



chassis.tech plus 2021

4 congresses in one event

29 – 30 June 2021
Munich, Germany

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Call for Papers
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Submission of proposals
no later than
30 October 2020

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SCIENTIFIC DIRECTOR

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



ONE FOR ALL

4 congresses in one event

/ chassis.tech plus

The chassis and automated driving systems as a trade-off between agility 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 for innovative functions and steer-by-wire

/ 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

It all began with such great enthusiasm. But now, it is becoming apparent that the megatrend of automated driving needs to be viewed more realistically. And this is where the chassis comes into play as an important link between the driver and vehicle occupants on the one hand and the road surface on the other. After all, without a sporty, safe, and comfortable chassis, it is not possible to sell functions and emotions. Many challenges need to be overcome – in areas such as standardized test procedures, product modularity, and development processes – if we are to achieve automated driving according to SAE levels 3 to 5. This new, realistic assessment is a good approach, as customers will otherwise be disappointed. And especially when we include the electrification of the powertrain in the equation, the development field of chassis technology is particularly challenged. The chassis is becoming increasingly complex and remains a major driving force.

The 12th International Munich Chassis Symposium chassis.tech plus will bring together numerous experts in 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	Stefan Resch	Dr. Alexander Heintzel
Munich University of Applied Sciences	TÜV SÜD AG	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 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 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

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

Participation on one day only

Day 1 – plenary section chassis.tech plus OR
Day 2 – four parallel sections chassis.tech, steering.tech, brake.tech, tire.wheel.tech and plenary section chassis.tech plus
€ 995.– plus VAT

Both conference packages include the conference documentation, refreshments during the breaks, and the evening event on 29-06-2021.

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

29 – 30 June 2021

Venue

Hotel Bayerischer Hof
Promenadeplatz 2 – 6, 80333 Munich, Germany

Languages used in the presentations

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

For information on the various presentation options, please contact:

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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



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Head of chassis.tech section

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steering.tech



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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, CO₂
- 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

- CO₂ 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, CO₂ 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

chassis.tech plus 2021

29 – 30 June 2021, Munich, Germany



**Submission of
proposals
no later than**

30 October 2020**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: **30 October 2020**

Notification of the authors: **February 2021**

Submission of final manuscripts: **17 May 2021**

The final conference program will be published in March 2021.

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www.iavsd.org

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