

Tuesday, September 10

| | Orchard View Room Vehicle Mobility Track | Boardroom Direct Accelerated Geometry Monte Carlo (DAGMC) Track | Researcher's Link Room Optimization and Machine Learning Track |
|-----------------|--|--|---|
| 7:30am-8:00am | Registration in Atrium | | |
| 8:00am-8:15am | <i>Welcome and Logistics</i> Professor Dan Negrut , UW-Madison | NA | <i>Welcome and Logistics</i> Professor Victor Zavala , UW-Madison |
| 8:15am-9:00am | <i>Autonomous Vehicle Shuttle Project in the City of Madison</i> Jon Riehl , Traffic Operations and Safety Laboratory, UW- Madison | | <i>Advances and Opportunities in Machine Learning and AI in Process Industries</i> Leo Chiang , Dow Chemical |
| 9:00am-9:30am | Networking/Coffee Break in Atrium | | |
| 9:30am-10:15am | <i>Experimental and Modeling Capabilities for Off-road Mobility</i> Dr. Bohumir Jelinek , Center for Advanced Vehicular Systems, Mississippi State University | <i>Welcome and Logistics</i> Professor Paul Wilson , UW-Madison (15 min) | <i>AI and MPC for Building Systems</i> Kirk Drees, Johnson Controls |
| 10:15am-10:45am | <i>Using Chrono to Assess Planetary Rover Performance: Validating the Soft-Sphere Model for Low-Gravity Granular Environments</i> Cecily Sunday , ISAE- SUPAERO, Space Systems for Planetary Applications, France | <i>DAGMC Roadmap: Past to Future</i> Paul Wilson, Patrick Shriwise , Argonne National Lab, and Andrew Davis , UKAEA | <i>Optimization in Machine Learning and Control</i> Steve Wright , UW-Madison |
| 10:45am-11:00am | Networking/Coffee Break in Atrium | | |
| 11:00am-11:45am | <i>Sensor Simulation for Autonomous Vehicles and Robotics</i> Asher Elmquist , UW-Madison | <i>DAGMC User Stories: Successes and Challenges</i> Speaker TBA | <i>Machine Learning for Modeling and Control of Complex Flows</i> Mike Graham , UW-Madison |
| 11:45am-12:00pm | <i>Overview of Master of Engineering Degree in Data Analytics</i> Wayne Pferdehirt , UW-Madison | | NA |
| 12:00pm-12:45pm | <i>Project Chrono</i> Dr. Radu Serban , UW-Madison | | <i>Human-Centered Optimization</i> Brett Stewart , ExxonMobil |
| 12:45pm-2:00pm | Lunch Provided in Atrium | | |
| 2:00pm-2:45pm | <i>MPC Plus AI: A Strategy of Both</i> Bob Turney , Engineering Fellow, Johnson Controls DeLuca Forum | | |
| 2:45pm-3:30pm | <i>Computational Frontiers in Atomistic Simulation: Exascale and Machine Learning</i> Tim Germann , Theoretical and Applied Physics Division, Los Alamos National Lab DeLuca Forum | | |
| 3:30pm-3:45pm | Break | | |
| 3:45pm-4:30pm | <i>Active Learning in the Overparameterized and Interpolating Regime</i> Rob Nowak , Professor of Electrical and Computer Engineering, UW-Madison DeLuca Forum | | |
| 4:30pm-6:30pm | Reception, Eckrose Poster Session and Career Fair in Atrium <i>Presentation of Eckrose Innovation Poster Award Winners</i> <i>Bar and refreshments provided</i> | | |
| 6:30pm-8:00pm | No-host Dinner at Steenbock's, Discovery Building <i>For faculty, staff and industry</i> | | |

Wednesday, September 11

| | Orchard View Room Vehicle Mobility Track | Boardroom Direct Accelerated Geometry Monte Carlo (DAGMC) Track | Researcher's Link Room Optimization and Machine Learning Track |
|-----------------|--|---|---|
| 8:00am-8:30am | <i>Simulation-Based Engineering Lab (SBEL): Research and Highlights</i> Dan Negrut , UW-Madison | NA | <i>Space-Time Data Analysis</i> Mihai Anitescu , Argonne National Lab |
| 8:30am-8:45am | <i>Multi-Phase Modeling and Simulation</i> Lijing Yang , PhD Student, UW-Madison | NA | <i>Machine Learning in Molecular Dynamics Simulations</i> Reid Van Lehn , UW-Madison |
| 8:45am-9:00am | <i>Chrono::Granular</i> Nicholas Olsen , PhD Student, UW-Madison | NA | |
| 9:00am-9:15am | <i>Large-Step Integration for DEM Simulation</i> Luning Fang , SBEL PhD Student, UW-Madison | <i>Understanding DAGMC User Workflow</i> Speaker TBA | <i>Machine Learning Algorithms for Sensor Design</i> Alexander Smith, UW-Madison |
| 9:15am-9:45am | <i>SAE Autonomous EV Project</i> Aaron Young , Undergraduate Student, UW-Madison | | |
| 9:45am-10:00am | Networking/Coffee Break in Atrium | | |
| 10:00am-10:30am | <i>Project Chrono Highlights: IGA Beams, Interior Point Solver, and Deep Learning with TensorFlow</i> Simone Benatti , University of Parma, Italy | <i>Understanding DAGMC User Workflow</i> Speaker TBA | <i>Low-Rank System Identification from High-Dimensional Data</i> Sungho Shin , UW-Madison |
| 10:30am-11:00am | <i>Fluid-Solid Interaction in Chrono</i> Milad Rakhsha , PhD Student, UW-Madison | NA | <i>Optimization Methods for Real-Time Operations</i> Christos Maravelias , UW-Madison |
| 11:00am-11:30am | <i>Flexible Body Dynamics in Chrono</i> Mike Taylor , PhD Student, UW-Madison | <i>DAGMC Community Development and Planning</i> Speaker TBA | <i>A Three-Stage Solution Algorithm for Chemical Production Scheduling</i> Ho Jae Lee , UW-Madison |
| 11:30am-12:00pm | <i>Trends in Hardware for Engineering Computing Industry; Overview of Supercomputer Euler</i> Colin Vanden Heuvel , Sysadmin, Euler Supercomputer, UW-Madison | | <i>Machine Learning in Materials Science</i> Dane Morgan , UW-Madison |
| 12:00pm-1:00pm | Lunch Provided in Atrium | | |

TUTORIALS

Tutorial fees are included in the registration fee. Any registered participant can attend any of the tutorials.

| TIME | ITEM | SPEAKER | LOCATION |
|---|--|---|--------------------------------------|
| 1:00pm Wednesday, September 11 through Friday, September 13 | Project Chrono Tutorial | Radu Serban, Simone Benatti, Dan Negrut | Weds, Fri: ME 2188 Thurs: ME 2270 |
| 1:00pm Wednesday, September 11 through Thursday, September 12 | Statistics: From Data to Models to Decision-Making | Professor Victor Zavala , UW-Madison | ME 2180 |
| 1:00pm-3:00pm Wednesday, September 11 | DAGMC Developers Tutorial/Hackathon and User Tutorials | TBA | ME 3210 |