SAE INTERNATIONAL

安亭·上海国际汽车城
Anting • Shanghai International Automobile City

会议手册
EVENT GUIDE

SAE 2018
新能源汽车国际论坛（第六届）
NEW ENERGY VEHICLE FORUM

2018年 9月11-12日
上海颖奕皇冠假日酒店

September 11-12, 2018
Crowne Plaza Shanghai Anting Golf, Shanghai, China

SAE International 国际自动机工程师学会是航空航天、汽车、商用车及工程农用机械领域权威性专业学会。相对于其他机构，SAE 制定的车辆和航空航天标准在行业内占据绝对优势。同时，SAE 还提供全球最丰富的航空航天、汽车、商用车及工程农用机械领域的工程信息，并拥有全球性的车辆及航空航天工程师社交网络。

我们通过全面的项目、产品和服务，为行业提供信息、工具和技术，以帮助专业人士更好地完成工作，并保证下一代业内工程师能够获得良好的职业发展。

自 1905 年起，SAE 就开始建立航空航天、汽车、商用车及工程农用机械领域的工程师网络，整合他们所需要的技术资源，以满足他们终生学习的需要，推动行业技术的进步与发展。

SAE International 第一任副主席是一个名叫亨利 • 福特（美国福特汽车公司创始人）的才志兼备的工程师，在最早的发展阶段，SAE 就获得了奥维尔 • 莱特（飞机发明人之一）等人的支持。在此基础上，我们建立了一个紧密合作、信息互通的广泛的中立性平台，并制定了许多首创标准。今天，SAE 已经成为了全球公认最权威的航空、汽车、商用车及工程农用机械工程知识来源，而信息共享仍然是我们的基本原则。

中文微信公众号

A professional society, SAE International is the authority on vehicle engineering. We develop more vehicle technical standards—and more aerospace standards—than any other organization. We offer the largest library of vehicle engineering content. And, we bring together the largest global network of engineers in the world.

Through a comprehensive collection of programs, products and services, we supply the information, tools, and technical know-how to help today's professionals do their jobs better while we ensure the development of the next generation of mobility engineers.

Since 1905, SAE has connected automotive, aerospace, and commercial vehicle engineers to each other and the technical resources needed to foster a lifetime of learning, solutions to improved vehicle technology, and the advancement of the mobility industry.

SAE International—whose first vice president was an up-and-coming engineering talent by the name of Henry Ford and included early supporters like Orville Wright—was based on providing a platform for collaborative and informed dialog and the impetus of its earliest standardization efforts. Today, the sharing of information remains at its core, with SAE being acknowledged globally as the ultimate knowledge source for mobility engineering.

English WeChat Subscription Account

SEPTEMBER 12

KEYNOTE

9:00

EVs as a Driver of Grid Modernization and Sustainable Nuclear Power©

Paul Sheridan DDM Consulting

BATTERY & ESS TECHNOLOGY

9:45

The Application Trend of Thermal Interface Materials in EV Power System

Dr. Yuan ZHAO Henkel Corporation

ABSTRACT

Lithium ion batteries are used a wide range of devices including smart phones, notebook computers, medical equipment, power tools, and electric vehicles, etc. As ever-increasing demand for higher power densities and larger capacities, the lithium ion batteries become more and more thermally limited. For example, these batteries need to acquire and release electricity at very high current levels, which inevitably generates excessive heat and drastically increase battery temperature. However, temperature limits for Lithium-ion batteries are quite narrow (typically 0 to 45 C). High temperatures (above 45 C) during charging process may lead to battery degradation or even premature failure. Therefore, controlling and regulating battery temperature is critical for normal operations of any devices powered by Lithium-ion batteries.

This presentation will give an overview of Henkel's thermal management materials for NEV batteries. Numerical studies will be presented to demonstrate thermal characteristics and performance advantages of the various concepts for Lithium-ion batteries.

10:15

Tea Break

10:45

New Application of Mission-Critical Sensing Technology on NEV Powertrain System

Kewin JIA Sensata Technologies

ABSTRACT

New sensing solutions on New Energy Vehicle are required for NEV market development and technology upgrade in order to meet more critical requirements on Safety and Energy Efficiency. It is getting even more critical for NEV success to have innovative sensing technology and solutions on system level. From key system needs of Battery, E-motor and High Voltage Module, the technology development and new product application were shared about new sensing solutions on NEV powertrain system.

11:15

Design and Test Challenges of EV/HEV

Chi CHEN Keysight

ABSTRACT

With the rapid development of NEV industry all over the world, China also follows the global pace closely and sees significant development in lithium battery and power vehicle. As an excellent partner for global testing, Keysight offers various solutions for vehicle and new energy industries. Keysight will take this chance to highlight testing solutions for power vehicles, beginning with charging pile, on-board charging, BMS, battery performance and inverter performance.

LUNCH

Kevin Tallio 博士



福特汽车
电气化传动工程总工程师

Kevin Tallio 博士是福特亚太区电气化动力总成首席工程师。 供职福特的 29 年间，他曾出任多个有关 R & A、发动机工程和电气化动力总成工程的技术和管理负责人。在他的整个职业生涯中，Tallio 博士一直以会议组织者、主席和作者等身份活跃于 SAE。Tallio 博士于 2014 年成为 SAE International 会士。

Dr. Kevin Tallio

Chief Engineer for Electrified Powertrain Engineering
Ford

Dr. Kevin Tallio is Chief Engineer for Electrified Powertrains, Ford Asia Pacific. He has worked in numerous technical and management leadership roles in R&A, Engine Engineering and Electrified Powertrain Engineering during his 29-year tenure at Ford. He has been active in SAE for his entire career as session organizer, chair and author. Dr. Tallio was inducted as an SAE Fellow in 2014.

Paul Sheridan



DDM Consulting
总裁

Paul Sheridan 在多家汽车 OEM 积累了丰富的成功经验，之后成立了一家专注于交通安全与效率的咨询公司。在克莱斯特道奇卡车部门任职的时候，Sheridan 曾领导过全球知名的获奖车型——道奇康明斯柴油皮卡的原型车研发，并负责该车型的工程项目的设计与管理。Sheridan 是 Lee A. Iacocca 主席奖的三名获奖者之一，也是史上唯一因交通安全方面的成就而荣获民事司法基金会国家冠军奖（Civil Justice Foundation National Champion’s Award）的汽车专家。Sheridan 曾为交通安全领域的多项技术与法规进步做出贡献，下至地区与联邦法院，上至美国参议院、美洲最高法院、美国最高法院，都曾对他的杰出成就授予表彰。“毋庸置疑，安全是一项管理问题。”是 Sheridan 的名言之一。他拥有物理学、数学、计算机科学的学士学位、康奈尔大学的 MBA 硕士学位，其咨询业务主要专注于电动交通的安全与效率方面。Sheridan 认为由电动交通带来的巨大的环保效益也会推动能源结构朝着可靠、可预测、可持续的方向发展。身为前核电站员工，Sheridan 建议人们充分发挥电动交通、现代电网、以及第三和第四代核电所带来的可持续发展与环保价值。

Paul Sheridan

President
DDM Consulting

After a successful career with major automotive original equipment manufacturers, Paul Sheridan formed a consulting firm that specializes in transportation safety and efficiency. While a member of the Dodge Truck Division of Chrysler Corporation, Sheridan led the original prototype development of the world renowned Dodge-Cummins Diesel Pickup truck, and later designed and managed the engineering programs for that award-winning product. One of only three recipients of the Lee A. Iacocca Chairman’s Award, Sheridan is the only person in history to win the Civil Justice Foundation National Champion’s Award for his work in transportation safety. With a testimonial record that ranges from the local and federal courts, to the United States Senate, all the way to the highest court in America, the United States Supreme Court, Sheridan has been credited with numerous technological and regulatory advancements in safety under his adage, “First and foremost, safety is a management issue.” With degrees in physics, mathematics, and computer science (BS), and a Master’s degree in Business Administration (MBA) from Cornell University, Sheridan has concentrated consultation effort on the safety and efficiency benefits of electric mobility. Sheridan proposes that the enormous environmental protections offered by electric mobility will also drive energy sources that demonstrate reliability, predictability, and true sustainability. Formerly a nuclear reactor operator, Sheridan proposes that to maximize the true sustainability and genuine environmental protection offered by electric mobility, deployment of modern grid technologies, fortified by third and fourth generation nuclear power plant sources of electricity, will be required.

Critics rave about Cummins-powered Ram pickups

If a Dodge Ram outfitted with the Cummins 5.9-liter turbo diesel engine were to race a Ford or Chevy truck up a Colorado mountain road, there would be no question who would win. The Dodge Ram would sail up the mountain, while its Chevy and Ford counterparts chugged along in its dust.

In fact, in just about any endurance competition imaginable, the Dodge Ram truck would obliterate its competition.

This is not frivolous hype or propaganda generated by zealous marketing types. The example is based on testimonials by industry trade journals.

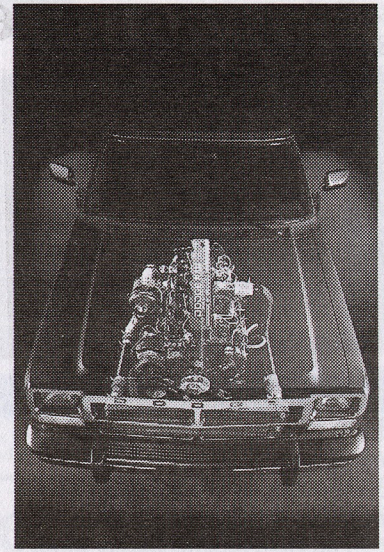
For instance, *Road Test Magazine* writes, "The Dodge-Cummins pickup outdistances its Ford and Chevy counterparts in every meaningful category."

"Dodgzilla" is a term coined by *Four Wheeler* magazine to describe the Dodge Ram pickup.

Why the acclaim? The engine powering the Dodge Ram—the Cummins diesel 5.9-liter six-cylinder turbo engine—has no equal, according to Paul Sheridan, Jeep®/Truck Engineering Engine Program Manager. It's the only factory-installed turbo diesel available in a pickup.

Referred to by Sheridan as the "Ferrari of the diesel engines," the Cummins is largely responsible for the recent success of Dodge Ram trucks in the marketplace.

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"We are approaching 50 percent of Ford's volume after only three years in the diesel business," Sheridan added. "Our problem is not demand, but supply of available engines from Cummins. We can't fill customer orders fast enough."

The 1989 model year production was sold by December 1988, and 1990 production sold out by February 1990.

"We can't determine how great the demand is, because we haven't hit the ceiling yet," Sheridan said.

A diesel engine survey found that if given the option, one out of four Ford and General Motors diesel pickup buyers would pay an extra $1,000 for a truck powered by a Cummins engine.

The engine was first used in the Dodge Ram full-size pickup trucks in 1989, but preparations to modify a Cummins diesel for the truck date back to 1985.



Jerome Magid

Among the Cummins diesel team members who worked to ensure a smooth launch were, from left, Eugene Shensky, Product Change Analyst; Ken Scobel, Cummins On-Time Assembly; Walter Ralph, Vehicle Development Specialist; Troy Simonsen, Product Planning Manager; Greg Henderson, Design Aids Supervisor; and Paul Sheridan, Engine Programs Manager.

Eight Chrysler employees, part of the core Truck Operations group, approached the Cummins people namely because at the time the company was "the only game in town," Sheridan said. Ford was getting its diesel engines through Navistar, and General Motors manufactured its own and purchased some from Detroit Diesel.

Chrysler provided Cummins with a Dodge Ram truck and the assignment of making a Cummins diesel engine that could fit into the chassis.

Cummins completed its assignment and the engine is now available in the Ram D-250 and D-350, both two- and four-wheel drive.

"We achieved this success over the years using a skeleton crew, minimal budget and a complicated but necessary release program," Sheridan said.

In addition to offering an engine intercooler to meet strict emissions standards, the 1991-1/2 model offers a four-speed automatic overdrive transmission that will boost the truck's current top speed of 80 mph and further improve its fuel economy and performance.

December 1990
Design Engineering/Manufacturing
Cost Reduction Results

Digest

In the News

STANDARD & POOR'S placed the Big Three automakers on its CreditWatch list Jan. 9 because of a worsening economic picture.

Chrysler said, "We are, of course, disappointed... but given the difficult environment the industry is in, we can understand their concern. We know our minivans and sport utilities face increasing competition, but are confident that they remain the class of the field and able to withstand the assault."

Chrysler will have an opportunity to present its case to Standard & Poor's.

Innovation

AL BARRETT, Mark Huber, Mike Larson, Don McCutcheon and Jim Pitt represented Chrysler in accepting an award from the Society of Automotive Plastics for the company's use of plastic in body interiors. In conjunction with Entech, Rockwell and General Electric, the group developed a plastic bolster that saves $18 per vehicle and 8.3 pounds in body weight. The bolster is used in the Eagle Premier and Dodge Monaco.

People

IN THE DODGE/WJR RADIO Quest for Excellence music competition, Beth Barley took first place and won a $5,000 scholarship. She is the daughter of Lou Barley, a tool engineer from Chrysler's Mound Road Engine Plant in Detroit.

Communication