

Enoc 2011 Minisymposia

Reduced-Order Modeling and System Identification

L. Bergman (USA), A. Steindl (Austria), A. Vakakis (USA)

Asymptotic Methods

I. Andrianov (Germany), J. Awrejcewicz (Poland), L. I. Manevitch (Russia)

Computational Methods

H. Dankowicz (USA), E. Doedel (Canada)

Experiments in Nonlinear Dynamics and Control

W. Lacarbonara (Italy), N. van de Wouw (The Netherlands), H. Yabuno (Japan)

Slow-Fast Systems and Phenomena

A.I. Neishtadt (UK/Russia), D. Quinn (USA), J.J. Thomsen (Denmark)

Fractional Derivatives

O. P. Agrawal (USA), A. K. Belyaev (Russia), J.A. Tenreiro Machado (Portugal)

Dynamics and Optimization of Multibody Systems

J. Ambrosio (Portugal), F.L. Chernousko (Russia), P. Eberhard (Germany)

Nonlinear Phenomena in Mechanical and Structural Systems

B. Balachandran (USA), S. Natsivas (Greece), F. Vestroni (Italy)

Nonlinear Dynamics of Structures and Machines

M.P. Cartmell (UK), Y.V. Mikhlin (Ukraine), K.V. Avramov (Ukraine)

Non-Smooth Systems

A. Ivanov (Russia), C. Lamarque (France), R. Leine (Switzerland)

Systems with Time Delay

T. Kalmar Nagy (USA), K. Pyragas (Lithuania)

Micro- and Nano-Electro-Mechanical Systems

S. Krylov (Israel), J. Rhoads (USA)

Nonlinear Dynamics of Biological Systems

G. Domokos (Hungary), N. Perkins (USA), G. van der Heijden (UK)

Nonlinear Dynamics for Engineering Design

B. Epureanu (USA), S. Lenci (Italy), M. Wiercigroch (UK)

Energy Transfer in Nonlinear Systems

O. Gendelman (Israel), G. Kerschen (Belgium)

Nonlinear Stochastic Systems

M. Di Paola (Italy), N. Sri Namachchivaya (USA), A. Naess (Norway)

Hybrid Mechanical Systems

M. di Bernardo (Italy), P. Kowalczyk (UK), P. Piiroinen (Ireland)

Control and Synchronization of Chaos and Complex Dynamics

S. Boccaletti (Italy), A. Fradkov (Russia)

Fluid-Structure Interaction

H. Aref (USA, Denmark), O. Gottlieb (Israel), A. Metrikine (The Netherlands)

Working Language

English will be the official language of the Conference.
No simultaneous translation will be provided.

Keynote Lecturers

G. Benettin, *University of Padua, Italy*

G. Ron Chen, *City University of Hong Kong, China*

F. Chernousko, *Russian Academy of Sciences, Moscow*

M. Golubitsky, *Mathematical Biosciences Institute, OH*

T. Mullin, *Manchester Centre Nonlinear Dynamics, U.K.*

A. Nayfeh, *Virginia Polytechnic Institute, VA*

Steering Committee

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A. Luongo, *University of L'Aquila*

G. Solari, *University of Genova*

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J.J. Thomsen, *Denmark*

Important Dates:

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| - Deadline for submission:
(two-page Short Paper) | November 15, 2010 |
| - Notification of acceptance: | February 15, 2011 |
| - Final Short Paper or non-mandatory
six-page Paper: | April 15, 2011 |
| - Conference: | July 24-29, 2011 |



DIPARTIMENTO DI INGEGNERIA
STRUTTURALE E GEOTECNICA



SAPIENZA
UNIVERSITÀ DI ROMA

EUROMECH

7th European
Nonlinear Dynamics Conference
ENOC 2011

July 24-29, 2011 - Rome, ITALY

CALL FOR PAPERS

Scope of the Conference

Although the brand name ENOC (European Nonlinear Oscillations Conference) is still used as the historical abbreviation, the European Nonlinear Dynamics Conferences aim at covering the complete field of Nonlinear Dynamics, including Multibody Dynamics and coupling to Stability, Identification, Control and (Structural) Optimization.

During the last few decades, the area of nonlinear dynamics has been evolving in a revolutionary way, with applications to a wide variety of engineering systems made possible by the use of sophisticated computational techniques employing powerful concepts and tools of dynamical systems, bifurcation and chaos theory.

Two main general issues characterize the present research framework: (i) the need to overcome the limitations inherent in the archetypal single- or few-degree-of-freedom models mostly considered in the past, and to deal with real systems; (ii) the increased interest towards exploiting nonlinear dynamics modelling and analysis for designing physical and engineering systems and controlling their nonlinear and complex behaviour.

The aim is towards: (i) developing more reliable reduced-order models for the analysis of the actually high-dimensional systems and processes encountered in most technical applications; (ii) obtaining further meaningful hints for model validation from calibrated experimental investigations; (iii) generalizing concepts and techniques for the analysis of new complex behaviours; (iv) exploring implications of nonlinearity and chaos in design and operating conditions of advanced systems, as well as needs and features for their control.

Overall, it is important to remember how difficult and involved is the passage from simple models to actual engineered systems, with their inherent complexity.

ENOC 2011 is aimed at bringing together a wide variety of specialists with the purpose to show the latest achievements, to foster future directions for development, to exchange experience, and to stimulate further interaction, by diving deep into both theory and recent applications of nonlinear dynamics.

The topics of ENOC 2011 include but are not limited to:

- ***Models and methods (analytical, numerical, geometrical, symbolic, experimental) in nonlinear dynamics.***
- ***Qualitative and quantitative analysis of nonlinear dynamic systems.***
- ***Nonlinear dynamics of continuous, discontinuous and hybrid systems.***
- ***Bifurcations and chaos.***
- ***Nonlinear stochastic systems.***
- ***Nonlinear dynamic phenomena.***
- ***Control of oscillations and chaos.***
- ***Applications in mechanics at different scales, and real problems from any branch of engineering science including mechanical, civil, electronic, electrical, communication, medical, materials.***
- ***Cross-disciplinary topics from applied mathematics, physics, biophysics, genetics, nanotechnology, finance, medicine and earth sciences.***

Regular Sessions will be organized, besides Minisymposia. Contributions may be assigned either to Lecture Sessions or to Poster Discussion Sessions. Industrial companies are invited to participate in product exhibition (please contact the organizers).

Submission of Short Papers

Short Papers (two pages) should be submitted by **November 15, 2010** to the Organizing Committee. All Short Papers will be reviewed.

Interested contributors of accepted Short Papers will be also entitled to submit a non-mandatory six-page Paper by **April 15, 2011**.

No more than two Short Papers/Papers for each presenting author will be accepted.

The site for online submission with the relevant instructions will be open **mid-September, 2010**.

Conference Proceedings

Short Papers and Papers will be published as Conference Proceedings in two parts, in digital format.

Young Scientist Prizes

Two prizes will reward the best two presentations given during ENOC 2011 by young scientists (less than 35 years old).

Location

Rome is considered as one of the most beautiful and culturally rich city in the world, with its many historical and artistic sites from the Roman Age, Middle Age, Renaissance, Baroque, and Contemporary Time, including masterpieces from Vatican, several city amenities, charming suburbs and neighborhoods.

Conference Venue

The Conference will be held at the Sapienza University of Rome. The Opening Session will take place in the Main Auditorium Building of the Central University Campus located close to the Termini Railway Station. All of the other Sessions (Oral and Poster) will take place at the Faculty of Engineering of the University, within a former Renaissance monastery conveniently located in the very centre of Rome, close to the Colosseum and to the Roman Forum.

This two-venue location will give the participants the possibility to visit different University settlements.

Social Program

The social program will include a welcome reception, a half-day excursion, and a banquet. These events will be included in the Registration Fee of fully registered participants and registered accompanying persons. Some cultural events highlighting aspects of the "Eternal City" will be also organized.

Address of Organizing Committee

Prof. Giuseppe Rega (Chair)
Prof. Francesco Romeo (General Secretariat)
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