PRESENTATION SCHEDULE DETAIL

TUESDAY, SEPTEMBER 27

7:45–8:00
WELCOME
Kelly Senecal, *Convergent Science*

8:00–8:40
KEYNOTE
Combustion Systems and "The Art of Development"
Ronald Reese, *Fiat Chrysler Automobiles*

8:40–9:05
High Throughput Supercomputing for Sensitivity Analysis on Engine Simulations
Janardhan Kodavasal, *Argonne National Lab*

9:05–9:30
Combustion System Optimization for a Low-Octane Gasoline Fuel in a Heavy-Duty Diesel Engine Using Design of Experiments
Yuanjiang Pei, *Aramco Services Company*

9:30–9:55
DOE-Based Simulation Approach to Study the Impact of Production Tolerance on Performance and Emissions
Alen Jose, *Automotive Research Association of India*

9:55–10:10
SPONSOR
SmartUQ

10:10–10:25
BREAK

10:25–10:50
CFD Engine Simulations' Role within Diesel Combustion Research—A Diesel Hydrocarbon Perspective
Chad Koci, *Caterpillar Inc.*

10:50–11:15
Evaluation of the Detailed Soot Model in CONVERGE for Engine Applications
Jian Gao, *General Motors*

11:15–11:40
Urea Deposit Prediction in the Aftertreatment System of a Medium-Duty Diesel Engine
Yong Sun, *Isuzu Technical Center of America*

11:40–12:05
Advancements in Aftertreatment Modeling with CONVERGE
Scott Drennan, *Convergent Science*

12:05–1:05
LUNCH

1:05–1:20
SPONSOR
Rescale

1:20–1:45
3D CFD Simulation of Knocking Combustion and Analysis on Combustion System Design
Yaodong Liu, *FAW Company Limited*

1:45–2:10
3D Engine Knock Prediction and Evaluation Based on Detonation Theory
Corinna Netzer, *LOGE Deutschland GmbH*

2:10–2:35
Simulation of Spark-Ignited Combustion in Automotive Engines, Extension to Knocking Evaluation
Frédéric Ravet, *Renault*

2:35–3:15
KEYNOTE
Spray Combustion Research for the Engine Combustion Network
Lyle Pickett, *Sandia National Labs*

3:15–3:30
SPONSOR
Detroit Engineered Products

3:30–3:45
BREAK

3:45–4:10
Diesel Sprays and Diesel Sector Simulations Using ECFM3Z
Adèle Poubeau, *IFP Energies nouvelles*

4:10–4:35
Dynamic Adaptive Combustion Modeling of Diesel Spray Flames Based on Chemical Explosive Mode Analysis
Chao Xu, *University of Connecticut*

4:35–5:00
A Novel Flamelet Tabulation Approach
Prithwish Kundu, *Argonne National Lab*

WEDNESDAY, SEPTEMBER 28

7:45–8:00
WELCOME BACK
Katie Beutel, *Convergent Science*

8:00–8:40
KEYNOTE
CFD as an Integral Tool for Development of Current and Future Engine Systems
Charles Roberts, *SwRI*

8:40–9:05
SI Engine Simulation Using ECFM-ISSIM Model with CONVERGE v2.3
Stéphane Chevillard, *IFP Energies nouvelles*

9:05–9:30
Towards Predictive Ignition Simulation Under Dilute/Lean Conditions Through Detailed Understanding of the Energy Deposition Process
Anqi Zhang, *Argonne National Lab*

9:30–9:55
Modeling of Gasoline Direct Injection Nozzle Flow and Spray Formation
Kaushik Saha, *Argonne National Lab*

9:55–10:10
SPONSOR
TotalCAE

10:10–10:25
BREAK

10:25–10:50
Use of Numerical Modeling to Design a Wind Tunnel and Validate Measurements
Millicent A. Coil, *Orbital Technologies Corporation*

10:50–11:15
Energy-Based Blood Damage Model for Left Ventricular Assist Device using CONVERGE
Choon-Sik Jhun, *Penn State University*

11:15–11:40
Numerical Analysis of a Reciprocating Compressor Considering Fluid-Structure Interaction
Claudio José Santos, *Embraco*

11:40–12:05
Converge Beyond IC Engines: Aftertreatment and Underhood Cooling
Nagendra Dittakavi, *Caterpillar Inc.*

12:05–1:05
LUNCH

1:05–1:20
SPONSOR
CEI Software

1:20–1:45
Modelling the LiquidPiston XMv3 Rotary Engine in CONVERGE
Tiago Costa, *University of Minho*

1:45–2:10
3D Computational Fluid Dynamics Modeling of a 1 kWe Free Piston Linear Alternator
Aimilios Sofianopoulos, *Stony Brook University*

2:10–2:35
Study of the Scavenging of a Two-Stroke Uniflow Diesel Engine by Multi-Cycles Simulation with CONVERGE v2.3 and Combustion Modeling with ECFM3Z
Jérémy Galpin, *IFP Energies nouvelles*

2:35–3:00
Conjugate Heat Transfer Simulations of a Heavy-Duty Engine
Charles Finney, *Oak Ridge National Lab*

3:00–3:25
Modeling Heat Loss Through Pistons and the Effect of Thermal Boundary Coatings in Diesel Engine Simulations using CHT Models
Yan Wang, *Navistar*

3:25–3:40
BREAK

3:40–4:05
On the Pursuit of a Physically Grounded Quasi-Dimensional CCV Model Using LES
Navin Fogla, *Gamma Technologies*

4:05–4:30
Predicting Cyclic Variability in Motored Engines Using LES With HPC Advancements
Muhsin M. Ameen, *Argonne National Lab*

4:30–4:55
Shot-to-Shot Variability in Lagrangian Simulations of Diesel Fuel Sprays Using Large-Eddy Simulations
Noah Van Dam, *Argonne*

4:55–5:20
Convergent Science: Current Status and Future Developments
Daniel Lee, *Convergent Science*