#CONVERGEUC2015

CONFERENCE **AGENDA**

CONVERGE

2015 USER CONFERENCE

OCTOBER 5-9 RICHARD CHILDRESS RACING **WELCOME, NC**

PRESENTATION SCHEDULE DETAIL

TUESDAY, OCTOBER 6

MORNING

7:30 – 8:00 — **REFRESHMENTS**

8AM

8:00 – 8:30 — **WELCOME**
Austin Dillon, Ty Dillon
NASCAR Sprint Cup, NASCAR XFINITY

8:30 – 9:15 — **KEYNOTE**
Future Engine Technologies and the Importance of Modeling and Simulation in Their Development
Wayne Eckerle, *Cummins*

9AM

9:15 – 9:40 — Reducing the Time of the Racing Engine Development Cycle at ECR Engines
Brian Kurn, *Earnhardt Childress Racing (ECR) Engines*

9:40 – 10:05 — Understanding the Change
Nathan Sykes. *Red Bull Racing*

10AM

10:05 – 10:20 — **BREAK**

10:20 – 10:45 — Large Eddy Simulation of Non-Reacting and Reacting JP8 Sprays with a Kerosene Surrogate and Detailed Chemistry
Luis Bravo, *Army Research Laboratory*

10:45 – 11:10 — Determining the Luminosity-Based Ignition Delay in Turbulent Spray Combustion
Omid Samimi Abianeh, *Georgia Southern University*

11AM

11:10 – 11:35 — Status and Roadmap for Engine Aftertreatment
Scott Drennan, *Convergent Science*

11:35 – 1:00 — **LUNCH + TOURS**
Richard Childress Racing

Immerse yourself in racing with a behind-the-scenes look at the Richard Childress Racing facility. The 20-minute tour will take you from frame to finish and include a look at how the pit crews train to stay race ready week after week.

12PM

AFTERNOON / EVENING

1PM

1:00 – 1:25 — Numerical Study of Flash Boiling for a GDI Fuel Injector in the Eulerian Framework
Kaushik Saha, *Argonne National Laboratory*

1:25 – 1:50 — Applications of RANS and LES Simulations in Analyzing Jet Ignition Process for IC Engines
Prasanna Chinnathambi, *Mahle*

1:50 – 2:05 — **SPONSOR:** SmartUQ

2PM

2:05 – 2:20 — **SPONSOR:** Penguin Computing

2:20 – 2:45 — Scaling up a High-Fidelity IC Engine Simulation on 4096 Processors of an IBM Blue Gene/Q Supercomputer
Janardhan Kodavasal, *Argonne National Laboratory*

2:45 – 3:10 — Achieving Overnight Combustion Simulations with 1000+ Species using **CONVERGE** and Tabkin®
Ferry Tap, *Dacolt*

3PM

3:10 – 3:30 — **BREAK**

3:30 – 3:55 — Two-Stroke Reed FSI Modeling and Validation
Paul Westhoff, *BRP*

3:55 – 4:20 — Shifting the CFD Paradigm with **CONVERGE**
Daniel Lee, *Convergent Science*

4PM

4:20 – 5:05 — **KEYNOTE**
Automotive Engine CFD—Past, Present, and Future
Tang-Wei Kuo, *General Motors*

5PM

5:05 – 5:15 — Day One Closing Remarks

6:30 – 10:00 — **MURDER MYSTERY DINNER THEATER + WINE TASTING**
Childress Vineyards

* On Tuesday the RCR Museum will remain open until 6p for conference attendees.

PLATINUM SPONSOR

TotalCAE is the IT department for engineers. TotalCAE sells fully managed turn-key High Performance Computing (HPC) cluster appliances including all engineering applications installed and fully managed by our expert consultants. As a one-stop shop for all of your engineering IT needs, we manage both your on-premise engineering applications, licenses, and hardware, as well as public and private HPC cloud solutions for your engineers.

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TotalCAE

WEDNESDAY, OCTOBER 7

MORNING

7:30 – 8:00 — **REFRESHMENTS**

8AM

8:00 – 8:25 — **CONVERGE** in Europe
Chris Riley, *Convergent Science*

8:25 – 9:10 — **KEYNOTE**
Why You Should Believe the Simulation
Eric Fluga, *Caterpillar*

9AM

9:10 – 9:35 — 3D Combustion CFD Using Converge: FCA Applications
Haiwen Ge, *Fiat Chrysler Automobiles*

9:35 – 10:00 — Application of High Performance Computing for Simulating Cycle-to-cycle Variation in Dual Fuel Combustion Engines
Roy Primus, *General Electric*

10AM

10:00 – 10:15 — **BREAK**

10:15 – 10:40 — Predictive Turbulent Combustion Modeling and Tabulated Auto-Ignition for Diesel Engine CFD Simulation
Antonio Pires da Cruz, *IFP Energies nouvelles*

10:40 – 11:05 — Soot Modeling with the PSM Model in a Diesel Engine: Results and Discussion
Frederic Ravet, *Renault*

11AM

11:05 – 11:30 — Combustion System Optimization with **CONVERGE**
Clément Dumand, *PSA Peugeot Citroën*

11:30 – 12:30 — **LUNCH + TOURS**
Richard Childress Racing

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12PM

AFTERNOON / EVENING

12:30 – 12:45 — **SPONSOR:** Rescale

12:45 – 1:10 — Case Studies from Japanese **CONVERGE** Users
Masatoshi Ishikawa, *IDAJ*

1PM

1:10 – 1:35 — Global Sensitivity Analysis of Diesel Engine Simulations
Yuanjiang Pei, *Argonne National Laboratory*

1:35 – 2:00 — Combustion and Emission Modeling in **CONVERGE** with LOGE Models
Corinna Netzer, *Loge Deutschland GmbH*

2PM

2:00 – 2:25 — Analysis of the Gasoline PPC Concept in a Poppet Valve 2-stroke HSDI CI Engine by Combining Experimental and CFD Modeling Activities
Ricardo Novella, *CMT-Motores Térmicos*

2:25 – 2:45 — **BREAK**

2:45 – 3:10 — Uniformity Study of a Large SCR Urea After-Treatment System
Xiao Fu, *Electro-Motive Diesel*

3PM

3:10 – 3:25 — **SPONSOR:** TotalCAE

3:25 – 3:50 — Engine Valve Temperature Prediction Using **CONVERGE**
Ben Cantrell, *Caterpillar*

3:50 – 4:15 — Obtaining Flame Statistics from Large Eddy Simulation of Reacting Spray Flames
Muhsin Ameen, *Argonne National Laboratory*

4PM

4:15 – 5:00 — Roundtable Discussion
Convergent Science

5PM

6:30 – 10:00 — **FOOTHILLS BREWING CO. + LIVE BLUEGRASS MUSIC**
Winston-Salem, NC

*Bus leaves at **6:00pm**. Please see pg. 10 for more information about transportation to and from the event.*

PLATINUM SPONSOR

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PENGUIN COMPUTING