



## chassis.tech plus 2022

4 congresses in one event

5 – 6 July 2022  
Munich, Germany  
or virtually via live stream

chassis.tech<sub>plus</sub>

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

**Call for Papers**  
Apply online now

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Submission of proposals  
no later than  
27 October 2021

Impressions



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### SCIENTIFIC DIRECTOR

**Prof. Dr. Peter E. Pfeffer**  
Hochschule München University of Applied Sciences



# ONE FOR ALL

## 4 congresses in one event

### / chassis.tech plus

New chassis systems – mastering the balancing act between manual, semi-, and fully automated driving

Integrated chassis systems – optimizing the architectures and products also in electrified vehicles

### / chassis.tech

Innovative chassis systems – software tools, driving simulators, and methods, from virtual testing to real road tests, including NVH and lightweight design

### / steering.tech

Smart steering – development approaches for a natural steering feel when using automatic lateral control and steer-by-wire systems

### / brake.tech

Modern braking systems – simulation and tests for development, recuperation, and particulates emission

### / tire.wheel.tech

Reliable tire-wheel components – processes and methods for characterizing lighter and more energy-efficient structures with less particulate matter



**Prof. Dr. Peter E. Pfeffer**  
Hochschule München University of Applied Sciences  
Scientific Director of the Symposium

## Welcome

Chassis systems today have to be developed in such a way that a car can either drive itself or be driven by a driver. But the trends towards automated driving and powertrain electrification are also increasingly finding their way into sports cars and motorcycles, and this is having repercussions on every chassis architecture. Once again, the balancing act between high driving comfort and high performance for sporty driving needs to be mastered in one system. For chassis engineers, this is a herculean task with many conflicting objectives. Only with agile development methods and computer simulations, which are now faster than ever before due to increasing computing power, as well as driving simulators as an intermediate stage towards road tests, will it still be possible today to design chassis, braking, and tire-wheel systems that are fit for the future.

The 13th International Munich Chassis Symposium chassis.tech plus will bring together numerous experts in wheel suspension systems, steering, brakes, and wheels/tires for an exchange of experience and constructive discussions. This is your opportunity to show us what your innovative research and development activities currently look like. On behalf of the Scientific Advisory Board, we cordially invite you to submit a paper and to contribute to the success of this globally recognized event. After the symposium, your paper will be published as part of the conference proceedings at Springer Vieweg and on the online platforms Springer Link and Springer Professional.

We look forward to talking with you.

Further details on submitting a paper can be found in this Call for Papers.

Prof. Dr. Peter E. Pfeffer  
Hochschule München  
University of Applied Sciences

Klaus Baltruschat  
TÜV SÜD Product Service GmbH

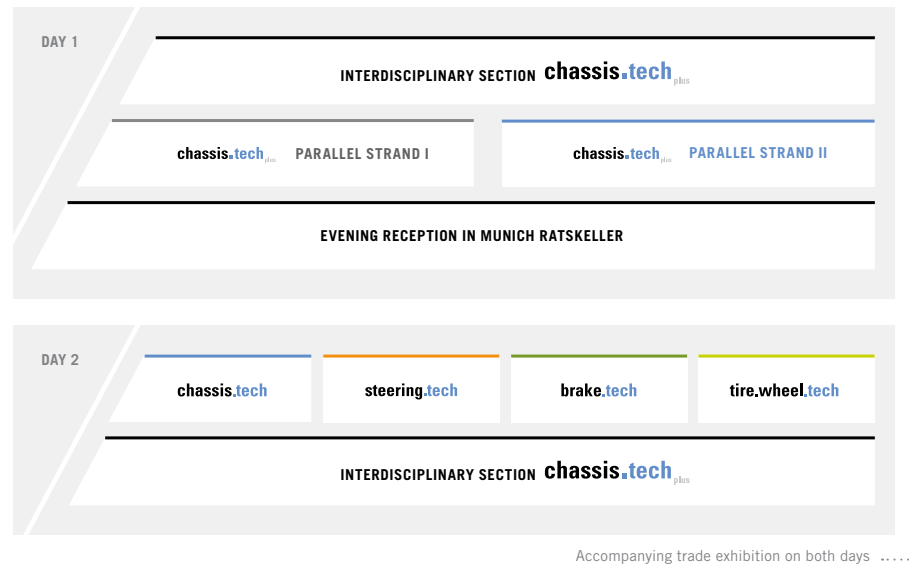
Dr. Alexander Heintzel  
ATZ | MTZ Group

## 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

## Stay at the cutting edge!

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



**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.

Participants can move freely at any time between the four parallel sections on the 2nd day.

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

**Your presentation platform**

Take this opportunity to present your latest products and services to the specialist audience: as an exhibitor in our exclusive exhibition and/or as a sponsor with an attractive advertising presentation.

**Registration fee**

**On site**

€ 1,595.– plus VAT

This includes the conference documentation, the accompanying trade exhibition, the use of the event app as well as the catering during breaks and the evening event on 05-07-2022.

**Virtually via live stream**

€ 995.– plus VAT

This includes the conference documentation as well as the use of the digital event platform with virtual exhibition.

Participants can change between the parallel sections at any time for both participation variants.

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

**Date**

5 – 6 July 2022

**Venue**

Hotel Bayerischer Hof or virtually via live stream  
Promenadeplatz 2 – 6, 80333 Munich, Germany

**Languages used in the presentations**

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

Virtually via live stream: English

**For information on the various presentation options, please contact:**

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**Phone +49 611 7878-320**  
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**Prof. Dr. Peter E. Pfeffer**  
Hochschule München  
University of Applied Sciences

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



**Dr. Alexander Heintzel**  
Editor-in-Chief  
ATZ | MTZ Group,  
Springer Nature



**Michael Reichenbach**  
Vice Editor-in-Chief ATZ,  
Springer Nature

Our four Scientific Advisory Boards, which are made up of prominent experts in their respective fields, provide support during the planning phase of the conference and help to identify suitable topics.

**chassis.tech**



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Head of chassis.tech section

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**tire.wheel.tech**



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Japan



**Main topics for cars, commercial vehicles, racing cars and motor cycles****INTERDISCIPLINARY SECTION CHASSIS.TECH PLUS****New Chassis Systems**

- Chassis systems of new vehicle models
- New vehicle concepts and their chassis systems
- Demands on the chassis of tomorrow
- Systems for electric, hybrid, and conventional vehicles
- Platform strategies and modularization
- Customer orientation, driver focus

**Handling and Vehicle Dynamics**

- Subjective and objective impressions
- Customer requirements for handling and vehicle dynamics

**NVH – Acoustics and Vibration in the Chassis**

- Generation mechanisms
- Detection, measurement, and evaluation
- Countermeasures

**Smart Chassis, ADAS, and Autonomous Driving**

- More safety, comfort, and functions through connected systems
- Interaction between car-to-x and the chassis
- Innovative development methods – design, simulation, validation
- Trajectory planning and redundancy

**Lightweight Design**

- Design solutions
- CFRP and innovative materials

**Market Requirements**

- Cost reduction and performance
- Fuel consumption, efficiency, CO<sub>2</sub>
- Safe driving feeling, comfort/NVH

**BRAKE.TECH SECTION****Innovative Brake Systems**

- New brake systems and components
- Active principles, assemblies, materials, sensors, and actuators
- Operational and functional behavior in practice
- Brake feel
- New system architectures and functions
- Software and hardware components

**Brakes and the Environment**

- CO<sub>2</sub> reduction: regenerative braking, lightweight design
- Brake systems for hybrid and electric vehicles, alternative drive systems
- Friction, wear, and brake dust
- Test legislation, legal requirements

**CHASSIS.TECH SECTION****Chassis Systems**

- Interaction between the chassis and vehicle dynamics
- Spring system and damping, air suspension
- Engine mounts
- Kinematics and elastokinematics, suspension
- Torque vectoring

**Electronic Chassis Systems**

- Innovative systems
- Data fusion and system connectivity
- Semi-active and active chassis systems
- Roll stabilization
- Influence on vehicle characteristics

**Virtual Chassis Development and Homologation**

- Development of safety-critical systems
- Homologation
- Simulation and validation
- User experience
- Agile development, artificial intelligence, big data

**STEERING.TECH SECTION****Innovative Steering Systems and Steer-by-Wire**

- New systems and functions
- Steering wheel, steering column, steering gear
- Impact of the 48 V vehicle electrical system
- Steer-by-wire and its actuator systems

**Development Process, System Properties and Architecture**

- Steering feel and vehicle handling
- Human/machine interface (HMI)
- System architecture and control strategies
- Validation, MiL/SiL/HiL tests

**TIRE.WHEEL.TECH SECTION****Innovations in Tires and Wheels**

- New tire and wheel concepts, materials, and technologies
- Future simulation, measuring, and testing methods
- Traction and friction mechanisms
- Tire sensor systems and determining the friction coefficient

**Tires and the Environment**

- Legislation and safety
- Environmental protection
- Fuel consumption, CO<sub>2</sub> reduction
- Tire wear and particulate matter

**ATZ** live

CONFERENCES FOR VEHICLE AND ENGINE SPECIALISTS

www.ATZlive.com

**Further information and online submission of your proposal:**[www.atzlive.de/en/chassis](http://www.atzlive.de/en/chassis)

chassis.tech plus 2022

5 – 6 July 2022, Munich, Germany  
or virtually via live stream**Submission of proposals no later than****27 October 2021****Are you interested in presenting a paper on one of the topics listed at chassis.tech plus?**

If so, please submit a short version of your paper via the online portal to the event page indicated. You can access this portal via the link shown in the red box above or by scanning the QR code.

**Your submission proposal in English should contain:**

- The title of the paper
- The name of the speaker with job title, company address, telephone number and e-mail address
- The name of any co-authors with company address
- The main points and a brief summary of the paper's contents (abstract)
- Brief summary of the innovative value of the work (please submit documents in PDF)
- Classification under one of the main subject areas

On the basis of the short version of the paper, the Scientific Advisory Boards for the conference will decide on its acceptance.

**Information on the Symposium**

The time allowed for presentation is 20 minutes followed by a subsequent discussion. The registration fee will be waived for one speaker per paper presented. The presentation language is either German or English. The language of the manuscripts and slides is English. After the event, your paper will be published as part of the conference proceedings at Springer Vieweg and on the online platforms Springer Link and Springer Professional.

**Schedule**Deadline for submission proposals: **27 October 2021**Notification of the authors: **February 2022**Submission of final manuscripts: **30 May 2022**

The final conference program will be published in March 2022.

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