

# SCIENTIFIC EVENTS

## European Control Conference ECC'93

**Theodor-Dan Popescu** was born at Rosiori de Vede, Romania in 1949. He received his M.Sc. degree and his Eng. Sc.D. (Ph.D) degree, both in automatic control, from the Polytechnical Institute of Bucharest in 1972 and 1983, respectively. Since 1972 he has been with Computer Process Control Laboratory at the Research Institute for Informatics in Bucharest, where he is a senior research worker. Since 1975 he has been a lecturer at the Department of Automatic Control and Computers, the Polytechnical Institute of Bucharest. His main research interests are in the fields of system identification, adaptive control, time series analysis and digital signal processing. He has published technical papers on these topics and co-authored the books entitled: "Modelling and Forecasting of Time Series" (1985 (in Romanian), Academic Publishing House, Bucharest), "Computer-Aided Identification of Systems" (1987 (in Romanian), Technical Publishing House, Bucharest), and "Adaptive and Flexible Control of Industrial Processes" (1988 (in Romanian), Technical Publishing House, Bucharest), "Practice of Time Series Modelling and Forecasting. Box-Jenkins Approach" (1991 (in Romanian) Technical Publishing House, Bucharest).

The European Control Conference is an event in its prime and is organized every two years, with a view at stimulating contacts of scientists who are active in the area of systems and control. The first conference took place in France (Grenoble) from July 1 to July 4, 1991, when such a first meeting of the Administrative Council of the European Community Control Association (ECCA) was convened. By now ECCA has been recognized by well-established international scientific organizations, and so co-operation relationships with IFAC, IEEE - Control Systems Society have been initiated.

The second European Control Conference, ECC'93, was held in Groningen, The Netherlands, from June 28 to July 1, 1993. The history of Groningen goes back more than a thousand years and its university was founded in 1636, which makes it the second oldest university in The Netherlands.

Approximately 900 papers were submitted for presentation, including approximately 150 papers in invited sessions. All these papers were refereed, usually by 2 referees, and the International Programme Committee were to select close to 500 papers for presentation.

Due to the currently unfavourable economic conditions in Eastern Europe and the former Soviet Union, the Organizing Committee decided to waive the registration fee for the authors with accepted papers from these countries. This facility being offered, the ECC'93 attendance by these participants could be considered notable. The more so, as approximately one contributed paper out of four submitted came from Eastern Europe and the former Soviet Union.

The primary aim of the conference was to promote scientific exchanges within the European Community and between the member countries of the European Community and the other parts of the world. The scope of the conference was as large as to include all aspects of systems and control, and subjects pertaining to basic and applied research in process control and advanced technology.

The Organizing Committee did their best to offer participants a balanced and varied scientific program, ranging from the usual contributed papers and invited sessions, to (semi-) plenary overview lectures and minicourses. Care has been taken to highlight also the practical and industrial aspects of the field. Some of the plenary lectures purposely addressed these aspects, making it both generally and specifically. A large percentage of the contributed papers dealt with applications.

The Martini-kerk, for the plenary session, and the University of Groningen, for the contributed

sessions, represented the ideal setting of a conference. The participants did not have to go to and fro, as the university premises offered all the amenities and many opportunities turned up for personal encounters and exchanges of opinion. At the same time, a good attendance of the afternoon sessions was guaranteed.

The conference opened with welcome messages addressed by Professor J.C. Willems, the Chairperson of ECC'93, Professor S.K. Kuipers, the Rector of the University of Groningen and Professor I.D. Landau, the president of the European Community Control Association. Three plenary lectures followed :

- Information, Knowledge and Control, by Professor A.G.J. MacFarlane;
- Towards a Joint Design of Identification and Control?, by Professor M.Gevers;
- Some Control Problems in the Process Industries, by Professor M.Morari.

The Scientific Programme of the conference also included :

- 3 minicourses;
- 4 semi-plenary sessions;
- 92 contributed sessions.

The 92 parallel contributed sessions of the conference made the clue part :

- Robust control I,II,III
- Stabilization of nonlinear systems
- Robust and  $H_\infty$  control of nonlinear systems
- Neural networks I,II,III
- Nonlinear filtering
- Discrete event systems I,II
- Advances in adaptive control
- Control of mechanical systems
- Identification I,II,III,IV,V
- Biochemical applications of control
- Distributed parameter systems I,II
- Linear quadratic control
- Nonlinear systems I,II,III
- Sampled data control and discrete time modelling
- Fuzzy systems

- Robotics I,II,III
- Electric motor control
- Advances in distillation control
- Delay systems
- Approximation and model reduction for linear systems
- Sliding mode control
- Predictive control I,II
- Applications of robust control
- Optimal control I,II
- Advances in chemical process control I,II
- Infinite dimensional systems
- Control of linear systems I,II
- $H_\infty$  control I,II,III
- Observability of nonlinear systems
- Stochastic systems I,II
- Time series models
- History of control
- Applications of control
- Industrial control
- Non-holonomic systems
- 2D and multidimensional systems
- Robust control of discrete time systems
- Nonlinear uncertain systems
- Automotive control I,II
- Robust stabilization of nonlinear systems
- Adaptive control I,II,III
- New geometric and algebraic tools in nonlinear dynamic feedback
- Computer control
- Universal adaptive regulation
- Aircraft control
- Space applications
- Model selection
- Digital control
- Chemical process control
- Behavioural representation of linear systems
- Discrete-time linear systems
- Parameterization problems in linear systems
- Learning control and knowledge based systems
- Trajectory planning in mechanical systems

- Control of power systems
- Linear systems I,II
- Control of biological systems
- Stabilizability of nonlinear systems
- Eigenvalue assignment in linear systems
- Algebraic methods in nonlinear systems
- Qualitative modelling and control of dynamical systems
- System theory and system identification
- Control of discrete event systems
- Mechatronics - control and design aspects
- Identification and control for industrial applications
- Pole placement in linear systems
- Nonlinear control

The presented papers showed a good mix of theory and practice, of mathematics and engineering, of concrete and speculative ideas. The very dynamic activity in fundamental research on control has been well reflected in the papers of this conference. Also, the area of experimental research in control tends to extend.

In addition to the scientific activities the conference hosted exhibitions of different publishers, software companies, and control equipment manufacturers.

The conference atmosphere was a very stimulating one and the sessions inviting a lot of discussions. High-level presentations, and high-quality presenters were not few.

In general and as many participants voiced, ECC'93 was a very successful event. The Groningen Organizing Committee including Professor R. F. Curtain, Professor J.W. Nieuwenhuis, Professor C. Praagman and Professor H.L. Trentelman under the co-ordination of Professor J.C. Willems have done an excellent job. Last, but not least, I would like to note the contribution of Professor I.D. Landau to the birth and growth of the structured European Control Community. It was he who had the idea of organizing a regular European Control Conference.

The next European Control Conference, ECC'95, is planned to be held in Rome, Italy, from September 5 to 8, 1995, in the organization of the School of Engineering of the University of Rome "La Sapienza". The Chairman of the Organizing Committee is Professor Alberto Isidori. I have no doubt that the next conference will also be a fully successful event.

**Theodor-Dan Popescu**