chassis.tech plus 2020

4 congresses in one event

23 – 24 June 2020
Munich, Germany

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
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
ABOUT THE CONFERENCE

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 cozy 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 Henrich 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
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**

**09:00**
- **Dr. Reiwan Kashi**  
  President Business Unit Mechatronic Systems, Business Vehicle-Chassis Systems, Schaeffler Technologies AG & Co. KG

**10:30**
- **Michael Veitenbach**  
  Vice Editor-in-Chief ATZ

**12:00**
- **keynote**

**13:30**
- **Prof. Dr. Peter E. Pfletzner**  
  Munich University of Applied Sciences (MUAS)

**15:00**
- **Prof. Dr. Bernhard Schick**  
  President Business Unit Mechatronics, Business Vehicle-Chassis Systems, Schaeffler Technologies AG & Co. KG

**15:45**
- **Dr. Wolfgang David**  
  Operations Director Ford R&D Europe, Ford-Werke GmbH (in cooperation with Ford Motor Company, USA)

### WEDNESDAY, 24-06-2020
#### AFTERNOON

**FESTSAAL**

**15:15**
- **Yasuoke Susuke**  
  Senior Managing Officer and Chief Operating Officer R&D Operations, Showa Corporation, Japan

**16:00**
- **Benjamin Koller**  
  Lead Technical Regulation and Knowledge Management HAG, TÜV SÜD Auto Service GmbH

**16:45**
- **Dr. Andreas Saathoff**  
  Manager Front Axle Development, Volkswagen AG

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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**

- **Dr. Voli Heid**  
  Opel Automobile GmbH
- **Dr. Christoph Bitzer**  
  Dr. Ing. h. c. F. Porsche AG
- **Dr. Martin Schwarz**  
  BMW Group

**steering tech**

- **Thilo Bitzer**  
  ZF Group – TRW Automotive GmbH
- **Prof. Dr. Hans-Heinrich Braus**  
  (Honorary Chairman)
- **Prof. Dr. Dr. Hans-Joachim Kinserling**  
  Mercedes-Benz AG

**brake tech**

- **Prof. Dr. Eberhard Drechsel**  
  Umicor WURS
- **Prof. Dr. Alexander Heitzel**  
  Editor-in-Chief ATZ
- **Dr. Christoph Bitzer**  
  Dr. Ing. h. c. F. Porsche AG

**tire.wheel.tech**

- **Prof. Dr. Falk Hocker**  
  Koen-Brenne SFI GmbH
- **Prof. Dr. Sebastian Krose**  
  ALI AG
- **Prof. Dr. Hans-Joachim Kinserling**  
  Mercedes-Benz AG

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**Keynote lectures**

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

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

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

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

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

**Without a chassis we will go nowhere**
08:00 Registration at the check-in

09:00 Opening of the accompanying trade exhibition and refreshment break in the exhibition area

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

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

09:30 Making a safety and availability case for x-by-wire systems
Dr. Kieron Kaps, President Business Unit Mechanical Systems, Business Division Chassis Systems, Schaeffler Technologies AG & Co. KG

09:50 Approval of automated driving functions: worldwide regulatory overview, proving ground testing, customer acceptance
Benjamin Koller, Lead Technical Regulation and Knowledge Management HAD

10:00 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

10:30 Lunch in the exhibition area

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

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

12:00 The new chasssis 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

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

NEW CHASSIS AND SYSTEMS
Moderation: Stefan Rosch, Corporate Strategy & Innovation, TÜV SÜD AG

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

14:30 Porsche Taycan – recuperative brake system for combined braking
Martin Rauchenecker, 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 Rosch, 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 Lohrten, 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
Shrijit Kato, Senior Management Engineer, Headquarters, KYB Corporation, Japan

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

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

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

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]

**09:00** 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

**09:30** Simulating and optimizing the dynamic chassis forces
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]

**10:00** Objective and subjective steer feel HiL testing on a vehicle prototypes
Dr. Markus Lennes, Head of Control System and Vehicle System Technology, Technische Universität München [in cooperation with Dr. Ing. h.c. F. Porsche AG, Automotive Engineering, Munich University of Applied Sciences]

**10:30** Distributed parking brake for electric vehicles
Tobias Pflüger, Project Manager Automated Parking Brake, Robert Bosch GmbH

**11:00** Optimal design of a DC brushless motor for automotive brake actuation
Dr. Giampaolo Castellina, 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

**12:00** Lunch in the exhibition area

**MORNING**
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 Kunda, 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. Ke Kitaoka, 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 Kühler, 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 Kleising, Executive Director Product Lines Steer-by-Wire & Software, Niederer Automotive Corp., USA

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

BRAKE DEVELOPMENT AND BRAKE FEEL
Moderation: Dr. Ralf Struph, 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 Böhr, CTO Formula Student Electric (FSE) 2018, form. munich Motorsport 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 (IKA), University of Stuttgart)

14:15 The spongy brake phenomenon in motorcycles
Andreas Eisert, Research Associate, Institute of Automotive Technology (IFTM), TU Munich (in cooperation with BMW Motorteil)

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 Paltt, 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 Genter, 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

The current program is also available online: www.atzlive.de/en/chassis
EVENT INFORMATION

ATZ
live

Registration fee
Participation in the entire symposium chassis.tech plus
€ 1,595.– plus VAT

Participation on one day only
Day 1 – in the plenary section chassis.tech plus or
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

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)

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 difficul-
ties booking accommodation, please contact Hannah Klusmann.

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Online Registration and Further Information:
www.atzlive.de/en/chassis

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Experience and evaluate chassis systems and ADAS

chassis.Xperience – the driving event to experience advanced driving assistance systems live.
Get to know the competitive environment by test-driving and evaluating the latest automobiles and their advanced assistant functions. All evaluation results will be recorded electronically, anonymized and made available.

Experience ADAS in its variety!
A vast selection of current car models equipped with state-of-the-art assistance systems available for you to test-drive a full day.

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

Participant’s fee:
€ 790.– / p.p. excl. VAT

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

SEMINAR LEADERS

Prof. Dr. Peter E. Pfeffer
MdynamiX AG, University of Applied Sciences Munich

Prof. Bernhard Schick
MdynamiX AG, University of Applied Sciences Kempten

chassis.Xperience stations:
- Driving session lateral and longitudinal control
- Driving session parking assistant
- Methods / Driving simulator

Further Information and Online Registration:
www.atzlive.de/en/chassis

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The organizer

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