

2023 Vehicle Technologies Office Annual Merit Review

Decarbonization of Offroad, Rail, Marine, and Aviation (DORMA) Detailed Schedule

Tuesday, June 13, 2023	
10:00 AM	DORMA022 (ACE184): Development of a Flex-Fuel Mixing Controlled Combustion System for Gasoline/Ethanol Blends Enabled by Prechamber Ignition, Adam Dempsey, Marquette University
10:15 AM	
10:30 AM	DORMA026 (ACE183): Articulated Dump Truck (ADT) Electrification - Greenhouse Gas Reductions and Commercialization of New Technology, Brij Singh, John Deere
10:45 AM	
11:00 AM	DORMA023 (ACE162): Improved Efficiency of Off-Road Material Handling Equipment through Electrification, Jeremy Worm, Michigan Technological University
11:15 AM	
11:30 AM	DORMA025 (ACE182): Fully Electric Powered, Hydraulic Assisted, Compact Track Loader, Perry Li, University of Minnesota
11:45 AM	
12:00 PM	DORMA001: Heavy-Duty H2 Combustion, Ales Srna, SNL
12:15 PM	
12:30 PM	Time Buffer
12:40 PM	Lunch Break
1:40 PM	
1:55 PM	DORMA004: Ducted Fuel Injection, Chuck Mueller, SNL
2:10 PM	DORMA005: Sprays and Spray Combustion, Lyle Pickett, SNL
2:25 PM	
2:40 PM	DORMA006: LLCF combustion and emission models, Scott Wagnon, LLNL
2:55 PM	
3:10 PM	Time Buffer
3:15 PM	Break
3:45 PM	DORMA010: Hardware in the Loop Toolkit for Off-Road and Marine, Muni Biruduganti, ANL
4:00 PM	
4:15 PM	DORMA002: Off-Road Liquid Fuel Combustion, Dario Lopez-Pintor, SNL
4:30 PM	DORMA021 (ACE171): Simultaneous Greenhouse Gas and Criteria Pollutants Emissions Reduction for Off-Road Powertrains, James McCarthy, Eaton
4:45 PM	
5:00 PM	DORMA024 (ACE159): Reduced Cost and Complexity for Off-Highway Aftertreatment, Ken Rappe, PNNL
5:15 PM	
5:30 PM	Day 1 Ends

Wednesday, June 14, 2023	
10:00 AM	DORMA008 (ACE158): Slashing Platinum Group Metal (PGM) in Catalytic Converters: An Atoms-to-Autos Approach, Kevin Gu, General Motors
10:15 AM	
10:30 AM	DORMA027 (ACE170): LLCF Effects on Emissions Control Catalyst Performance and Durability, Sreshtha Majumdar, ORNL
10:45 AM	
11:00 AM	DORMA009: NOx Reduction with Low GHG Impact (N2O Reduction for Off-road), Feng Gao, PNNL
11:15 AM	
11:30 AM	DORMA007: Innovative NOx Reduction Materials for Low Temperature Aftertreatment, Yong Wang, PNNL
11:45 AM	
12:00 PM	DORMA028 (ACE173): Comprehensive Integrated Simulation Methodology for Enabling Near-Zero Emission Heavy-Duty Vehicles, Andrea Strzelec, UW-Madison
12:15 PM	
12:30 PM	Time Buffer
12:40 PM	Lunch Break
1:40 PM	DORMA029 (ACE172): Fast Simulation of Real Driving Emissions from Heavy-duty Diesel Vehicle Integrated with Advanced Aftertreatment System, Hailin Li, WVU
1:55 PM	
2:10 PM	DORMA014: Implementing low lifecycle carbon fuels on locomotive engines – CRADA with Wabtec, Dean Edwards, ORNL
2:25 PM	DORMA012: H2 Combustion Research - CRADA with Wabtec, Muhsin Ameen, ANL
2:40 PM	DORMA013: Experimental and Numerical Research on Biodiesel and Renewable Diesel Blends for Locomotive Engines, Chao Xu, ANL
2:55 PM	
3:10 PM	Time Buffer
3:15 PM	Break
3:45 PM	DORMA035 (ACE156): Next-Generation, High-Efficiency Boosted Engine Development, Michael Shelby, Ford
4:00 PM	
4:15 PM	DORMA034 (ACE155): Low-Mass and High-Efficiency Engine for Medium-Duty Truck Applications, Qigui Wang, General Motors
4:30 PM	
4:45 PM	DORMA030 (ACE187): Opposed-Piston 2-Stroke Hybrid Commercial Vehicle System, Ming Huo, Achates Power
5:00 PM	
5:15 PM	Day 2 Ends

Thursday, June 15, 2023	
10:00 AM	DORMA036 (ACE124): SuperTruck 2 - PACCAR, Maarten Meijer, PACCAR
10:15 AM	
10:30 AM	DORMA016: Renewable methanol-fueled engines for marine and off-road applications, Jim Szybist, ORNL
10:45 AM	
11:00 AM	DORMA015: Enabling H2 and Methanol Combustion, Riccardo Scarcelli, ANL
11:15 AM	DORMA017: SAF End Use Research, Sibendu Som, ANL
11:30 AM	DORMA037: SAF Specifications and Testing Protocols, Gina Fioroni, NREL
11:45 AM	DORMA038: Towards Accurate Reacting Flow Simulations of SAFs, Debolina Dasgupta, ANL
12:00 PM	DORMA003: High-Fidelity Simulations of Swirl-Stabilized Spray Flame with Sustainable Aviation Fuels, Bruno Souza Soriano, SNL
12:15 PM	
12:30 PM	Time Buffer
12:40 PM	Lunch Break
1:40 PM	
1:55 PM	DORMA020: SAF Contrail Modeling, Scott Wagnon, LLNL
2:10 PM	DORMA018: SAF Combustion & Soot Processes, Julien Manin, SNL
2:25 PM	
2:40 PM	DORMA019: Multi-phase flow studies of SAFs for industry-relevant conditions and geometries, Brandon Sforzo, ANL
2:55 PM	
3:10 PM	Time Buffer
3:15 PM	Break
3:45 PM	DORMA031 (ACE186): Dynamic Skip Fire (DSF) on a Heavy-Duty Natural Gas Engine, Jay Shah, Cummins
4:00 PM	
4:15 PM	DORMA032 (ACE185): High Efficiency, Ultra Low Emissions Heavy-Duty 10L Natural Gas Engine Project, Tim Lutz, Cummins
4:30 PM	
4:45 PM	DORMA033 (ACE180): High Pressure Fast Response Direct Injection System for Liquefied Gas Fuels Use in Light-Duty Engines, William de Ojeda, WM International Engineering
5:00 PM	
5:15 PM	AMR Ends