Austrian Minister of Science, Dr. Hertha Firnberg. This contract formed the basis for the further development of the Secretariat which has become a centre of communication, equipped with the latest in computer equipment and telecommunications facilities. The Secretariat fulfils its task of serving as a link between the NMOs, the IFAC Officials and the control community at large. Having a certain amount of continuity through the Secretariat is an important feature in an area, where developments are as rapid as in the control area.

IFAC is very grateful to to have the support of the Austrian authorities, and we can proudly say that other organizations such as IFIP have followed the example of IFAC by establishing their Secretariats in Laxenburg, Austria as well.

New Trends in Design of Control Systems IFAC Workshop

Smolenice, Slovak Rep., 7 – 10 September, 1997

The IFAC Workshop "New Trends in Design of Control Systems" already has a history of its own. It was in 1994 when we decided to organize this IFAC event for the first time and to invite scientists from the Slovak Republic and other countries to the Castle Smolenice in the Slovak Republic. Encouraged by the success of the 1st IFAC Workshop NTDCS '94 we decided to try to continue with the workshops every three years.

The 2nd IFAC Workshop "New Trends in Design of Control Systems" was organized by the Slovak Society of Cybernetics and Informatics (which is the Slovak IFAC National Member Organization) from September 7-10, 1997 and was sponsored by the IFAC Technical Committee on Control Design.

The aim of this Workshop was to bring together experts in various theoretical and applied areas of Control Theory to review recent advances and to anticipate major future developments of the discipline. The leading scientists in the area participated in the International Program Committee. The Workshop attracted more than a hundred authors of whom 92 presented their contributions in Smolenice.

The presented papers were organized within 6 sessions covering the following areas:

- Linear and Nonlinear Control System Design
- Large Scale Systems, Decentralized Control
- Intelligent Controllers, Neural, Fuzzy and Genetic Control Design
- Adaptive and Self-tuning Control
- Control of Discrete Event Systems
- Control Design Problems in Robotics and Manufacturing

It is not an exaggeration to say that due to presentations of original papers of a high professional level, both IFAC Workshops (held in 1994 and 1997) helped to outline new directions in the development of Control Theory development and their applications in practice.

It is a pleasure for us to acknowledge the sponsorship of IFAC, especially of the TC on Control Design, as well as the continuous assistance coming from the IFAC Secretariat.

Bratislava, September 1997

Štefan Kozák, Mikuláš Huba, Workshop Editors

System Identification – SYSID'97

IFAC Symposium

Kitakyushu, Fukuoka, Japan

July 8 – 11, 1997

The 11th IFAC Symposium on System Identification was sponsored by IFAC and organized by the Science Council of Japan and the Society of Instrument and Control Engineers. It was the first time in the 30 year history of this symposia series that this event was held in Japan.

With the background of the host country, the symposium was organized in such a way that more people from industry would be attracted. Also, having no more than four years left before the commencement of the 21st century, special emphasis was placed on discovering new issues that must be addressed in the future with respect to theoretical and practical aspects and their interconnections in system identification.

The technical programme started with the plenary lecture given by H. Akaike, followed by three plenary lectures, one each morning, given by M. Basseville, R. Isermann and P. Van den Hof. Also, four tutorial lectures were delivered by J.-F. Cardoso and L. Tong, K. Poolla, A. Lindquist, and H. Unbehauen and G. P. Rao.

In 19 invited and 28 contributed sessions comprising 166 papers accepted out of 252, we had excellent presentations and active discussions. For the second time in this series of symposia, three software demonstration sessions were organized, which attracted so many participants that the meeting room was packed beyond capacity. This gives indication that good tools are wanted permitting easy application of the excellent theories to practical problems.

The symposium was attended by 471 people from 29 countries, 262 of whom were from Japan. Among 287 invited and contributed papers included in the final programme, 17 papers were not presented mainly for budget or visa reasons.

In conjunction with the symposium, the IFAC Council and Related Meetings were held. And on this occasion, a special session was organized to celebrate the 40th Anniversary of IFAC.

On the last day, the panel discussion was conducted on the subject of "What are Challenges for System Identification?" Chaired by K. Furuta, four panelists (L. Jung, G. Picci, M. Gevers and R. Isermann) expressed their views on the challenges for system identification, and two commentators, K. Åström and P. Eykhoff, commented these views. This was followed by active discussions among the panelists and the audience. In the discussions it was suggested that system identification should not exclusively stay within academia and that the theoretical outcome should be effectively and promptly transferred to industry. With these suggestions, the technical part of the symposium ended.

Setso Sagara, IPC Chairman

Impressum:

Medieninhaber und Herausgeber:
International Federation of Automatic Control (IFAC),
Zürich
Schlossplatz 12, A-2361 Laxenburg, Austria

Verlagsort und Redaktion:
Dipl. Ing. Dr. Gusztáv Hencsey
Schlossplatz 12, A-2361 Laxenburg

Hersteller:
Artur Scheffczyk & Sohn
August-Reuss-Gasse, A-1130 Wien

Editor: Gusztáv Hencsey
Layout: Ernestine Rudas
published bimonthly

Special Call for Papers Control of Power Plants and Power Systems Mini-Symposium within the 14th World Congress of IFAC Beijing, China, P.R.

The purpose of this Mini-Symposium is to provide a forum for the presentation and discussion of papers which address the problems of modelling, operation and control of Power Plants and Power Systems.

Papers which describe innovative yet practical approaches are especially welcome.

The following, non-exclusive list of topics indicates the intended scope and structure of the Mini-Symposium.

Power Plants:

- Applied conventional and advanced control concepts for different types of Power Plants
- Control engineering tools
- Application of artificial intelligence
- Power Plant modelling and simulation

Power Systems:

- Advanced primary, secondary and tertiary control for active and reactive power
- Power System operation in a liberalized market
- Power System oscillations in enlarged networks
- Power System restoration
- Dispatcher training simulators

International Program Committee

Chairman: H.W. Weber (Germany)
Co-Chairman: G.K. Lausterer (Germany),
N.W. Rees (Australia)
O.P. Malik (Canada), E. Welfonder (Germany)

The rules for submission of papers are the same as for the Congress.

Deadline for submission of draft papers: June 15, 1998

Hard copy of draft papers is to be sent to the IFAC'99 IPC Secretariat address:

Professor Jifeng Zhang
IFAC'99 IPC Secretariat
Institute of Systems Science
Chinese Academy of Sciences
Beijing 100080, China, P.R.

To inquire for more details on paper submission, please send an e-mail to

ifac99@iss03.ac.cn

or send a fax to

+86/10/625 87343

Up-to-date information on the World Congress and the Mini-Symposia may also be obtained from the WWW homepage:

<http://www.ia.ac.cn/ifac99/ifac99.html>

Robust Control Design ROCOND'97

2nd IFAC Symposium

Budapest, Hungary

25 – 27 June, 1997

The second IFAC Symposium on Robust Control Design (ROCOND'97) was held in Budapest, Hungary from 25 – 27 June, 1997. The Symposium was the second in the series after the one held in Rio de Janeiro, Brazil in 1994.

The Symposium was sponsored by the IFAC Coordinating Committee on Design Methods and the Technical Committee on Robust Control and organized by the Computer and Research Institute of the Hungarian Academy of Sciences on behalf of the Hungarian NMO of IFAC.

The International Program Committee was chaired by Professor L. Keviczky. The Chairman of the International Program Committee was Professor J. Bokor. The Symposium was held at the Hotel Agro in the beautiful Buda hills.

The International Program Committee made a selection from 127 submitted papers resulting in 92 high-standard papers from 30 countries. Of these 92 papers, 82 were presented at the conference and included in the Proceedings published by Elsevier Science.

The Conference was attended by 91 participants during the 3-day event, with three parallel sessions on 11 different main topics in the field of robust control: robust stability, LMI and convex optimization, H^∞ and L_1 optimal control, robust nonlinear control, robust performance, robust control applications, H^∞ filtering, identification and control, adaptive control, μ analysis and synthesis, fault detection in uncertain systems.

Five very interesting and challenging plenaries were given by internationally known and respected scientists:

Robust Model Predictive Control, by Professor M. Morari (Switzerland)
Applications for Semiconductor Industry, by Professor P.P. Khargonekar (USA)
Industrial Perspective on Robust Control: Application to Storage Systems, by Professors M. Steinbuch and M.L. Norg (The Netherlands)
Robust Control Advances and Major Challenges, by Professor M. Athans (USA)
Approximate Identification for Robust Control, by Professor J. Bokor (Hungary)

There were also invited sessions: Design of Low Complexity Robust Controllers for Uncertain Systems (organized by Professor M. Milanese and A. Vicino, Italy), Tools for Robustness Analysis of Control Systems with Unstructured Uncertainties (organized by A. Vicino and A. Tesi, Italy), and a software demonstration session Software Tools for Robust Control Design (organized by Professor G. Balas, USA).

Finally I should like to cite the summarizing evaluation of the IFAC TC representative Professor Petersen (Australia), who said at the closing session of the conference: "... We had excellent plenaries on a vibrant and very active field. ... It was a great pleasure that the young generation was well represented in this very high-level program."

Csilla Banyasz, Symposium Editor

Control Engineering Practice

Volume 6, No 1, January 1998

Preview:

Message from the Editor-in-Chief

High Performance Load-adaptive Speed Control for Ultrasonic Motors
(A. Ferreira and P. Minotti)
Helicopter Translational Rate Command Using Individual Channel Analysis and Design
(G.J.W. Dudgeon and J.J. Gribble)
GPS Positioning Using Virtual Pseudorange
(I. Kim, C. Park, G.-I. Jee and J.G. Lee)
Reinforcement Learning and its Application to Force Control of an Industrial Robot
(K.-T. Song and T.-S. Chu)

Preface to the Special Section on Distributed Computer Control System (I.M. MacLeod)

Requirements for Integrated Ship Control Networking
(N. Jorgensen, J.F. Dalsgaard Nielsen and H. Schioler)
Component-based Design of Large Distributed Real-time Systems
(H. Kopetz)
Mode Handling in the Time-triggered Architecture
(H. Kopetz, R. Nossal, R. Hexel, A. Krüger, D. Millinger, R. Pallier, C. Temple and M. Krug)
Developing Predictable and Flexible Distributed Real-time Systems
(J.M. Adan-Coello, M.F. Magalhaes and K. Ramamritham)
The Design and Analysis of Low-cost Real-time Fieldbus Systems
(M.G. Rodd, K. Dimiyati and L. Motus)
End-to End Design of Distributed Real-time Systems
(M. Ryu and S. Hong)
A Pre-run-time Scheduling Method for Distributed Real-time Systems in an FIP Environment
(Y.S. Kim, S. Yeong and W.H. Kwon)
An Extended TCP/IP Protocol for Real-time Local Area Networks
(J. Park and Y. Yoon)
Scheduling Real-time Messages in a Fibre Channel Arbitrated Loop
(J. Koh, T. Kim and H. Shin)
Worst-case Execution-time Analysis at Low Cost
(P. Puschner)

IFAC Meeting Papers – Keyword Listing

Modelling and Control in Biomedical Systems, March 1997, Warwick, UK
Intelligent Manufacturing Systems, July 1997, Seoul, Korea

Index of IFAC Meeting Papers
Conference Calendar

Management and Control of Production and Logistics (MCPL'97)

IFAC/IFIP Conference

Sao Paulo, Brazil

31 August – 3 September, 1997

The IFAC/IFIP „Conference on Management and Control of Production and Logistics“ (MCPL'97) was held from 31st August to 3rd September, 1997 in Campinas, São Paulo, Brazil. This conference was organized by the „Technological Center for

Informatics Foundation“ (CTI, Campinas, Brazil), in cooperation with the „Automatic Control Laboratory of Grenoble“ (LAG, Grenoble, France) and the „Bremen Institute of Industrial Technology and Applied Work Science at the University of Bremen“ (BIBA, Bremen, Germany).

The conference was sponsored by the International Federation of Automatic Control (IFAC) with co-sponsorship from the International Federation for Information Processing (IFIP). In Brazil the conference was sponsored by the Brazilian Society of Automatics (SBA), the NMO-IFAC and by three other Research Institutions: The Brazilian Association of Production Engineering (ABEPRO); the Brazilian Society of Applied and Computational Mathematics (SBMAC) and the Brazilian Operations Research Society (SOBRAPO).

The conference was a result of the cooperation of these institutions (CTI, LAG and BIBA) as partners in the framework of the Keep-In-Touch (KIT) Program of the European Commission (Directorate General III - Industry). The conference received financial support from the European Commission (DG III Industry) through part of the budget of the STERMPROPLAN project - KIT Number 137. In Brazil the conference received financial support from the Brazilian Research Agencies CNPq and FINEP (bodies of the Brazilian Ministry of Science and Technology) and from the Research Agency of the São Paulo State - FAPESP.

The conference IFAC/IFIP - MCPL'97 was publicized through 20.000 call-for-papers, Internet home page and Electronic Mail, thus reaching the members of Brazilian Associations (ABEPRO, SBMAC, SBA and SOBRAPO) and the members of local organizations of IFAC and IFIP all over the world. The conference received more than 200 paper submissions, related to the areas on „Management and Control of Production and Logistics“. The International Program Committee (IPC) of the conference selected 149 papers to be presented, organized in 36 sessions, including 8 special sessions and 13 posters. One hundred researchers from 25 countries attended the conference.

The papers presented in the conference will be offered for sale, in the form of proceedings, by the IFAC publisher (Elsevier Science Ltd). Volume I of the proceedings is organized in four sessions: Production Planning and Control; Virtual Enterprise and Supply Chain Integration; Discrete-Event Systems and Petri Nets and a fourth session on Scheduling. Volume II is also organized in four sessions: Organization and Optimization of Complex Systems; Modelling and Control of Manufacturing Systems; Methods and Tools and finally a Miscellaneous session with papers on other co-related areas of the event. The proceedings also contain the report of one panel session organized during the conference, entitled „Management and Control of Modern Manufacturing Organizations: An Interdisciplinary Approach“.

The Organizing Committee would like to thank the members of the International Program Committee (IPC) for the review of the papers and also to express our appreciation to the members of the Conference Secretariats at CTI (Campinas, Brazil) and LAG (Grenoble, France).

Dr. Luiz Manoel Aguilera
Organizing Committee
Conference IFAC/IFIP-MCPL'97

Automation in the Steel Industry Current Practice and Future Developments

IFAC Workshop

Kyongju, Korea, 16 – 18 July, 1997

The Workshop was sponsored by the IFAC Technical Committee on Mining, Mineral and Metal Processing, the Steel Processing Automation Research Centre at POSTECH in Korea and the Institute of Control, Automation and Systems Engineers, Korea. The objective of the Workshop was to bring together engineers and scientists with expertise in applying modern control theories and techniques to industrial problems, particularly those encountered in the steel industry. The Workshop would include plenary talks, tutorials, technical presentations, technical visits and social occasions.

The Workshop was attended by 85 participants from 11 countries. At the Opening Ceremony delegates were welcomed by Professor Sangchul Won, the NOC Chair. Addresses were given by Dr. S. Chang, President of POSTECH and Mr. E. Rose, the IPC chair. Professor Pedro Albertos, President Elect of IFAC, and Professor S.L. Jamsa-Jouneila, Chair of the TC on Mining, Mineral and Metal Processing spoke briefly about IFAC and the work of the TC on MMM.

Most of the 58 submitted abstracts of technical papers were accepted by the IPC, some with 'advice to authors'. 51 papers were finally included into the Proceedings (there were 13 no-show authors). The topics encompassed a wide range of modern control methods (fuzzy logic, neural network techniques, H[∞], predictive control) applied to a wide range of processes in ironmaking and steelmaking. It was pleasing to have a number of papers reporting results of on-site tests - not merely simulations. No matter how important simulation studies may be, there is nothing more convincing than real plant trials.

The organizers considered themselves fortunate to have Professor Pedro Albertos open the program of plenary lectures. His topic was: 'Artificial Intelligence and Fuzzy Control with Implementation in Real-Time'. Professor Albertos will be President of IFAC for the 1999 - 2002 triennium, with the 15th IFAC World Congress in Barcelona as highlight of his Presidency.

Other invited speakers and their topics were:
Advanced Control Applications in the Steel Industry, by Professor Graham Goodwin, University of Newcastle, Australia
Advanced Simulation and Control of Hot Strip Mills, by Dr. Reza Katebi, University of Strathclyde, UK
Instrument Engineering in the Steel Industry, by Mr. Tadaaki Iwamura, Kawasaki Steel, Japan
Discrete-event Simulation for Manufacturing Systems, by Dr. Neil Mort, University of Sheffield, UK
Satisfactory Control of Multi-objective Systems Using Fuzzy Logic Approaches, by Professor Zeungnam Bien, Korean Advanced Institute of Technology, Korea

A highlight of the Workshop was a two-site tour to Postech to see the Pohang Light Source, consisting of three major facilities: the linac, the storage ring and the beam lines. The linac accelerates electrons up to 2GeV close to the speed of light. The storage ring circulates the accelerated electron beam for several hours near the speed of light with its energy sustained constantly. The circulating beam produces the synchrotron radiation. The second visit was to POSCO in Pohang. POSCO is the world's second largest steelmaker with a 21 million ton annual production capacity.

During the Workshop period a meeting of the MMM Technical Committee was held. An important item was a progress report by Professor Jürgen Heidepriem on arrangements for the MMM Symposium in Düsseldorf, Germany, 1 - 3 September, 1998.

Sangchul Wong, NOC Chair, Eric Rose, IPC Chair

Papers from the March 1998 Issue

Editorial

(G. Zames, J.C. Williams)

Paper

Trajectory Approximation Based Adaptive Control for Nonlinear Systems Under Matching Conditions (E. Skafidas, A. Fradkov, R.J. Evans, I.M.Y. Mareels)

Brief Papers

Simple Nonlinear Observers for On-Line Estimation of Kinetic Rates in Bioreactors

(M. Farza, K. Busawon, H. Hammouri)

Robust Controller Design Based on Simplified Triangular Model

(G.-H. Wu, Y.-G. Xi, Z.-J. Zhang)

Variable Structure Robust Control of Uncertain Time-Delay Systems

(R. El-Khazali)

An Optimal Two Stage Identification Algorithm for Hammerstein-Weiner Nonlinear Systems

(E.W. Bai)

Passivity Approach to Fuzzy Control Systems

(G. Calcev, R. Gorez, M. de Néyer)

Analysis of a High-order Iterative Learning Control Algorithm for Uncertain Nonlinear Systems with State Delays

(Y. Chen, Z. Gong, C. Wen)

Discrete Variable-structure Integral Controllers

(C. Bonivento, M. Sandri, R. Zanasi)

Necessary and Sufficient Conditions for the Controllability of Linear Interval Descriptor Systems

(C. Lin, J. Wang, C.B. Soh)

A Complete and Simple Parametrization of Controllers for a Nonstandard Hoo Control Problem

(T. Mita, J.B. Matson, B.D.O. Anderson)

On the Stability Bifurcation of a Nonlinear Time Delay System

(M.S. Fofana, D.J. Lamb Jr.)

Robust Exact Differentiation via Sliding Mode Technique

(A. Levant)

Technical Communiques

A Parametrization of the Nonnegative Definite Solutions of the Algebraic Riccati Equation (D.D' Alessandro)

Multi-Input Uncertain Linear Systems with Terminal Sliding Mode Control

(X. Yu, M. Zhihong)

Asymptotic Output Tracking of Nonlinear Differential-Algebraic Control Systems

(X. Liu)

Papers from the April 1998 Issue

Papers

A Stochastic Approach to Linear Estimation in Hm (B. Ninness)

H8 Control of Multirate Sampled-data Systems: A State-space Approach

(M.F. Sagfors, H.T. Toivonen, B. Lennartson)

Brief Papers

Adaptive Backstepping with Parameter Projection: Robustness and Asymptotic Performance (P. Ikhouane, M. Krstic)

Rotating Stall Control via Bifurcation Stabilization (X. Chen, G. Gu, P. Martin, K. Zhou)

Robust Control of Synchronous Motors with Non-linearities and Parameter Uncertainties

(C. Caravani, S. di Gennaro)

Fulfilling Hard Constraints in Uncertain Linear Systems by Reference Managing

(A. Bemporad, E. Mosca)

Approximate Identification in Laguerre and Kautz Bases

(J. Boker, F. Schipp)

A Multi-model Algorithm for Parameter Estimation of Time-varying Nonlinear Systems

(V. Petridis, A. Kehagias)

Gradient-based Approach to Solve Optimal Periodic Output Feedback Control Problems

(A. Varga, S. Pieters)

Adaptive and Nonadaptive Hybrid Controllers for Rheonomically Constrained Manipulators

(Y.H. Liu, S. Arimoto)

Technical Communiques

Synthesis of Quadratic Stability Control for Similar Composite Systems

(L. Qian, X. Lu, J. Wang, S. Zhang)

Bilinear Continuous-time Systems Identification via Hartley Based Modulating Functions

(S. Daniel-Berhe, H. Unbehauen)

Variable Structure Control Design for Uncertain Dynamic Systems with Sector Nonlinearities

(K.-C. Hsu)

A Note on Hurwitz Stability of Matrices

(G.-R. Duan, R.J. Patton)

New Process Identification Method for Automatic Design of PID Controllers

(S.W. Sung, I-B. Lee, J. Lee)

A Robust Stability Problem for Discrete-time Systems Subject to an Uncertain Parameter

(F. Amato, M. Mattei, A. Pironti)

Mathematical Modelling and Simulation in Agricultural and Bio- Industries (M²SABI'97)

IMACS/IFAC Symposium

May 7 - 9, 1997, Budapest, Hungary

The aim of the M²SABI'97 Symposium was to provide a forum for presentation and discussion of recent advances on mathematical modelling and simulation in agriculture and bio-industries. The IMACS Symposium was co-sponsored by the IFAC Technical Committees on "Modelling and Control in Agricultural Processes" and "Intelligent Control in Agricultural Automation". The Symposium was locally organised by the Department of Physics and Process Control, Gödöllő University of Agricultural Sciences and the Process Control Research Group, Hungarian Academy of Sciences - GUAS. The sponsors were Fiorentini Hungary Ltd, Gödöllő University of Agricultural Sciences, the Hungarian Academy of Sciences, the National Committee for Technological Development, Hungary and SolArt System Ltd. The venue of the Symposium was the Hotel Ében in Budapest and also the Campus of the Gödöllő University of Agricultural Sciences.

Following the Call for Papers about 70 abstracts were received. Finally 51 papers were selected from 25 countries and grouped into eleven sessions such as Crop Modelling; Modelling of Plant Responses and its Environment; Experimental Strategies for Bioprocess and Product Optimisation; Modelling in Agricultural Processes I-II; Energy in Agriculture; Modelling and Identification; Modelling of Biochemical and Physiological Processes; Theoretical Aspects of Modelling and

Simulation; Greenhouse Climate Control; Models for Quality Control. The invited session on "Experimental Strategies for Bioprocess and Product Optimisation" was organised by Prof. C. Fonteix (F) and Prof. I. Marc (F). A Proceedings volume of 328 pages including the 51 papers was published and distributed during the Symposium.

The international character of the meeting can be seen from the list of countries from which the participants came: Austria (1), Belgium (3), Czech Republic (1), France (5), Germany (3), Indonesia (1), Israel (2), Japan (3), Hungary (20), Poland (2), Portugal (4), Spain (1), Sweden (1), Switzerland (2), The Netherlands (5), United Kingdom (3), Yugoslavia (1). Among the participants there were 10 women.

In the opening ceremony Prof. I. Farkas (Symposium Chairman), Prof. R. Hanus (IMACS representative), Prof. L. Keviczky (IFAC Council representative, Secretary General of Hungarian Academy of Sciences), Prof. Y. Hashimoto (IFAC CC Chairman) said greeting words. On the second day of the Symposium, at the Gödöllő University of Agricultural Sciences Prof. Cs. Székely (Rector), Prof. A. Vas (Dean of Faculty of Agricultural Engineering) welcomed the participants on behalf of the University.

There were three plenary lectures by Prof. G. van Straten (NL) on "Pathways in Crop Modelling for Cultivation Control", by Prof. Z. Chalabi (UK) on "Mathematical Methods for Modelling and Identification of Nonlinear Systems" and by Prof. H.-J. Tantau (D) on "Energy Saving Potential of Greenhouse Climate Control".

Finally, in the sessions of the Symposium, there were 42 high quality papers presented by the authors from 21 countries. 12 papers were selected to be suggested for publication in the IMACS Journal of "Mathematics and Computer Simulation".

During the Symposium two meetings were organised. One of them was the IFAC TC on "Modelling and Control in Agricultural Processes" and "Intelligent Control in Agricultural Automation" and the second meeting was the IFAC CC on "Life Support System". Additionally there were several social events, such as a Welcome Reception, a visit to the Grassalkovich Castle (Mansion of the Royal Family) in Gödöllő and a Banquet at a Hungarian-style restaurant ("csárda").

The Third M²SABI'99 Symposium will be held in Uppsala, Sweden in 1999 under the chairmanship of Prof. T. Nybrant.

Prof. I. Farkas, Symposium Chairman
A. Biró, NOC chairman



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Acknowledgement to IFAC would be appreciated.