MAGIC 2014 Schedule

**Tuesday, December 9th 2014**

**Research Talks**

**Location: Room 2188 of the Mechanical Engineering building**

08:00 – 08:30
Guest check in

[Continental Breakfast]

08:30 – 08:45
Introductions, Logistics and Goals of the Meeting
Professor Dan Negrut, UW-Madison

08:45 – 09:45
Keynote Talk: “Vehicle Mobility - Goals & Challenges”
Dr. Paramsothy Jayakumar US Army TARDEC: 45 min talk + 15 min Q&A

09:45 – 10:15
Talk: "Benchmark Problems For Machine-Ground Interaction Simulations"
Mr. Mike McCullough, British Aerospace Engineering (BAE) Systems

10:15 – 10:30
Coffee Break

10:30 – 11:00
“Resistive Force Theory Models of Locomotion on Granular Media”
Tingnan Zhang or Professor Daniel Goldman, Georgia Tech

11:00 – 11:30
“Overview of the ADAMS Software - New Features and Future Developments”
Mike Collingridge, Director of Development - System Dynamics, MSC.Software

11:30 – 12:30
Brownbag Lunch (catered)

[Marty Gustafson – UW Online Masters of Eng. Degree in Data Analysis: 5 m.]
[Radu Serban – overview of Wednesday’s Chrono hands-on module: 10 m.]
[Dan Negrut – overview of US Army Rapid Innovation Fund project: 10 m.]

12:30 – 13:00
“Modeling, Simulation, and Validation of Tracked Vehicles”
Dr. Holger Haut, Simertis GmbH, Germany
13:00 – 13:15
Coffee Break
13:15 – 14:15
Keynote Talk: "Modeling & Simulation for Tank R&D Including Vehicle-Ground Interaction"
Dr. Koki Jumonji, Head, Turret Chassis & Propulsion Research Section, Technical Research & Development Institute, Ministry of Defense, Japan: 45 min talk + 15 min Q&A
14:15 – 15:00
Keynote Talk: “Virtual Prototyping at Caterpillar”
Mr. Keven W. Hofstetter, Caterpillar Inc.
15:00 – 15:45
Networking Break
15:45 – 16:15
“Structure-Based, Minimal Coordinate Dynamics for Mobile Robotics”
Dr. Abhinandan Jain, Jet Propulsion Laboratory-NASA
16:15 – 16:45
“Flexible Body Simulation in MBDyn”
Professor Pierangelo Masarati, Politecnico di Milano
16:45-17:15
“Recent Developments in Computational Mechanics with Applications to Terrain Modeling”
Professor Eftychios Sifakis, Computer Science, UW-Madison
17:15-17:45
"Solver Technologies in RecurDyn"
Dr. Graham Sanborn, FunctionBay, South Korea
17:45 – 18:30
Student live demos in Simulation-Based Engineering Lab – Room 4150ME
18:30 – 20:30
Happy Hour and Dinner at Steenbock’s on Orchard (Wisconsin Institute for Discovery)
**Note: The session on Wednesday is open to everyone. The Chrono::Vehicle tutorial session on Thursday is for our Army collaborators only.**

**Wednesday, December 10th**
8:00 am to 5:00 pm--Project Chrono Overview
Location: Room 3210 Mechanical Engineering
(Tasora, Serban, Melanz, Taylor)

1. Description of the Chrono suite and of the Chrono::Vehicle vertical app
2. Validation, software, documentation, and support
3. Using Chrono for multibody dynamics - Basic features
4. Using Chrono for multibody dynamics - Intermediate and Advanced features
5. Hands-on tutorial: modeling and simulation of a slider-crank mechanism

**Thursday, December 11th 2014**
8:00 am - 5:00 pm, Chrono::Vehicle Tutorial (for Army collaborators)
Location: Room 2270 Mechanical Engineering
(Serban, Tasora, Melanz)

1. Using Chrono::Vehicle for wheeled vehicle modeling, simulation, and visualization
2. Hands-on tutorial: vehicle modeling using templates
3. Hands-on tutorial: creating new subsystem templates