



Call For Papers

16th International Conference On

ADVANCED VEHICLE TECHNOLOGIES

2014 ASME International Design Engineering Technical Conference (IDETC)
August 17-20, 2014 in Buffalo, NY

Sponsored by: Vehicle Design Committee

Technical Research Areas: The Vehicle Design Committee (VDC) of the ASME Design Engineering Division (DED) is organizing an annual International Conference on Advanced Vehicle Technologies (AVT). Papers are invited on innovative analytical, computational, and experimental investigations in the design of full vehicle systems and their sub-systems, as well as on studies for safety and ergonomics, powertrains, alternative fuels, and intelligent transportation systems. Papers may address fundamental research, applied research, or successful implementations relating to light or heavy vehicle modeling, design, control, testing, or development.

Conference Chair:

Dr. Xubin Song

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Program Chair:

Dr. Beshah Ayalew

Clemson University-International Center for
Automotive Research
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Symposium 1: Advances in Ground Vehicles Dynamics and Controls

Topics include advanced modeling methods and controls of multi-physics systems and multi-body dynamics, experimental evaluation and model validation tests, and advanced analytical and computational methods. Papers in the general area of dynamics and controls applications to vehicle systems and subsystems are welcome (powertrains, ABS systems, active and semi-active suspension, intelligent rollover warning systems, active yaw control systems, emission control, vehicle drivability, intelligent transportation systems, and advanced propulsion control systems).

Organizer:

Dr. Vladimir V. Vantsevich

University of Alabama at Birmingham
Email: vantsevi@uab.edu

Co- Organizer:

Dr. Corina Sandu

Virginia Polytechnic Institute and State University
E-mail: csandu@vt.edu

Symposium 2: Advances in Methods for Tire Design and Mechanics

Topics relate to analytical, numerical, experimental studies of nonlinear behavior of tires and wheels including, but not limited to: static/dynamic stress analysis, nonlinear material modeling, contact stress, impact, noise, vibration, traction, hydroplaning, performance evaluation, rolling resistance, handling, and durability. Tires of all sizes are of interest, for both on-road and off-road applications.

Organizer: **Dr. Moustafa El-Gindy**
University of Ontario Institute of Technology
E-mail: moustafa.el-gindy@uoit.ca

Co-Organizer: **Dr. Jaehyung Ju**
University of North Texas
E-mail: Jaehyung.Ju@unt.edu

Symposium 3: Advances in Ground Vehicle Safety and Ergonomics

Topics include both vehicle active safety of such as lane departure prevention and V2x technology application, and passive safety development of crashworthiness design, methods for crash-based accident analysis, airbag and seatbelt systems integration and robust structures for occupant protection during impacts. Also welcome other related advanced researches on such as response of the human body to vibration and mechanical shocks, biomechanics studies, experimental and computational analysis of ride comfort, and prediction of comfort levels,

Organizer: **Mr. Alan Mayton**
NIOSH, Pittsburgh Research Lab,
Email: amayton@cdc.gov

Co-Organizer: **Dr. Yan Fu**
Ford Motor Corporation
Email: yfu4@ford.com

Symposium 4: Advances in Methods for Ground Vehicle Systems Design

Topics refer to optimal, reliable, and robust design of vehicles and their subsystems, including, but not limited to design of suspension systems, powertrain design, braking systems designs, integrated (mechatronics) systems development, and engineering applications referring to vehicle design.

Organizer: **Dr. Massimiliano Gobbi**
Politecnico di Milano (Technical University)
Email: massimiliano.gobbi@polimi.it

Co-Organizer: **Dr. Lei Zuo**
Stony Brook University
E-mail: lei.zuo@sunysb.edu

Symposium 5: Advances in Electric and Hybrid Vehicles Design

This symposium focuses on state-of-the-art research and development as well as future trends in the design, modeling, control, system integration and optimization of alternative energy propulsion and vehicular systems such as electric (EV), hybrid electric (HEV) and plug-in hybrid electric vehicles (PHEV), bio-fuel vehicles, LPG or CNG vehicles. Topics of interest also include energy storage and motor/power electronics components/systems, design and integration of the alternative energy propulsion and advanced vehicular systems, and state-of-the-art engine modeling and technology.

Organizer: **Dr. Joel Anstrom**
Penn State University
Email: janstrom@engr.psu.edu

Co- Organizer: **Dr. Beshah Ayalew**
Clemson University
Email: besah@CLEMSON.EDU

Symposium 6: Advances in Light Vehicles Design

Topics of the symposium are advanced modeling, simulation, testing and identification methods for light vehicles including motorcycles, bicycles and light three-wheeled vehicles. The focus is on the performance and dynamic response of the whole system, on the mechanical properties of the subsystems of the vehicle (chassis, tires, suspensions) and on the man-machine interaction including passive response of the rider's body and active rider control. Topics of interest also include engines and electric motors for two-wheeled vehicles, passive and mechatronic systems for the improvement of safety.

Organizer: **Dr. Alberto Doria**
University of Padova-Italy
Email: alberto.doria@unipd.it

Co- Organizer: **Dr. Jeremy Gray**
US Army TARDEC
E-mail: jeremy.p.gray.civ@mail.mil

A **Best Paper Award** and a **Student Best Paper Award** (for papers authored and submitted by student as the primary author) will be awarded to the papers in the conference that best exemplify the research and advance in ground vehicles engineering on the basis of reviewers evaluations.

The two Best Paper Awards, each consisting of a **\$500 cash prize**, dependent on funding availability.

Additionally, the Vehicle Design Committee (VDC) of the ASME will support the **three best student papers** (student must be the primary author submitting the paper) with a student **registration waiver** (one for each paper).

Keynote lecture and one panel will be organized for the Conference.

This is the overall publication schedule for IDETC/CIE 2013.

Author and Paper Registration

January 13, 2014

Note: Authors are requested to register and submit a tentative title and abstract by this deadline. For conference-specific information, please contact the [Technical Conference Chair or Program Chair](#) of your technical conference.

Submission of Draft Paper Review or Brief for Review

January 27, 2014

Note: In order to submit a draft paper or brief for review at this time, authors must first register and submit a tentative title and abstract, as described above.

Paper Reviews Completed

March 3, 2014

Initial Author Notification of Acceptance / Revision Requirements

March 17, 2014

Electronic Copyright Form Submission Process Opens

March 17, 2014

*Electronic Copyright transfer forms are **requested upon acceptance** of the draft or revised draft for full-length papers and prior to the submittal of the final paper for inclusion in the conference DVD.*

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Submission of Revised Paper for Review (if required)

March 31, 2014

*Note: If you submitted a full-length draft paper and the review decision **required revisions** and a second stage of review, your revised draft paper must be submitted by this date. If your paper was **accepted** for inclusion in the conference with only suggested revisions, you only need to meet the May 5, 2014 deadline for final paper submission.*

Author Notification of Acceptance of Revised Paper

April 7, 2014

Submission of Copyright Form

May 2, 2014

*Electronic Copyright transfer forms are **requested upon acceptance** of the draft or revised draft for full-length papers and prior to the submittal of the final paper for inclusion in the conference DVD.*

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Submission of Final Paper

May 5, 2014

*Note: In accordance with ASME [final paper requirements](#), papers **WILL NOT APPEAR** in the conference DVD if materials are received after this deadline.*