

10th Annual Conference

INTELLIGENT TIRE TECHNOLOGY

- News on Intelligent Tire Technologies
- Update on Legislation and Market Developments
- Innovation on Noise Reduction

2014

21 – 23 October 2014 | Best Western Hotel am Schlossberg, Nürtingen, Germany



- Learn about the **latest world-wide regulations** on tires to ensure **legal compliance** within the international tire market
- Explore innovative solutions for improving acoustics especially through form to **guarantee driving comfort**
- Gain deep insight into the structure and **latest developments of China Tire Industry** from a Chinese and a Western perspective to **improve your position within the market**
- Discover advanced technologies for **intelligent tire systems** and evaluate **vehicle test of tire force sensor** to guarantee performance and reliability
- Gain insight into **tire testing for TPMS** on component level and find out about systemic differences when testing on component and overall system level

Learn from these experts amongst others:



Dr.-Ing. Prashant Khapane,
Manager Durability & Reliability CAE,
Jaguar & Land Rover, UK



Heeyoung Jo, Ph.D,
Part Manager Chassis System Control
Development,
Hyundai Motor Company, South Korea



Marco Spinetto,
Projects Management & Regulations R&D,
Pirelli Tyre SpA, Italy



Dr.-Ing. Etienne Renard,
Research and Development,
Michelin, France

Take the opportunity to meet companies such as:

Addfor s.r.l., Italy • Audi AG, Germany • Bauman Moscow State Technical University, Russia • Baosteel Central Research Institute, Shanghai, China • Bridgestone Technical Center Europe, Belgium • China Rubber Industry Association, China • Continental Automotive GmbH, Germany • Daimler AG, Germany • Dr. Ing. h.c. F. Porsche AG, Germany • Ford Werke GmbH, Germany • Hyundai Motor Company, South Korea • Jaguar & Land Rover, UK • LEANE International s.r.l., Italy • Michelin, France • Pirelli Reifenwerke GmbH, Germany • Pirelli Tyre SpA, Italy • The Tire Industry Association, USA • Tire Industry Research, UK • University of Applied Sciences Brandenburg, Germany • University of Technology Dresden, Germany • Volvo Car Corporation, Sweden

Sponsors



Interactive Workshops

A | Latest technology for TPMS

B | Integrated computational intelligent tire system

INTELLIGENT TIRE TECHNOLOGY

21 – 23 October 2014 | Best Western Schlossberg, Nürtingen, Germany

Dear Colleague,

After nine successful annual conferences with an exclusive focus on Intelligent Tire Technology, this anniversary edition of the **10th International Conference Intelligent Tire Technology 2014** is even more promising!

With special innovation on optimized intelligent tire concepts and noise reduction **focus sessions** and **panel discussions**, a **workshop day** as well as **an interactive speed networking session** and **plenary presentations** on the main conference days, this 3-day event offers deep insight into the engine technology of the tire technology world as well as high-level expertise.

Share your knowledge with leading experts from **Audi, Daimler, Porsche, Michelin, Continental, Bridgestone, Pirelli**, and **Jaguar & Land Rover** among others at one conference!

I look forward meeting you in Nürtingen.

Kind regards



Simone Lange
Senior Project Manager

Advisory Board:



Hans-Rudolf Hein,
Executive Advisor Standards and
Regulations,
Bridgestone Europe, NV/SA,
Belgium



Dr. Frank Klempau,
Manager New Tire/Wheel-
Systems,
Quality and Tire Data,
Daimler AG, Germany



Prof. Dr.-Ing. Michael Kaliske,
Institute for Structural Analysis,
Technische Universität
Dresden, Germany



Dr. Thomas Roscher,
Team Coordinator, TPMS
Development,
Audi AG, Germany



Dr. Gregor Kuchler,
Manager Intelligent Tire System,
Continental Automotive
System, Germany

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active tools

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Active Tools is the leading global supplier of tire repair kit systems to the automotive OEM industry. Our extended mobility solutions offer a reliable alternative to traditional spare tires. As a Tier 1 supplier, our global network is set up to service every major automotive market to support our customers in sales, marketing, engineering, quality, and logistics. Through our German engineering, and world class TÜV certified ISO-TS16949 Chinese manufacturing facilities, Active Tools is dedicated to delivering high quality, high performance products for both the automotive OEM and retail aftermarkets. We are the tire repair kit experts, redefining instant mobility solutions.



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INTELLIGENT TIRE TECHNOLOGY

Workshop Day | Tuesday, 21 October 2014

08:30 Registration & welcome coffee

10:30 Refreshment break & networking

Workshop B: 09:00 – 12:00

Integrated computational intelligent tire system

In the workshop, the **computational approaches** such as finite element or other numerical methods/algorithms for developing intelligent tire system should be included and discussed. The **integrated computational and experimental work** should reflect the current status of intelligent tire technologies and their effects on **vehicle safety, fuel economy and comfort**, etc. Presentations in the workshop are expected for exchanging ideas, views and experiences on developing intelligent tire system. They should reflect the significance of integrated computational approaches as a bridge from tire sensor to vehicle application, such as tire information processing and vehicle dynamic parameters estimation. **Perspectives and possible concepts in future** on this topic are welcome as well.



Xiaoguang Yang,
Team Leader of Titanium Process Modelling,
Baosteel Central Research Institute, Baosteel Group-Shanghai, China

12:00 Networking luncheon and end of workshop day

Media Partners



“AutoRäderReifen-Gummibereifung” is a German trade magazine for the tyre industry in Europe. It deals with all relevant problems of the international tyre trade and industry, garages and workshops, wheels and rims, tuning, new technology and management. The magazine appears monthly and has a regular English section in each issue.

www.gummibereifung.de



Neue Reifenzeitung together with our UK publication Tyres & Accessories is Europe's top selling trade magazine for the tyre, wheel and associated industries. Both magazines are published monthly and have a daily online newsletter.

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INTELLIGENT TIRE TECHNOLOGY

Conference Day One | Wednesday, 22 October 2014

8:45 Registration & welcome coffee



Who is who

Learn about your peers. Discover who else is participating in the conference and gain an understanding of the core challenges your peers are facing right now. The matchmaking wall will also help you identify the delegates you want to meet at the conference.

9:30 **Welcome & opening address by**



Dr. Thomas Roscher,
Team Manager, TPMS Development,
Audi AG, Germany

Rules & regulations

9:40 **World-wide regulatory scenario on tires**

- Don't be confused! Status quo of current tire legislation
- Get curious: Progress of Chinese regulation
- What's new? Update on the sustainability of regulations
- Where do we go? Future aspects on legislation



Marco Spinetto,
Projects Management & Regulations R&D,
Pirelli Tyre SpA, Italy

10:15 **Speed network session**



The perfect opportunity to speak directly with your peers and network effectively. Maximise your time at this event by participating in this interactive networking session. Don't forget your business cards.

10:40 Refreshment break & networking

Latest international tire market developments

11:10 **Developments in the China Tire Industry**

- Structure of China Tire Industry
- Recent legislation
- Expected developments
- Brief SWOT analysis



David Shaw, Head of Research,
Tire Industry Research, UK

11:45 **China's auto industry and green tire technology in China**

- The situation of China's auto industry in 2013 and 2014
 - The situation of China's tire industry in 2013 and 2014
 - China's new policy on green tire and the progress of China's tire labelling regulation
 - Explanation of China's TPMS standard and its progress
- Mary Xu (Xu Wenyong), Vice Chairman and Secretary General
China Rubber Industry Association, China



12:20 **Tire market development in the United States**

- Outlook for low-rolling-resistance, run-flat, and winter tires vs. all-season
- Evolution of the distribution/sales channel
- Consumer expectations for tires and service
- TPMS and the effects on retailers



Kevin Rohlwing, Senior Vice President of Training,
Tire Industry Association, USA

13:05 Networking luncheon



14:30 **Panel discussion:**

News on material development for automotive tires

Chaired by:

David Shaw,
Head of Research,
Tire Industry Research, UK

With:

Sander Ridder,
Global Marketing Manager Tires,
Arizona Chemical B.V, The Netherlands



15:10 **Choose your preferred technical stream**

Stream A

Latest update on intelligent tire technology

Chairman:



Dr. Thomas Roscher,
Team Manager, TPMS Development,
Audi AG, Germany

15:15 **Development of intelligent tire system**

- Classification of tire force sensor
- Development of tire force sensor
- Algorithm for force conversion
- Vehicle test of tire force sensor



Heeyoung Jo, Ph.D,
Part Manager Chassis System Control Development,
Hyundai Motor Company, South Korea

15:50 **Tire Sensors & Big Data - New Opportunities**

- Tire sensor & tire data
- Data-based functions
- Cloud functions



Dr. Gregor Kuchler,
Manager Intelligent Tire System,
Continental Automotive GmbH, Germany

16:25 Refreshment break & networking

Stream B

Innovations on tire simulation

Chairman:



Prof. Dr.-Ing. Michael Kaliske,
Institute for Structural Analysis,
University of Technology Dresden, Germany

15:15 **FE-based design of a multi-sensor smart tire system**

- Basics of a pattern based approach
- Choice of sensor location and sensor number
- Building a data base based of a FE-model
- Application examples



Prof. Dr.-Ing. Christian Oertel,
Department of Engineering, Mechatronics,
FH Brandenburg, Germany

15:50 **Simulation approach to tire pavement interaction**

- Finite element simulations
- Tire modelling
- Pavement modelling
- Steady state rolling



Prof. Dr.-Ing. Michael Kaliske,
Institute for Structural Analysis,
University of Technology Dresden, Germany

16:25 Refreshment break & networking

INTELLIGENT TIRE TECHNOLOGY

Conference Day One | Wednesday, 22 October 2014

Stream A

Latest update on intelligent tire technology

16:55 Direct TPMS product roadmap. A leading market player view into the future

- Current status of technologies in use for direct TPMS application, sensor solutions and system arrangements
- Market trends in terms of OE demand for system performance enhancement
- The Schrader's prospective toward market trends
- Challenges and solutions in the OE service segment



Alfonso S Di Pasquale,
Vice President of Business Development,
Schrader International GmbH, Germany



Ivan Bailie,
Head of Engineering for TPMS,
Schrader International GmbH, Germany

Stream B

Innovations on tire simulation

16:55 Usage of surface modelling and its interaction with tire for durability and loads in virtual environment

- Status-quo of cae modelling at Jaguar Land Rover for loads and durability
- Interaction of the tires and surface modelling - a key transfer function
- Loads and durability targets generation
- Virtual road load data generation
- Hybrid simulation as future outlook



Dr.-Ing. Prashant Khapane,
Manager Durability & Reliability CAE,
Jaguar & Land Rover, UK

17:30 Open mic stage:



Future trends of intelligent tire technology

The "Open mic stage-Session" is a unique opportunity to maximize the outcome of your conference participation on a very individual level. Make the most out of the time you spend with industry experts. These interactive sessions are crafted to ensure that you will get to the heart of the most critical issues and uncover proven practical solutions.

Moderation:



Günther Maeckle,
Manager Tire Pressure Monitoring Systems,
Daimler AG, Germany

with



Michael Unterreiner,
Advanced Chassis Engineering,
Dr. Ing. h.c. F. Porsche AG, Germany



Arne Heyden,
Tire Technical Expert,
Ford Werke GmbH, Germany



Rizwan Ullah,
Task Leader TPMS Wheels & Tyres,
Volvo Car Corporation, Sweden



Alfonso S DiPasquale,
Vice President of Business Development,
Schrader International GmbH, Germany



Dr. Gregor Kuchler,
Manager Intelligent Tire System,
Continental Automotive System, Germany

18:05 End of day one and closing remarks of Dr. Thomas Roscher



IQPC and the Best Western Hotel invite you to a networking aperitif.

18:30 Celebrate our 10th Anniversary of the ITT with us!

We like to invite you to join us for an evening get together in a typical Nürtingen location – the Schlachthofbräu. This is an excellent opportunity for you to meet the other attendees and make new business contacts or just to relax and round off your first conference day in an informal atmosphere.



INTELLIGENT TIRE TECHNOLOGY

Conference Day Two | Thursday, 23 October 2014

8:00 – 10:00 **BREAKFAST WORKSHOP A**

INTERACTIVE WORKSHOP Latest technology for TPMS

Join this workshop to experience insights from Melexis and an OEM. Understand the features and performance of present **TPMS** and **what to expect from future developments of TPMS**. The discussion will include following topics:

- **Roadmap** for TPMS features
- **TPMS value** from end user perspective: “must have” and “nice to have” features versus cost (system cost improvement via architecture) and **system autonomy** (battery life)
- Product commoditization (impact of standardization)
- **Value added features** and impact of different system components
- TPMS products segmentation (passenger cars, commercial vehicles)
- **Impact of TPMS legislation** for requirements (China, aftermarket)
- Choosing the perfect option: **Valve-** versus **rim-** versus **tire-mounted**



Ivan Zagan,
Product Manager TPMS,
Melexis Technologies, Belgium



Rizwan Ullah,
Task Leader TPMS Wheels & Tyres,
Volvo Car Corporation, Sweden

10:00 Registration & welcome coffee

10:30 Welcome & opening address by



Hans-Rudolf Hein,
Executive Advisor Standards and Regulations,
Bridgestone Europe, NV/SA, Belgium

Virtual real world testing

10:35 **FEA and experimental investigation of tire characteristics for developing strain-based intelligent tire system**

- Background of strain-based intelligent tire
- FE tire modelling and experimental validation
- Strain-based intelligent tire strategy
- Ongoing attraction of intelligent tire technology



Dr. Xiaoguang Yang, Team Leader of Titanium Process Modelling, Baosteel Central Research Institute,
Baosteel Group, Shanghai, China

11:10 **A non-steady-state mechanical tire model based on an iterative solution method for a vehicle handling analysis**

- Tire structure and manufacturing process analysis
- Concept development for a mechanical model with a flexible carcass
- Investigation of an iterative solution method for a set of model equations
- Model validation and comparison study



Dipl.-Ing. Pavel Sarkisov, PhD candidate, Chair of Automotive Engineering, **Institute for Automotive Technologies Dresden – IAD, Dresden University of Technology, Germany**
Co-authors:
Prof. Dr.-Ing. Günther Prokop,
Head of Chair of Automotive Engineering,
Institute for Automotive Technologies Dresden – IAD, Dresden University of Technology, Germany
Dr.-Ing. Sergej Popov,
Docent of Wheeled Vehicles Chair,
Bauman Moscow State Technical University, Russia

11:45 Networking luncheon

Latest update on intelligent tire technology

13:15 **New technologies for automotive virtual sensors**

- How advanced machine learning can improve the performance of virtual sensors
- High precision sideslip angle estimation (RMS < 0.5° range: 0-45°)
- Speed estimation (RMS < 1.0% range: 10-40km/h; RMS < 0.5% range: 40-250km/h)
- Advanced iTPMS: ECE R-64 and FMVSS 138 plus auto-calibration 0.1 bar accuracy



Enrico Busto,
CTO Addfor,
Addfor s.r.l., Italy



Giuliano Manfredini,
Leane Technical Director,
LEANE International s.r.l., Italy

13:50 **Solutions for improving acoustics especially through foam**

- The car interior noise challenge
- Basics about tire cavity noise
- The different ways to cancel tire cavity noise
- A solution: Foam within the cavity



Dr.-Ing. Etienne Renard,
Research and Development,
Michelin, France

14:25 Refreshment break & networking

14:55 **'The stage is yours!'**
Panel discussion: What are the major challenges to improve acoustics?



This session is a unique opportunity to maximize the outcome of your conference participation on a very individual level. Make the most out of the time you spend with industry experts. These interactive sessions are crafted to ensure that you will get to the heart of the most critical issues and uncover proven practical solutions.

With



Dr.-Ing. Etienne Renard,
Research and Development,
Michelin, France

Sander Ridder,
Global Marketing Manager Tires,
Arizona Chemical B.V., The Netherlands

Innovative tire testing methods

15:30 **Tire Testing for iTPMS on component level**

- Rig Procedure
- Current integration in the development process
- Systemic differences when testing on component and overall system level
- Further development of overall system and component evaluation
- iTPMS: outlook of system evaluation



Robert Sünder,
Scientific Assistant,
University of Applied Sciences Dresden, Germany

16:05 Closing remarks from Hans Rudolf Hein and Dr. Thomas Roscher & end of conference day two with the announcement of the best speaker at 2014 ITT

16:15 End of conference

INTELLIGENT TIRE TECHNOLOGY

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<input type="checkbox"/> Bronze Package 2 day conference	€ 2.549,- + VAT

Please indicate your choice of workshop on Tuesday, 21 October 2014
 Workshop A | Workshop B | Workshop C

A: Latest technologies on TPMS
B: Integrated computational intelligent tire System
C: Concepts for the future tire

Only one discount applicable per person.

CAN'T MAKE IT TO THE CONFERENCE? PURCHASE THE 2-DAY DOCUMENTATION FOR € 990,- +VAT.
 Documentation will be sent 6 weeks after the event

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Venue and Accommodation

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Payment is due on receipt of the invoice.

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