CALL FOR PAPERS

9th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC)

to be held in conjunction with the
ASME 2013 International Design Engineering
Technical Conferences
at the Oregon Convention Center in Portland, Oregon,
USA
August 4 - 7, 2013

The International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC) is a premier meeting event for professional networking and research exchange across the multibody systems and nonlinear dynamics technical community. The conference facilitates the dissemination of fundamental research in the enabling disciplines as well as research into their application to engineered or naturally occurring mechanical systems across all length and time scales.

MSNDC is a forum that

1. recognizes MSND research that is current and original and has wide-ranging appeal,
2. recognizes nascent efforts to bring MSND methods to new areas of application,
3. promulgates the application-oriented integration of existing MSND results and methods,
4. raises the visibility of the research and promotes advances in MSND education, and
5. sustains the vitality of the multibody systems and nonlinear dynamics professional community.

Papers are welcome for each of the following topics:

1. **MSNDC- Formulations and Modeling**
- Contact and Interface Dynamics (Organizers: P. Flores, Y. Suda, A. Tasora)
- Flexible Multibody Dynamics (A. Shabana, A. Schwab, A. Cardona, J. Escalona)
- Structural Dynamics (S. Theodossiades, M. J. Leamy)

2. **MSNDC- Analytical, Experimental, and Nonlinear Dynamics**
- Nonlinear Resonances, Phenomena, and Interactions (B. Balachandran, S. Lenci)
- Dynamic Systems with Time-Variability, Delay, or Discontinuities (E. Butcher, G. Oroz, S. Sinha, M. Younis)
- Reduced-Order Modeling (M. Allen, G. Kerschen, M. Eriten)
- Fractional Dynamics (A. Luo, T. Machado)

3. **MSNDC-Computational Methods, Algorithms, and Software**
- Computational Methods in Multibody Systems and Nonlinear Dynamics (O. Bauchau, K. Anderson, J. Cuadrado, S. S. Kim)
- Optimization, Sensitivity Analysis, and System Design (C. Bottasso, O. Brüls)
- Software Tools for Computational Dynamics in Industry and Academia (P. Masarati, J. Critchley, A. Müller)
- Industry Panel (P. Jayakumar, H. German, S. C. Wu, D. Negrut)

4. **MSNDC- Applications and Education**
- Biomechanics (J. McPhee, D. Thelen, S. Goyal)
- Modeling, Simulation, and Validation of Vehicle Dynamics (H. Sugiyama, W. Schiehlen, J. Ambrosio, K. Zaazaa)
- Controls and Mechatronics (J. Kövecses, R. Seifried)
- Emerging Frontiers (W. Lacarbonara, R. Mukherjee)

As per the published publication schedule, abstracts for initial review must be submitted using the online submission system by **Monday, January 7, 2013**. In addition, and only if you have submitted the abstract by the due date, you must also submit a full-length draft paper for peer review by **Monday, January 21, 2013**.

All papers will be reviewed, and accepted manuscripts will be published in the conference proceedings on CD-ROM.

Conference website:

http://www.asmeconferences.org/idetc2013/

Organizing committee:

Conference Chair: Aki Mikkola,
Lappeenranta University of Technology, Finland,
mikkola@lut.fi

Program Chair: Dan Negrut,
University of Wisconsin-Madison, USA,
negrut@engr.wisc.edu

Paper Competition Chair: Andreas Müller,
Institute of Mechatronics, Chemnitz, Germany
andreas-mueller@uni-due.de

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Student Paper Competition

The Technical Committee on Multibody Systems and Nonlinear Dynamics (TC-MSND) of the ASME Design Engineering Division solicits submissions to the 2013 MSNDC Student Paper Competition to be held in conjunction with the 9th ASME International Conference on Multibody Systems, Nonlinear Dynamics and Control (MSNDC), as part of the ASME 2013 International Design Engineering Technical Conferences (IDETC) in Portland, Oregon, August 4 – 7, 2013.

The **MSNDC Best Student Paper Award** recognizes a student who has authored and presented a paper included in the MSNDC proceedings that demonstrates originality, relevance, and importance; is high quality, organized, and clear; and offers a high degree of technical content.

Eligibility: Only one paper per lead author may be submitted to the Student Paper competition. Student advisers can appear as authors on no more than two competition papers. A paper is eligible for the competition provided its author at the time of submission is a student and the oral presenter of the paper. The paper can have no more than three authors, and none of the authors can be a member of the TC-MSND Student Paper Competition committee.

Submission instructions: Manuscripts intended to be considered for the MSNDC Best Student Paper Award shall be submitted to the regular MSNDC technical symposia listed below through the IDETC webpage and must be expressly declared as intended for the competition by the authors at the time of submission.

1. **MSNDC- Formulations and Modeling**
- Contact and Interface Dynamics
- Flexible Multibody Dynamics
- Structural Dynamics

2. **MSNDC- Analytical, Experimental, and Nonlinear Dynamics**
- Nonlinear Resonances, Phenomena, and Interactions
- Dynamic Systems with Time-Variability, Delay, or Discontinuities
- Reduced-Order Modeling
- Fractional Dynamics

3. **MSNDC-Computational Methods, Algorithms, and Software**
- Computational Methods in Multibody Systems and Nonlinear Dynamics
- Optimization, Sensitivity Analysis, and System Design
- Software Tools for Computational Dynamics in Industry and Academia
- Industry Panel

4. **MSNDC- Applications and Education**
- Biomechanics
- Modeling, Simulation, and Validation of Vehicle Dynamics
- Control and Mechatronics
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As per the published publication schedule, abstracts for initial review must be submitted using the online submission system by **Monday, January 7, 2013**. In addition, and only if you have submitted the abstract by the due date, you must also submit a full-length draft paper for peer review by **Monday, January 21, 2013**.

Evaluation process: If a manuscript is selected as a finalist for the MSNDC Best Student Paper Award, in addition to the technical symposium presentation, the lead author will give an oral presentation of the paper's content in a special MSNDC Student Paper Competition session on the first day of the MSNDC conference.

Questions regarding the MSNDC Student Paper Competition should be directed to the MSNDC Paper Competition Chair:

Dr.-Ing. Habil. Andreas Müller
Chair, TC-MSND Paper Competition Committee
Institute of Mechatronics
Reichenhainer Str. 88
09126 Chemnitz, Germany
Email: andreas-mueller@uni-due.de
Tel: +358-5-6212447 +49 371 531 19664

Conference website:

www.asmeconferences.org/IDETC2013