

chassis.tech plus 2020

4 congresses in one event

23 – 24 June 2020

Munich, Germany

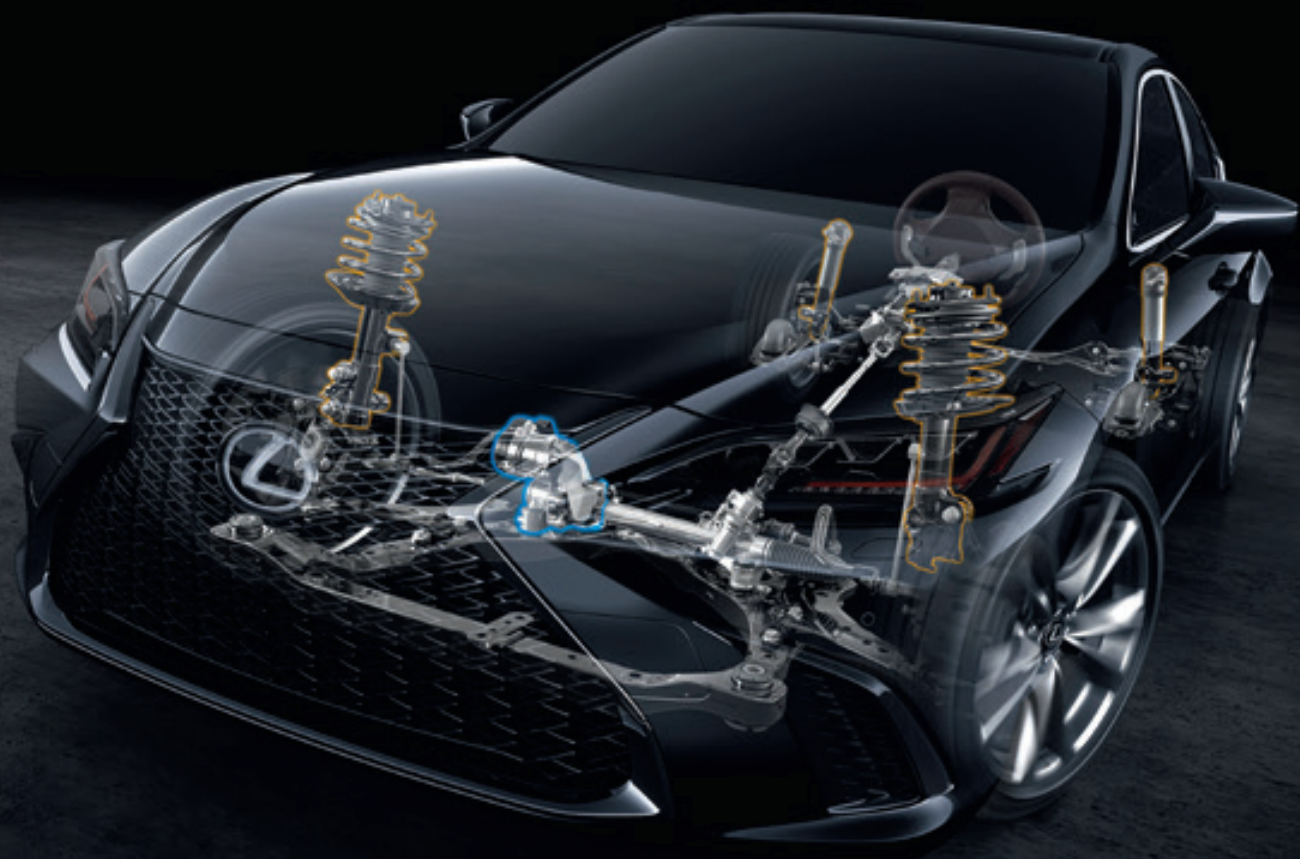
chassis.tech_{plus}

chassis.tech

steering.tech

brake.tech

tire.wheel.tech



KEYNOTE LECTURES

Ford-Werke GmbH / Kempten University of Applied Sciences /
Schaeffler Technologies AG & Co. KG / Showa Corporation /
Toyota Motor Corporation / TÜV SÜD Auto Service GmbH / Volkswagen AG



One for All

4 congresses in one event

/ chassis.tech plus

The chassis and automated driving systems as a trade-off between agility, approval, and comfort

Improvements in architecture, modularity, and scalability for integrated chassis functions

/ chassis.tech

Future chassis systems – methods for virtual testing, NVH optimization, and lightweight design

/ steering.tech

Modern steering systems – holistic safety approaches and innovative functions

/ brake.tech

Innovative braking systems – meeting the requirements of brake feel and electrification

/ tire.wheel.tech

Safer wheel/tire components – optimized testing methods to meet the objectives of lightweight design and noise



Prof. Dr. Peter E. Pfeffer
Munich University of Applied Sciences
Scientific Director of the Symposium

Welcome

The chassis will play a key role in the future of the automobile. End customers want a dynamic driving experience – without any compromise on safety. At the same time, automated and autonomous functions are generating higher demands for comfort. The future lies in platforms that can be combined as flexibly as possible. The aim is to optimize the interaction between chassis systems to achieve functional integration.

chassis.tech plus, which is being held in June for the eleventh time, is a unique event throughout Europe that will bring together numerous leading experts in chassis systems, steering, brakes, and tires/wheels from all over the world for an industry-wide exchange of ideas and a transfer of knowledge. Renowned speakers from industry and research will discuss the very latest developments in the chassis, steering systems, brakes, and wheels/tires in four parallel strands of lectures.

You can also look forward to keynote lectures given by Masato Fujiyama (Toyota), Dr. Keiwan Kashi (Schaeffler Technologies), Dr. Thomas Kersten and Dr. Andreas Saathoff (Volkswagen), Benjamin Koller (TÜV SÜD) and Prof. Bernhard Schick (Kempten University of Applied Sciences) on the first day of the symposium. The keynote lectures presented by Dr. Wolfgang David (Ford) and Yousuke Sekino (Showa) on the second day promise further concentrated information.

We look forward to welcoming you to the Bayerischer Hof in the center of Munich and hope you have an exciting conference.

Stay at the cutting edge!

- ✓ Highly relevant technical papers presented by renowned speakers
- ✓ Networking in the international expert community
- ✓ Innovative products and services

11TH INTERNATIONAL MUNICH CHASSIS SYMPOSIUM

More than 25 papers presented by OEMs and 20 guest speakers from America, Asia, and non-German-speaking European countries

One for all – 4 congresses in one event

The International Munich Chassis Symposium is the key worldwide meeting place for the chassis community in the fields of the chassis, steering, brakes, and tires/wheels.

The 1st day will be taken up by the interdisciplinary section chassis.tech plus with two parallel sessions of lectures in the afternoon. The symposium will focus on overriding issues relating to chassis systems and vehicle dynamics, before dividing up on the 2nd day into the following four parallel sections concentrating on the chassis, steering, brakes, and tires/wheels:

- chassis.tech
- steering.tech
- brake.tech
- tire.wheel.tech

In the afternoon, the parallel sections will merge together again for the interdisciplinary section chassis.tech plus.

In 2020, the conference will focus on innovative chassis systems which improve the driving experience by offering greater comfort and dynamics. It will provide answers relating to the growing proportions of automated driving systems and electrified powertrains in the complete vehicle.

Participants can move freely between the four parallel sections at any time. The individual parallel sections scheduled for the second day – chassis.tech, steering.tech, brake.tech, tire.wheel.tech – can be booked separately at a reduced registration fee.

For the whole duration of the event, the accompanying trade exhibition will allow you to gather information on innovative products and services offered in the field of chassis development.



Evening reception in Munich Ratskeller

Tuesday, 23-06-2020 from 18:30
in Munich Ratskeller, Marienplatz 8, 80331 Munich

Experience a cosy evening in the traditional Ratskeller. We are happy to invite you to attend an evening of stimulating conversation with colleagues and to offer you the chance to enjoy Bavarian culinary delicacies.

The foundation stone of the Ratskeller was laid on 25 August 1867. However, the first landlord and landlady did not move into the premises of the new town hall until 1 August 1874, the date when the city council started its activities there.

In accordance with the Romantic spirit of the age, Georg von Hauberisser designed the edifice as well as the furnishings of the Ratskeller in the 16th-century Gothic style. Munich painters such as Heinrich Schlitt and Josef Rösl designed the various vaults.

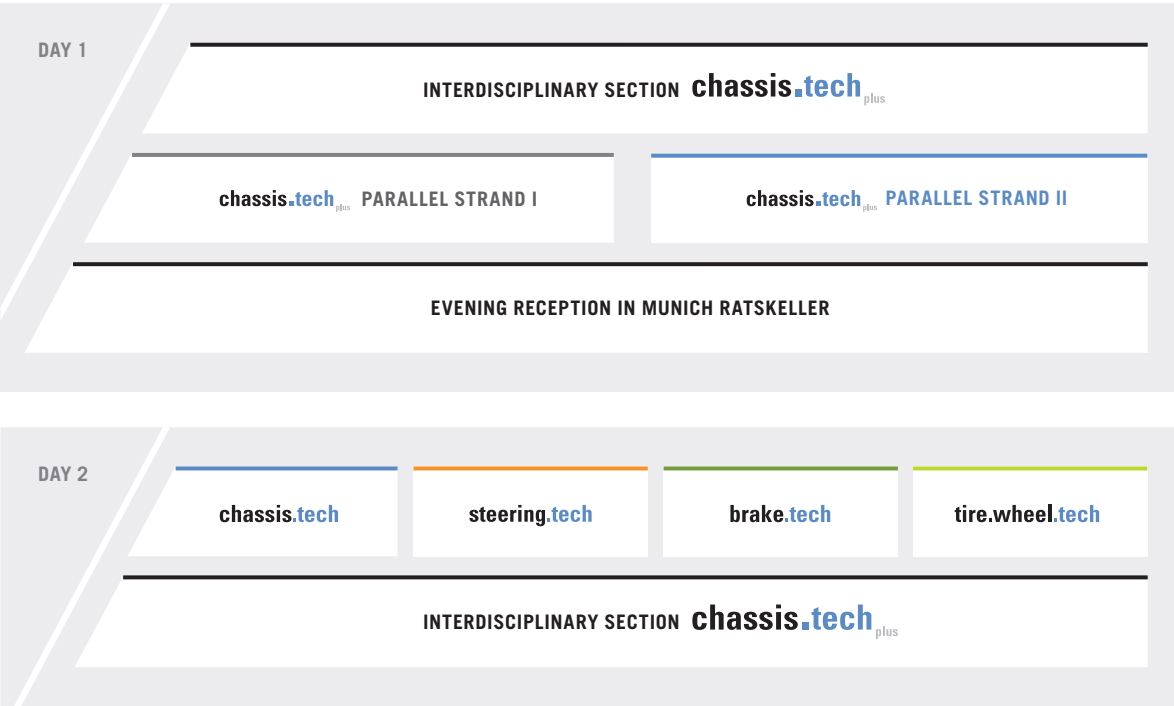
The Ratskeller, established ever since then as a place of civic hospitality, extends a hearty welcome with its typical Bavarian charm.

Accompanying exhibition

Throughout the entire conference, an accompanying exhibition will take place in the foyer. At numerous stands, manufacturers and suppliers from the automotive industry will present the latest developments in chassis technology to the specialist audience.

Participants

- Manufacturers of passenger cars and commercial vehicles and their suppliers
- Development service providers
- Universities and research institutes
- Manufacturers of measuring, testing, and simulation systems
- Authorities, associations, and testing institutes



Accompanying trade exhibition on both days





Prof. Dr. Peter E. Pfeffer
Munich University of Applied Sciences (MUAS)

Scientific Director of the Symposium
Head of chassis.tech plus section



Dr. Alexander Heintzel
Editor-in-Chief
ATZ | MTZ Group



Michael Reichenbach
Vice Editor-in-Chief ATZ

Our four Scientific Advisory Boards, which are made up of prominent figures from the relevant field, provide support during the planning phase of the conference and help to identify suitable topics.

chassis.tech

steering.tech

brake.tech

tire.wheel.tech



Dr. Veit Held
Opel Automobile GmbH
Head of chassis.tech section



Dr. Christoph Bittner
Dr. Ing. h. c. F. Porsche AG
Head of steering.tech section



Karl Friedrich Wörsdörfer
Continental Teves AG & Co. oHG
Head of brake.tech section



Victor Underberg
Audi Sport GmbH
Head of tire.wheel.tech section

Egbert Bakker
Volvo Car Group, Sweden

Prof. Dr. Lutz Eckstein
RWTH Aachen University

Friedrich Eichler
Volkswagen AG

Dr. Christoph Elbers
ZF Friedrichshafen AG

Prof. Hideo Inoue
Kanagawa Institute of Technology, Japan

Prof. Dr. Pim van der Jagt
AB Dynamics Europe GmbH

Thomas Kutsche
ZF Friedrichshafen AG

Prof. Dr. Markus Lienkamp
TU Munich

Heinz Müllner
MAN Truck & Bus SE

Stefan Resch
TÜV SÜD AG

Prof. Bernhard Schick
Kempten University of Applied Sciences

Timo Schöning
Hyundai Motor Europe Technical Center GmbH

Christoph Schulenburg
Daimler AG

Martin Schwarz
BMW Group

Thilo Bitzer
ZF Group – TRW Automotive GmbH

Prof. Dr. Hans-Hermann Braess
(Honorary Chairman)

Jennifer Endres
Robert Bosch Automotive Steering GmbH

Frank Esser
Ford-Werke GmbH

Hans Joachim Kieserling
Mercedes-Benz AG

Hirofumi Matsuoka
JTEKT Corporation, Japan

Bertram Möller
Nexteer Automotive Germany GmbH

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TU Vienna, Austria

Kristof Polmans
thyssenkrupp Presta AG, Liechtenstein

Heiko Ruck
Joyson Safety Systems Aschaffenburg GmbH

Dr. Matthias Schölzel
BMW Group

Dr. Yasuji Shibahata
Showa Corporation, Japan

Prof. Dr. Eberhard Drechsel
formerly MUAS

Alexander Gaedke
Robert Bosch GmbH

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Knorr-Bremse SfN GmbH

Dr. Sebastian Kruse
AUDI AG

Tobias Linke
MAN Truck & Bus SE

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Politecnico di Milano, Italy

Prof. Dr. Ralph Mayer
TU Chemnitz

Donatus Neudeck
Dr. Ing. h. c. F. Porsche AG

Dr. Ralf Stroph
BMW Group

Prof. Dr. Rüdiger Tiemann
htw saar

Claus-Peter Weidner
Daimler AG

Stephane Bertoldi
Michelin Reifenwerke AG & Co. KGaA

Stefan Dittmar
TÜV SÜD Product Service GmbH

Ralf Duning
Maxion Wheels EAAP Holding GmbH

Prof. Dr. Frank Gauterin
Karlsruhe Institute of Technology (KIT)

Dr. Patrick Gruber
University of Surrey, UK

Klaus Krause
Hankook Tire Co. Ltd.

Michael Staudé
TÜV SÜD Product Service GmbH

Prof. Dr. Burkhard Wies
Continental Reifen Deutschland GmbH

Prof. Dr. Makoto Yamakado
Kanagawa Institute of Technology, Japan

Keynote lectures

In their keynote lectures, renowned speakers from the industry will provide forward-looking insights that go beyond the technical contents and illuminate the current issues from many different perspectives. In this way, the lectures, with their international focus, will be particularly important as a trend barometer for the conference.

TUESDAY, 23-06-2020 / MORNING / FESTSAAL



KEYNOTE
09:30
Dr. Keiwan Kashi
President Business Unit Mechatronic Systems, Business Division Chassis Systems, Schaeffler Technologies AG & Co. KG

Making a safety and availability case for x-by-wire systems



KEYNOTE
10:00
Benjamin Koller
Lead Technical Regulation and Knowledge Management HAD, TÜV SÜD Auto Service GmbH

Approval of automated driving functions: worldwide regulatory overview, proving ground testing, customer acceptance



KEYNOTE
10:30
Prof. Bernhard Schick
Research ADAS/AD, Faculty of Mechanical Engineering, Kempten University of Applied Sciences; CEO, MdynamiX AG

Game changer digitization – Do we still need good vehicle dynamics in the future?



KEYNOTE
11:30
Masato Fujiyama
General Manager TC Vehicle Development Div., Toyota Motor Corporation, Japan

The all-new Yaris – Toyota New Global Architecture (TNGA)



KEYNOTE
12:00
(From l. to r.)
Dr. Thomas Kersten
Manager Rear Axle Development, Volkswagen AG
Dr. Andreas Saathoff
Manager Front Axle Development, Volkswagen AG

The new chassis of the Volkswagen ID.3 within the MEB platform – front axle, rear axle

WEDNESDAY, 24-06-2020 / AFTERNOON / FESTSAAL



KEYNOTE
15:15
Yousuke Sekino
Senior Managing Officer and Chief Operating Officer R&D Operations, Showa Corporation, Japan

Without a chassis we will go nowhere



KEYNOTE
15:45
Dr. Wolfgang David
Operations Director Ford R&A Europe, Ford-Werke GmbH [in cooperation with Ford Motor Company, USA]

Ford Mustang Mach-E: designed around electrification



08:00 Registration at the check-in

09:15 **Welcome and opening**
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group, Springer Nature;
Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Munich University of Applied Sciences

09:30 – 11:00, Plenary section – Festsaal

KEYNOTE LECTURES I

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering,
Munich University of Applied Sciences

KEYNOTE
09:30 **Making a safety and availability case for x-by-wire systems**
Dr. Keiwan Kashi, President Business Unit Mechatronic Systems,
Business Division Chassis Systems, Schaeffler Technologies AG & Co. KG

KEYNOTE
10:00 **Approval of automated driving functions:
worldwide regulatory overview, proving ground testing, customer acceptance**
Benjamin Koller, Lead Technical Regulation and Knowledge Management HAD,
TÜV SÜD Auto Service GmbH

KEYNOTE
10:30 **Game changer digitization – Do we still need good vehicle dynamics in the future?**
Prof. Bernhard Schick, Research ADAS/AD, Faculty of Mechanical Engineering,
Kempten University of Applied Sciences; CEO, MdynamiX AG

11:00 Opening of the accompanying trade exhibition and refreshment break in the exhibition area

11:30 – 12:30, Plenary section – Festsaal

KEYNOTE LECTURES II

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering,
Munich University of Applied Sciences

KEYNOTE
11:30 **The all-new Yaris – Toyota New Global Architecture (TNGA)**
Masato Fujiyama, General Manager TC Vehicle Development Div.,
Toyota Motor Corporation, Japan

KEYNOTE
12:00 **The new chassis of the Volkswagen ID.3 within the MEB platform –
front axle, rear axle**
Dr. Thomas Kersten, Manager Rear Axle Development,
Dr. Andreas Saathoff, Manager Front Axle Development, Volkswagen AG

12:30 Lunch in the exhibition area

PARALLEL STRAND I

14:00 – 15:30, Parallel strand I – Festsaal

NEW CHASSIS AND SYSTEMS

Moderation: Stefan Resch,
Corporate Strategy & Innovation, TÜV SÜD AG

14:00 **The Audi S8 – cutting edge in driving dynamics and
ride comfort**
Carsten Jablonowski, Team Leader Chassis Characteristics A8,
AUDI AG

14:30 **Porsche Taycan – recuperative brake system
for combined braking**
Martin Reichenecker, Development Engineer Recuperative
Brake Systems, Dr. Ing. h.c. F. Porsche AG

15:00 **The integral bushing rear suspension architecture
of the new Lincoln Corsair**
Dr. Friedrich Wolf-Monheim, Project Manager,
Ford Research & Innovation Center Aachen [in cooperation
with Ford Research & Innovation Center Dearborn, USA]

15:30 Refreshment break with coffee and tea in the exhibition area

16:00 – 18:00, Parallel strand I – Festsaal

DRIVING EXPERIENCE

Moderation: Stefan Resch,
Corporate Strategy & Innovation, TÜV SÜD AG

16:00 **An efficient evaluation method for a longitudinal
driver assistance system within a consistent
KPI-based development process**
Sebastian Lefèvre, Development Engineer, Dr. Ing. h.c. F.
Porsche AG [in cooperation with Kempten University
of Applied Sciences]

16:30 **The power of oil – the influence of shock absorber oil on
vehicle ride and handling performance**
Shinji Kato, Senior Manager Suspension Engineering Head-
quarters, KYB Corporation, Japan; Dr. Navid Samadi, Deputy
General Manager Engineering and Design, KYB Europe GmbH

17:00 **How to extract advantage out of driving simulator techno-
logy in developing brand-specific vehicle dynamics**
Florian Goy, Vehicle Dynamics Engineer, Hyundai Motor
Europe Technical Center GmbH

17:30 **Designing and assessing the driving experience
of a tilting vehicle**
Tom Lehmkuhl, Research Associate Chassis & NVH,
fka GmbH [in cooperation with Institute for Automotive
Engineering (ika), RWTH Aachen University]

18:30 **Evening reception in Munich Ratskeller**
Enjoy interesting conversations
with colleagues and speakers in a pleasant atmosphere.

PARALLEL STRAND II

14:00 – 15:30, Parallel strand II – Palaishalle

INTEGRATED CHASSIS FUNCTIONS

Moderation: Dr. Veit Held, Senior Manager Advanced Engineering
Chassis and Chassis Control Systems, Opel Automobile GmbH

14:00 **Modular and scalable system integration for electric
vehicles: BENTELER and Bosch continue to develop
their e-mobility platform**

Hendrik Reinecke, Technical Expert Chassis Business Unit
Electro-Mobility, BENTELER Automobiltechnik GmbH;
Dr. Gero Nenninger, Director Systems Engineering Vehicle,
Robert Bosch GmbH

14:30 **Predictive chassis control based on crowd-sourced
road surface data**
Dr. Farhad Belourchi, R&D Manager ADAS & Controls,
Nexteer Automotive Corp., USA

15:00 **Basic study for materials of tires and wheels for a
dynamic WPT system with an in-wheel coil**
Prof. Osamu Shimizu, Project Assistant Professor, Dept.
of Advanced Energy, Graduate School of Frontier Science,
The University of Tokyo, Japan [in cooperation with NSK Ltd.,
Japan; Bridgestone Corporation, Japan]

16:00 – 18:00, Parallel strand II – Palaishalle

PERFORMANCE ANALYSES

Moderation: Dr. Veit Held, Senior Manager Advanced Engineering
Chassis and Chassis Control Systems, Opel Automobile GmbH

16:00 **Analysis of tire wet grip mechanisms and their
respective weightings in a wet braking test**
Frédéric Biesse, Expert for Tire Performance Analysis,
Manufacture Française des Pneumatiques Michelin, France

16:30 **Optimized methodology for testing, parameterizing, and
modeling of tire forces and moments for extreme handling
maneuvers**
Ioannis Konstantinou, Senior Engineer Simcenter Tire,
Siemens Industry Software and Services B.V., Netherlands
[in cooperation with Volkswagen AG]

17:00 **Transient motion analysis-based objective quantification
of cornering feedback and its application to vehicle
motion control**
Jun-Mo Lee, Manager Chassis Control & Brake, Hyundai-Kia
America Technical Center, Inc., USA

17:30 **Enhanced characterization of suspension systems for
virtual chassis development**
Stefan Büchner, Development Engineer Research Vehicle
Dynamics, BMW Group [in cooperation with Institute of
Automotive Technology (FTM), TU Munich]

chassis.tech

08:30 – 10:00, chassis.tech section – Palaishalle

DEVELOPMENT AND TESTING METHODS

Moderation: Dr. Christoph Elbers, Vice President Car Chassis Technology Development, ZF Friedrichshafen AG

- 08:30

FASST model-based agility
Robert ter Waarbeek, CAE Project Leader, Ford-Werke GmbH
- 09:00

The efficient use of HiL simulation and vehicle tests for in-house software development at Porsche
Benedikt Jooß, Development Chassis Mechatronics, Dr. Ing. h.c. F. Porsche AG [in cooperation with Esslingen University of Applied Sciences; Chair of Mechatronics, University of Duisburg-Essen]
- 09:30

Analysis of suspension dynamic characteristics for ride comfort development using a suspension rig test
Seungmin Kwon Ph.D., Senior Research Engineer, Hyundai Motors Company, Korea

steering.tech

08:30 – 10:00, steering.tech section – Festsaal

STEER-BY-WIRE

Moderation: Dr. Christoph Bittner, Director Development Chassis Systems, Dr. Ing. h.c. F. Porsche AG

- 08:30

Ford steer-by-wire technology development using the example of vehicle entry and exit
Florian Rath, Research Engineer, Ford-Werke GmbH
- 09:00

Steer-by-wire system design and model validation in autonomous commercial vehicles
Yu-Shen Tsai, Ph.D. Student, National Taiwan University
- 09:30

A holistic integrated chassis safety concept for x-by-wire systems
Imre Szepessy, Head of Advanced Development Steering, thyssenkrupp Presta AG, Liechtenstein

brake.tech

08:30 – 10:00, brake.tech section – Fürstensalon

FUTURE OF BRAKING SYSTEMS

Moderation: Dr. Falk Hecker, VP Technology – Driver Assistance and Automated Driving, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

- 08:30

How will the braking system evolve to match future mobility requirements?
Patricio Barbale, Senior Analyst – Automotive Planning Solutions, IHS Global SRL, Italy
- 09:00

Brake system architecture and technology evolution in electric commercial vehicles
Matthias Seidenschwang, Chief Product Owner E-Mobility, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH
- 09:30

Bosch Connected Development: application of braking system data from vehicle fleets or braking system optimization, validation, and enablement of data-based services
Andreas Hoffmann, Project Manager Connected Braking Systems, Robert Bosch GmbH

tire.wheel.tech

08:30 – 10:00, tire.wheel.tech section – Königssaal

INNOVATIONS IN TIRES AND WHEELS

Moderation: Stefan Dittmar, Team Leader Wheels, Business Unit Tires/Wheels, TÜV SÜD Product Service GmbH

- 08:30

The “Mobility Ring” – a new concept for restoring mobility after a tire breakdown
Prof. Dr. Günter Leister, Manager Tires, Wheel, TPMS, Mercedes-Benz AG [in cooperation with GV Engineering GmbH; FAIST Light Metals Ltd., Italy]
- 09:00

Development of a forged-equivalent aluminum wheel with the Mubea Cast Forging (MCF) method
Josef Gartner, Head of Process Development, Mubea Performance Wheels GmbH, Austria; Markus Huber, SE-Team Manager – Wheels, Tyres, Tyre Pressure Monitoring Systems, AUDI AG
- 09:30

Vehicle state estimation benefits of smart tires
Victor Mazzilli, Ph.D. Student, Dept. of Mechanical Engineering Sciences, University of Surrey, UK [in cooperation with McLaren Automotive Ltd, UK; Pirelli & C. S.p.A., Italy; Universidad Politécnica de Cataluña, Spain]

10:00 Refreshment break with coffee and tea in the exhibition area

10:30 – 12:00, chassis.tech section – Palaishalle

LIGHTWEIGHT DESIGN AND NVH

Moderation: Martin Schwarz, Process Responsible Driving Dynamics, BMW Group

- 10:30

Simulating and optimizing the dynamic chassis forces of the Audi e-tron
Dr. Stefan Uhlar, Acoustics Engineer, AUDI AG
- 11:00

Lightweight composite spring for the new Ford Transit Camper
Alberto Girelli Consolaro, Research Engineer, Ford Research & Innovation Center Aachen [in cooperation with Ford Dunton Technical Centre, UK; Ford Research & Innovation Center Dearborn, USA]
- 11:30

Design of an innovative car wheel suspension concept with a fiber reinforced plastics spring/control arm
Ludwig Seethaler, Senior Expert Research Driving Dynamics, BMW Group

10:30 – 12:00, steering.tech section – Festsaal

STEERING FEEL

Moderation: Dr. Matthias Schölzel, Consultant for Pre-development Concepts Steering System, BMW Group

- 10:30

Steering feel of lane keeping assistance systems
Matthias Becker, Engineer Vehicle Dynamics, MdynamiX AG [in cooperation with Dr. Ing. h.c. F. Porsche AG; Automotive Engineering, Munich University of Applied Sciences]
- 11:00

Enabling flexible interiors for existing vehicle platforms with a steering wheel integrated steer-by-wire force feedback actuator
Dr. Christian Strümpfer, Technical Lead Engineer Steering Systems, Joyson Safety Systems Aschaffenburg GmbH
- 11:30

Objective and subjective steer feel HiL testing on a new high-performance steering HiL with virtual vehicle prototypes
Prof. Dr. Markus Lemmen, Head of Control System and Vehicle System Technology, Bochum University of Applied Sciences [in cooperation with dSPACE GmbH; Ford-Werke GmbH; ZF Friedrichshafen AG]

10:30 – 12:00, brake.tech section – Fürstensalon

NEW BRAKING SYSTEMS AND COMPONENTS

Moderation: Prof. Dr. Rüdiger Tiemann, School of Engineering, htw saar – University of Applied Sciences Saarbrücken

- 10:30

Distributed parking brake for electric vehicles
Tobias Putzer, Project Manager Automated Parking Brake, Robert Bosch GmbH
- 11:00

Optimal design of a DC brushless motor for automotive brake actuation
Prof. Dr. Giampiero Mastinu, Dept. of Mechanical Engineering, Politecnico di Milano, Italy [in cooperation with Dept. of Energy, Politecnico di Milano, Italy; Brembo S.p.A., Italy]
- 11:30

Brake-by-wire actuator for an electromechanical disc brake
Dr. Carsten Kügeler, Program Manager Advanced Engineering Electronics, HELLA GmbH & Co. KGaA

10:30 – 12:00, tire.wheel.tech section – Königssaal

SPECIAL FEATURES OF TIRE CHARACTERISTICS

Moderation: Dr. Michael Frey, Deputy Director, Institute of Vehicle System Technology (FAST), Karlsruhe Institute of Technology (KIT)

- 10:30

Road-load performance prediction limitations by RRC reduction
Ryosuke Okubo, Assistant Manager, Toyota Motor Corporation, Japan
- 11:00

Extended evaluation of tire comfort using wavelet analysis
Ventseslav Yordanov, Scientific Researcher, Institute for Automotive Engineering (ika), RWTH Aachen University [in cooperation with fka GmbH]
- 11:30

Innovative analytic test vehicle integrated into automated indoor braking analyzer
Cord Sprenger, Head of Advanced Testing Technology, Continental Reifen Deutschland GmbH

12:00 Lunch in the exhibition area

chassis.tech

steering.tech

brake.tech

tire.wheel.tech

13:15 – 14:45, chassis.tech section – Palaishalle

VIRTUAL METHODS AND NEURAL NETWORKS

Moderation: Timo Schöning, Head of Section Driving Performance, Hyundai Motor Europe Technical Center GmbH

- 13:15

Utilizing artificial neural networks and design solution spaces to cope with the complexity in subframe design
Martin Kundla, Ph.D. Student Axle Systems and Structural Components, BMW Group [in cooperation with Chair of Mechatronics, University of Duisburg-Essen; Laboratory for Product Development, Engineering Design Systematics, and Lightweight Design, TU Munich]
- 13:45

Virtual operational strength analysis for commercial vehicles
Robert Buchmann, Ph.D. Candidate Operational Strength Simulation Bus System, MAN Truck & Bus SE [in cooperation with Institute for Mechanics, Bundeswehr University Munich]
- 14:15

Independent design of yaw rate gain and phase characteristics in an SBW vehicle
Dr. Kei Kitahara, Research Engineer, JTEKT Corporation, Japan [in cooperation with Tokyo University of Agriculture and Technology, Japan]

13:15 – 14:45, steering.tech section – Festsaal

NEW FUNCTIONS

Moderation: Jennifer Endres, Vice President Engineering, Robert Bosch Automotive Steering GmbH

- 13:15

Effects of a hub bearing integrated with an additional wheel steering system on vehicle agility and stability – development of an independent front wheel hub steering system
Prof. Dr. Makoto Yamakado, Dept. of Vehicle System Engineering, Kanagawa Institute of Technology (KAIT), Japan [in cooperation with NTN Corporation, Japan]
- 13:45

Chassis technology faces safe power supply: a fail active system solution
Armin Köhler, System Engineer Functional Safety, Robert Bosch GmbH [in cooperation with Robert Bosch Automotive Steering GmbH; Institute of Machine Components (IMA), University of Stuttgart]
- 14:15

Steer-by-wire in the context of the connected vehicle: opportunities for future steering innovations
Joe Klesing, Executive Director Product Lines Steer-by-Wire & Software, Nexteer Automotive Corp., USA

13:15 – 14:45, brake.tech section – Fürstensalon

BRAKE DEVELOPMENT AND BRAKE FEEL

Moderation: Dr. Ralf Stroph, Team Leader, Vehicle Dynamics Research, BMW Group

- 13:15

Wheel-individual longitudinal control systems
Prof. Dr. Eberhard Drechsel, form. Munich University of Applied Sciences; Maximilian Böhle, CTO Formula Student Electric (FSE) 2018, form. munichMotorsport e. V. [in cooperation with Roborace]
- 13:45

Test procedure development and validation for brake wet fading in the FKFS Thermal Wind Tunnel
Domenik Schramm, Research Associate, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS) [in cooperation with Institute of Automotive Engineering (IVK), University of Stuttgart]
- 14:15

The spongy brake phenomenon in motorcycles
Andreas Eisele, Research Associate, Institute of Automotive Technology (FTM), TU Munich [in cooperation with BMW Motorrad]

13:15 – 14:45, tire.wheel.tech section – Königssaal

TIRE TESTING AND SIMULATION

Moderation: Ralf Schweizer, Head of Development Wheels, Tires, Tire Pressure Monitoring Systems, AUDI AG

- 13:15

An optimized tire test method on snow
Mauro Martino, Wheels & Tires Design Responsible, FCA Italy S.p.A.
- 13:45

Digital design of the chassis and tire: virtual is real!
Patrick Pallot, Tire Simulation Expert, Manufacture Française des Pneumatiques Michelin, France
- 14:15

Noise measurements according to UNECE R 51.03: three years of experience with the new standard
Prof. Bernhard Gerster, Managing Director, DTC Dynamic Test Center AG, Switzerland [in cooperation with Bern University of Applied Sciences, Switzerland]

14:45 Refreshment break with coffee and tea in the exhibition area



chassis.techplus

15:15 – 16:15, Plenary section – Festsaal

KEYNOTE LECTURES III

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Munich University of Applied Sciences

- 15:15

Without a chassis we will go nowhere
Yousuke Sekino, Senior Managing Officer and Chief Operating Officer R&D Operations, Showa Corporation, Japan
- 15:45

Ford Mustang Mach-E: designed around electrification
Dr. Wolfgang David, Operations Director Ford R&A Europe, Ford-Werke GmbH [in cooperation with Ford Motor Company, USA]
- 16:15

Closing remarks
Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Munich University of Applied Sciences; Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group, Springer Nature

The current program is also available online:

www.atzlive.de/en/chassis





TÜV SÜD

Generating competitive edge through smart use of knowledge.

TÜV SÜD is a premium quality, safety, and sustainability solutions provider that specializes in testing, inspection, auditing, certification, training, and knowledge services. Since 1866, the company has remained committed to its founding principle of protecting people, property and the environment from technology-related risks.

Headquartered in Munich, Germany, TÜV SÜD is represented in more than 1,000 locations worldwide. TÜV SÜD operates globally with a team of more than 24,000 multi-disciplinary experts recognized as specialists in their respective fields. By combining impartial expertise with invaluable insights, the company adds tangible value to businesses, consumers and the environment.

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Cooperating partner



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Registration fee

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Day 2 – in one of the four parallel sections
chassis.tech, steering.tech, brake.tech, tire.wheel.tech
€ 995.– plus VAT

Both conference packages include the conference documentation, refreshments during the breaks, and the evening event on 23-06-2020.

Participants can change between the parallel sections at any time. The registration fee also includes admission to the accompanying trade exhibition.

University members of the IAVSD receive a 50 % discount on the registration fee.

Date

23 – 24 June 2020

Languages used in the presentations

German and English with simultaneous interpreting
(German – English / English – German)



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**Online Registration
and Further Information:**

www.atzlive.de/en/chassis



Venue

Hotel Bayerischer Hof
Promenadeplatz 2–6
80333 Munich, Germany

Hotels

Some hotels have room blocks at reduced prices for the participants. You can find more information on the events page of our website.

Please note: the German national soccer team is scheduled to play in the UEFA European Championship on 24-06-2020. As a result, hotel room contingents are limited in number and are for a limited time only. We strongly recommend booking early. If you have any difficulties booking accommodation, please contact Hannah Klusmann.

Evening reception in Munich Ratskeller

Tuesday, 23-06-2020 from 18:30 in Munich Ratskeller,
Marienplatz 8, 80331 Munich

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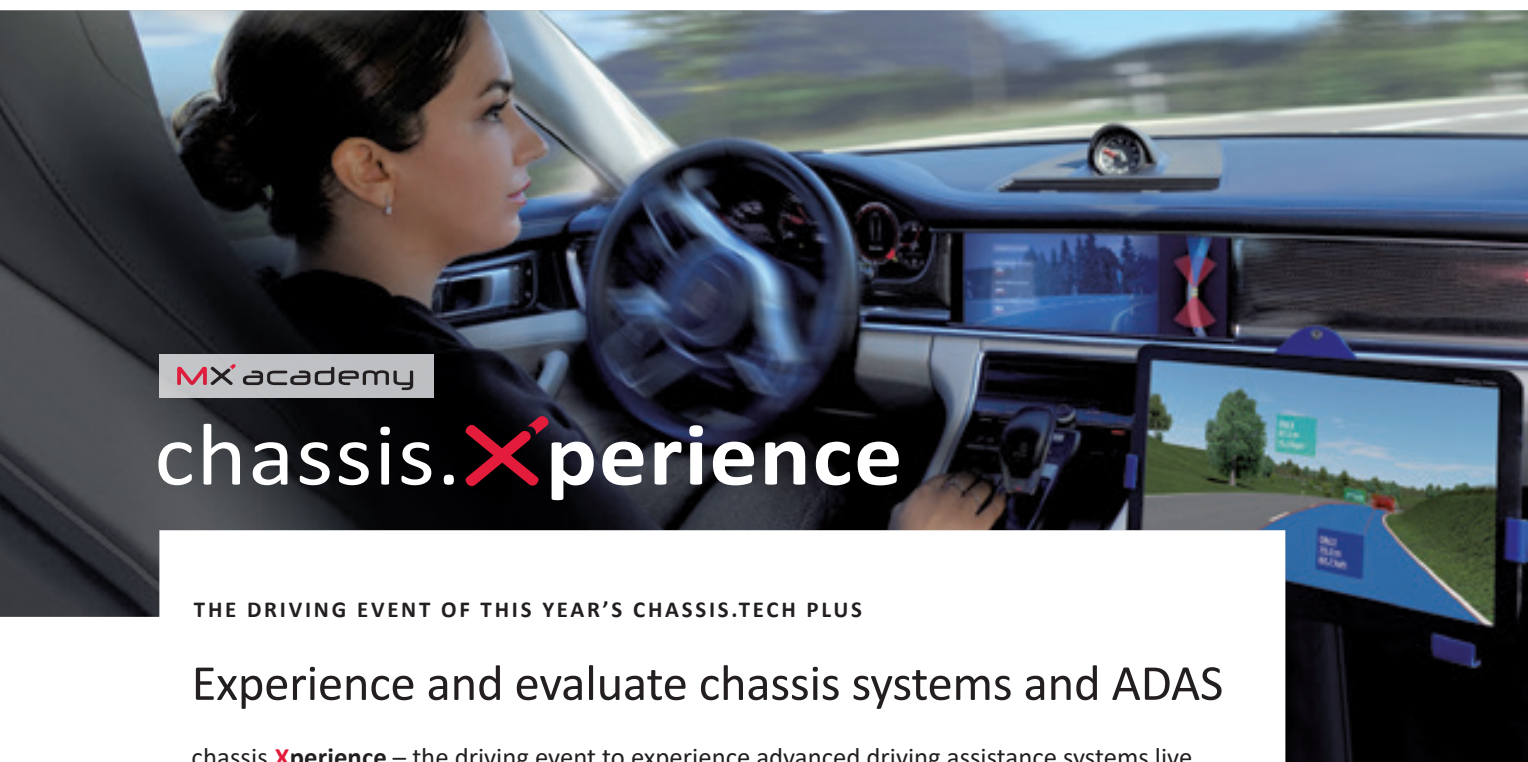
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Date:
Monday, June 22nd, and
Thursday, June 25th,* 2020

Participant's fee:
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*06/25/2020: additional date depending on demand. Limited number of participants.



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Prof. Dr. Peter E. Pfeffer
Mdynamix AG,
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Prof. Bernhard Schick
Mdynamix AG,
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Further Information and Online Registration:

www.atzlive.de/en/chassis



chassis.tech plus 2020
23 – 24 June 2020, Munich, Germany

Your contact person

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The organizer

ATZlive // Spotlight on Powertrain and Vehicle Engineering

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