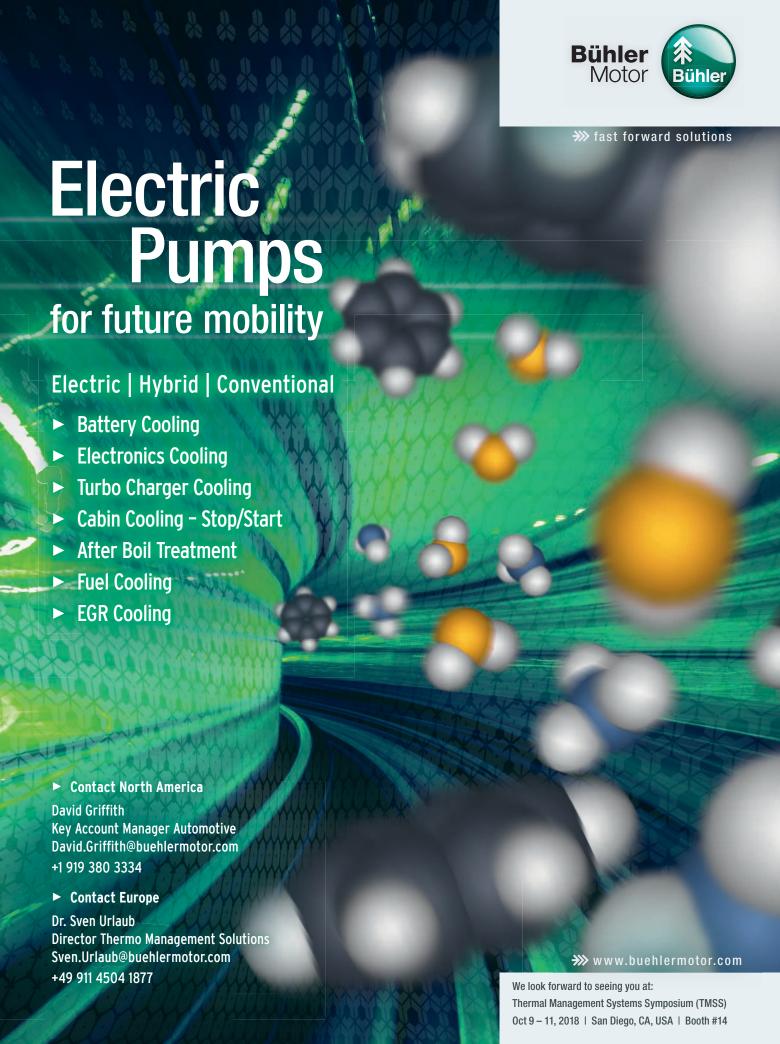


THERMAL MANAGEMENT SYSTEMS

EVENT GUIDE

October 9-11, 2018 San Diego, CA

sae.org/attend/thermal



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THERMAL MANAGEMENT SYSTEMS

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Should a catastrophic event occur, attendees should follow the safety and security instructions issued by the facility at the time of the event. This includes listening for instructions provided through the public address system and following posted evacuation routes if required.

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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EVENT-AT-A-GLANCE

October 9

TUESDAY

8:30-9 a.m. **Continental Breakfast** Keynote Daniel Kok, Manager Advanced Electrified Powertrain Systems Engineering, Ford Motor Company 10-10:30 a.m. **Networking Break** 10:30 a.m. - 12 p.m. **Technical Sessions** 12:30-1 p.m. Lunch Sponsored by Gentherm 1-3 p.m. **Technical Sessions** 3-3:30 p.m. **Networking Break** 3:30-5:30 p.m. **Technical Sessions** 5:30 p.m. **Networking Reception**

October 10

WEDNESDAY

8:30-9 a.m. Continental Breakfast

9-10 a.m. Keynote

Antonio (Tony) Vespa, Senior Engineer, Vehicle Evaluation Group, Hyundai America Technical Center Inc.

10-10:30 a.m. Networking Break

10:30 a.m. - 12:30 p.m. Technical Sessions

12:30-1:30 p.m. Lunch

1:30-3:30 p.m. Technical Sessions

3:30-4:00 p.m. Networking Break

4:00-5:30 p.m. Technical Sessions October 11

THURSDAY

8:30-9 a.m. Continental Breakfast

9 a.m.-10 a.m. Technical Sessions

10-10:30 a.m. Networking Break

10:30 a.m.-12:30 p.m. Technical Sessions

12-1:30 p.m. Grab & Go Lunch

TECHNICAL SESSION

NETWORKING OPPORTUNITY

EXHIBIT

Tuesday, Wednesday, & Thursday

REGISTRATION HOURS

Tuesday 7:30 a.m.-4 p.m. Wednesday 8 a.m.-4 p.m. Thursday 8 a.m.-10 a.m.

EVENT INFORMATION

Registration Sponsored by



Registration

Rio Vista Ballroom Foyer

Tuesday, October 9 7:30 a.m.-4:00 p.m.

Wednesday, October 10 8:00 a.m.-4:00 p.m.

Thursday, October 11 8:00 a.m.-10:00 a.m.

Exhibit Hours

Pavilion

Open during show hours

Continental Breakfast

Pavilion

Tuesday, October 9 8:30 a.m.-9:00 a.m.

Wednesday, October 10 8:30 a.m. – 9:00 a.m.

Thursday, October 11 8:30 a.m.-9:00 a.m.

Networking Lunches

Pavilion

Tuesday, October 9 11:30 a.m.-1:00 p.m.

Wednesday, October 10 12:30 p.m.-1:30 p.m.

Rio Vista Ballroom Foyer

Thursday, October 11 12:00-1:30 p.m.

Networking Breaks

Pavilion

Tuesday, October 9 10:00 a.m.-10:30 a.m. 3:00 p.m.-3:30 p.m.

Wednesday, October 10 10:00 a.m.-10:30 a.m. 3:30 p.m.-4:00 p.m.

Thursday, October 11 10:00 a.m.-10:30 a.m.

Networking Reception

Pavilion

Tuesday, October 9 5:30 p.m.-6:30 p.m.

Wifi Information

SSID: Marriott_Conference Password: TMSS18

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TMSS ORGANIZERS

Bashar S. AbdulNour, Ford Motor Company (Chair)

Wilko Jansen, Jaguar Land Rover (Vice Chair)

Ales Alajbegovic, Dassault Systemes

Jeffrey Bozeman, General Motors

Hector Cano, Bergstrom Inc.

Robin Cash, Ford Motor Company

Edward Gerges, Dana Inc.

Sowmya Jayaraman, General Motors

Vamshi M Korivi, U.S Army TARDEC

Kevin Laboe, Fiat Chrysler Automobiles

Jason Lustbader, National Renewable Energy Laboratory

Gursaran Mathur, Calsonic Kansei North America

Christophe Petitjean, Valeo Thermal System

Ronald Semel, Ford Motor Company

Alaa El-Sharkawy, FCA US LLC

Kumar Srinivasan, FCA US LLC

Andy Sutherland, TI Automotive

Sudhi Uppuluri, Computational Sciences Experts Group

Matthew Warner, Gamma Technologies LLC

Jie Zeng, DENSO International America Inc.

Tao Zhan, California Air Resources Board

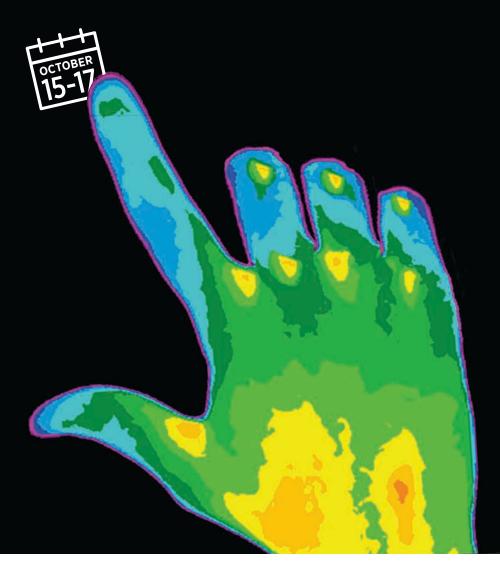
Tuesday Lunch Sponsored by





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THERMAL MANAGEMENT SYSTEMS



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Keynote Speaker
Grand Ballroom
Tuesday, October 9
9:00 a.m.-10:00 a.m.
Daniel Kok, Ford Motor Company

Dr. Daniel Kok is Ford Motor Company's Manager for Advanced Electrified Powertrain Systems. Dr. Kok received his MS degree in Mechanical Engineering at Eindhoven University of Technology, The Netherlands in 1994 and his Ph.D. degree in 1999. He worked on Hybrid Electric vehicles for TNO Automotive in Delft, The Netherlands, before joining Ford's Research Center in Aachen, Germany as Technical Specialist Energy Management. In 2005, he transferred to Ford's Engineering Center in Dunton in the UK as for Micro-Hybrid Systems. In 2011, Daniel transferred to Ford's Engineering Center in Dearborn, Michigan. Daniel holds more than 20 patents in the field of Vehicle Electrification. In his current position he is responsible for Powertrain System Design of Ford's next generation of Hybrid, Plug-in Hybrid and Battery Electric Vehicles



Keynote Speaker
Grand Ballroom
Wednesday, October 10
9:00 a.m.-10:00 a.m.
Antonio (Tony) Vespa, Hyundai America Technical Center

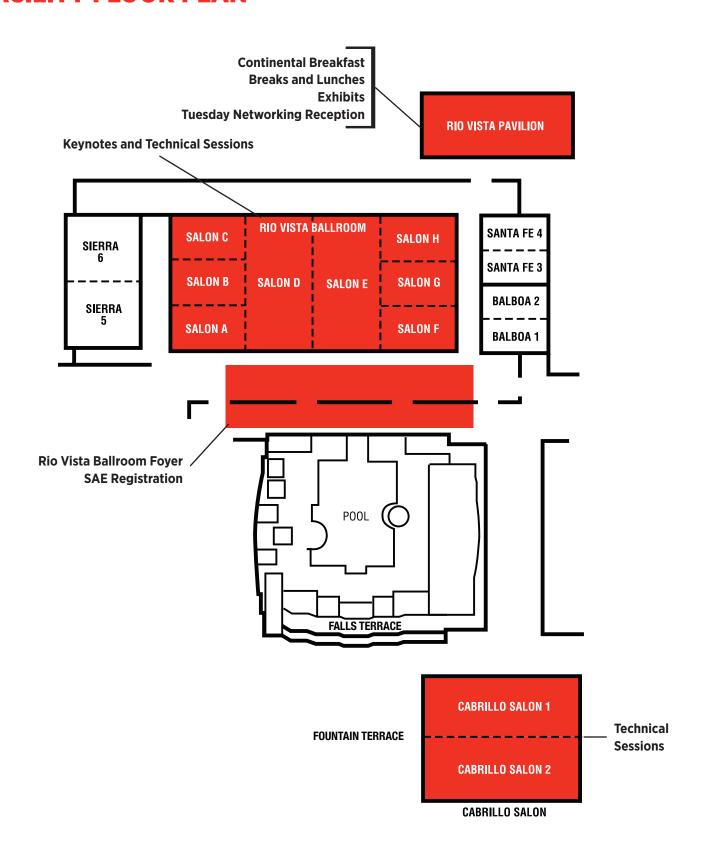
Currently working for Hyundai America Technical Center Inc. (HATCI) as a senior engineer in the vehicle evaluation group.

Main responsibility is the satisfactory operation of vehicle thermal systems (HVAC and Powertrain cooling) for Hyundai Motor vehicles sold in North America.

Fun responsibilities include development of thermal systems both HVAC and powertrain cooling. Recently developing a heat gleaning system to be used on future EVs resulting in 5% range improvement. I have a hand full of patents/ pending in thermals systems.

In previous positions, I had full responsibility for powertrain cooling systems from concept to production. Outside of work, I travel and try to understand the world around me as best as I can. Lastly, I believe that electric vehicles are the third best transportation option after bicycles and sailboats.

FACILITY FLOOR PLAN



TUESDAY, OCTOBER 9

Grand Ballroom

Time	Title				
9:00 a.m.	Keynote Speaker Daniel Kok, Ford Electric Vehicle				
Regulatory Topics					
	(Session Code: TMSS600) Organizers - Bashar AbdulNour, Ford Motor Company; Ales Alajbegovic, Exa Corporation; Jeffrey Bozeman, General Motors LLC; Wilko Jansen, Jaguar & Land Rover; Tao Zhan, California Air Resources Board				
10:00 - 10:30 a.m Break					
10:30 a.m.	CARB Update Tao Zhan, California Air Resources Board				
11:00 a.m.	Recent Advances on MAC Alternative Refrigerants in China Jiangping Chen, Jun-ye Shi, Dandong Wang, Shanghai Jiaotong University				
	11:30 a.m. – 1:00 p.m. – Networking Lunch sponsored by Gentherm				
Thermal Simulation/Analysis/Modeling: Part 1					
	(Session Code: TMSS700) Organizers - Bashar AbdulNour, Ford Motor Company; Ales Alajbegovic, Exa Corporation; Robin Y. Cash, Ford Motor Co., Ltd.; Wilko Jansen, Jaguar & Land Rover; Vamshi Korivi, TARDEC; Kumar Srinivasan, FCA US LLC; Sudhi Uppuluri, Computational Sciences Experts Group; Matthew D. Warner, Gamma Technologies LLC				
1:00 p.m.	Multi-Domain Simulation in the Development Process – Coupled Simulation Environments or "All in One Tool"? Christian Rathberger, Magna Powertrain; Albert Tuertscher, AT Engineering LLC				
1:30 p.m.	Closed Loop Control System to Prevent Thermal Hazards Of Rear Engine Vehicles Manish Kedar Shinde, Automotive Design; Yuvraj Y Patil, Tata Motors Ltd				
2:00 p.m.	Model-Based Optimization of Automotive Thermal Management using Variable Flow Water Pump Jason Zheng, Litens Automotive Partnership				
2:30 p.m.	A CFD Approach of Louver Fins Airside Thermal Characteristics in Mirco World for Automotive Heat Exchangers with Novel Concept of Fin Design Kelvin Zhai, BAIC MOTOR CO. LTD.				
	3:00 - 3:30 p.m Break				
3:30 p.m.	Big Data / Artificial Intelligence and Future Thermal Management Product Portfolio – A Match or Mismatch? Clemens Gamsjaeger, Dr. Gunter Haberkorn, Dr. Anton Mayer, MAGNA Powertrain				
4:00 p.m.	Description and Application Exercises of an Integrated Complete Engine Performance and Thermal model Mirko Bovo, Rangakishen Mavanur Sampath, Volvo Car Corporation				
4:30 p.m.	Estimation of Electronic Horizon usage potentials for Predictive Vehicle Thermal Management – Active grille shutter control strategy example Milan Cvetković, Ricardo Prague s.r.o.				
5:00 p.m.	p.m. Evaluation of Different Fan Simulation Models for Improved Flow Field Predictions Randi Franzke, Chalmers Univ. of Technology; Simone Sebben, Chalmers Univ of Technology				
	5:30 – 6:30 p.m. – Networking Reception				



TUESDAY, OCTOBER 9

Cabrillo Ballroom

Vehicle Climate Control & Cabin Comfort: Part 1					
	(Session Code: TMSS200) Organizers - Bashar AbdulNour, Ford Motor Company; Jeffrey Bozeman, General Motors LLC; Hector Cano, Bergstrom Inc.; Wilko Jansen, Jaguar & Land Rover; Jason Aaron Lustbader, National Renewable Energy Laboratory; Gursaran D. Mathur, CalsonicKansei North America Inc.; Jie Zeng, Denso; Tao Zhan, California Air Resources Board				
1:00 p.m.	Influence of Partial Recirculation on the Build-up of Cabin Carbon Dioxide Concentrations Gursaran D. Mathur, CalsonicKansei North America Inc.				
1:30 p.m.	Development of a Standard Testing Method for Vehicle Cabin Air Quality Index Heejung Jung, Liem Pham, University Of California Riverside; Nick Molden, Sam Boyle, Emissions Analytics				
2:00 p.m.	Thin Ceiling Circulator to Enhance Thermal Comfort and Cabin Space Toshinori Ochiai, Shuzo Oda, DENSO CORPORATION				
2:30 p.m.	Compressor Design for Improved Warranty, Diagnostics & Remanufacturing Michael Hope, AutoClimTech Ltd.				
3:00 - 3:30 p.m Break					
3:30 p.m.	Novel IR-Heating System for Electric Vehicles Christopher Franzke, Rico Baumgart, Andreas Meyer, IAV GmbH				
4:00 p.m.	Front Seat Integrated Blower to Enhance Comfort for Rear Occupants Hanns-Martin Kleemeier, DENSO Automotive Deutschland GmbH				
4:30 p.m.	A Statistical Comparative Study Between Passive and Active Seat Cooling Joannis Androulakis, Gentherm				
5:00 p.m.	Super-Efficient Secondary-Loop MACs Using HFC-152a Refrigerant Nancy J. Sherman, Kristen Taddonio, Institute for Governance & Sust Dev; Timothy Craig, MAHLE Behr Troy, Inc.				
5:30 - 6:30 p.m Networking Reception					

WEDNESDAY, OCTOBER 10

Grand Ballroom

	October 10				
Time	Title				
9:00 a.m.	Keynote Speaker Antonio (Tony) Vespa, Hyundai America Technical Center				
10:00 - 10:30 a.m Break					
	Thermal Simulation/Analysis/Modeling: Part 2				
	(Session Code: TMSS700) Organizers - Bashar AbdulNour, Ford Motor Company; Ales Alajbegovic, Exa Corporation; Robin Y. Cash, Ford Motor Co., Ltd.; Wilko Jansen, Jaguar & Land Rover; Vamshi Korivi, TARDEC; Kumar Srinivasan, FCA US LLC; Sudhi Uppuluri, Computational Sciences Experts Group; Matthew D. Warner, Gamma Technologies LLC				
10:30 a.m.	A Comparison of Strategies for Simulating Vehicle Heat Protection Test Cycles in 3D Jon Rene Juszkiewicz, ThermoAnalytics Inc.				
11:00 a.m.	Predictive Thermal-Electrochemical Battery Modeling for Optimization of EV Thermal Management Joe Wimmer, Brad Holcomb, Shawn F. Harnish, Gamma Technologies LLC				
11:30 a.m.	Thermal Analysis and Measurement of an Electric Traction Motor in a Production Electric Vehicle Xiaohui Li, GAC R&D Center Silicon Valley Inc.				
12:00 p.m.	Treating the Stator Windings in Electrical Machines as a Porous Medium in Thermal Management Simulations Badgar Gueven, Wolong EMEA				
	12:30 – 1:30 p.m. – Networking Lunch				
Thermal Systems for Hybrid and Electric Vehicles: Part 1					
	(Session Code: TMSS100) Organizers - Bashar AbdulNour, Ford Motor Company; Ales Alajbegovic, Exa Corporation; Jeffrey Bozeman, General Motors LLC; Christophe Petitjean, Valeo Thermal Systems; Wilko Jansen, Jaguar & Land Rover; Bashar AbdulNour, Ford Motor Company				
1:30 p.m.	Compact Coolant Based Heat Pump Unit for Electric Vehicles Dr. Werner Huenemoerder, Dr. Tibor Györög, DENSO Automotive Deutschland GmbH				
2:00 p.m.	Unitary Thermal Energy Management for Propulsion Range Augmentation (UTEMPRA) Sourav Chowdhury, Mahle Behr Troy Inc.; Lindsey Leitzel, Mark Santacesaria, Mahle Behr Troy Inc; Mark J. Zima, Mahle Behr Troy Inc.; Timothy Craig, Paul Droman, Mahle Behr Troy Inc; Jason Lustbader, Gene Titov, John Rugh, National Renewable Energy Laboratory; Aamir Khawaja, Murali Govindarajalu, FCA US LLC				
2:30 p.m.	Heat Pump System on Jaguar I-Pace Nilabza Dutta, Chris Chatham, Jaguar Land Rover				
3:00 p.m.	A Study of Vapor Injection Heat Pump System for Battery Electric Vehicle Duyoul Choi, Wonsuk Lee, Doowon Climate Control Co., Ltd.; Hoseong Lee, Jongphil Won, Korea Automotive Technology Institute				
	3:30 - 4:00 p.m Break				
4:00 p.m.	Improvement of Regenerative Braking System Efficiency by Means of an Electro Thermal Recuperator (ETR) Device Aravind Ramakrishnan, Abhid Akram Abubeckar Mohamed Sahul, Continental AG; Egor Sawazki, Continental Automotive GmbH; Brian McKay, Continental AG				
4:30 p.m.	Induction Coolant Heater for EV Battery and Cabin Heating Kilsang Jang, Junsu Kim, Yongha chae, Kyung Seok Cho, Hanon Systems				
5:00 p.m.	Experimental Investigation of Waste Heat Recovery Using Coolant Valves for Electric Vehicle Range Extension Brandon Dryer, Dana Nicgorski, Leandro Lorilla, Varun Narayan, Robert Bosch LLC				

LDIALSDAI,	SCIOBER 10 Cabillo Ballio				
	Vehicle Climate Control & Cabin Comfort: Part 2				
	(Session Code: TMSS200) Organizers - Bashar AbdulNour, Ford Motor Company; Jeffrey Bozeman, General Motors LLC; Hector Cano, Bergstrom Inc.; Wilko Jansen, Jaguar & Land Rover; Jason Aaron Lustbader, National Renewable Energy Laboratory; Gursaran D. Mathur, CalsonicKansei North America Inc.; Jie Zeng, Denso; Tao Zhan, California Air Resources Board				
10:30 a.m.	Application of Heat Pumps in Electrified Commercial Vehicles and Buses Shawn Vehr, Mark Gariety, Devon Dobie, KEN PISTONE, Emerson				
11:00 a.m.	Evaluation of a Heavy-duty Truck Climate Control System using Testing and Simulation Techniques Mark Hepokoski, ThermoAnalytics Inc.; Steven Patterson, ThermoAnalytics Inc; Steven Adelman, Volvo Group Trucks Technology; Miguel Javier, Volvo Trucks North America				
11:30 a.m.	A Seat Centric Thermal Comfort Solution for Autonomous Vehicles Chad V. Pacilli, Gentherm Incorporated				
12:00 p.m.	Thermal Management Study - Climate Control Seat Ken Turner, Gentherm; Chad V. Pacilli, Gentherm Incorporated				
	12:30 – 1:30 p.m. – Networking Lunch				
Vehicle Climate Control & Cabin Comfort: Part 3					
	(Session Code: TMSS200) Organizers - Bashar AbdulNour, Ford Motor Company; Jeffrey Bozeman, General Motors LLC; Hector Cano, Bergstrom Inc.; Wilko Jansen, Jaguar & Land Rover; Jason Aaron Lustbader, National Renewable Energy Laboratory; Gursaran D. Mathur, CalsonicKansei North America Inc.; Jie Zeng, Denso; Tao Zhan, California Air Resources Board				
1:30 p.m.	Studies on the Generation Mechanism of the Hissing Noise by Analyzing the Correlation Between the Noise and the Flow Regime Atsushi Itoh, Mitsubishi Motor Corporation				
2:00 p.m.	Implementation of Electrified Air Conditioning on a Class 8 Long Haul Vehicle Shawn Vehr, Devon Dobie, Emerson Climate Technologies; Mark Gariety, Emerson; Kenneth Pistone, Emerson Electric Co				
2:30 p.m.	Experimental and Numerical Performance Study of Automotive Air Conditioning System with Natur Alternative Refrigerants Jun-ye Shi, Shanghai Jiao Tong Univ.; Dandong Wang, Shanghai Jiao Tong Univ; Jiangping Chen, Shanghai Jiaotong Univ				
3:00 p.m.	Vapor Injection Heat Pump System Development for Electric Vehicles Part 2: Investigation on Outer Evaporator Defrosting Logic and Driving Range Increased from Heat Pump Yu Zhao, Air International Thermal Systems				
	3:30 – 4:00 p.m. – Break				
	Autonomous and Connected Vehicle Thermal Management				
	(Session Code: TMSS1000) Organizers - Bashar AbdulNour, Ford Motor Company; Edward Gerges, Dana-Long Manufacturing; Wilko Jansen, Jaguar & Land Rover; Sowmya Jayaraman, General Motors LLC; Gursaran D. Mathur, CalsonicKansei North America Inc.; Andrew Sutherland, TI Automotive; Jie Zeng, Denso				
4:00 p.m.	Optimization-Based Cabin and Battery Thermal Management of Connected and Automated HEVs for Improved Energy Efficiency Mohammad Reza Amini, Hao Wang, Xun Gong, Jing Sun, Ilya Kolmanovsky, University of Michigan, Ann Arbor				
4:30 p.m.	Assessing Impact of Motor Characteristics on Electric Vehicles, and How Autonomous Driving Impacts these Decisions Sudhi Uppuluri, Computational Sciences Experts Group				
5:00 p.m.	Improving the Classical Approach to Thermal System Management and Efficient Mobility - A Digitize and Connected Solution for the Modern Vehicle Fleet. Michelange Saint Jean, Invensity Inc.; Barbaros Serter, Invensity Inc				

THURSDAY, OCTOBER 11

Grand Ballroom

Thermal Systems for Hybrid and Electric Vehicles: Part 2					
	(Session Code: TMSS100) Organizers - Bashar AbdulNour, Ford Motor Company; Ales Alajbegovic, Dassault Systemes; Jeffrey Bozeman, General Motors; Wilko Jansen. Jaguar and Land Rover; Christophe Petitjean, Valeo Thermal Systems				
8:30 a.m.	Worldwide Electrical Energy Consumption of Various HVAC Systems in BEVs and their Thermal Management and Assessment – Control Architecture and Results Malte Westerloh, Sven Twenhövel, Volkswagen AG; Walter Schumacher, Univ Of Braunschweig; Jürgen Köhler, Tu Braunschweig				
9:00 a.m.	Performance and Structural Optimization of a Counterflow Cold Plate for Battery Thermal Management Ben Kenney, Jeremy Kroeker, Dana Canada Corporation; Raghavendra Hallur, Devendra Vidhale, Dana Incorporated				
9:30 a.m.	Combined Simulation of Passenger Comfort and Battery Cooling Chin-Wei Chang, EXA; Edward Tate, Exa Corporation; Adrien Mann, EXA; Vijaisri Nagarajan, Exa Corporation; Kamalesh Bhambare, EXA; Nithin Palakurthi, Satheesh Kandasamy, Exa Corporation				
10:00 - 10:30 a.m Break					
10:30 a.m.	Battery Wellness by Thermal Management Alfred R. Jeckel, Daimler AG				
11:00 a.m.	High Performance Thermal Conductive Substrates for Power Module Packaging Rajesh Tripathi, Sejin Im, DuPont Electronics				
Thermal Systems for Commercial and Off-Road Vehicles					
	(Session Code: TMSS800) Organizers - Bashar AbdulNour, Ford Motor Company; Hector Cano, Bergstrom Inc.; Wilko Jansen, Jaguar & Land Rover; Jason Aaron Lustbader, National Renewable Energy Laboratory; Andrew Sutherland, Tl Automotive				
11:30 a.m.	City Bus with Modular R744 HVAC System Based on Passenger Car Components Christian Peteranderl, University of Braunschweig; Michael Bernath, MAN Truck & Bus AG; Wilhelm Tegethoff, Juergen Koehler, University of Braunschweig				
12:00 p.m.	Cooling an Amphibious Vehicle's Engine Rachel Boydston, John Nuszkowski, William Dally, Christopher Andrews, Aaron Owens, Armando Florez, University of North Florida				
12:30 – 1:30 p.m. – Networking Lunch					



THURSDAY, OCTOBER 11

Cabrillo Ballroom

Waste Heat Recovery					
	(Session Code: TMSS900) Organizers - Bashar AbdulNour, Ford Motor Company; Edward Gerges, Dana-Long Manufacturing; Wilko Jansen, Jaguar & Land Rover; Kevin Laboe, FCA US LLC; Gursaran D. Mathur, CalsonicKansei North America Inc.; Ronald Semel, Ford Motor Company; Sudhi Uppuluri, Computational Sciences Experts Group				
8:30 a.m.	Progress in Thermo-Electric Generators within the H2020 ECOCHAMPS Project Cedric Rouaud, Ricardo UK, Ltd.				
9:00 a.m.	Dynamic Simulation Model for Waste Heat Recovery in Commercial Vehicles Fabian Timo Schweizer, Technical University of Munich; Michael Bernath, MAN Truck & Bus AG; Georg Wachtmeister, Technical University of Munich				
9:30 a.m.	Compact Exhaust Heat Recovery System using Highly Heat-Conductive SiC Honeycomb Tatsuo Kawaguchi, Takeshi Sakuma, Takafumi Hamada, Daisuke Kimura, Hiroshi Mizuno, Makoto Yoshihara, Teijiro Takahashi, NGK Insulators Ltd				
10:00 – 10:30 a.m. – Break					
	Powertrain Energy Management				
	(Session Code: TMSS500) Organizers - Bashar AbdulNour, Ford Motor Company; Robin Y. Cash, Ford Motor Co., Ltd.; Alaa El-Sharkawy, FCA US LLC; Wilko Jansen, Jaguar & Land Rover; Sowmya Jayaraman, General Motors LLC; Kevin Laboe, FCA US LLC; Ronald Semel, Ford Motor Company				
10:30 a.m.	Thermal Management Architecture Strategies for Different Powertrain Systems: From Energy and Efficiency Perspective Harry Chen, Yinlun Co., Ltd.				
11:00 a.m.	Energy Efficient Driving Strategies for Highly Automated Vehicles Jonas Alexander Gutsche, Wieland Gelke, Rico Baumgart, Joerg Aurich, Frank Schrödel, IAV GmbH				
11:30 a.m.	Keeping Your Cool During Bonneville Speed Week James Gebbie, Ford Motor Company				
12:00 – 1:30 p.m. – Networking Lunch					

EXHIBITOR PROFILE

Exhibitor Directory text is published as submitted by exhibiting companies.

ACCURATE TECHNOLOGIES INC Booth 3

3011 RAVENGLASS RD Waterford, MI 48329 United States

accuratetechnologies.com

Accurate Technologies Inc. (ATI) is a supplier of automotive measurement, calibration and diagnostics hardware and software tools. With clients including global OEMs and Tier Ones, ATI's product range includes VISION Calibration and Data Acquisition software, EMX data acquisition modules and CANary FD – a compact, rugged four channel CAN FD interface.

BOSAL INTERNATIONAL NORTH AMERICA

Booth 15

1476 Seaver Way Ypsilanti, MI 48197 United States

bosal.com

BOSAL is a developer and manufacturer OEM emission control and heat recovery systems. BOSAL close-coupled Exhaust Gas Heat Recovery System (EGHRS) on a hybrid vehicle was and still is unique in its class. The latest and most effective heat recovery systems are now available and on display at our booth.

BUEHLER MOTOR INC

Booth 14

860 Aviation Pkwy Ste 300 Morrisville, NC 27560 United States

buehlermotor.com

Buehler Motor is an independent, globally-active company focused on the development & production of mechatronic drive solutions and electric pumps. A leading supplier in the Automotive industry, with >1,700 employees at eleven locations worldwide, we are committed to offering world-class products to provide thermal management system solutions.

DANA INCORPORATED

Booth 23

SILVER SPONSOR

3939 Technology Dr Maumee, OH 43537 United States

dana.com

Dana is a world leader in thermal management solutions for improving the efficiency, performance, and sustainability of vehicles. Founded in 1904, Dana supports the passenger vehicle, commercial truck, and off-highway markets and employs approximately 30,000 people in 33 countries with sales of \$7.2 billion in 2017. For more information, please visit our website.

DYNATRON CORP

Booth 8

33200 Western Ave Union City, CA 94587 United States

dynatron.co

Dynatron Corporation, an industry leader in thermal solutions in the United States and internationally. With missions of CPU coolers sold worldwide since 1995. Dynatron has established its reputation over the years and continues to reinforce it with world class support and inventive ways to keep critical systems operating.

EMERSON

Booth 9

1675 Campbell Rd Sidney, OH 45365 United States

emerson.com

Emerson has been in business since 1890, originally incorporated as Emerson Electric Company. Emerson employs more than 74,000 people in over 70 countries. In 2016, Emerson ranked 128th in the Fortune 500 and is listed on the New York Stock Exchange as EMR. Headquarters are in St. Louis, MO.

EXA CORPORATION, A DASSAULT SYSTEMES COMPANY

Booth 16

55 Network Dr Burlington, MA 01803 United States

3ds.com

Exa Corporation a part of SIMULIA, a Dassault Systèmes brand, develops software and provides professional services for simulation-driven design. Leading manufacturers choose Exa's aerodynamic, fluid, heat transfer, and acoustic simulation solutions to optimize product performance, reduce development costs, and improve the efficiency of their design and engineering processes.

GAMMA TECHNOLOGIES LLC

Booth 19

601 Oakmont Ln Ste 220 Westmont, IL 60559 United States

atisoft.com

Gamma Technologies develops GT-SUITE, an MBSE system simulation tool. It provides a broad set of validated OD/1D/3D multi-physics component libraries simulating fluid flow, thermal, multi-body, structural, electro-magnetic, chemistry and controls. Build practically any engineering system model including vehicles, hybrids, electrics, engine, thermal management, drivetrain, transmission, aftertreatment, hydraulics, fuel, lubrication, etc.

EXHIBITOR PROFILE

GENTHERM Booth 7

Platinum Sponsor

21680 Haggerty Rd Northville, MI 48167 United States

gentherm.com

Gentherm is the global market leader and developer of innovative thermal management technologies for a broad range of heating and cooling and temperature controlled applications. Its products provide solutions for automotive passenger comfort, battery thermal management, patient temperature management, and various electronics. The Company's automotive products can be found on the vehicles of nearly all major automotive manufacturers operating in North America, Europe, and Asia.

IPETRONIK INC

Booth 11

50220 Dennis Ct Wixom, MI 48393 United States

ipetronik.com

IPETRONIK - experts for data acquisition, signal conditioning and data logging in harsh environments. IPEengineering services and benchmarking for HVAC testing. IPEtec full HVAC system test benches and CO2 A/C development.

MAGNA POWERTRAIN

Booth 1

PO Box 18962 Golden, CO 80402 United States

kuli.magna.com/

Magna Powertrain - Engineering Center Steyr provides automotive CAE software and engineering services.

SCHRADER PACIFIC

Booth 20

205 Frazier Rd Altavista, VA 24517 United States

pacific-ind.co.jp/eng/company and schraderintl.com

Schrader Pacific is a newly acquired division of Pacific Industrial Co. Ltd. Combined we are the global leader and manufacturer of AC valves designed to access, regulate or contain AC refrigerant. We are the only supplier of all the types of AC valves. Schrader Pacific directly services the OE, and Tier I and Tier ii markets. We are IATF accredited.

SIEMENS PLM SOFTWARE

Booth 5

5800 Granite Parkway Ste 600 Plano, TX 75024 United States

siemens.com/plm

Siemens PLM Software is a world-leading provider of product lifecycle management (PLM) software. We help thousands of companies make great products by optimizing their lifecycle processes, from planning and development through manufacturing and support. Visit our website to learn more about our technology.

SHINANO KENSHI CORP

Booth 12

6065 Bristol Pkwy Culver City, CA 90230 United States

shinanokenshi.com

Shinano Kenshi with over 100 years of history and vertical manufacturing capabilities has been providing cutting edge technologies in motion control to the global automotive industry. We support passive & active thermo applications using liquid-air pumps, compressor, actuators, and others which require collaboration from design concept to large scale manufacturing.

SHIN-ETSU SILICONES OF AMERICA

Booth 13

8190 Beechmont Ave Cincinnati, OH 45255 United States

shinetsusilicones.com

Shin-Etsu Silicones is a leading global manufacturer of silicone materials for the electronics industry. Shin-Etsu's products protect sensitive electronics from damaging environments and insures the reliable, long-lasting performance of your components. Our products include adhesives sealants, potting encapsulants, conformal coatings, thermal interface materials, and SIFEL elastomers for extremely corrosive environments.

SONCEBOZ

Booth_2

Rue Rosselet Challandes 5 Sonceboz 2605 Switzerland

sonceboz.com

Sonceboz creates, designs, and produces compact, robust and energy-efficient electric actuators for demanding applications. Our innovative and tailored solutions reflect our commitment to optimal ecological footprint, safety, and comfort. Since 1936 our focus on innovation, zero defect approach, and exceptional service is our key to the success of our worldwide customers.

EXHIBITOR PROFILE

SPAL USA Booth 10

1731 SE Oralabor Rd Ankeny, IA 50021 United States

spalusa.com

SPAL manufacturers DC axial cooling fans and centrifugal blowers with an emphasis on sealed brushless motor technology for the global OEM market. SPAL provides value for the automotive, truck, bus, off-highway, stationary, ATV, military and other markets including EV, Hybrid and Battery cooling applications, providing the highest quality products available

plications, providing the highest quality products available

4220 24th Avenue West Seattle, WA 98199 United States

THERMETRICS LLC

thermetrics.com

Thermetrics - the new name for Measurement Technology NW - designs and manufactures advanced biophysical test instruments that simulate the human thermoregulatory system and are used to measure and predict the thermal comfort of automobile climate controls, seats, sport performance and cold weather apparel, uniforms, protective clothing, and more.

THERMOANALYTICS, INC.

Booth 17

Booth 18

Bronze Sponsor

23440 Airpark Blvd Calumet, MI 49913 United States

thermoanalytics.com

ThermoAnalytics provides Thermal Solutions for heat transfer and engineering analysis. Our TAITherm software is the leading program for rapid design and optimization of heat transfer problems. We develop innovative and efficient simulation processes that result in fast turnaround times and the ability to represent all transient test conditions via simulation.

TLX TECHNOLOGIES

Booth 24

N27 W23727 Paul Rd Pewaukee, WI 53072 United States

tlxtech.com

TLX Technologies answers automotive system demands with superior electromagnetic solutions. Custom solenoids and valves designed for EV & PHEV applications are vital in meeting demands for better performance and greater efficiency, especially when addressing the unique challenges of thermal management control.

TORAY

Booth 6

2800 Livernois Rd Bldg D Troy, MI 48083 United States

toray.jp/plastics/en

Toray Industries is a fully integrated material supplier with manufacturing, processing and sales in: Fibers and Textiles; Performance Chemicals; Carbon Fiber Composite Materials; Environment and Engineering; Life Sciences and Other Businesses. With operations in 26 countries, more than 46,000 employees and revenues of \$20+ billion; Toray provides advanced materials through "Innovation by Chemistry."

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2018

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, II

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 Symposium

October 9-11 San Diego, CA **Brake Colloquium & Exhibition**

October 14-17 Palm Desert. CA

Heavy Duty Diesel Emissions Control

October 16-17 Gothenburg, Sweden

SAE/JSAE Small Engine Technology

Conference November 6-8 Dusseldorf, Germany

Aerospace Systems + Technology

Conference November 6-8 London, UK

Defense Maintenance and Logistics Exhibition

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

SAE 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 &

ExhibitionJune 10-13
Grand Rapids, MI

International Conference on Icing of Aircraft, Engines, and Structures

June 17-21, 2019 Minneapolis, MN

JSAE/SAE International Powertrains, Fuels & Lubricants Meeting

August 25-29 Kyoto, Japan **COMVEC™**

September 10-12 Indianapolis, IN **On-Board Diagnostics**

September 17-19 Garden Grove, CA

North American International Powertrain

Conference September 18-20 Chicago, IL

Brake Colloquium & Exhibition

September 22-25 Orlando, FL

SAE AeroTech Europe

September 24-26 Bordeaux, France

Thermal Management Systems Symposium

October 15-17 Plymouth, MI

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