

Systems and Control: Challenges in the 21st Century



**Organized by
Delft Center for Systems and Control**

June 7-8, 2004

**Aula Congress Centre
Delft University of Technology
The Netherlands**

Systems and Control: Challenges in the 21st Century

Design, control and optimization of complex dynamical systems and processes is of vital importance in many technological application areas as e.g. in mechatronic and microsystems, sustainable industrial processes, communication and traffic control, aerospace, physical imaging systems, as well as in emerging areas like bioinformatics. Increasing complexity of systems, as well as higher demands on their performance for optimal use of resources, maximum accuracy and reliability, minimum environmental load, together with continuous developments for sensing and actuation, create major challenges for the systems and control field to contribute to high-tech developments in the several domains of application.

In this symposium academic and industrial experts will share their views on the current and future challenges for the systems and control field, both in terms of generic modelling, control and optimization problems, and in terms of high-tech applications in a wide range of application domains. The full program will consist of 18 plenary lectures.



Delft Center for Systems and Control

Three systems and control groups within Delft University of Technology have recently merged into the Delft Center for Systems and Control (DCSC). The former groups of mechanical engineering (Okko Bosgra), electrical engineering (Michel Verhaegen), and applied physics (Paul Van den Hof) constitute the new Center, which is hosted by the Department of

Mechanical Engineering. The Center has a Delft-wide role in education and research and it coordinates the newly started MSc program in Systems and Control, as of September 1, 2003. At the occasion of the start of the Center, the two-day symposium is organized on June 7,8 2004 in the Aula Congress Centre of Delft University of Technology.





List of speakers:

Prof. Karl Johan Åström

University of California at Santa Barbara, USA, and Lund Institute of Technology, Sweden

Control Engineering: The Hidden Technology

Prof. Lennart Ljung

Linköping University, Sweden

University Cooperation with Industry: Formats and Results

Prof. Wolfgang Marquardt

RWTH - Aachen University, Germany

From Feedback Control to Real-Time Business Decision Making in the Process Industries

Prof. Gary Balas

University of Minnesota, Aerospace Engineering and Mechanics

The Future of Aerospace Control: Opportunities and Challenges

Prof. Dirk van Dyck

RUCA, University of Antwerp, Belgium

Physical Measurements in the 21st Century

Prof. Maarten Steinbuch

Eindhoven University of Technology

Challenges in Advanced Motion Control

Prof. Bart De Moor

Katholieke Universiteit Leuven, Belgium

Systems Theory in Systems Biology

Ir. Gregor van Baars

Philips CFT - Mechatronics Research Department

Advanced Servo Control Research at Philips CFT: Status and Future Challenges

Dr. Stefano Stramigioli

University of Twente

Port-Based Control of Nonlinear Systems

Dr. Richard van der Linde

Delft University of Technology and Altran Corporation

Systems and Control Inspired by Biology

Prof. Hans Hellendoorn

Delft University of Technology and Siemens Nederland

The Smart Highway - Modern Traffic Control

Dr. Marcel Reinders

ICT, Delft University of Technology

Discovering Genetic Regulatory Networks

Prof. Arjan van der Schaft

University of Twente

Putting Energy in Control

Ir. Bernie van Leeuwen

SKF Engineering & Research Centre

Drive by Wire

Ir. Guido ten Hacken

Shell Global Solutions International BV

The Well Kept Secret of Successful Automation

Prof. Okko Bosgra

Delft Center for Systems and Control

The Integration of Control and Optimization in Process Control

Prof. Paul Van den Hof

Delft Center for Systems and Control

Data-Based Modelling for Control and Optimization

Prof. Michel Verhaegen

Delft Center for Systems and Control

Dealing with Complexity via Exploitation of Structure in Control Design

General Information

Date

June 7-8, 2004

Venue and Registration

Delft University of Technology
Aula Congress Centre
Mekelweg 5
Delft
The Netherlands
Tel: +31 15 278 80 22
Fax: +31 15 278 67 55
Email: congressoffice@fd.tudelft.nl

Registration

Registration can be done via the attached form or online via:
www.dcsc.tudelft.nl/Symposium/index.html
At the end of the first day a dinner is organized. Registration for the dinner only is possible, please contact:
n.vandenberg-moor@dcsc.tudelft.nl

Registration and Information Desk

All Participants are requested to check in at the registration and information desk on June 7th 2004 from 08.45 hours on. The opening session will start at 09.45 hours.

The telephone number at which you can be reached during the symposium is:
+31 15 278 80 22.

Urgent fax messages should be headed *Systems and Control: Challenges in the 21st Century* and should be sent to:
+31 15 278 67 55.

The E-mail address is:
congressoffice@fd.tudelft.nl

For further information on this symposium:

Dr. Xavier Bombois
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Dr. Jacquelin Scherpen
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Prof. Paul Van den Hof
email: p.m.j.vandenhof@dcsc.tudelft.nl
tel: +31 15 2784509

Dr. Ton van der Weiden
email: a.j.j.vanderweiden@dcsc.tudelft.nl
tel: +31 15 2785609

www.dcsc.tudelft.nl/Symposium/index.html

Please fill out this form either online via the registration button on <http://www.dcsc.tudelft.nl/Symposium/index.html> or return it by telefax: +31(0)15 278 67 55, or by post.

DCSC Symposium: Systems and Control: Challenges in the 21st Century

Symposium presenting the visions from leading academic and industrial institutes

June 7-8, 2004

Aula Congress Centre, Delft University of Technology, Delft, The Netherlands

Personal Information

Name:¹ Mr. Mrs.

Initials: First name(s):

Company/Institute:

Address:

City: Postal code:

Country:

Phone: Fax:

E-mail:

Registration

I will participate in the DCSC Symposium: *Systems and Control: Challenges in the 21st Century*

7 and 8 June 2004 (2 days) - € 240

7 June 2004 (1 day) - € 150

8 June 2004 (1 day) - € 150

I will participate in the dinner* on 7 June 2004 at the Aula Conference Centre - € 60

The registration fee for two days covers only participation in all symposium sessions, lunches, coffee, tea and refreshments during breaks on 7 and 8 June 2004. The registration fee for one day covers the above for only one day.

* If you **only** want to register for the dinner on 7 June 2004, **please do not fill out this registration form!**

Please send an email to: n.vandenberg-moor@dcsc.tudelft.nl

If you are a student/employee of the Delft University of Technology, please send this form to: Delft Center for Systems and Control, Mekelweg 2, 2628 CD Delft, or mail to n.vandenberg-moor@dcsc.tudelft.nl or return it by telefax: (015) 278 66 79

Method of payment

- Payments must be made in Euro (€).
- Please note that all bank costs must be paid by your bank.
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The Netherlands

