

Technical Sessions

14th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC)

9:00am Dynamic Modeling and Stability Analysis of a Dual-Rotor Wind Turbine

Technical Paper Publication. DETC2018-86142

Oliver Tierdad Filsoof, Aarhus University (Vestas), Aarhus C, Jutland, Denmark, Morten Hartvig Hansen, University of Southern Denmark, Sønderborg, Jutland, Denmark, Anders Yde, VESTAS WIND SYSTEMS A/S, Aarhus N, Denmark, Xuping Zhang, Aarhus University, Aarhus, Denmark

9:20am A Motion Formalism Approach to Modal Reduction for Flexible Multibody System Applications

Technical Paper Publication. DETC2018-86143

Valentin Sonneville, University of Maryland, College Park, MD, United States, Olivier Bruls, Universite de Liege, Liege, Belgium, Olivier Bauchau, University of Maryland, College Park, MD, United States

MSNDC-5-1 TIME-VARYING AND TIME-DELAY SYSTEMS SECOND LEVEL, ROOM 2101 8:00AM - 9:40AM

Session Organizer: **Thomas Pumhoessel**, Johannes Kepler University, Linz, Austria

Session Co-Organizer: **Jose Munoz**, Universitat Politecnica de Catalunya, Barcelona, Spain

8:00am Mechanical Representation and Stability of Dynamical Systems Containing Fractional Springpot Elements

Technical Paper Publication. DETC2018-85146

Matthias Hinze, André Schmidt, Institute for Nonlinear Mechanics, University of Stuttgart, Stuttgart, Baden-Württemberg, Germany, Remco Leine, University of Stuttgart, Stuttgart, Germany

8:20am Investigating Modal Energy Redistributions in Mechanical Systems With Impulsive Stiffness Excitation by Using Effective Damping Measures

Technical Paper Publication. DETC2018-85524

Thomas Pumhoessel, Johannes Kepler University, Linz, Austria

8:40am Response Characteristics of Systems With Two-Harmonic Parametric Excitation

Student Competition Paper. DETC2018-86140

Fatemeh Afzali, Michigan State University, East Lansing, MI, United States, Gizem Acar, University of Maryland, College Park, College Park, MD, United States, Brian Feeny, Michigan State University, Michigan, MI, United States

9:00am Harmonically Excited Delay Equation for Machine Tool Vibrations

Student Competition Paper. DETC2018-86145

János Lelkes, Tamas Kalmar-Nagy, Budapest University of Technology and Economics, Department of Fluid Mechanics, Budapest, Hungary

MSNDC-10-2 COMPUTATIONAL METHODS II SECOND LEVEL, ROOM 207

8:00AM - 9:40AM

Session Organizer: **Inna Sharf**, McGill University, Montreal, QC, Canada

Session Co-Organizer: **Daixing Lu**, TU-Darmstadt, Darmstadt, Hessen, Germany

8:00am Minimal Realizations for Linear Multibody System Dynamics

Technical Paper Publication. DETC2018-85203

Bruce Minaker, University of Windsor, United Kingdom

8:20am Symbolic Linearized Equations for Nonholonomic Multibody Systems With Closed-Loop Kinematics

Technical Paper Publication. DETC2018-85823

Dieter Bestle, Marton Kuslits, Brandenburg University of Technology, Cottbus, Germany

8:40am A Bond Graphic Approach to Analytical Dynamics

Technical Paper Publication. DETC2018-86349

James Phillips, Applied Dynamics International, Michigan

9:00am Effect of Patellar Button Positioning on Knee Forces following Total Knee Arthroplasty

Technical Paper Publication. DETC2018-86431

Farid Amirouche, University Of Illinois, Illinois

9:20am Floating Frame of Reference Formulation for Modeling Flexible Multibody Systems in Premise Operational Conditions

Technical Paper Publication. DETC2018-86329

Ayman A. Nada, Abdullateef Bashiri, Jazan University, Jazan, OO, Saudi Arabia

MSNDC-7-1 OPTIMIZATION, SENSITIVITY ANALYSIS, AND UNCERTAINTY QUANTIFICATION IN DYNAMIC SYSTEMS SECOND LEVEL, ROOM 206B

10:00AM - 11:40AM

Session Organizer: **Radu Serban**, University of Wisconsin - Madison,