HIGH EFFICIENCY IC ENGINE SYMPOSIUM
EVENT GUIDE

April 8-9, 2018
Westin Book Cadillac Hotel
Detroit, MI

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In the event of an emergency or a major disruption to the schedule of events at the event, attendees and exhibitors may call this number to receive further information about the resumption of this event. Updates will also be provided via the SAE website at www.sae.org.

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**Keynote Speaker:**

Sunday, April 8
1:15 –1:55 p.m.
Daniel Barba, EPA

“Assessing the Efficiency and Low-Emissions Potential of Future Gasoline Engines”

Dan Barba is currently the Director of the National Center for Advanced Technology, and is responsible for advanced engine & vehicle technology programs at EPA’s National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan. For the last five years, Mr. Barba has focused on assessing the effectiveness of advanced low emission and low fuel consumption technologies for a broad range of light-duty vehicles, engines and transmissions in support of the mid-term evaluation of MY 2021-2025 light-duty greenhouse gas standards and compliance programs. Mr. Barba earned his Bachelor of Science in Mechanical Engineering from Wayne State University.
# Event-at-a-Glance

## High Efficiency IC Engine Symposium

**Sunday, April 8 - Monday, April 9**

### April 8: Sunday

#### Future Regulations and Regulatory Activity

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>1 p.m.</td>
<td>Moderator Overview&lt;br&gt;Zoran Filipi, Clemson University</td>
</tr>
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<td>1:15 p.m.</td>
<td>Assessing the Efficiency and Low-Emissions Potential of Future Gasoline Engines&lt;br&gt;Daniel Barba, EPA</td>
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<td>1:55 p.m.</td>
<td>Co-Optima Initiative’s Approach to Multi-Mode Combustion Strategies&lt;br&gt;Jim Szybist, Oak Ridge National Lab</td>
</tr>
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<td>2:35 p.m.</td>
<td>What’s the Role of the ICE Going Forward?&lt;br&gt;Greg Pannone, Novation Analytics</td>
</tr>
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<td>3:15 p.m.</td>
<td>Break</td>
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#### Advanced Gasoline Combustion Strategies

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<tr>
<td>3:45 p.m.</td>
<td>Development of High Efficiency Jet Ignition Engines for Multiple End-Use Applications&lt;br&gt;Mike Bunce, Mahle</td>
</tr>
<tr>
<td>4:25 p.m.</td>
<td>Future Internal Combustion Engines for Efficient Contribution to Environment&lt;br&gt;Toshio Yamamoto, Mazda</td>
</tr>
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<td>5:05 p.m.</td>
<td>Prerequisites for a Successful Spark Assisted Compression ignition (SACI)&lt;br&gt;Andreas Kaechele, FKFS</td>
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<td>5:45 p.m.</td>
<td>Introduction of World First Mass Production Variable Compression Ratio Engine “VC-TURBO”&lt;br&gt;Shinichir Kiga, Nissan</td>
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<td>6:30-7:30 p.m.</td>
<td>Reception</td>
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### April 9: Monday

#### Advanced Light-Duty Concepts

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<tr>
<td>8 a.m.</td>
<td>High Efficiency Engine Requirements for Future Electrified Powertrain Architectures&lt;br&gt;Eric Curtis, Ford</td>
</tr>
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<td>8:40 a.m.</td>
<td>Engine and Powertrain Efficiency to Meet Standards in the US, China, and Europe from 2020 to 2030&lt;br&gt;Chris Thomas, GAST Strategy Consulting LLC</td>
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<td>9:20 a.m.</td>
<td>Development of High Efficiency Gasoline Engine with Thermal Efficiency over 43%&lt;br&gt;Youngnam Kno, Hyundai</td>
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<td>10 a.m.</td>
<td>Break</td>
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<td>10:30 a.m.</td>
<td>Heavy Duty Engine Efficiency Potential and the Impact of Emissions Regulation&lt;br&gt;Charlie Roberts, Southwest Research Institute</td>
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<td>11:10 a.m.</td>
<td>High Efficiency Engines for Long Haul Trucks&lt;br&gt;Arne Andersson, Volvo Trucks</td>
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<td>11:50 a.m.</td>
<td>Supercritical CO2: A New Opportunity for High Performance Waste Heat Recovery&lt;br&gt;Tom Briggs, Southwest Research Institute</td>
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<td>Lunch</td>
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#### Outlook, IC Engine and Powertrain Systems

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<td>Potential of Advanced Combustion for Fuel Economy Reduction in the Light-duty Fleet: Current Status and Research Needs&lt;br&gt;Paul Miles, Sandia</td>
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<td>The Direction of Powertrain Development Toward the Electric Mobility Era&lt;br&gt;Terutoshi Tomoda, Toyota</td>
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**Event-at-a-Glance as of March 28, 2018**

**Registration Hours**

- **Sunday** 10:00 a.m.–4:00 p.m.
- **Monday** 7:00 a.m.–1:00 p.m.

**Exhibit Hours**

- **Sunday** 1:00–6:00 p.m.
- **Monday** 8:00 a.m.–6:00 p.m.

**Sponsored by:**

- Lubricants – Enabling Future Powertrain Technologies and Enhancing Efficiency<br>Alex Michlberger, Lubrizol
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<td>Energy in the Air - Using V2X Information for Real-time Vehicle Powertrain Control and Optimization</td>
<td>Scott Hotz, Southwest Research Institute; Anna G. Stefanopoulou, University of Michigan</td>
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<td>4:10 p.m.</td>
<td>Using Connectivity and Automation to Improve Heavy-Duty Truck Fuel Economy</td>
<td>Gregory Matthew Shaver, Purdue Univ-West Lafayette; Edmund P. Hodzen, Cummins Inc.</td>
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<td>A Pragmatic Approach to Maximizing Internal Combustion Engine Efficiency</td>
<td>Russell Durrett, GM R&amp;D</td>
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<td>Lubricants – Enabling Future Powertrain Technologies and Enhancing Efficiency</td>
<td>Scott Halley and Alex Michelberger, Lubrizol</td>
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SAE INTERNATIONAL EVENTS

2018

High Efficiency IC Engine
April 8-9
Detroit, MI

WCX™: SAE World Congress Experience
April 10-12
Detroit, MI

Connect2Car™ at WCX
April 10-12
Detroit, MI

Waste Heat Recovery Symposium
May 24
Haifa, Israel

Aviation Technology Forum
June 5-6
Shanghai, China

SAE Automated and Connected Vehicle Systems Testing
June 20-21
Greenville, SC

SAE CyberAuto Challenge™
July 23-27
Warren, MI

Intelligent and Connected Vehicles
August 14-15
Kunshan City, Jiangsu, China

Connect2Car™ Executive Leadership Forum
September 5-6
San Jose, CA

SAE New Energy Vehicle Forum
September 11-12
Shanghai, China

COMVEC™
September 11-13
Rosemont, IL

On-Board Diagnostics
September 11-13
Indianapolis, IN

North American International Powertrain Conference
September 12-14
Chicago, IL

Noise and Vibration Forum
September 13
Shanghai, China

International Powertrains, Fuels & Lubricants Meeting
September 17-19
Heidelberg, Germany

From ADAS to Automated Driving
October 9-11
Detroit, MI

Transmission and Driveline Technologies
October 9-10
Plymouth, MI

Co-Optimization of Fuels and Engines
October 9-10
Plymouth, MI

Thermal Management Systems
October 9-11
San Diego, CA

Brake Colloquium & Exhibition
October 14-17
Palm Desert, CA

Heavy Duty Diesel Emissions Control
November 6-9
Dusseldorf, Germany

SAE/JSAE Small Engine Technology Conference
November 6-9
London, UK

Aerospace Systems + Technology Conference
December 17-19
Tampa, FL

DoD Maintenance Symposium
December 17-20
Tampa, FL

2019

Connect2Car™ at CES
January 8
Las Vegas, NV

International Powertrains, Fuels & Lubricants Meeting
January 22-24
San Antonio, TX

Hybrid and Electric Vehicle Technologies
February 19-21
Anaheim, CA

On-Board Diagnostics
March 12-14
Stuttgart, Germany

Aerotech-Americas
March 26-28
Charleston, SC

Government/Industry Meeting
April 3-5
Washington, DC

High Efficiency IC Engine
April 7-8
Detroit, MI

WCX™: SAE World Congress Experience
April 9-11
Detroit, MI

Connect2Car™ at WCX
April 9-11
Detroit, MI

Noise and Vibration Conference & Exhibition
June 10-13
Grand Rapids, MI

International Conference on Icing of Aircraft, Engines, and Structures
June 17-20, 2019
Minneapolis, MN

COMVEC™
September 10-12
Indianapolis, IN

North American International Powertrain Conference
September 18-20
Chicago, IL

Brake Colloquium & Exhibition
September 22-25
Orlando, FL

AeroTech-Europe
September 24-26
Bordeaux, France

Thermal Management Systems
October 15-17
Plymouth, MI

For an updated listing of events, dates and locations, please refer to sae.org/events/