

Математички Институт САНУ
Кнеза Михаила 36
11 000 Београд
Србија

Директору МИ САНУ др Зорану Огњановићу
Председнику Научног већа МИ САНУ академику проф. др Драгошу Цветковићу

Стручни извештај са 9th **European Nonlinear Dynamics Conference, 25-30 June, 2017. Budapest, Hungary- ENOC- 2017**

Поштовани,

Подносим вам стручни извештај са

9th **European Nonlinear Dynamics Conference, 25-30 June, 2017. Budapest, Hungary- ENOC- 2017. На овој конференцији , која се одржава сваке треће године , сваки пут у различитој европској држави, ове године је учествовало 535 излагача из 43 земље. Највећи број учесника имале су Кина, Немачка, Мађарска и Русија. Из Србије је било седам учесника од којих пет са пројекта ОИ 174001. Било је пет пленарних предавања и 21 минисимпозијум:**

Пленарна Предавања:

1. **Particles - Simulating Complicated Processes with Meshfree Methods**
Peter Eberhard
University of Stuttgart, Germany
2. **Autonomous assembly of a team of flexible spacecraft**
Haiyan Hu
School of Aerospace Engineering, Beijing Institute of Technology, Beijing, China
3. **Internal resonances in tiny structures: new results and practical applications**
Steven Shaw^{1,2}
¹*Department of Mechanical and Aerospace Engineering, Florida Institute of Technology, Melbourne, FL, USA*
²*Departments of Mechanical Engineering and Physics and Astronomy, Michigan State University, East Lansing, MI, USA*
4. **Tailoring nonlinearity for advanced engineering design: linearization, optimization and practical realization**
Gaëtan Kerschen
Space Structures and Systems Laboratory, A Aerospace and Mechanical Engineering Department, University of Liège, Belgium
5. **Exact model reduction for nonlinear oscillations: from equations to data sets**
George Haller
Chair in Nonlinear Dynamics, Institute for Mechanical Systems, ETH Zürich

Минисимпозијуми:

MS-01 Reduced-Order Modeling and System Identification

Co-organizers:

Lawrence A. Bergman, University of Illinois at Urbana-Champaign

Melih Eriten, University of Wisconsin-Madison

Mehmet Kurt, Stanford University

MS-02 Asymptotic Methods

Co-organizers:

Igor V. Andrianov, Aachen University
Jan Awrejcewicz, University of Lodz
Leonid I. Manevitch, Russian Academy of Sciences

MS-03 Computational Methods

Co-organizers:
Harry Dankowicz, University of Illinois at Urbana-Champaign
Jan Sieber, University of Exeter
Themistoklis Sapsis, Massachusetts Institute of Technology

MS-04 Experiments in Nonlinear Dynamics and Control

Co-organizers:
Walter Lacarbonara, University of Rome
Hiroshi Yabuno, University of Tsukuba
Guilhem Michon, University of Toulouse

MS-05 Slow-Fast Systems and Phenomena

Co-organizers:
Anatoly Neishtadt, Loughborough University
D. Dane Quinn, The University of Akron
Jon Juel Thomsen, Technical University of Denmark

MS-06 Fractional Derivatives

Co-organizers:
Riccardo Caponetto, Universita'degli Studi di Catania
Dana Copot, Ghent University
Pierre Melchior, Bordeaux Institute of Technology

MS-07 Dynamics and Optimization of Multibody Systems

Co-organizers:
Felix L. Chernousko, IPMech RAS
József Kövecses, McGill University
Werner Schiehlen, University of Stuttgart

MS-08 Nonlinear Phenomena in Mechanical and Structural Systems

Co-organizers:
Bala Balachandran, University of Maryland
Sotirios Natsiavas, Aristotle University of Thessaloniki
Jerzy Warmański, Lublin University of Technology

MS-09 Nonlinear Dynamics in Engineering Systems

Co-organizers:
Yuri Vladimirovich Mikhlin, National Technical University "Kharkov Polytechnical Institute"
Matthew Cartmell, The University of Sheffield
Konstantin Vitalievich Avramov, NAS of Ukraine

MS-10 Non-Smooth Dynamics

Co-organizers:
Claude-Henri Lamarque, Ecole Nationale des Travaux Publics de l'Etat
Remco Ingmar Leine, University of Stuttgart
Vincent Acary, INRIA Chile

MS-11 Systems with Time Delay

Co-organizers:
Zaihua Wang, Nanjing University of Aeronautics and Astronautics
Eric Butcher, The University of Arizona
Tamas Insperger, Budapest University of Technology and Economics

MS-12 Micro- and Nano-Electro-Mechanical Systems

Co-organizers:
Anil Bajaj, Purdue University
E.M. Abdel-Raman, University of Waterloo

Slava Krilov, Tel Aviv University

MS-13 Nonlinear Dynamics in Biological Systems

Co-organizers:

Gert van der Heijden, University College, London

Sachin Goyal, University of California

Gergely Röst, University of Szeged

MS-14 Nonlinear Dynamics for Engineering Design

Co-organizers:

Stefano Lenzi, Università Politecnica delle Marche

Bogdan Epureanu, University of Michigan

Marco Amabili, McGill University

Marian Wiercigroch, University of Aberdeen

MS-15 Energy Transfer and Harvesting in Nonlinear Systems

Co-organizers:

Oleg Gendelman, Technion, Israel Institute of Technology

Alexander Vakakis, University of Illinois at Urbana-Champaign

Brian Mann, Duke University

MS-16 Random Dynamical Systems - Recent Advances and New Directions

Co-organizers:

Rachel Kuske, The University of British Columbia

Daniil Yurchenko, Heriot-Watt University

Radoslaw Iwankiewicz, Institut für Mechanik und Meerestechnik

MS-17 Time-periodic systems

Co-organizers:

Subhash C. Sinha, Auburn University

Dr. Thomas Pumphössel, Johannes Kepler Universität

Tamas Kalmar-Nagy, Budapest University of Technology and Economics

MS-18 Control and Synchronization in Nonlinear Systems

Co-organizers:

Nathan van de Wouw, Eindhoven University of Technology

Bernard Brogliato, INRIA Grenoble Rhône-Alpes

Tomasz Kapitaniak, Technical University of Lodz

MS-19 Fluid-Structure Interaction

Co-organizers:

Andrei Metrikine, Delft University of Technology

Oded Gottlieb, Technion - Israel Institute of Technology

Kerry Hourigan, Monash University

MS-20 Wave Propagation in Mechanical Systems

Co-organizers:

Massimo Ruzzene, Georgia Institute of Technology

Francesco Romeo, SAPIENZA University of Rome

Yuli Starosvetsky, Technion, Israel Institute of Technology

MS-21 Traffic and Vehicle Dynamics

Co-organizers:

Gabor Orosz, University of Michigan

Bart Besselink, University of Groningen in Groningen, the Netherlands

У оквиру минисимпозијума из Нелинеарне динамике у биолошким системима (**MS-13 Nonlinear Dynamics in Biological Systems**) чији су организатори били проф др Gert van der Heijden, *University College, London*, проф др Sachin Goyal, *University of California* и Gergely Röst, *University of Szeged* усмено сам излагала рад под називом „Analysis of oscillatory motions of chromosomes during anaphase using

biomechanical oscillatory model of mitotic spindle.“ У оквиру овог минисимпозијума било је две секције и 12 излагача. Саопштење је штампано у електронској форми у виду двостраничног апстракта које се може наћи на сајту конфеенције:

Anđelka Hedrih, Katica (Stevanovic) Hedrih. Analysis of oscillatory motions of chromosomes during anaphase using biomechanical oscillatory model of mitotic spindle. **ENOC- 2017. 9th European Nonlinear Dynamics Conference, 25-30 June, 2017. Budapest, Hungary, www.congressline.hu/enoc2017. ID.372.**
<http://congressline.hu/enoc2017/abstracts.php?page=10>
ISBN 978-963-12-9168-1

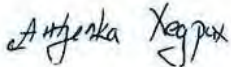
Саопштење је изазвало интересовање и дискусију.

Након разговора са проф Регом (*Giuseppe Rega, Dipartimento di ingegneria strutturale e geotecnica, La Sapienza Universita Di Roma. Italy*, председник *-ENOCC (European Nonlinear Oscillations Conference Committee)* и италијански представник у *IUTAM-у (International Union of Theoretical and Applied mechanics)* и проф Черноушком (*Felix L. Chernousko, Ishlinsky Institute for Problems in Mechanics RAS, Moscow, Russia*, академиком Руске академије наука, иностраним чланом Српске академије наука и уметности и руским представником у *IUTAM-у*) везано за организацију неких од наредних ENOC-а у Србији, неопходно је да Србија буде најпре члан EUROMECH-а (Европског друштва за механику) као и да имам свог прпознатљивог представника у EUROMECH-у.

У Прилогу вам достављам:

1. Извод из програма конференције
2. Пар фотографија са конфеенције

С Поштовањем,



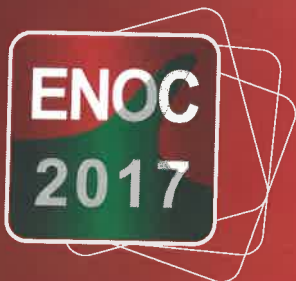
др Анђелка Хедрих

истраживач на пројекту ОИ 174001
МИ САНУ
Кнеза Михаила 36
11 000 Београд
Србија

У Београду 07.07.2017.







9TH
EUROPEAN
NONLINEAR
DYNAMICS
CONFERENCE

25-30 June, 2017

Budapest, Hungary

Department of Applied Mechanics
Budapest University of Technology
and Economics

PROGRAMME

www.congressline.hu/enoc2017

ORGANIZERS

Local Organizing Committee (LOC)

Gábor Stépán (*chairman*)

Gábor Csernák (*secretary*)

Péter Beda

Gábor Domokos

Zsolt Gáspár

János Józsa

György Károlyi

Gyula Patkó

Tamás Tél

János Vad

European Nonlinear Oscillations Conference Committee (ENOCC)

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Vincent Acary, France

Matthew Cartmell, UK

Felix Chernousko, Russia

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Andrei Metrikine, The Netherlands

Remco Ingmar Leine, Germany

Pedro Leal Ribeiro, Portugal

Alois Steindl, Austria

Gábor Stépán, Hungary

14.50

ID 372

Analysis of oscillatory motions of chromosomes during anaphase using biomechanical oscillatory model of mitotic spindle

Andjelka Hedrih¹, Katica (Stevanović) Hedrih^{1,2}

¹*Mathematical Institute of Serbian Academy of Sciences and Arts, Department of Mechanics, Belgrade, Serbia*

²*Faculty of Mechanical Engineering, University of Nis, Nis, Serbia*

15.10

ID 418

Dynamics of statically pre-loaded human aorta with residual stresses

Marco Amabili

McGill University, Mechanical Engineering, Montreal, Canada

Room 8 (KF82)

13.30 - 15.30

**MS 02 / II.
Asymptotic Methods**

Chair:

Jan Awrejcewicz

Co-chair:

Wim T. Van Horssen

13.30

ID 19

On perturbations methods and their applicability in the study of vibrations of axially moving strings and beams

Wim T. Van Horssen

Delft University of Technology, Delft Institute of Applied Mathematics, Delft, The Netherlands

13.50

ID 99

On the mathematical justification of viscoelastic shell models

Gonzalo Castiñeira Veiga¹, Ángel Rodríguez-Arós²

¹*Universidade de Santiago de Compostela, Department of Applied Mathematics, Santiago de Compostela, Spain*

²*Universidade da Coruña, Department of Mathematics, A Coruña, Spain*

14.10

ID 152

Internal resonances of a non-linear heterogeneous rod: influence of dispersion and dissipation

Igor Andrianov¹, Vladyslav Danishevskyy², Bernd Märkert¹, Graham Rogerson²

¹*RWTH Aachen University, Institute of General Mechanics, Aachen, Germany*

²*Keele University, School of Computing and Mathematics, Keele, United Kingdom*

TUESDAY

14.30

ID 256

On time-varying velocity for an axially moving string under viscous damping

Sajad H. Sandilo

*Quaid-e-Awam University of Engineering, Science and Technology,
Department of Mathematics, Nawabshah, Pakistan*

14.50

ID 428

Small-scale counter-rotating Darrieus wind turbine

Liubov Klimina¹, Ekaterina Shalimova¹, Vitaly Samsonov¹,
Ching-Huei Lin²

¹*Lomonosov Moscow State University, Institute of Mechanics, Moscow, Russia*

²*Chien Hsin University of Science and Technology, Electrical Engineering, Moscow, Russia*

15.10

ID 444

Semi-analytical investigation of unsteady free-boundary flows

Evqenii Karabut¹, Aleksander Petrov², Elena Zhuravleva³

¹*Lavrentyev Institute of Hydrodynamics, Russian Academy of Sciences,
Novosibirsk, Russia*

²*Institute for Problems in Mechanics, Russian Academy of Sciences,
Russian Academy of Sciences, Moscow, Russia*

³*Lavrentyev Institute of Hydrodynamics, Applied Mathematics, Novosibirsk, Russia*

Room 9 (KF87)

13.30 - 15.30

MS 01 / II.

Reduced-Order Modeling and System Identification

Chair:

Michael McFarland

Co-chair:

Dennis Grunert

13.30

ID 244

Towards the adoption of the stiffness evaluation procedure as non-intrusive, non-linear model reduction method in car crash simulations

Dennis Grunert, Jörg Fehr

*University of Stuttgart, Institute of Engineering and Computational Mechanics,
Stuttgart, Germany*

13.50

ID 275

Experimental frequency response synthesis for nonlinear systems

Simon Peter¹, Maren Scheel², Malte Krack², Remco Ingmar Leine¹

¹*University of Stuttgart, Institute for Nonlinear Mechanics, Stuttgart, Germany*

²*University of Stuttgart, Institute of Aircraft Propulsion Systems, Stuttgart, Germany*

TUESDAY