

Water, Food, Energy & Innovation for a Sustainable World

ASA, CSSA, & SSSA International Annual Meetings
Nov. 3-6, 2013 | Tampa, Florida



American Society of Agronomy | Crop Science Society of America | Soil Science Society of America

Start

Symposium--International Society For Terrain Vehicle Systems: I

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Oral Session

International Society for Terrain-Vehicle Systems (ISTVS)

Annual meeting of the International Society of Terrain Vehicle Systems

Author Index

Tuesday, November 5, 2013: 8:00 AM-2:30 PM

Share |

Organizers: *Timothy Cary and Heidi R. Howard*

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| 8:00 AM | Introductory Remarks |
| 8:05 AM | Three-Dimensional Road Profiling Using Stereography. <i>Pieter Schalk Els, University of Pretoria; Theunis Richard Botha, University of Pretoria</i> |
| 8:20 AM | Ideal Gas Approach Vs. Real Gas Approach for Modelling a Hydropneumatic Suspension. <i>Sarel Francois van der Westhuizen, University of Pretoria; Pieter Schalk Els, University of Pretoria</i> |
| 8:35 AM | Off-Road Soft Soil Tire Model. <i>Shahyar Taheri, Virginia Tech; Corina Sandu, Virginia Polytechnic Institute and State University; Saeid Taheri, Virginia Tech; Scott Naranjo, Virginia Tech; Paramsothy Jayakumar, TARDEC; Brant Ross, Motion Port; Daniel Christ, Michelin Americas Research Company</i> |
| 8:50 AM | Development of a Laboratory Based Dynamic Friction Tester. <i>Mohammad Motamedi, Center for Tire Research (CenTiRe) at Virginia Tech; Chuang Su, Center for Tire Research (CenTiRe) at Virginia Tech; Michael J Craft, Center for Vehicle Systems and Safety (CVeSS) at Virginia Tech; Saeid Taheri, Virginia Tech; Corina Sandu, Virginia Polytechnic Institute and State University</i> |
| 9:05 AM | Pisces - Robotics High Fidelity Field Testing in Hawaii for Moon and Mars. <i>John C Hamilton, Pacific International Space Center for Exploration Systems</i> |
| 9:20 AM | Dynamics Simulation of Rovers On Soft Terrain: Modelling and Experimental Validation. <i>Ali Azimi, McGill University; Daniel Holz, CM-Labs Simulations Inc.; Jozsef Kövecses, McGill University; Jorge Angeles, McGill University; Marek Teichmann, CM-Labs Simulations Inc.</i> |
| 9:35 AM | Design of a High Traction Flexible Wheel for the Next Generation of Manned Lunar Rovers. <i>Louis Corriveau, Université de Sherbrooke; Alain Desrochers, Université de Sherbrooke; Claude Gagnon, Centre de technologies avancées BRP – Université de Sherbrooke; Raymond Panneton, Université de Sherbrooke</i> |
| 9:50 AM | Break |
| 10:10 AM | Resistive Force Theory Predicts Locomotion of a Legged Robot On Granular Media. <i>Tingnan Zhang, Georgia Institute of Technology; Chen Li, University of California, Berkeley; Daniel I. Goldman, Georgia Institute of Technology</i> |
| 10:25 AM | High-Fidelity and Efficient Rover Mobility Modelling and Simulation Based On Plasticity Theory. <i>Ali Azimi, McGill University; Daniel Holz, CM-Labs Simulations Inc.; Jozsef Kövecses, McGill University; Jorge Angeles, McGill University; Marek Teichmann, CM-Labs Simulations Inc.</i> |
| 10:40 AM | Flexible Body Simulation for Lunar Soil Based On Abaqus and Adams. <i>Jianqiao Li, Jilin University</i> |
| 10:55 AM | Experimental Study On The Influence Of Gravity To Penetration Resistance Of Lunar SOIL Simulant. <i>Jianqiao Li, Jilin University; Ruiyang Shi, Jilin University; Shichao Fan, China Academy of Space Technology; Men Zou, Jilin University; Yanjing Yang, China Academy of Space Technology; Ling He, China Academy of Space Technology</i> |
| 11:10 AM | Flowability of Lunar Regolith Simulants Under Reduced Gravity and Vacuum in Hopper-Based Conveying Devices. <i>Philipp Reiss, Technische Universität München; Philipp Hager, Technische Universität München; Alexander Hoehn, Technische Universität München; Martin Rott, Technische Universität München</i> |
| 11:25 AM | Predicting Traction of a Tire On Soil Using Continuum Approach. <i>Anoop Varghese, Bridgestone Americas Tire Operations; Brian Steenwyk, Bridgestone Americas Tire Operations; John Turner, Bridgestone Americas Tire Operations</i> |
| 11:40 AM | Experimental Study Of Lightweight Tracked Vehicle Performance On Dry Granular Materials. <i>Carmine Senatore, Massachusetts Institute of Technology; Paramsothy Jayakumar, TARDEC; Karl Iagnemma, Massachusetts Institute of Technology</i> |

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| 11:55 AM | Lunch Break |
| 12:55 PM | Introductory Remarks Following Lunch |
| 1:00 PM | Comparison of DEM and Traditional Modeling Methods for Simulating Transient Wheel-Terrain Interaction for Small Vehicles. William Smith , University of Michigan; Hwei Peng, University of Michigan |
| 1:15 PM | Experimental Testing of An Off-Road Tire in Soft Soil. Scott Naranjo, Virginia Tech; Corina Sandu , Virginia Polytechnic Institute and State University; Shahyar Taheri, Virginia Tech; Saied Taheri, Virginia Tech; Paramsothy Jayakumar, TARDEC; Brant Ross, Motion Port; Daniel Christ, Michelin Americas Research Company |
| 1:30 PM | The Influence of Super-Hydrophobic Layer On Friction Behaviour in Hydraulic Piston Pump Components. Antonino Bonanno , IMAMOTER-C.N.R.; Maria Giulia Faga, IMAMOTER-C.N.R.; Roberto Paoluzzi, IMAMOTER-C.N.R.; Giuseppe Rizzo, IMAMOTER-C.N.R. |
| 1:45 PM | Terrain-Vehicle Interaction Study for Agile UGV Dynamics Control. Mostafa A Salama , University of Alabama at Birmingham; Vladimir V Vantsevich, University of Alabama at Birmingham |
| 2:00 PM | Real-Time Non-Linear Vehicle Dynamics Prediction Model. Pieter Schalk Els , University of Pretoria; Bernard Linström, University of Pretoria |
| 2:15 PM | Predicting the Mobility of Tracked Forestry Machines Operating On Nordic Forest Soil. Ulf Sellgren, KTH Royal Institute of Technology; Abdurasul Pirnazarov, KTH Royal Institute of Technology; Revathi Palaniappan , KTH Royal Institute of Technology; Björn Löfgren, Swedish Forestry Research Institute |
| 2:30 PM | Adjourn |

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See more from this Division: [International Society for Terrain-Vehicle Systems \(ISTVS\)](#)

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