18TH STUTTGART INTERNATIONAL SYMPOSIUM

AUTOMOTIVE AND ENGINE TECHNOLOGY
13TH AND 14TH MARCH 2018 | HAUS DER WIRTSCHAFT, STUTTGART

PROGRAM

12TH FEBRUARY 2018
MAHLE is a leading global development partner to the automotive industry and offers its customers complete systems from a product range that is unrivaled in breadth and depth. Our new developments are geared toward the further optimization of combustion engines and thermal management solutions as well as the establishment of e-mobility. We also want to set new future standards with our innovative solutions by consistently using and expanding our knowledge and innovative strength.

www.mahle.com
In March 2018, the Stuttgart International Symposium »Automotive and Engine Technology« of the Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS) is taking place for the 18th time. As the patron, I heartily welcome all participants, from home and abroad, to our state capital!

The automotive industry is currently experiencing the most profound upheaval in its history. Electrification, digitalization, autonomous driving and flexible usage are leading to fundamental changes. The Paris climate agreement obliges us to cease burning fossil fuels completely by 2050 at the latest. You might say that the car is currently being reinvented. There is a great deal at stake for the automotive industry and its locations: thousands upon thousands of jobs, high proportions of added-value in a globally interwoven core industrial sector and the well-being of entire regions. In Baden-Württemberg, it is our goal that the car of the future will also be »Made in Baden-Württemberg«. Here we rely on framework conditions which are open to new technology. A close alliance of politics, business, science, trade unions, consumer organizations, environmental organizations and civil society is required. Therefore, in May 2017 the state government set up the »Automotive Industry Strategic Dialog« to ensure that the transformation process is successful.

Baden-Württemberg did not become the State of innovation, the home of the medium-sized enterprise, many global market leaders, Hidden Champions and global concerns all by itself. Courageous entrepreneurs have made the region what it is today. Today especially, in times of great technological upheaval, Baden-Württemberg needs entrepreneurial spirit and a sustainable innovation culture. I am therefore very pleased that the 18th Stuttgart International Symposium »Automotive and Engine Technology« is focusing on the contribution that start-ups will make to the future of the automotive industry. I thank the Research Institute of Automotive Engineering and Vehicle Engines Stuttgart and all the participating companies for the planning and implementation of this important Symposium. I wish the participants fascinating lectures, exciting discussions and the courage to take a leap into the future of mobility!

Winfried Kretschmann
Prime Minister of the State of Baden-Württemberg
The influence of start-up companies on future vehicle development

In a rapidly changing world, the automotive industry is confronted with new challenges almost daily: the increasingly problematic reputation of the diesel engine, consumers made uneasy by the mixed reporting of nitrogen oxide and particulate emissions, increasing competition in electric drives from new competitors and the evermore difficult task of communicating effectively to the public that there is a huge difference between prototypes, small-scale manufacture and true mass production.

Then there are questions about when the alternative drive forms (developed thanks to significant financial investment) will actually deliver a return on investment, who will finance and build the necessary charging infrastructure to enable mass-market adoption of electro-mobility – and what effect all this will have on jobs.

For the automotive industry, it is now more important than ever to face the challenges head-on and bring innovative solutions into series production while maintaining the high quality standards of the OEMs. Here, the main topics are to drive forward electro-mobility with higher energy densities and lower battery costs, and to present a charging infrastructure which really is sufficiently standardized and future-proof, as well as consistently pursuing the development of combustion engines which are carbon dioxide neutral and free from harmful emissions. Automated driving can also be helpful here, because vehicle behavior can literally be calculated.

However, from a structural perspective, established automotive manufacturers do not always find it easy to keep up with the rapid pace of change. Start-ups have a great advantage here: their organizational structure enables fresh, unconventional ideas to be implemented rapidly and allows them to react very flexibly. Start-ups are already being systematically encouraged to find new solutions in the areas of comfort, safety, efficiency and new customer interfaces. New solution approaches, coupled with investment strength and experience offer new opportunities on the road to electro-mobility, for the future of the combustion engine and for the car of the future in general.

The 18th Stuttgart International Symposium “Automotive and Engine Technology” on March 13 and 14, 2018, provides an important platform to illuminate and discuss these opportunities. In three plenary lectures and sessions running in six parallel strands, experts from the industry and the scientific community will present their latest findings. In addition, you can look forward to an exciting panel discussion on the subject at the end of the Symposium. Use this forum in the Haus der Wirtschaft for discussing and exchanging ideas and visit the accompanying trade show too.

We look forward to welcoming you to Stuttgart – the birthplace of the automobile – and wish you two highly-interesting days at the 18th Stuttgart International Symposium!

Prof. Dr. Michael Bargende

Prof. Dr. Hans-Christian Reuss

Prof. Dr. Jochen Wiedemann
We develop new battery and electrical technology in our new competence center in Waiblingen near Stuttgart. This makes STIHL ready for the future – at best with you.

As a trendsetter for the performance and ergonomics of battery-powered devices in a premium quality, we offer engineers new career possibilities. Are you interested?

Battery Power. Made by You.

STARK. STIHL.
We develop new battery and electrical technology in our new competence center in Waiblingen near Stuttgart. This makes STIHL ready for the future – at best with you.

As a trendsetter for the performance and ergonomics of battery-powered devices in a premium quality, we offer engineers new career possibilities. Are you interested?

Battery Power. Made by You.

STARK. STIHL.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Welcome Prof. Dr. Michael Bargende, Chairman of the Board FKFS, Managing Director IVK, University of Stuttgart</td>
</tr>
<tr>
<td>9:30</td>
<td>Start-up Culture in a multi-national Group - A Contradiction? Dr. Rolf Bulander, Member of the Board of Management, Robert Bosch GmbH, Chairman of the Business Sector</td>
</tr>
<tr>
<td>10:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>10:30</td>
<td>Automotive Landscape 2030+ - Pole Position for Germany in Autonomous Driving Steffen Gänzle, A.T. Kearney GmbH</td>
</tr>
<tr>
<td>10:30</td>
<td>Analysis of Rollover Behavior of SUVs in the Early Phase of Chassis Development Fan Chang, G. Prokop, IAO, TU Dresden; S. van Putten AUDI AG</td>
</tr>
<tr>
<td>10:30</td>
<td>High-level Phlegmatization of an ICE for the Use in a Serial Hybrid Powertrain Bojan Jander, R. Baar, TU Berlin</td>
</tr>
<tr>
<td>11:00</td>
<td>Make or Break - Automotive Business Models at Crossroads Ralf Kalmbach, Bain &amp; Company Germany, Inc.</td>
</tr>
<tr>
<td>11:00</td>
<td>Combustion Engine Concepts with Extended Expansion in Hybrid Powertrains Morris Langwiesner, C. Krüger, S. Donath, Daimler AG, M. Bargende, FKFS / IVK, Universität Stuttgart</td>
</tr>
<tr>
<td>11:30</td>
<td>Digital Value Chain 2030+ - 360* Bernhard Wiedemann, TMG Consultants GmbH</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch break</td>
</tr>
<tr>
<td>13:00</td>
<td>The Direction of Future Powertrain toward the Electric Mobility Era Masanori Sugiyama, Executive General Manager of Toyota Motor Corporation</td>
</tr>
<tr>
<td>13:35</td>
<td>Strategy for a Heavy-Duty Truck with a P2-Hybrid Topology Sven Schulze, M. Mühliesen, F. Geyerl, FH Aachen University of Applied Sciences; S. Pischinger, VKA, RWTH Aachen University</td>
</tr>
<tr>
<td>14:05</td>
<td>AUDI h-tron - A Key-Technology to Meeting the Requirements for Sustainable Drive Concepts Jürgen Jablonski, P. Hackenberg-Wiedl, S. Rank, AUDI AG</td>
</tr>
<tr>
<td>14:05</td>
<td>Control Strategy for Electro-mechanical Active Roll Stabilisation Igor Ilg, A. Freuer, M. Eisenbarth, G. Nareyko, T. Koch, Dr. Ing. h.c. F. Porsche AG</td>
</tr>
<tr>
<td>14:05</td>
<td>Innovative Torque Vectoring Control Concept to Generate Predefined Lateral Driving Characteristics Alexander Fridrich, W. Krantz, Universität Stuttgart, IVK; J. Wiedemann, FKFS / IVK, Universität Stuttgart; J. Neubeck, FKFS</td>
</tr>
<tr>
<td>15:05</td>
<td>Development of an Innovative Combustion Process: Spark-Assisted Compression Ignition Marco Chiodi, FKFS</td>
</tr>
<tr>
<td>15:05</td>
<td>How to compare global and local Pollutant Emissions Friedrich Dinkelacker, F. Galli, ITV, Leibniz Universität Hannover</td>
</tr>
<tr>
<td>15:05</td>
<td>Innovative Torque Vectoring Control Concept to Generate Predefined Lateral Driving Characteristics Alexander Fridrich, W. Krantz, Universität Stuttgart, IVK; J. Wiedemann, FKFS / IVK, Universität Stuttgart; J. Neubeck, FKFS</td>
</tr>
</tbody>
</table>
RAUM REUTLINGEN 2nd floor

Turbo Charging
Chairperson: Prof. Dr. Roland Baar

10:30 Modeling of a Map Based Turbocharger in a Three Dimensional Engine Environment (Preliminary)
Andreas Kächele, M. Chiodi, FKFS; M. Bargende, FKFS/IVK, Universität Stuttgart

11:00 Impact of Compressor induced Acoustic Excitations on the Accuracy of the Air Flow Measuring Signal
Matthias Hamann, L. Erbig, Y. Bogachik, O. Kalkan, M. Matt, M. Onischke, Daimler AG

11:30 CFD Simulation of Scroll Compressors with Axial and Radial Clearances and Thermal Deformation
Jan Hesse, A. Spille-Kohoff, R. Andres, F. Hetze, CFX Berlin Software GmbH

RAUM KARLSRUHE 1st floor

Networking and Architecture I
Chairperson: Prof. Dr. Karl-Ludwig Krieger

Markus Glaab, Elektrobit Automotive GmbH

11:00 Safe Computing with Central ECUs
Drazen Baic, W. Haas, P. Langjahr, A. Fessard, Bosch Engineering GmbH

11:30 From the Environmental Model to the Intelligent Auto-Start-Stop-Function
Elias Wiedemann, M. Karl, A. Sonntag, C. Ebner, BMW Group

RAUM MANNHEIM 1st floor

Future of Automotive Assembly I
Chairperson: Thomas Dietz

10:30 Challenges of a Secure Value-added Production Logistics of the Future
Karl-Heinz Wehking, D. Korte, M. Hagg, IFT, Universität Stuttgart

11:00 Flexible Production Systems as an Answer to a Volatile Market Environment
Werner Köhl, C. Siedelhofer, C. Schuster, G. Siegmund, BMW Group

11:30 Basic Principles of agile Assembly in the Automotive Industry
Petra Foith-Förster, T. Dietz, T. Bauernhansl, Fraunhofer IPA

12:00 Lunch break

Small Engines / Predictions
Chairperson: Prof. Dr. Bernhard Geringer

13:35 Image-producing Knocking Investigations in a Two-Stroke SI Engine

14:05 Analysis of the Impact of Information about Future Driving Situations on the Energy Consumption
Tobias Schürmann, J. Strenkert, S. Schmiedler, D. Göcke, Daimler AG; M. Bargende, FKFS/IVK, Universität Stuttgart; K. A. Böhm, Hochschule Esslingen

14:35 Centralized Administration of Diagnostic and Update Processes for Cloud Mirrored Vehicles
Michael Eberspächer, M. Grimm, FKFS; H.-C. Reuss, FKFS/IVK, Universität Stuttgart

15:05 Metal Matrix Composites in Handheld Power Tools
Niklas Enander, Andreas Hillby, Husqvarna AB

15:05 Requirements and Systems Engineering for Complex Systems
Christof Ebert, Vector Informatik GmbH; F. Kirschke-Biller, Ford

15:35 Coffee break
PROGRAM TUESDAY, 13TH MARCH 2018

KÖNIG-KARL-HALLE 2nd floor

Hybrid II
Chairperson: Prof. em. Dr. Günter Hohenberg

16:00 48 Volt by Mercedes-Benz
Thomas Mundinger, K. Wanner, Daimler AG

16:30 A modular Concept for Hybridized Manual Transmissions
Frank Casimir, GETRAG FORD Transmissions GmbH

17:00 Development of a 48V P0 Demonstration Vehicle with eBooster Air Charging
Wolfgang Wenzel, Sara Mohon, K. van Maanen, K. Liu, P. Keller, M. Griffen, BorgWarner Inc.; V. Negandhi, EngSim Corporation

17:30 Development of 48V Powertrain Systems at Mercedes-Benz
Michael Timmann, R. Inderka, Daimler AG

MEIDINGER-SAAL 1st floor

Injection (Diesel / Urea)
Chairperson: Prof. Dr. Georg Wachtmeister

16:00 Double Injection SCR – Bosch’s Development for Future Emission Regulations
Tobias Bayer, D. Samuelsen, S. Bareiss, M. Chaineux, Robert Bosch GmbH

16:30 Reduction of Perturbations on Spray Force Measurements for Quantification of Diesel Sprays
Hans Rönnisch, T. Hergemöller, Daimler AG; M. Bargende, FKFS/IVK, Universität Stuttgart

17:00 Validation of Design and Development Tools for Diesel Injectors with Measurements of a Single Cylinder Research Engine
Martin Dresscher, F. Pinkert, FVTR GmbH; I. Najar, IKV, Universität Rostock

17:30 Investigation on the Influence of Nozzle Geometry Variations on Diesel Jets
Corina Slocinski, T. Hergemöller, Daimler AG; M. Bargende, FKFS/IVK, Universität Stuttgart

BERTHA-BENZ-SAAL 1st floor

Automated Driving / HMI
Chairperson: Prof. Dr. Clemens Gühmann

16:00 The Automotive Digitisation – The way from Selfdriving to Autonomous Driving
Thomas Stottan, AUDIO MOBIL Elektronik GmbH

16:30 Cognitive Ergonomics: Extravagance or Mandatory Functional Safety Requirement?
Marc Schneider, MBtech Group GmbH & Co. KG

17:00 Framework for interactive Testing and Development of highly automated Driving Functions
Martin Kehrer, J. Pitz, T. Rothermel, FKFS; H.-C. Reuss, FKFS/IVK, Universität Stuttgart

17:30 Definition of Critical Traffic Scenarios to evaluate Trigger Criteria for Collision Avoidance
Andreas Homann, T. Bertram, RST, TU Dortmund; M. Buß, M. Keller, K. Glander, ZF TRW Active & Passive Safety Technology

18:00 Finish
FESTIVE EVENING RECEPTION

Tuesday, 13th March 2018 | 18:30 in the »Alten Stuttgarter Reithalle« Maritim Hotel | Seidenstraße 34 | 70174 Stuttgart

Experience an exceptional evening with amusing entertainment.

Program:

18:30 Sparkling wine reception
19:00 Welcome by Prof. Dr. Michael Bargende, FKFS Chairman of the Board of Management and Chair in Automotive Powertrains at the IVK, Stuttgart University

Followed by: Dinner

Live Act:
The Blues Project

A very special musical highlight awaits you:

Pete York (world-class drummer, founder member of the Spencer Davis Group, became world-famous with Hardin&York) and Miller Anderson (Woodstock legend with the Keef Hartley Band, who has also played with, for example, Deep Purple and the Spencer Davis Group too; one of the best blues rock singers in the world) play blues rock classics with Werner Dannemann (the Swabian Jimi Hendrix) and his band, including »Gimme some lovin’«, »I’m a man«, »Keep on running«, »When a blind man cries«, »House of the rising sun« and »Hoochie coochie man«.

Evening program ends at approx. 23:00.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Chairperson</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Automated Driving at BMW – Solutions for Today and Tomorrow</td>
<td>MEIDINGER-Saal 1st floor</td>
<td>Prof. Dr. Peter Middendorf</td>
<td>Claus Dorrer, BMW Group</td>
</tr>
<tr>
<td>8:30</td>
<td>Development of Novel Vehicle Structures for Automotive Series Production</td>
<td>BERTHA-BENZ-Saal 1st floor</td>
<td>Dr. Ing. h.c. F. Porsche AG</td>
<td>Christoph David, S. Vohrer, FK, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)</td>
</tr>
<tr>
<td>9:00</td>
<td>Challenges for the Vehicle Dynamics</td>
<td>KÖNIG-KARL-HALLE 2nd floor</td>
<td>Prof. Dr. Peter Middendorf</td>
<td>Gauthier Boisdequin, J. Haug, Dr. Ing. h.c. F. Porsche AG</td>
</tr>
<tr>
<td>9:00</td>
<td>Safety and Light Integration of Alternative Powertrains with Innovative Material Concepts</td>
<td>MEIDINGER-Saal 1st floor</td>
<td>Prof. Dr. Peter Middendorf</td>
<td>Stefan Lindner, T. Fröhlich, Outokumpu Nirosta GmbH</td>
</tr>
<tr>
<td>9:30</td>
<td>Method for Analysis the Feeling of Safety at High Speed Using Virtual Test Drives</td>
<td>KÖNIG-KARL-HALLE 2nd floor</td>
<td>Prof. Dr. Peter Middendorf</td>
<td>Martin Heiderich, S. Leonhardt, Honda R&amp;D Europe (Deutschland) GmbH; W. Krantz, IVK, Universität Stuttgart; J. Neubeck, FKFS; J. Wiedemann, FKFS/IVK, Universität Stuttgart</td>
</tr>
<tr>
<td>9:30</td>
<td>Methods and Processes for Robust Weight Management in the Automotive Industry</td>
<td>BERTHA-BENZ-Saal 1st floor</td>
<td>Prof. Dr. Peter Middendorf</td>
<td>Marcus Stegmüller, BMW Group u. IPEK, Karlsruher Institut für Technologie (KIT); A. Albers, N. Bursac, IPEK, Karlsruher Institut für Technologie (KIT)</td>
</tr>
<tr>
<td>10:00</td>
<td>Coffee break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>Where next for the Automotive Industry – Will we all be “Going Electric” soon?</td>
<td></td>
<td></td>
<td>Dr. Stefan Wolf, Chairman/CEO of the Management Board of ElringKlinger AG</td>
</tr>
<tr>
<td>11:05</td>
<td>Possibilities of Deep Learning for Automated Driving with Focus on Environmental Perception</td>
<td>Automated Driving I</td>
<td>Prof. Dr. Hans-Christian Reuss</td>
<td>Heinrich Gotzig, Valeo Schalter und Sensoren GmbH</td>
</tr>
<tr>
<td>11:05</td>
<td>Challenges in Thermal Management for Electrified Vehicles</td>
<td>Thermal Management</td>
<td>Prof. Dr. Horst E. Friedrich</td>
<td>Heike Schönerstedt, Daimler AG</td>
</tr>
<tr>
<td>11:35</td>
<td>Simulation for Development and Testing of Autonomous Vehicles</td>
<td>Electric Mobility I</td>
<td>Prof. Dr. Nejila Parspour</td>
<td>Hans-Peter Schöner, Daimler AG</td>
</tr>
<tr>
<td>11:35</td>
<td>Coupled Simulation as Part of the Energy Management of Electrified Vehicles</td>
<td>Electric Mobility I</td>
<td></td>
<td>Michael Martin, I. M. Cuenca Jaén, Magna Steyr Engineering AG &amp; Co. KG</td>
</tr>
<tr>
<td>12:05</td>
<td>Technology meets Human: Travel Behavior in the Age of Autonomous Driving</td>
<td>Electric Mobility I</td>
<td></td>
<td>Barbara Lenz, IVF, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)</td>
</tr>
<tr>
<td>12:05</td>
<td>Highly Integrated Electric Drive Unit for Passenger Cars</td>
<td>Electric Mobility I</td>
<td></td>
<td>Peter Janssen, H.-P. Lahey, G. Hellenbroich, FEV Europe GmbH</td>
</tr>
</tbody>
</table>
RAUM REUTLINGEN 2nd floor

Software and Development Methods
Chairperson: Prof. Dr. Tobias Flämig-Vetter

8:30 SCODE: Designing and Verifying functionally Safe Systems in Conformance to IEC61508 and ISO26262
Sriram Vasu, A. Leonhardt, O. Kust, ETAS GmbH

9:00 Hybrid-Surrogate-based Automatic Calibration in Rapid-Prototyping Environment
Jianbin Liao, J. Schröder, C. Gitt, Daimler AG; H.-C. Reuss, FKFS / IVK, Universität Stuttgart

RAUM KARLSRUHE 1st floor

FVV Projects
Chairperson: Dr. Karl Kollmann

8:30 A Quasi-Dimensional Charge Motion and Turbulence Model for Diesel Engines with a Fully VVT
Qirui Yang, IVK, Universität Stuttgart

9:00 Alignment of Simulation Methodology and Measurement Techniques to predict the HC Distribution at Catalyst Inlet
Verena Huth, S. Pischinger, VKA, RWTH Aachen University

9:30 Investigations on Particle Formation and Emission of Passenger Car Gasoline Engines with Gasoline Direct-Injection
Denis Notheis, M. Bertsch, A. Velji, T. Koch, IFKM, Karlsruher Institut für Technologie (KIT)

RAUM MANNHEIM 1st floor

Digitalization II
Chairperson: Dr. Bernhard Budaker

8:30 Applying Industrial Data Analytics in Automotive Test Bed Environments
Michael Schmeja, A. Festl, Virtual Vehicle Research Center; F. Michitsch, P. Priller, AVL List GmbH

9:00 Process Optimization in Press Shop by using Vacuum Handling Devices with Integrated Intelligence
Eda Gökçimen, D. Kilb, J. Schmalz GmbH

10:00 Coffee break

Test Bed Optimization
Chairperson: Prof. Dr. Helmut Eichlseder

11:05 Connected Testbeds – Early Validation in a distributed Development Environment
David Nickel, AVL Deutschland GmbH; K. Bause, A. Albers, IPEK, Karlsruher Institut für Technologie (KIT)

11:35 Powertrain Calibration based on X-in-the-Loop: Virtualization in the Vehicle Development Process

12:05 Model-Based Online Combustion Analysis for the Development of Control Functions at the Test Bench
Alexander Weber, R. Isermann, IAT, TU Darmstadt

Tires
Chairperson: Prof. Dr. Stefan Böttinger

11:05 Temperature Dependence of Rolling Resistance of Passenger Car Tires
Roman Sauer, W. Krantz, IVK, Universität Stuttgart; J. Wiedermann, FKFS / IVK, Universität Stuttgart; J. Neubeck, FKFS

11:35 Experimental Validation of different Approaches for Thermodynamic Simulation of Passenger Car Tyres
Andreas Hackl, C. Scherndl, W. Hirschberg, C. Lex, FTG, TU Graz

12:05 Tire Contact Patch Pressure Distribution during the Static Parking Maneuver
Mario Weinberger, J. Becker, BMW Group; D. Schramm, ISYM, Universität Duisburg-Essen

12:35 Lunch break

Digitalization from the perspective of the vehicle
Chairperson: Stefan Gerstmayr

11:05 Development of smart Interior-Systems for Autonomous and Connected Cars
Bernhard Budaker, D. Gruner, M. Geiger, CSI AluCar

11:35 Virtual Prototypes for a Cross-Domain Increase in Efficiency in the Development Process
Steffen Schmidt, M. Elbs, IPG Automotive GmbH

12:05 The Future Cyberphysical Car
Thomas Dietz, T. Bauerhansl, Fraunhofer IPA; B. Budaker, CSI AluCar; M. Hossfeld, ARENA2036
PROGRAM WEDNESDAY, 14TH MARCH 2018

KÖNIG-KARL-HALLE 2nd floor

Automated Driving II
Chairperson: Prof. Dr. Hans-Christian Reuss

13:30 From Traditional Navigation Maps to Future High-Definition Life Maps for Automated Vehicles
Ralf G. Herrtwich, HERE Technologies

14:00 The BAIC BJEV View of Autonomous Driving in China
Marcus Hafkemeyer, BAIC BJEV

14:30 The new German Bill on Automated Vehicles – And the Resulting Liability Changes
Christian M. Theissens, White & Case LLP

MEIDINGER-SAAL 1st floor

Vehicle Technology
Chairperson: Prof. Dr. Hermann Winner

13:30 User Requirements for Future Urban Vehicles
Matthias Klötzke, G. Kopp, S. Schmid, H. E. Friedrich, FK, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

14:00 Innovative Electric Vehicle Concepts with Optimized Acoustic Performance
Weijun Lu, T. Vietor, IKTD, TU Braunschweig; R. Blumrich, FKFS; J. Wiedemann, FKFS/ IVK, Universität Stuttgart

14:30 Optimization of Electric Vehicle Exterior Noise for Pedestrian Safety and Sound Quality
Adrian Rosplesch, T. Tousignant, FEV Europe GmbH

BERTHA-BENZ-SAAL 1st floor

Elektromobilität II
Chairperson: Prof. Dr. Karl-Ernst Noreikat

Ursel Willrett, IAV GmbH

14:00 Calculation of Route-Dependent Energy Saving Potentials to ensure EV’s Arrival at the Destination
Kurt Kruppok, R. Kriesten, IEEM, TU Karlsruhe; E. Sax, ITIV, Karlsruher Institut für Technologie (KIT)

14:30 Systems Engineering for real – Agile Model-Based System Design for BMW’s electrified next Generation Powertrains
Stefan Kriebel, BMW Group; J. Richenhagen, P. Orth, S. Pischinger, FEV GmbH; T Greifenberg, B. Rumpe, C. Schulze, RTWH Aachen University

15:00 Coffee break

KÖNIG-KARL-HALLE 2nd floor

15:30 Panel discussion »The Contribution of Start-ups for the Future of the Automotive Industry«
Moderation: Johannes Winterhagen, Redaktionsbüro delta eta

Participants:
Sven Bauer, BMZ Batterien-Montage-Zentrum GmbH
Thomas Fischer, MANN+HUMMEL GmbH
Dr. Nicole Hoffmeister-Kraut, Ministry of Economic Affairs, Labour and Housing of Baden-Wuerttemberg
Anke Kleinschmit, Daimler AG
Roman Zitzelsberger, IG Metall Baden-Württemberg

16:30 Keynote
Dr. Nicole Hoffmeister-Kraut, Ministerium für Wirtschaft, Arbeit und Wohnungsbau des Landes Baden-Württemberg

16:45 Closing remarks Prof. Dr. Jochen Wiedemann, Board of Directors FKFS, Professor of Automotive Engineering IVK, University of Stuttgart

17:00 End of the event
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Chairperson</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30</td>
<td>Road Load Determination in a Wind Tunnel compared to the WLTP Wind Tunnel Method</td>
<td>2nd floor</td>
<td>Prof. Dr. Andreas Dillmann</td>
</tr>
<tr>
<td></td>
<td>Isabell Vogeler, R. Untermaierhofer, R. Petz, T. Schütz, BMW Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Simulation Method for Vehicle Tire Water Spraying Behavior</td>
<td>2nd floor</td>
<td>Prof. Dr. Thomas Koch</td>
</tr>
<tr>
<td></td>
<td>Veith Strohbücker, R. Niesner, Volkswagen Nutzfahrzeuge; F. Joos,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Helmut-Schmidt-Universität</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30</td>
<td>Historical Evolution of Down-Force on Performance Cars</td>
<td>2nd floor</td>
<td>Prof. Dr. Peter Schäfer</td>
</tr>
<tr>
<td></td>
<td>Lennart Löfdahl, Chalmers University of Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td>Friction Power Measurements with the Piston Group of a Fired Gasoline Engine</td>
<td>1st floor</td>
<td>Prof. Dr. Andreas Dillmann</td>
</tr>
<tr>
<td></td>
<td>Johann Meiser, H. Ehnis, R. Künzel, MAHLE International GmbH; M. Bargende,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FKFS/ IVK, Universität Stuttgart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Experimental Evaluations and Extended Simulations on Cam-Roller-Friction</td>
<td>1st floor</td>
<td>Prof. Dr. Thomas Koch</td>
</tr>
<tr>
<td></td>
<td>Sören Herweg, F. Huber, S. Atamer, R. Weller, Daimler AG; B. Sauer,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T. Kiekbusch, S. Wiesker, M. Mármorel Fernández, MEGT, TU Kaiserslautern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td>The Future of Automotive Radar – Leveraging Metamaterial Antennas and Intelligent Algorithms</td>
<td>1st floor</td>
<td>Prof. Dr. Peter Schäfer</td>
</tr>
<tr>
<td></td>
<td>Armin Volkel, C. Marx, Metawave Corporation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>K.I.T.T. is real – How conversational AI Changes the Way we drive (not only for Knight Rider)</td>
<td>1st floor</td>
<td>Prof. Dr. Peter Schäfer</td>
</tr>
<tr>
<td></td>
<td>Patrick Weissert, German Autolabs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30</td>
<td>Sustainable Mobility with Hydrogen – The Internal Combustion Engine Becomes Green</td>
<td>1st floor</td>
<td>Prof. Dr. Peter Schäfer</td>
</tr>
<tr>
<td></td>
<td>Thomas Korn, KEYOU GmbH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**15:00 Coffee break**

**17:00 End of the event**
Dr. Tobias Abthoff
NorCom IT AG

Alexander Ahlert
Universität Stuttgart

Prof. Dr. Roland Baar
TU Berlin

Drazen Baic
Bosch Engineering GmbH

Prof. Dr. Michael Bargende
FKFS/IVK, Universität Stuttgart

Sven Bauer
BMZ Batterien-Montage-Zentrum GmbH

Prof. Dr. Thomas Bauernhansl
Fraunhofer IPA

Tobias Bayer
Robert Bosch GmbH

Prof. Dr. Christian Beidl
TU Darmstadt

Dr. Richard Bernewitz
MANN+HUMMEL GmbH

Marian Bichler
Dr. Ing. h.c. F. Porsche AG

Dr. Markus Bodden
neosonic

Prof. Dr. Stefan Böttiger
Universität Hohenheim

Gauthier Boisdequin
Dr. Ing. h.c. F. Porsche AG

Lisa Braun
Karlsruher Institut für Technologie (KIT)

Christopher Braunholz
Universität Stuttgart

Tobias Brenner
Daimler AG

Dr. Bernhard Budaker
CSI AluCarc

Dr. Rolf Bulander
Robert Bosch GmbH

Georg Burkhard
BMW Group

Dr. Frank Casimir
GETRAG FORD Transmissions GmbH

Fan Chang
TU Dresden

Dr. Marco Chiodi
FKFS

Dr. Christoph David
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Dr. Augusto Della Torre
Politecnico di Milano

Prof. Dr. Klaus Dietmayer
Universität Ulm

Thomas Dietz
Fraunhofer IPA

Prof. Dr. Andreas Dillmann
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Dr. Panayotis Dimopoulos Eggenschwiler
Empa

Prof. Dr. Friedrich Dinkelacker
Leibniz Universität Hannover

Dr. Claus Dorrer
BMW Group

Martin Drescher
FVTR GmbH

Michael Eberspächer
FKFS

Prof. Dr. Christof Ebert
Vector Informatik GmbH

Prof. Dr. Lutz Eckstein
RWTH Aachen University

Prof. Dr. Helmut Eichlseder
TU Graz

Niklas Enander
Husqvarna

Prof. em. Dr. Ulf Essers
Thomas Fischer
MANN+HUMMEL GmbH

Prof. Dr. Tobias Flämig-Vetter
Duale Hochschule BW Stuttgart

Petra Foith-Förster
Fraunhofer IPA

Alexander Friderich
Universität Stuttgart

Prof. Dr. Horst E. Friedrich
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Steffen Gänzle
A.T. Kearney GmbH

Prof. Dr. Frank Gauterin
Karlsruher Institut für Technologie (KIT)

Prof. Dr. Bernhard Geringer
TU Wien

Stefan Gerstmayr
Fraunhofer IPA

Prof. Dr. Klemens Gintner
Hochschule Karlsruhe – Technik und Wirtschaft

Markus Glaab
Elektrobit Automotive GmbH

Dietmar Goericke
Forschungsvereinigung Verbrennungskraftmaschinen e. V.

Eda Gökcimen
J. Schmalz GmbH

Dr. Heinrich Gotzig
 Valeo Schalter und Sensoren GmbH

Prof. Dr. Thomas Graf
Universität Stuttgart

Christopher Grießhaber
SEG Automotive GmbH

Prof. Dr. Clemens Gühmann
TU Berlin

Andreas Hackl
TU Graz

Markus Hafkemeyer
BAIC BJEV

Lars Hagen
Robert Bosch GmbH

Matthias Hamann
Daimler AG

Dr. Michael Harenbrock
MANN+HUMMEL GmbH

Martin Heiderich
Honda R&D Europe (Deutschland) GmbH

Bernhard Heil
Daimler AG

Prof. Dr. Ralf G. Herrtwich
HERE Technologies

Sören Herweg
Daimler AG

Jan Hesse
CFX Berlin Software GmbH

Prof. Dr. Gerhard Hetlich
EAST Consulting

Dr. Nicole Hofmeister-Kraut
Ministerium für Wirtschaft, Arbeit und Wohnungsbau BW

Timof Hofmann
Daimler AG

Prof. em. Dr. Günter Hohenberg
IVD Prof. Hohenberg GmbH

Dr. Jos Höll
TWT GmbH Science & Innovation

Benedikt Holtweck
Daimler AG

Andreas Homann
TU Dortmund

Frank Hubbert
Brose Fahrzeugteile GmbH & Co. KG

Verena Huth
RWTH Aachen University

Dr. Igor Ilg
Dr. Ing. h.c. F. Porsche AG

Jürgen Jablonski
AUDI AG

Bojan Jander
TU Berlin

Peter Janssen
FEV Europe GmbH

Andreas Kächele
FKFS

Ralf Kalmbach
Bain & Company Germany, Inc.

Martin Kehrer
FKFS

Philipp Kellner
TU Darmstadt

Anke Kleinschmit
Daimler AG

Matthias Klötze
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Prof. Dr. Thomas Koch
Karlsruher Institut für Technologie (KIT)

Werner Köhl
BMW Group

Dr. Karl Kollmann
Thomas Korn
KEYOU GmbH

Philipp Kotter
Robert Bosch GmbH

Matthias Köttler
FEV Europe GmbH
Modine is a global leader in thermal management systems and solutions. Our highly engineered heating and cooling technology is in use all over the world.

Our products are known for reliability and efficiency in multiple markets, especially

- Light, medium and heavy-duty vehicles
- Off-highway and industrial equipment
- Heating, ventilation and air conditioning equipment
SPEAKERS, CHAIRPERSONS, ADVISORY BOARD MEMBERS

Roman Sauer  
Universität Stuttgart

Prof. Peter Schäfer  
Ministerium für Wirtschaft, Arbeit und Wohnungsbau BW

Michael Schmeja  
Virtual Vehicle Research

Steffen Schmidt  
IPG Automotive GmbH

Dr. Marc Schneider  
MBtech Group GmbH & Co. KG

Dr. Hans-Peter Schönert  
Daimler AG

Dr. Heike Schönertstedt  
Daimler AG

Sven Schulze  
FH Aachen University of Applied Sciences

Florian Schumann  
ANDREAS STIHL AG & Co. KG

Tobias Schürmann  
Daimler AG

Corina Slocinski  
Daimler AG

Marcus Stegmiller  
BMW Group

Dr. Michael Steiner  
Dr. Ing. h.c. F. Porsche AG

Thomas Stottan  
AUDIO MOBIL Elektronik GmbH

Matthias Milan Strijic  
Universität Stuttgart

Veith Strohbücker  
Volkswagen Nutzfahrzeuge

Masanori Sugiyama  
Toyota Motor Corporation

Timur Tasci  
Universität Stuttgart

Christian M. Theissen  
White & Case LLP

Michael Timmann  
Daimler AG

Sriram Vasu  
ETAS GmbH

Isabell Vogeler  
BMW Group

Armin Volkel  
Metawave Corporation

Prof. Dr. Georg Wachtmeister  
TU München

Sebastian Wagner  
BMW Group

Alexander Weber  
TU Darmstadt

Alfred Weber  
MANN+HUMMEL GmbH

Prof. Dr. Karl-Heinz Wehking  
Universität Stuttgart

Mario Weinberger  
BMW Group

Patrick Weisert  
German Autolabs

Dr. Wolfgang Wenzel  
BorgWarner Inc.

Dr. Bernhard Wiedemann  
TMG Consultants GmbH

Dr. Elias Wiedemann  
BMW Group

Prof. Dr. Jochen Wiedemann  
FKFS / IVK, Universität Stuttgart

Dr. Martin Wierse  
Modine Europe GmbH

Ursel Willrett  
IAV GmbH

Prof. Dr. Hermann Winner  
TU Darmstadt

Johannes Winterhagen  
Redaktionsbüro delta eta

Dr. Stefan Wolf  
ElringKlinger AG

Qirui Yang  
Universität Stuttgart

Wolfgang Zahn  
ANDREAS STIHL AG & Co. KG

Roman Zitzelsberger  
IG Metall BW

OUR PARTNERS

IN COOPERATION WITH

FVV

PREMIUM PARTNERS

DAIMLER

BOSCH

MAIN PARTNERS

BorgWarner

KISTLER

MAHLE

STIHL

MANN+HUMMEL

MODINE

POSCAR

VECTOR

SBI

BMTS

ETAS

ZF
Andreas Petz, Developer of E-Machines at Audi. His goal is maximum efficiency. This was proved in his work with the Audi R8 e-tron. No wonder that the knowledge gained from this model flows into other models, like the Audi e-tron quattro concept. It’s just one of the many examples of all you can achieve when work doesn’t feel like work. More electrifying jobs at vorsprung-bei-audi.de

Turning vision into Vorsprung.

Flexibility for all environments

It fits in a car, on a motorcycle, and on a test bench - suitable for all your requirements.

The KiBox® is the compact, easy to use, integrated system for combustion analysis on a test bench or in a wide variety of vehicles. Providing top quality measurement results in a flexible package, the KiBox offers the highest value for a diverse range of IC engine tests.

Wherever you require technical support, we offer complete, customized solutions to support you worldwide with our comprehensive service capabilities.

www.kistler.com
EXHIBITION

On Tuesday and Wednesday, an accompanying exhibition will take place in the foyers of the event facilities. Manufacturers and suppliers to the automotive industry will present the latest developments in vehicle, engine and measurement technology.

Exhibition maps and detailed exhibitor profiles are available on site. Find out more about the exhibitors [www.stuttgarter-symposium.de](http://www.stuttgarter-symposium.de)

Exhibition opening times:
Tuesday 13th March 2018 | 8:00 – 18:00 | 16:00 – 19:00 »Meet the Expert«, career event for students
Wednesday 14th March 2018 | 8:00 – 15:30

LIST OF EXHIBITORS 18TH STUTTGART INTERNATIONAL SYMPOSIUM 2018

AVL List GmbH
Controlled Power Technologies Ltd.
Daimler AG
DLR Institut für Fahrzeugkonzepte
dSPACE GmbH
e-mobil BW GmbH
ETAS GmbH
FEV GmbH
Forschungsinstitut für Kraftfahrwesen und Fahrzeugmotoren Stuttgart (FKFS)
Fraunhofer IPA
Fritz Winter Eisengießerei GmbH & Co. KG
Greenteam Uni Stuttgart
HEAD acoustics GmbH
Kistler Instrumente GmbH
Kratzer Automation AG
Kristl, Seibt & Co. GmbH
MAHLE International GmbH
MANN+HUMMEL GmbH
Metawave Corporation
Rennteam Uni Stuttgart
Vector Informatik GmbH

BECOME AN EXHIBITOR AT THE 18TH STUTTGART INTERNATIONAL SYMPOSIUM!

The Stuttgart International Symposium is one of the most important gatherings for the automotive industry. Every year, international experts from science and industry meet in the heart of this car-manufacturing region to discuss the latest automotive trends.

BROAD SPECTRUM OF VISITORS
The Stuttgart Symposium provides an ideal platform for a wide range of visitors. From the user to the decision-maker: A diverse program caters for all target groups.

DIVERSE CONTENT
The big advantage of the Stuttgart Symposium is the variety offered by the program. Engine experts will find their topics of interest, just as mechatronics experts will find theirs.

YOUR ADDED VALUE AS AN EXHIBITOR
» A choice of more than 35 exhibition areas
» Attractive discounts for inviting your own customers and staff
» Individual exhibition and sponsorship packages

Your contact:
Philipp Sautter
EMENDO Event & Congress
+49 711 4605376-8
p.sautter@emendo-events.de
As globally leading filtration expert MANN+HUMMEL offers individual solutions for the mobility of the future. With consequent systems integration, innovative materials as well as modern engineering and production processes we work with passion to develop the ideas of tomorrow, today. Achieve your goals first – with MANN+HUMMEL as partner.

www.mann-hummel.com

Wherever the journey leads – we deliver the propulsion solutions of tomorrow.

Whether in a highly efficient combustion engine, an intelligent hybrid system or the very latest electric drive: BorgWarner is driving propulsion system solutions of today and tomorrow. Our vision is a clean, energy-efficient world. That’s why we develop solutions that reduce energy consumption and emissions, while at the same time improving performance. As the product leader in the field of powertrain systems, we are supporting the automotive industry in realizing clean propulsion and efficiency technology solutions for light vehicles, medium and heavy duty vehicles as well as off-highway applications.

borgwarner.com
FKFS is an independent institute and provides research and development services for the international automotive industry. The Institute offers highly specialized test stands and test facilities with a unique range of self-developed measurement and testing, years of experience with the development of simulation tools and excellent know-how of the employees.

FKFS – Research Institute of Automotive Engineering and Vehicle Engines Stuttgart
Pfaffenwaldring 12 | 70569 Stuttgart | www.fkfs.de
Phone +49 711 685-65888 | symposium@fkfs.de

Scientific Management
Prof. Dr. Michael Bargende, Managing Board Automotive Powertrains
Prof. Dr. Hans-Christian Reuss, Managing Board Automotive Mechatronics
Prof. Dr. Jochen Wiedemann, Managing Board Automotive Engineering

The Fraunhofer IPA is engaged in the fields of production organization, surface technology, automation and process technology. Our research and development work focuses on organizational and technological issues in the manufacturing environment of advanced industries, including Automotive, Machinery and Equipment Industry, Electronics and Microsystems, Power Industry, Medical Engineering and Biotechnology. The R&D projects aim to enhance production processes and make products more cost-effective and environmentally friendly by identifying and exploiting the potential for automation. This helps to maintain jobs and to strengthen international competitiveness.

The Fraunhofer Institute for Manufacturing Engineering and Automation IPA
Nobelstraße 12 | 70569 Stuttgart | www.ipa.fraunhofer.de
Institute Management
Prof. Dr. Thomas Bauernhansl

IN COOPERATION WITH

FVV – Research Association for Combustion Engines
The FVV – founded in 1956 - has developed itself to the world’s unique network of research in engines and turbomachinery. It promotes the collective, precompetitive research in the industry and joins industrial efficiency and emissions of engines and turbines continuously – for the benefits of the economy, environment and society. www.fvv-net.de
CALL FOR PAPERS – 19TH AND 20TH MARCH 2019

19TH STUTTGART INTERNATIONAL SYMPOSIUM

CALL FOR PAPERS

Are you interested in giving a presentation related to one of the named topics? We gladly invite you to submit your presentation proposal.

Proposals should contain:

›› Presentation title in German and in English (max. 100 characters incl. spaces)
›› The name of the presenter and any co-authors, company address, phone number and e-mail addresses
›› Short summary (abstract, max. 1,500 characters)
›› Assignment within one of the named topic areas
›› Short entry about the innovative value of the presentation

Further information:
www.stuttgarter-symposium.de

FOCUS TOPICS 2019

›› AUTOMOTIVE TECHNOLOGIES
›› VEHICLE ENGINES
›› AUTOMOTIVE ELECTRONICS AND SOFTWARE
›› AUTOMOTIVE PROCESS AND MANUFACTURING TECHNOLOGIES

INFORMATION

FKFS Research Institute of Automotive Engineering and Vehicle Engines Stuttgart | Uta Fuchs | Pfaffenwaldring 12
70569 Stuttgart | Phone +49 711 685-65628 | uta.fuchs@fkfs.de
www.fkfs.de

ISS 2018
THE SYMPOSIUM APP

The latest information about the 18th Stuttgart International Symposium is available at any time on the new FKFS app. Get the App!
EVENT LOCATION & DIRECTIONS

EVENT LOCATION
Haus der Wirtschaft | Willy-Bleicher-Straße 19 | 70174 Stuttgart
Phone +49 711 123-0 | www.hausderwirtschaft.de

DIRECTIONS
Information on arrival www.hausderwirtschaft.de/anfahrt
By public transport:
» Tram: lines S1 to S6, stop estelle city center (Stadtmitte)
» Metro: U9 and U14, stop Friedrichsbau/Exchange (Börse)
Information on arrival by public transport, please visit www.vvs.de

PARKING
Hofdienergarage: Access via Schellingstraße.
The maximum daily rate is €12.
Address for navigation system
Schlossstraße 28 | 70174 Stuttgart

TAXI PHONE NUMBERS
TaxiAutoZentrale Stuttgart | Phone: +49 711 5510000
Taxi fare between Stuttgart Airport and Haus der Wirtschaft: approx. € 36
Taxi fare between Stuttgart Main Train Station and Haus der Wirtschaft: approx. € 12

INFORMATION & CONTACT

CONTACT PERSONS
Questions about the event
info@fkfs-symposium.de | Phone +49 711 4605376-8
Overall organization, exhibition, sponsoring: Philipp Sautter
p.sautter@emendo-events.de | Phone +49 711 4605376-7
Attandee management: Angelique Vogt
info@fkfs-symposium.de | Phone +49 711 4605376-8
Speakers, Chairpersons: Sonja Sautter
s.sautter@emendo-events.de | Phone +49 711 4605376-17
Press, publicity: Susanne Jenisch
susanne.jenisch@fkfs.de | Phone +49 711 685-65612
Program: Uta Fuchs
uta.fuchs@fkfs.de | Phone +49 711 685-65628

INFORMATION ABOUT THE SYMPOSIUM

Managementseminars
Factory planning
Production planning
Digital Transformation
Production optimization
Development management
Production management
Order management
Supply Chain Management
Environmental management
Energy efficiency
Innovation management
Quality management
Social Skills
Logistic

Technologyseminars
Robotics
Automation
Machine tools
Functional materials
Energy technology
Additive Manufacturing
Lightweight technology
Surface technology
Clean room technology
Biological engineering
Medical engineering
ACCOMMODATION

HOTEL
Hotel Maritim
Reservation-Code: Stuttgarter Symposium
Available until 12th February 2018
Maritim Hotel Stuttgart | Seidenstraße 34 | 70174 Stuttgart
Phone: +49 711 942-0
E-mail: info.stu@maritim.de

SERVICE ON-SITE

CATERING
During the break times you are welcome to use one of the three catering stations: in the exhibition area of the Eyth- and List-Saal and next to the König-Karl-Halle.

REGISTRATION
The registration desk is located in the foyer on the 1st floor.
Opening times:
Tuesday, 13th March 2018 | 8:00 – 19:00
Wednesday, 14th March 2018 | 7:30 – 17:30
Phone +49 711 4605376-8

SHUTTLE-SERVICE
With friendly support of AUDI AG, Daimler AG and Dr. Ing. h.c. F. Porsche AG, you may take advantage of a free shuttle service and be driven to your hotel, the airport or train station.
Please book your travel request at the Information Counter on the 2nd floor in front of the König-Karl-Halle.
In the morning there is a shuttle service from the Maritim Hotel to the Haus der Wirtschaft.
Please consider that only transfers in the Stuttgart area are provided.

LANGUAGE
The official symposium language is German. All presentations will be simultaneously interpreted in both directions.

ROOMS & HALLS

2ND FLOOR

1ST FLOOR

GROUND FLOOR

MAIN ENTRANCE
Willy-Bleicher-Straße 19
INFORMATION ABOUT THE SYMPOSIUM

FEES

<table>
<thead>
<tr>
<th>Fee Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symposium participation fee</td>
<td>€ 995</td>
</tr>
<tr>
<td>Participants with university discount</td>
<td>€ 495</td>
</tr>
<tr>
<td>Doctoral candidate</td>
<td>€ 360</td>
</tr>
<tr>
<td>Day ticket</td>
<td>€ 595</td>
</tr>
<tr>
<td>Day ticket with university discount</td>
<td>€ 395</td>
</tr>
<tr>
<td>Day ticket doctoral candidate</td>
<td>€ 260</td>
</tr>
</tbody>
</table>

The participation fee includes:

- Access to all events on both days and with a day ticket respectively for the day booked
- Conference documentation
- Lunch, cold drinks and coffee at break times
- Access to the formal evening reception on 13th March 2018

Students : € 119 including VAT

For students of the University of Stuttgart a limited number of free tickets are available. These can be collected upon presentation of the certificate of enrollment of:

Institute for Internal Combustion Engines and Automotive Engineering IVK Further information: symposium@fkfs.de

PAYMENT

After your online registration, you have the choice of online payment (by debit, credit card or PayPal), as well as payment by invoice. The payment on site is only possible by credit card or ATM card, cash can not be accepted.

PARTICIPANTS

The Stuttgart International Symposium is aimed at managers and employees of car manufacturers and their suppliers in the fields of research and development, manufacturing, aerodynamics, simulation, drive and transmission, as well as development service providers, software companies and universities.

REGISTRATION

Sign up now: www.stuttgarter-symposium.de

TERMS & CONDITIONS OF PARTICIPATION OF COMPANIES

1 General

The Research Institute of Automotive Engineering and Vehicle Engines Stuttgart FKFS, Pfaffenwaldring 12, 70569 Stuttgart is organising the 18th Stuttgart International Symposium on Automotive and Engine Technology 2018. These Terms & Conditions apply for the registration of the 18th Stuttgart International Symposium. Other agreements must be confirmed in writing by FKFS.

2 Registration and Confirmation

You can check the registration portal or register via email. After your registration you will receive a written confirmation. Your data will be electronically stored in a database for internal purposes. It will not be passed on to third parties.

3 Cancellation of a participant

If cancellation occurs before 18th February 2018 a processing fee of € 50.00 will be charged. In case of cancellation before 27th February 2018, a processing fee in the amount of 50% of the bill will be charged. Subsequently the processing fee is equivalent to the amount of the registration fee. The same applies if the participant fails to appear. The cancellation must be in written form. Relevant for the term protection is the date of the postmark. We are happy to accept a substitute participant at no additional cost. This excludes free passes for students.

4 Cancellation by the organizer

For short-term default of a speaker due to force majeure, illness, accident or any other circumstances the FKFS is not responsible for, another qualified person is appointed to the exclusion of any claims for damages. FKFS reserves the possibility of a final cancellation of the event due to technical or organizational reasons, such as failure to achieve the minimum number of participants, force majeure or other circumstances the FKFS is not responsible for. Already paid participation fees will then be refunded. Any further claim for reimbursement of expenses shall not exist.

5 Participation fee and conditions of payment

We ask for payment within 14 days after receipt of invoice. The participation fee for the complete conference includes access to all events on both days, the conference documentation, lunch at the venue each day, refreshments and participation in formal evening reception. When booking a day ticket the admission is limited to all events on a particular day. Students (including PhD candidates) are excluded from receiving the conference documents and from participating at the evening reception. The remaining services are not affected by this restriction.

6 Copyright

The conference documentation may not be reproduced or distributed to third parties without written consent from FKFS. Audio and video recordings of the event are not allowed.

7 Filming and photography

At the Stuttgart International Symposium photographers contracted by FKFS will take pictures of the event as well as of participants and presenters. Images and pictures in which participants are visible in their entirety or in part are property of FKFS and may be reproduced for publication. This authorization can be revoked at any time, though this shall only apply to any future publications, not for material already published.

8 Applicable law and jurisdiction

German law applies. Jurisdiction is Stuttgart. These terms and conditions exist in German and English. In the event of a discrepancy or ambiguity, the German version is binding.

9 Other provisions

Should one or more provisions of the conditions be or become invalid, the validity of the remaining terms and conditions remain unaffected.
MEET THE EXPERT / CAMPFIRES

With the title “Meet the Expert”, students will have the opportunity to come into direct dialog with experts from leading companies in the automotive industry. Experts will advise students about possibilities for student term papers, bachelor and master theses, dissertations, internships and also career and entry opportunities. The range of exhibitors ranges from global players to medium-sized enterprises. Additionally, students can find out about participating companies’ exciting research and development fields during short presentations in our CampFire events – with a corresponding atmosphere. More information at: www.stuttgarter-symposium.de

EVENT VIDEO

Get to know the Stuttgart International Symposium by having a look at our new event video.

BUSINESS CENTER

Stay on top of your working day during the Stuttgart International Symposium by making use of our business center, complete with all the essentials. The space is complete with WiFi, power connections and mobile phone charging stations.

LOUNGE

Allow yourself a break and take a seat in our lounge area. Here you can converse with clients, partners, colleagues, speakers and other symposium participants.

MEET THE EXPERT

STUTTGART 13 MARCH 2018

CAREER EVENT
IN THE COURSE OF THE 18TH STUTTGART INTERNATIONAL SYMPOSIUM

Enhance the prospects of your post-graduate career. Experts of the automotive and supplying industry give you advice and inform you about your opportunities at the beginning of your career.

13 March 2018 · 16:00–19:00 h, Haus der Wirtschaft, Willi-Bleicher-Straße 19, 70174 Stuttgart
Admission free for students.
Contact: karin.sutter@ivk.uni-stuttgart.de
www.stuttgarter-symposium.de
THE FKFS is pleased to announce:

STUTTGART INTERNATIONAL SUMMER SCHOOL MOBILITY

June / July 2018 | Stuttgart, Germany

7TH AUTOTEST TECHNICAL CONFERENCE
TEST OF HARDWARE AND SOFTWARE IN AUTOMOTIVE DEVELOPMENT

27 – 28 September 2018 | Stuttgart, Germany

3RD SHANGHAI STUTTGART SYMPOSIUM
AUTOMOTIVE AND ENGINE TECHNOLOGY

October 2018 | Shanghai, China

19TH STUTTGART INTERNATIONAL SYMPOSIUM
AUTOMOTIVE AND ENGINE TECHNOLOGY

19 – 20 March 2019 | Stuttgart, Germany

FIND OUT MORE ABOUT OUR EVENTS
WWW.FKFS-VERANSTALTUNGEN.DE