



4 ECSC

ST.PETERSBURG 2008

Fourth European Conference on Structural Control
St.Petersburg, September 8-12, 2008



IPME

St.Petersburg, 23.02.2008

Place

St.Petersburg, September 8-12, 2008

Homepage

<http://www.ipme.ru/ipme/conf/4ecsc>

<http://mp.ipme.ru/ipme/conf/4ecsc>

Hosting Institution

Institute of Problems in Mechanical Engineering, Russian Academy of Sciences,

<http://www.ipme.ru>

Steering Organization

European Association for the Control of Structures,

<http://dipmec.unipv.it>

History

The First European Conference on Structural Control took place in Barcelona in 1996. It has been decided to organize a European Conference on Structural Control every four years. The Second European Conference on Structural Control was held in 2000 in France at the Ecole Nationale des Ponts and Chaussees in Champs-sur-Marne, close to Paris. The Third European Conference of Structural Control took place at the Vienna University of Technology, Austria in 2004. The present Call refers to the Fourth European Conference of Structural Control which will be held at the Institute of Problems in Mechanical Engineering, Russian Academy of Sciences, St. Petersburg, September 8–12, 2008.

Aims and Scope

This conference aims at fostering scientific interactions among the vast community of researchers contributing to structural control in a broad sense, and at strengthening the European research and professional community of structural control. Cross-fertilization between the different scientific disciplines and interactions with professional engineers will be encouraged. Active, passive, semi-active or hybrid control in both, linear and non-linear structural problems will be considered. As important branches of structural control, non-destructive testing, health monitoring, damage detection and life-line assessment will be addressed as well. Smart civil, mechanical and space structures interacting with their environment and undergoing various loads such as wind, earthquakes or traffic are main targets of this conference.

Conference Dates

| | | |
|----------------------|---|----------------------------|
| March 2, 2008 | — | Abstract submission |
| March 15, 2008 | — | Notification of acceptance |
| July 1, 2008 | — | Paper submission |
| September 8–12, 2008 | — | Conference |

Chairmen

- **Alexander K. Belyaev**,
Institute of Problems in Mechanical Engineering,
Russian Academy of Sciences, St.Petersburg, Russia;
- **Dmitry A. Indeitsev**,
Institute of Problems in Mechanical Engineering,
Russian Academy of Sciences, St.Petersburg, Russia;
- **Hans Irschik**,
Division of Technical Mechanics, Johannes Kepler University of Linz, Austria;
- **Rainer Flesch**,
Arsenal Research, Vienna, Austria;

Scientific Committee

1. **D.G. Arseniev**: St. Petersburg State Polytechnical University, Russia
2. **V.A. Babeshko**: Kuban State University, Russia
3. **A. Baratta**: Universita di Napoli–Federico 2, Italy
4. **L.A. Bergman**: University of Illinois at Urbana–Champaign, USA
5. **C. Boller**: Univ. of Sheffield, United Kingdom
6. **F. Bourquin**: LCPC/CNRS, Champs–sur–Marne, France
7. **F. Casciati**: Universita di Pavia, Italy
8. **A. Castellanos**: University of Seville, Spain
9. **F.L. Chernousko**: Russian Academy of Sciences, Moscow, Russia
10. **U. Gabbert**: University of Magdeburg, Germany
11. **I.G. Goryacheva**: Russian Academy of Sciences, Moscow, Russia
12. **A. Del Grosso**: Universita di Genova, Italy
13. **A.L. Fradkov**: Russian Academy of Sciences, St.Petersburg, Russia
14. **L. Faravelli**: Universita di Pavia, Italy
15. **R. Heuer**: Vienna University of Technology, Austria
16. **J. Holnicki–Szulc**: Institute for Fundamental Technological Research, Warsaw, Poland
17. **D. Jurukovski**: Institute of Earthquake Engineering and Engineering Seismology,
Republic of Macedonia
18. **A.S. Kovaleva**: Russian Academy of Sciences, Moscow, Russia
19. **A. Kugi**: University of Saarland, Germany
20. **R. Langley**: Cambridge University, United Kingdom
21. **G.A. Leonov**: St. Petersburg State University, Russia
22. **G. Magonette**: ELSA Lab, Ispra, Italy
23. **S. Masri**: University of Southern California, USA
24. **M. Melkumyan**: American University of Armenia, Armenia
25. **B. Palazzo**: University of Salerno, Italy

26. **A. Preumont:** Université libre de Bruxelles, Belgium
27. **F. Rammerstorfer:** Vienna University of Technology, Austria
28. **J. Rodellar:** Universitat Politècnica de Catalunya, Barcelona, Spain
29. **S. Sarkisyan:** National Academy of Sciences, Armenia
30. **K. Schlacher:** University of Linz, Austria
31. **V. Silberschmidt:** University of Loughborough, United Kingdom
32. **B.F. Spencer:** University of Illinois at Urbana–Champaign, USA
33. **C. Syrmakizis:** National Technical University of Athens; Greece
34. **A. Vakakis:** National Technical University of Athens; Greece
35. **F. Vestroni:** University La Sapienza, Roma, Italy
36. **K. Watanabe:** Yamagata University, Japan
37. **F. Ziegler:** Vienna University of Technology, Austria

Local Organizing Committee

INSTITUTE OF PROBLEMS IN MECHANICAL ENGINEERING,
RUSSIAN ACADEMY OF SCIENCES, ST.PETERSBURG, RUSSIA

Andrei K. Abramyan (Chairman)

Dmitry G. Kiryan
Evgeny D. Sviageninov
Alexander D. Sergeev
Alexei V. Porubov
Tatyana P. Tovstik

ST.PETERSBURG STATE POLYTECHNICAL UNIVERSITY, RUSSIA

Vladimir A. Polyansky
Alexander A. Sukhanov

Scientific program

Keynote lectures will be delivered by international experts. Contributed sessions will concentrate on the following specific topics.

1. **Structural Dynamics and Control:**
 - 1.1. Modelling and dynamic analysis of flexible structures
 - 1.2. Actuator and sensor placement, spill-over
 - 1.3. Passivity, stabilizability, controllability and observability of flexible structures
 - 1.4. Control methods and design
 - 1.4.1. Active, semi-active, passive and hybrid systems
 - 1.4.2. Neural, fuzzy and genetic algorithms
 - 1.4.3. Algebraic and geometric control, flatness
2. **Smart materials for Structural Control:**
 - 2.1. Actuators
 - 2.2. Sensors
 - 2.3. New developments
3. **Experimental Methods for Structural control:**

- 3.1. Laboratory and in-situ experiments:
 - 3.1.1. Small-scale to medium-scale experiments
 - 3.1.2. Large-scale experiments
 - 3.1.3. Substructure testing
- 3.2. Benchmarks
- 4. **Assessment of dynamic parameters:**
 - 4.1. Life-line structures
 - 4.2. Historical monuments
 - 4.3. Industrial structures with secondary risk
 - 4.4. Assessment of earthquake risk
 - 4.5. Assessment of landslide and wind risk
- 5. **Health monitoring:**
 - 5.1. Non-destructive testing
 - 5.2. Damage detection
 - 5.3. Crack identification
 - 5.4. Monitoring and diagnostics systems
- 6. **Special Applications:**
 - 6.1. Bridges
 - 6.2. Buildings
 - 6.3. Aerospace and off-shore structures
 - 6.4. Cable structures
 - 6.5. Control of structures interacting with their environment
 - 6.6. Control of sensitive equipments
 - 6.7. Non-civil engineering applications
- 7. **Others**

Mini-Symposia

- 1. **Industrial Applications in Mechatronics.**
Coordinators: Hans Irschik and Helmut J. Holl, Austria
- 2. **Structural and Phase Transformations under Dynamic Loading.**
Coordinators: Eron Aero and Yuri Mesheryakov, Russia
- 3. **Multibody System Dynamics with Control.**
Coordinator: Johannes Gerstmayr, Austria
- 4. **Hydrogen diagnostics for the structural health monitoring.**
Coordinator: Vladimir Polyanskiy, Russia
- 5. **Modelling and Simulation of Dynamic Processes in Seismically Active Areas.**
Coordinators: Vladimir Babeshko and Alexander Belyaev, Russia
- 6. **Sensor Systems for Structural and Health Monitoring.**
Coordinators: M. Krommer, Austria and Yu. Vetyukov, Russia
- 7. **Distributed Parameter Systems Control Methods for Structures and Machines.**
Coordinators: Kurt Schlacher and Markus Schöberl, Austria

Proceedings

The Proceedings of the Conference are planned to be published by the prestigious Russian Publishers NAUKA.

Registration

On-line registration: <http://www.tour-m.ru/ecsc.php>

Contact

Dr. Andrei K. Abramyan

Institute of Problems of Mechanical Engineering

V.O., Bolshoj pr., 61, St.Petersburg, 199178, Russia

<http://www.ipme.ru>

Tel. : +7-812-321-2470

Tel. : +7-812-321-4777

Fax : +7-812-321-4771

e-mail: ecsc2008@gmail.com