



**CONVERGE™**  
UGM 2014  
SEPTEMBER 23 - 25  
Madison, Wisconsin

**DAY 1**  
**TUESDAY, SEPTEMBER 23rd**  
Monona Terrace | 1 John Nolen Dr, Madison, WI 53703

- 8:00a.m. - 8:30a.m.**      **Welcome | Registration + Refreshments**
- 8:30a.m. - 9:00a.m.**      **Shifting the CFD Paradigm with CONVERGE: Past, Present and Future Roadmap**  
Daniel Lee | Convergent Science, Inc.
- 9:00a.m. - 9:45a.m.**      **KEYNOTE: Challenges and Solutions to Combustion System Design at Cummins**  
John Deur | Cummins
- 9:45a.m. - 10:15a.m.**      **Recent Progress in Nozzle Flow and Spray Modeling at Argonne National Laboratory**  
Sibendu Som | Argonne National Laboratory
- BREAK**
- 10:30a.m. - 11:00a.m.**      **Influence of Swirl Ratio on Combustion System Performance of a 0.4L Single-Cylinder Diesel Engine** Jian Gao | General Motors
- 11:00a.m. - 11:30a.m.**      **RANS Modeling of ECN Sprays** Chris Gehrke | Caterpillar
- LUNCH**      **Monona Terrace | Community Terrace**
- 12:30p.m. - 12:45p.m.**      **Efficient 3D Computation of Torch Ignition of Premixed Natural Gas in a Pre-Chamber Constant Volume Combustor** Md Nazmuzzaman Khan | IUPUI
- 12:45p.m. - 1:00p.m.**      **CFD Modeling of a Dual Fuel Engine with Detailed Mechanism and Adaptive Mesh Refinement (AMR)** Arash Jamali | IUPUI
- 1:00p.m. - 1:15p.m.**      **An Experimental and Multidimensional Computational Study on Uncontrolled Combustion Rates in Natural Gas/Diesel Dual Fuel Engines**  
Andrew Hockett | Colorado State University
- 1:15p.m. - 1:45p.m.**      **Numerical Investigation of a Pre-Chamber Based Combustion System Using CONVERGE**  
Prasanna Chinnathambi | Mahle Powertrain
- 1:45p.m. - 2:15p.m.**      **Improving Combustion Performance of Large Bore Natural Gas Engines**  
Shengrong Zhu | Prometheus Applied Technologies
- BREAK**
- 2:30p.m. - 3:00p.m.**      **Multi-Dimensional Numerical Framework for Dual Fuel Combustion in Large Bore Medium Speed Diesel Engines** Adam Klingbeil | GE Global Research
- 3:00p.m. - 3:30p.m.**      **Optimization of a Rotary Engine in Terms of Performance and Consumption with the Help of CONVERGE** Johann Spreitzer | UT Vienna
- 3:30p.m. - 4:00p.m.**      **New CONVERGE Developments in Gas Turbine and UREA/SCR Applications**  
Scott Drennan | Convergent Science, Inc.
- 4:00p.m. - 4:30p.m.**       
- 4:30p.m. - 5:15p.m.**      **KEYNOTE: A CONVERGE Code Application Review** Frédéric Ravet | Renault
- HAPPY HOUR**      **Monona Terrace | Community Terrace**
- 6:30p.m. - 8:30p.m.**      **Networking Cruise on Lake Monona | Appetizers + Drinks**



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# DAY 2

## WEDNESDAY, SEPTEMBER 24th

Monona Terrace | 1 John Nolen Dr, Madison, WI 53703

- 8:00a.m. - 8:30a.m.**      **Welcome | Refreshments**
- 8:30a.m. - 9:00a.m.**      **CONVERGE in the Japanese Market** Ishikawa Masatoshi | IDAJ
- 9:00a.m. - 9:45a.m.**      **KEYNOTE: CFD Modeling Application and Challenges in Combustion System Development**  
James Yi | Ford
- 9:45a.m. - 10:15a.m.**      **Accelerating Combustion Kinetics in CONVERGE CFD with GPUs**  
Russell Whitesides | Lawrence Livermore National Laboratory
- BREAK**
- 10:30a.m. - 11:00a.m.**      **Valve Train CFD Simulation for Potential Replacement of Port Flow Bench/Engine Tests to Improve Engine Design Process** Abdul Monyem | Caterpillar
- 11:00a.m. - 11:30a.m.**      **RANS Cycle-to-Cycle Variations in SI Engine Simulations**  
Riccardo Scarcelli | Argonne National Laboratory
- LUNCH**      **Monona Terrace | Community Terrace**
- 12:30p.m. - 1:00p.m.**      **Utilization of "CONVERGE in the Cloud" at EngSim - SI Combustion Parameter Studies**  
Shreyash Ukidave | EngSim
- 1:00p.m. - 1:15p.m.**      **Advanced Combustion Model of LTC Engines** Mohammadreza Nazemi | Michigan Tech
- 1:15p.m. - 1:30p.m.**      **CONVERGE Work at MTU** Ahmed Abdul Moiz | Michigan Tech
- 1:30p.m. - 2:00p.m.**      **Lagrangian Modeling of Evaporating Sprays at Diesel Engine Conditions: Effects of Multi-Hole Injector Nozzles with JP-8 Surrogates** Michael Tess | Army Research Lab
- 2:00p.m. - 2:30p.m.**      **Effect of Moisture on Hydrogen-Air Combustion**  
Mandhapati Raju | Ecsta-Sci Tech Consulting LLC
- BREAK**
- 2:45p.m. - 3:15p.m.**      **Upcoming Combustion Models in CONVERGE 2.3** Graham Goldin | Convergent Science, Inc.
- 3:15p.m. - 3:45p.m.**       **OPTIMAL SOLUTIONS**      
- 3:45p.m. - 4:15p.m.**      **Diesel-Natural Gas RCCI Combustion Evaluation on a Heavy-Duty Diesel Engine Using CONVERGE** Erik Koehler | FEV
- 4:15p.m. - 5:00p.m.**      **Shifting the Paradigm Toward Predictive CFD: New Industries and New Marketing Initiatives**  
Rob Kaczmarek | Convergent Science, Inc.
- BREAK**
- 6:30p.m. - 8:30p.m.**      **Cooper's Tavern | Dinner + Drinks + Trivia**  
20 W Mifflin St, Madison, WI 53703