5th International Tyre Colloquium: Tyre Models for Vehicle Dynamics Analysis
Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, Germany

Program
Wednesday, March 25th, 2026

8:00	**Registration**		
	Auditorium		
8:45	**Opening ceremony** Klaus Dreßler, Günter Leister		
	Session chair: Klaus Dreßler, Günter Leister Auditorium		
9:00	**Keynote 1**		
9:45	**Keynote 2**		
10:30	Coffee break and exhibition		
	Tyre Testing for Simulation Auditorium	**Tyre-Road Interaction** Seminar room Z03.07/08	**Handling and Vehicle Dynamics** KMU Center Z13.07
11:00	**Quantitative Analysis of Inner Liner Strain Fields in Tyres via Digital Image Correlation** Edoardo Montini, Politecnico di Milano, IT	**Advanced Road Feedback in Dynamic Driving Simulators: The Effects of Physical Tire Models on Behavioral Validity** Maximilian Böhle, cosin scientific software, Munic, DE	**The TL Root-Rational Tyre Model: Obtaining Analytical Solutions for Vehicle Steady-State Equilibria** Basilio Lenzo, University of Padova, IT
11:30	**Laboratory Abrasion Tester for Predicting Tire Compound Performance** Francesco Colombo, Politecnico di Milano, IT	**Experimental Study on Tire Characteristics on Wet and Dry Roads Based on a Long Track Test Bench** Zewei Luo, Jilin University, Changchun, CN	**Evaluation of a Representative Vehicle Model Approach for Virtual Tyre Development** Paulo Henrique Dayrell Drummond de Oliveira, Apollo Tyres Global R&D, Enschede, NL
12:00	**Advancing Greenwood-Williamson: A Multi-Scale Friction Model for Tyre Performance Prediction** Flavio Farroni, University of Naples "Federico II", IT	**A Digital Image Correlation-based Method for Determining the Tire Rolling Radius** Vladimir Vantsevich, Worcester Polytechnic Institute, US	**Long-term Experiences with FTire and Pacejka Models in Complete Vehicle Development: Measurement/Fitting/Results Quality** Werner Reinalter, Magna Steyr Fahrzeug-technik, Graz, AT
12:30	Lunch break		
13:30	**Motorcycle Tyres: From Tyre Measurements to Full-Vehicle Simulation and Testing** Frederik Harnischmacher, KTM F&E GmbH; AT	**Development of Continuous Measurement Method for Road Friction Characteristics and Some Examples of Measurement Results** Ichiro Kageyama, Nihon University, JP	**Racing Motorcycle Performance Identification through Dynamic Indicators** Gianluca Pagano, University of Naples "Federico II", IT
14:00	**Improving Magic Formula Models of Heavy-Duty Tyres using Physical Tyre Modelling** Jan Friederichs, fka GmbH, Aachen, DE	**Tyre operating conditions and their influence on rubber-surface friction characteristics** Megan Pegram, JLR, Coventry, GB	**Longitudinal and Lateral Motion Control with Lap Time Analysis for the Siemens Simrod Raceing Car** Wanhong Zhao, Guoying Tian Xihua University, CN
14:30	**Advancing Tire Engineering Through Non-Destructive Viscoelastic Characterization** Andrea Genovese, University of Naples "Federico II", IT	**Virtual Winter Testing – Vehicle Simulation Using Soft Soil Tire Modelling** Lucas Kira, AVL List GmbH, Graz, AT	**Systematic Parameterization of a Coupled Brake-Rim-Tire Thermal Model for Vehicle Dynamics Simulation** Christoph Scherndl, AVL List GmbH, Graz, AT
15:00	Coffee break and poster session		
16:00	**Influence of Toe and Camber Angles on Tyre Rolling Resistance and Tyre Rolling Loss** Massimiliano Gobbi, Politecnico di Milano, IT	**Influence of Sliding Velocity on Strain Distribution in Resin-Rubber Contact: Role of Viscoelasticity** Toshiaki Nishi, Tohoku University, JP	**Development of a Methodology for Indoor Tyre Wear Testing** Lorenzo Maglia, Politecnico Milano, IT
16:30	**Novel Approach for Digital Footprints on 3D-printed Road Surface Replicas** Gunnar Böttcher, Institute for Automotive Engineering (ika), RWTH Aachen University, DE	**Visualization of Asphalt Pavemant-Tire Tread Block Contact Interface Using X-ray CT** Masami Matsubara, Waseda University, JP	**Model-Based Analysis of Tire Wear Influencing Factors** Toni Feißel, IAV GmbH, Berlin, DE
17:00	End of conference day 1		
19:00	Reception at "Brauhaus an der Gartenschau", Forellenstraße 6 in Kaiserslautern		
19:30	Tyre Colloquium dinner at "Brauhaus an der Gartenschau", Forellenstraße 6 in Kaiserslautern		

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Program
Thursday, March 26th, 2026

	Session chair: Klaus Dreßler, Günter Leister Auditorium			
9:00	**Keynote 3**			
9:45	**Pitch and poster**			
	Modelling Theory and Step-By-Step Identification Method of Unitire Unified Tire Model Longfei Zhou, Jilin University Changchun, CN	**The Influence of the Friction Law on an Elementary Physical Tyre Model** Jacob Meijaard, Delft University of Technology, NL	**Dynamic Vertical Tyre Stiffness Measurement for Bicycle Tyres** Malte Rothhämel, KTH Royal Institute of Technology, Stockholm, SE	**Integrated Suspension and Tyre Dynamics Under Transient Load Transfer in Road Vehicles** Vigneshwaran P, National Institue of Technology Puducherry, IN
10:15	Coffee break and exhibition			

	Rolling Resistance and Wear Simulation Auditorium	**AI based Tyre Modelling** Seminar room Z03.07/08	**Adhesion and Friction** KMU Center Z13.07
11:00	**Modelling and Analysis of Heat Build-Up and Rolling Resistance in Truck Tyres** Fredrik Öijer, Volvo Group Trucks Technology, SE	**Development of Tire Lateral Sidewall Stiffness Prediction Method Combining Structural Mechanics and Neural Network** Ryota Nakanishi, Sumitomo Rubber Industries, Ltd., Kōbe, JP	**Comparative Study on the Expression Ability of Different Tire Models for Friction Limit Performance** Dekuan Liu, Jilin University, CN
11:30	**Tyre Wear Simulation Based on Finite Element Modelling Approaches** David Khalili, Institute of Mechanics and Mechatronics, TU Wien, AT	**Tire Intelligence for Next-Generation Software-Defined Vehicles: From Virtual Sensing to Predictive Performance Management** Aleksandr Sakhnevych, University of Naples "Federico II", IT	**Tread Rubber Friction Characteristics on Sandpaper and Asphalt-Replicating Surfaces** Matthew Willcox, University of Surrey, GB
12:00	**Validation of Simple Indentation and Effective Contact Area Models to Be Used for Tire Wear Models** Martin Schabauer, Graz University of Technology, AT	**Classification of Tyre Type and Pressure from Pass-by Noise** Mustafa Demetgül, Karlsruhe Institute of Technology, Institute AIFB, DE	**General Properties of Tyre Slip Curves in Winter Conditions** Mattias Hjort, VTI, Lund, SE
12:30	Lunch break		
13:30	**Keynote 4**		
	Mechanical Modelling of Tyres Auditorium	**AI based Tyre Modelling** Seminar room Z03.07/08	**Noise, Vibration, and Harshness (NVH)** KMU Center Z13.07
14:30	**Creation of Pacejka Model on Wet Ground Based on Physical Observations and Models** Anthony Kopec, Michelin, Clermont-Ferrand, FR	**Tyre Sideslip Quasi-steady State Mechanical Characteristics Prediction Based on Transformer Model** Zhiyuan Bi, Jilin University, CN	**Bifurcation Analysis of Wheel Hop for Different Tyres and Surfaces** Yixin Yang, Loughborough University, GB
15:00	**TireX: A Physical Thermo-Mechanical Tire Model for Hard Real-Time Simulations** Filippo Faccini, University of Trento, IT	**Gaussian Process Regression for Efficient Tyre Testing** Georgios Mavros, Loughborough University, GB	**Mechanical Vibration of an Independent Driving and Steering System Composed of a Corner Module and a Physical Tire Model** Zihong Li, Southeast University, Nanjing, CN
15:30	**High-Fidelity Tire Radius Modelling for Enhanced Vehicle Simulation and On-Board Applications: A Physics-Based Approach Grounded in Real-World Measurements** Carlos Nerini, WOM Testing Technologies, Torino, IT	**Prediction of Tyre and Vehicle Performance using Machine Learning Models** Benjamin Schäfer, Institut für Kraftfahrzeuge Aachen, DE	**Influence of Tyre and Ground Contact Enveloping Characteristics on Objective Ride Quality Assessment in Vehicle Dynamics Simulations** Özgen Akalin, Istanbul Technical University, TR
16:00	Coffee break and exhibition		
16:30	Discussion awards and close at auditorium		
17:00	End of conference		

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