



130 presentations
in 5 parallel sessions!
Hybrid flex format!

23 – 25 January 2024 | Ostfildern/Stuttgart, Germany

24th International Colloquium Tribology

Industrial and Automotive Lubrication

Steering Committee

N. Dörr, C. Gachot, M. Marian, K. Völkel

In cooperation with:



Media partner:



23 – 25
Jan. 2024

24th International Colloquium Tribology



The Tribology Colloquium has become a permanent fixture in the event calendar of tribologists and those working in related fields. Participants from all over the world come to exchange ideas, present their latest findings, make business contacts and forge new friendships. The conference usually attracts more than 400 participants. Be part of it and save the date!

Share experiences
with tribologists
from all over the
world!

Steering Committee

Priv.-Doz. Dipl.-Ing. Dr. techn. Nicole Dörr
AC2T Research GmbH, Wiener Neustadt (AUT)

Univ.-Prof. Dr.-Ing. Carsten Gachot
Vienna University of Technology, Vienna (AUT)

Dr.-Ing. Max Marian
Pontificia Universidad Católica de Chile, Macul (CL)

Dr.-Ing. Katharina Völkel
Technical University Munich (GER)

Programme Planning Committee

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Karlsruhe Institute of Technology, Karlsruhe (GER)

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Institute of Machine Components, Uni Stuttgart (GER)

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ContactEngineering, Stuttgart (GER)

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OilDoc GmbH, Brannenburg (GER)

Dr. Markus Matzke
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Robert Bosch GmbH, Stuttgart (GER)

Prof. Dipl.-Ing. Dr. techn. Andreas Pauschitz
AC2T Research GmbH, Wiener Neustadt (AUT)

Dr. Thomas Rühle
BASF SE, Ludwigshafen (GER)

4 good reasons to attend:

- The conference offers a unique mix of industry and research in the field of friction and lubrication.
- It features more than 130 presentations over three days
- An industry exhibition showcases the current state of the art and future trends in tribology research and applications.
- The interesting social program will make your stay unforgettable and offers many networking opportunities.
- We offer hybrid flex format. Your choice to attend on-site or participate live online.

LinkedIn Group

Join our LinkedIn group for the latest updates and connect with our speakers, exhibitors and other participants.

- 1. go to www.linkedin.com
- 2. search for „International Colloquium Tribology – TAE“ or use QR-Code



Main topics at a glance

The 24th International Colloquium Tribology aims to highlight exciting developments in important areas of tribology and to support new technologies that will have a strong impact on future sustainable development.

The conference will present around **130 contributions** (à 30min incl. discussion) from research, industry and practice in **5 parallel sessions** and **high-level plenary sessions** over three days.

The event will focus on the following main topics:

- New trends in lubricants and additives
- Coatings, surface interactions and underlying mechanisms
- Machine elements and their application in tribology
- Computational methods and digital transformation in tribology
- Test and measurement methodologies
- Sustainability and resource efficiency

Program

Changes in the program are possible during further preparation. The detailed and up-to-date program for the conference with all details on lectures, speakers and short-abstracts can be found at

www.tae.de/go/tribology

REGISTER NOW!



Industrial Exhibition

The colloquium is rounded off by an industrial exhibition in the main foyer of TAE. Companies present their current products and services on-site. Limited number of booths. For your reservation and more information contact: elif.koyuncu@tae.de

Social Events and Networking

Tuesday, Jan 23, 2024 (6.00 – 9.00 pm)

Swabian reception at the TAE-Foyer

Enjoy swabian snacks and beverages after a long day full of talks and have a relaxed chat with other participants.

Wednesday, Jan 24, 2024 (6.00 – 9.00 pm)

Evening reception at the KUBINO at Ostfildern

Have a nice evening with music and magical entertainment. Connect with old friends while making new ones.

Excursions on Thursday, Jan 25, 2024 (optional)

Visit of the Mercedes Benz Museum Stuttgart – departure at 9.45 am, retour at 12.45am. A shuttle bus takes us to the museum and back.

Guided tour of **Germany's oldest sparkling wine cellar** at Esslingen – departure at 3.30 pm, retour at 6.30 pm. The tour takes about 1,5h with wine tasting.

(The number of participants for excursions is limited. Please book separately via our website.)



Tuesday, January 23, 2024 – Conference Program

P1 - Plenary Session, room 1					
10:00	Welcome and opening of the conference <i>CEO Michael Walz, TAE, GER, Dr. Nicole Dörr, AC2T research GmbH, AUT, Prof. Carsten Gachot, TU Wien, AUT ,</i>				

10:30	Minimizing CO2-Emissions and Maximize ROI: Implementing known Tribology Principles and Design for Zero for a Carbon Neutral Industry <i>Prof. Dr. Victoria Van Camp, Prof. Roland Larsson, Luleå University of Technology, , SWE</i>				
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11:00	Sustainability in Winter Sports - the Tribological Perspective <i>Prof. Dr. Matthias Scherge, Fraunhofer IWM, GER</i>				
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11:30	<i>Coffee Break / Exhibition</i>				
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	A1 - New Trends in Lubricants and Additives <i>Dr. Rich Baker</i>	A2 - Machine Elements and their Application in Tribology <i>Dr.-Ing. Michael Gless</i>	A3 - Computational Methods and Digital Transformation in Tribology <i>Prof. Georg Jacobs</i>	A4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. Max Marian</i>	A5 - Test and Measurement Methodologies <i>Dr. Markus Grebe</i>
	room 1	room 2	room 3	room 4	room 5

12:00	Next-Generation Anti-Wear for EV-Lubricants <i>Christelle Chretien, Syensqo, USA</i>	Simulation-Based Evaluation of Drive Cycle Fuel Efficiency Gains in Gasoline Engines through Engine Oil Viscosity Reduction <i>Xavier Simón-Montero, Universidade de Vigo, ESP</i>	Simulation of the Local CoF Development in Dynamically Loaded Contact Surfaces (Fretting) <i>Silvano Oehme, University of Technology Chemnitz, GER</i>	Combination of DLC Coatings and Dedicated Lubricants in Order to Achieve Supralow Friction in Highly Loaded Sliding Contacts <i>PhD Johnny Dufils, IREIS/HEF group, FRA</i>	Comparison of Different Standard Test Methods for Evaluating Greases for Rolling Bearings under Vibration Load or at Small Oscillation Angles <i>Dr. Markus Grebe, Competence Center for Tribology, Hochschule Mannheim, GER</i>
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12:30	Lubricants Technology for Improving the Protection Performance of Reduction Gears in Transaxles for Electric Vehicles <i>Daisuke Takekawa, Idemitsu Kosan Co. Ltd., JPN</i>	A Study on the Effect of Surface Tension on the Drag Torque of Wet Clutches <i>Dr. Nikolaos Rogkas, National Technical University of Athens, GRC</i>	Static and Dynamic Friction of Elastomers in Dry Conditions: Simulating Commercial Materials and Products <i>Dr. Fabian Kaiser, Freudenberg Technology Innovation SE & Co. KG, GER</i>	Numerical and Experimental Analysis of the Tribological Performance of a DLC-Coated Piston Ring-Cylinder Liner Contact <i>PhD Johnny Dufils, IREIS/HEF group, FRA</i>	Panta Rhei: Everything Flows (But Not Everything Flows the Same) <i>René Westbroek, Axel Christiernsson International, SWE</i>
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13:00	Impact of Lubricating Oils on the Cooling Performance for Liquid-Cooled Motor and Battery Thermal Control System Applied to Electric Transaxles <i>Dr. Keiichi Narita, Idemitsu Kosan Co. Ltd., JPN</i>	Implementing the Use of Water Based Environmentally Acceptable Lubricants in the Ship Industry – on the Frictional and Wear Performance of SiC-YAG Composite Coating <i>Nuria Espallargas, NTNU Norwegian University of Science and Technology, NOR</i>	Identification of the Dominant Wear Mechanism in Dry Contacts by Numerical Modeling <i>Florian Köhn, Aalen University, GER</i>	The Running-In of a DLC-Metal-Tribosystem – a Study on Multiple Scales <i>Prof. Dr. Matthias Scherge, Fraunhofer IWM, GER</i>	Enhancing Understanding of Grease-Retention and Lubrication-Mechanisms of Oscillating Sliding Contacts with Long Stroke Lengths <i>Andreas Keller, HS Mannheim, GER</i>
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13:30	<i>Lunch Break / Exhibition</i>				
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	B1 - New Trends in Lubricants and Additives <i>Dr. Manfred Jungk</i>	B2 - Machine Elements and their Application in Tribology <i>Rüdiger Krethe</i>	B3 - Computational Methods and Digital Transformation in Tribology <i>Dr. Johannes Müller</i>	B4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. Max Marian</i>	B5 - Test and Measurement Methodologies <i>Prof. Andreas Pauschitz</i>
	room 1	room 2	room 3	room 4	room 5

14:30	Novel Organic Friction Modifiers with Extended Performance Durability <i>Dr. Pieter Struelens, Oleon NV, BEL</i>	Stick-Slip in Hydraulic Cylinders: New Test Methods Simulation as a Tool for Selecting Coating Solutions for Piston Rods to Avoid Critical Operating Conditions <i>Giuseppe Tidona, Hochschule Mannheim, GER</i>	EHL Simulation for the Design Workflow of Contacts with Limited Lubricant Availability <i>Dr. Cesar Pastor, Robert Bosch GmbH / Corporate Research, GER</i>	Influence of Particles on DLC Coated Journal Bearings <i>Dr. Andreas Nevosad, AC2T research GmbH, AUT</i>	Correlation of MTM Stribeck Curves with Efficiency Data for Predictive Analysis of Coaxial EV Gearbox Performance <i>Dr. Dmitry Shakhvorostov, Evonik Operations GmbH, GER, Miriam Bäse, Magna Powertrain GmbH & Co KG, AUT ,</i>
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15:00	Effect of Organic Friction Modifiers on Friction and Wear of HDDEO Formulations <i>Dr. Gareth Moody, Cargill, USA</i>	Wear Optimization of Roller Chain Drives with Triboactive Transfer Coatings <i>Martin Rank, RPTU Kaiserslautern-Landau, GER</i>	A Novel Mortar Multiphysics Computational Method for Thermal Elastohydrodynamic Lubrication <i>Dr. Volker Gravemeier, AdCo Engineering GW GmbH, GER</i>	Assessment of Different Coatings on the Friction and Wear Behavior of Differential Shafts for Electric Vehicles <i>Etienne Macron, IREIS/HEF group, FRA</i>	LIF Signal Calibration for Bench Simulating Experiments and Engine Oil Film Thickness Investigations <i>Dr. Polychronis Dellis, National Technical University of Athens, GRC</i>
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15:30	Performance Enhancement of Molybdenum-Based Friction Modifiers <i>PhD David Boudreau Sr, Vanderbilt Chemicals LLC, USA</i>	Investigation of Polymer Solid Lubricated Steel-Bronze Contacts for Worm Gears Applications <i>Dr. Konstantinos Pagkalis, RPTU Kaiserslautern-Landau, GER</i>	The European Tribology Centre: Tribology as a Service towards a Sustainable World <i>Dr. Xavier Borrás, i-TRIBOMAT GmbH, AUT</i>	Atomistic Insights into the Behavior of Solid Lubricants under Tribological Load <i>Dr. Andreas Klemenz, Fraunhofer IWM, GER</i>	Digital Twin Parametrization of a Roller Bearing Based on Ultrasonic Film Thickness Measurement <i>Dr. Markus Varga, AC2T research GmbH, AUT</i>
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16:00	Coffee Break / Exhibition				
	C1 - New Trends in Lubricants and Additives <i>Dr. Manfred Jungk</i> room 1	C2 - Machine Elements and their Application in Tribology <i>Dr. Arshia Fatemi</i> room 2	C3 - Computational Methods and Digital Transformation in Tribology <i>Dr. Max Marian</i> room 3	C4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. Markus Varga</i> room 4	C5 - Test and Measurement Methodologies <i>Dr.-Ing. Michael Gless</i> room 5
16:30	Lubricity-improving Additives Based on the Synergy of Nanoparticles and Protic Ionic Liquid <i>Dr. Raimondas Kreivaitis, Vytautas Magnus University Agricultural Academy, LTU</i>	Power Loss in High-Speed Angular Contact Ball Bearings <i>Jorge Seabra, Universidade do Porto, Faculdade de Engenharia, PRT</i>	Development of a Digital Twin through Simulation of PVD/PACVD Coatings for Both Dry and Lubricated Conditions <i>Vincent Hoffmann, Tribo Technologies GmbH, GER, Dr. Emanuel Tack, Oerlikon Surface Solutions AG, LIE ,</i>	Modification of Surface Properties on Various Mg-Based Alloys for Tribological Applications via Plasma Electrolytic Oxidation Process <i>Ashutosh Tiwari, ELB - Eloxalwerk Ludwigsburg Helmut Zerrer GmbH, GER</i>	Oil Aging on a Test Rig to Introduce Sustainable Lubricants in Electric Vehicle Transmissions <i>Timo König, Hochschule Aalen - Technik und Wirtschaft, GER</i>
17:00	Looking for the Perfect Friction Match in the 2D World <i>Prof. Dr. Carsten Gachot, TU Wien, AUT</i>	Effect of Slip on Piezo-Viscous-Polar Lubricated Multirecessed Hybrid Journal Bearing <i>Vishal Singh, Indian Institute of Technology, Jammu, IND</i>	Lubrication Mechanism Analysis of Textures in Journal Bearings Using CFD Simulations <i>Yujun Wang, Institute for Machine Elements and Systems Engineering, RWTH Aachen University, GER</i>	Mechanically Adhesive Micro-Patterned Surfaces: Translating Friction and Mechanical Interlocking in Adhesional Forces <i>PhD Marco Bruno, Italian Institute of Technology, ITA</i>	Copper Wire Resistance Corrosion Test for Assessing Potential Fluids as E-Thermal Fluids in BEVs Immersion Cooling Applications <i>Prof. Dr. Bernardo Tormos, Universitat Politècnica de València, ESP</i>
17:30	In-operando Formation of Transition Metal Dichalcogenides – Instant Lubrication by Simple Sprinkling of Se Nano-powder onto Sliding Metal Surfaces <i>Philipp Grützmacher, TU Wien, AUT</i>	Micropitting in Rolling-Sliding Contacts: Mechanisms and Prevention <i>Amir Kadiric, Imperial College London, GB</i>	Investigation of Wear Protection and Friction Losses in Ultralow Viscosity Lubricant Formulations: A Combined FEM-CFD Simulation Approach <i>Javier Blanco-Rodríguez, Universidade de Vigo, ESP</i>	Unveiling Extreme Lightweight Potential by PEO Refinement of Innovative Al Alloys <i>Anutsek Sharma, ELB - Eloxalwerk Ludwigsburg Helmut Zerrer GmbH, GER</i>	Shear Stability and Thermal Performance Analysis of Engine Oils for Electric Vehicles <i>Dr. Deepak Halenahally Veeregowda, Ducom Instruments (Europe) BV, NLD</i>
18:00	Evening Reception - TAE main foyer				
Wednesday, January 24, 2024 – Conference Program					
	P2 - Plenary Session, room 1				
09:00	Dynamic Properties of Lubricants for Electric Vehicles <i>Prof. Dr. Hong Liang, Texas A&M University, USA</i>				
09:30	E-Fuels and Tribology <i>Lars Hummel, eFuel Alliance e.V., GER</i>				
10:00	cancelled				
10:30	Coffee Break / Exhibition				
	D1 - New Trends in Lubricants and Additives <i>Dr. Martin Dienwiebel</i> room 1	D2 - Sustainability and Resource Efficiency <i>Dr. Markus Matzke</i> room 2	D3 - Computational Methods and Digital Transformation in Tribology <i>Prof. Carsten Gachot</i> room 3	D4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. George Dodos</i> room 4	D5 - Test and Measurement Methodologies <i>Dr. Markus Grebe</i> room 5
11:00	Formulating Next Generation Multi-Metal Wire Drawing Fluids with Multifunctional Amino Alcohols <i>Denis Buffière, ANGUS Chemical Company, FRA</i>	How Oil Care Can Reduce Oil and Maintenance Costs <i>Steffen Dalsgaard Nyman, C.C.JENSEN & Noria Partner, DNK</i>	Towards the Prediction of Lubricated Contacts by Machine Learning <i>Max Marian, Universidad Católica de Chile, CHL</i>	The Effects of the Lubricant Properties and Surface Finish Characteristics on the Tribology of High-Speed Gears for EV Transmissions <i>Prof. Dr. Boris Zhmud, Tribonex AB, GBR</i>	Go Greener by In-Situ Characterization of Lubricants for Cold Rolling – Droplet Size Distribution and Physical Separation /Emulsion Stability <i>Dr. Arnold Uhl, LUM GmbH, GER</i>
11:30	Biobased Ionic Liquid for Conductive Lubricants <i>Dr. Pieter Struelens, Oleon NV, BEL</i>	Using Molecular Modelling to Anticipate Future Toxicity Classifications of Anti-Oxidants and Identify Safer Structures <i>Siegfried Lucazeau, NYCO, FRA</i>	Detection of Critical Operation in Porous Journal Bearings Using Machine Learning <i>Dr. Markus Varga, AC2T research GmbH, AUT</i>	Effects of Calcium Detergents on Micro-pitting of Gear Metals <i>Akira Tada, Technical University of Berlin, GER</i>	Investigation of Functional Lubricity of Water-Based MWFs by an Innovative Tool <i>Dr. Ameneh Schneider, Optimol Instruments, GER</i>
12:00	Introducing a New, High-Performance Water-Based Rust Preventive Additive for Formulations Demanding Superior Metal Parts Protection in Severe Corrosion Conditions <i>James Grabarz, King Industries, Inc., USA</i>	Tribology Contribution to Sustainability and Energy Efficiency <i>Dr. Amaya Igartua, Fundación TEKNIKER, ESP</i>	Application of Machine Learning for Tribological Performance Prediction of Newly Lubricant Formulation <i>Dr. Wahyu Wijanarko, NTNU, NOR</i>	Friction Reducing Effect of Lubricants Applied to Organic Fibres <i>Dr. Igor Velkavrh, V-Research GmbH, AUT</i>	Tribological Testing for the Assessment of Friction and Metal Transfer in Sliding Contacts Between Cemented Carbide and Aluminum During Metal Forming <i>Dr. Núria Cinca, Hyperion Materials and Technologies, ESP</i>
12:30	Lunch Break / Exhibition				

	E1 - New Trends in Lubricants and Additives <i>Dr. Klaus Terveen</i> room 1	E2 - Sustainability and Resource Efficiency <i>Dr. Markus Matzke</i> room 2	E3 - Computational Methods and Digital Transformation in Tribology <i>Dr. Arshia Fatemi</i> room 3	E4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. George Dodos</i> room 4	E5 - Test and Measurement Methodologies <i>Rüdiger Krethe</i> room 5
14:00	Production of High VI Base Oils from Full Conversion Hydrocracker Residue with Solvent Refining Method <i>Prof. Dimitrios Karonis, National Technical University of Athens, GRC</i>	Oxidation Effects on the Rheology and Tribology of Sustainable Lubricants for Electromechanical Drive Systems <i>Didem Cansu Güney, Hochschule Aalen, GER</i>	Per Aspera ad Astra – Design of Friction Reducing Star Polymers from Computer Simulation to Lubricant Application. <i>Lars Kruse, Fraunhofer IWM - MikroTribologie Centrum µTC, GER</i>	Lubricant Inerting – a New Era in Lubrication Technology <i>Prof. Dr. Hugh Spikes, Imperial College of London, GBR</i>	Analysis of Tribo-Films in Industrial Applications <i>Joerg W.H. Franke, Schaeffler Technologies AG & Co.KG, GER</i>
14:30	Base Oil Solvency and High Temperature Deposit Formation in Engine Oils - a Model Study <i>Prof. Dr. Thomas Norrby, Nynas AB, SWE</i>	Biolubricants as Metal-Working Fluids: More than an Environmental-Friendly Choice <i>Marco Bellini, Bellini SpA, ITA</i>	Computational Modeling of Tribological Systems: Insights into Grinding Processes, Materials Tribology, and Tribofilm Formation through Molecular Dynamics <i>Dr. Stefan Eder, TU Wien, AUT</i>	Tribological Behaviour of Polymer Compounds containing Microencapsulated Lubricants <i>Susanne Beyer-Faiß, Dr. Tillwich GmbH Werner Stehr, GER</i>	Detection of Wear in Modern Naval Engine Components <i>PhD Theodora Tyrovola, National Technical University of Athens, GRC</i>
15:00	An Investigation of Using Ultra-Low Viscous Naphthenic Oil in Lubes and Greases <i>Dr. Jinxia Li, Nynas AB, SWE</i>	Potential and Performance of Pure Water Lubrication in Gearboxes <i>Dr. Andreas Nevosad, AC2T research GmbH, AUT</i>	Tribochemical Reactions in the Degradation Process of Iron Nitride with Rective Molecular Dynamics Simulation <i>Mizuho Yokoi, Tohoku University, JPN</i>	Early Stages of Tribo-Oxidation in Single Crystalline Copper <i>Ines Kisch, Karlsruhe Institute of Technology, GER</i>	Unveiling the Butterfly Effect in Tribology: The Impact of Surface Profile and Misalignment <i>Yulong Li, Karlsruhe Institute of Technology, GER</i>
15:30	Coffee Break / Exhibition				
	F1 - New Trends in Lubricants and Additives <i>Siegfried Lucazeau</i> room 1	F2 - Sustainability and Resource Efficiency <i>Dr. Markus Matzke</i> room 2	F3 - Computational Methods and Digital Transformation in Tribology <i>Dr. Stefan Eder</i> room 3	F4 - Coatings, Surface Interactions and Underlying Mechanisms <i>Dr. Max Marian</i> room 4	F5 - Test and Measurement Methodologies <i>Dr. Markus Grebe</i> room 5
16:00	Reversibly Tunable Viscosity of PAG and its Application in Sheet Metal Forming <i>Dr. Dominic Linsler, Fraunhofer IWM, GER</i>	A Life Cycle Assessment (LCA) to Analyze the Green House Gas (GHG) Emissions for Estolides Produced from Castor Oil <i>Dr. Matthew Kriech, Biosynthetic Technologies, USA</i>	Towards a Continuum Description of Mineral Oil Lubrication in Highly Pressurized Nanometer wide Constrictions: the Importance of Accurate Slip Laws <i>Prof. Dr. Michael Moseler, Fraunhofer IWM, GER</i>	Effect of Atmospheric Composition on the Friction and Wear of Cobalt-Based Alloys at Elevated Temperatures <i>Tobias König, Fraunhofer Institute for Mechanics of Materials IWM, GER</i>	Soft and Highly Sensitive Contact Pressure Sensors Based on Randomly Rough Surfaces <i>PhD Luciana Algieri, Istituto Italiano di Tecnologia, ITA</i>
16:30	Surfactant Systems with Improved Lubricity for Water Miscible Cooling Lubricants <i>Ludger Bösing, Sasol Germany GmbH, GER</i>	Sustainability Assessment of Polyol Esters – A Comparative LCA Analysis of Bio-Based vs. Fossil-Based Product <i>Verena Koch, Peter Greven GmbH & Co. KG, GER</i>	Tribochemical Properties of Glycerol as a Green Lubricant on Ferrous Substrates: Atomic-Scale Study by Reactive Molecular Dynamics Simulation <i>Dr. Vahid Fadaei Naeini, Luleå Tekniska Universitet, SWE</i>	Thermal-Elasto-Plastic Hydrodynamic Contact Between Rough Surfaces <i>Pedro Romio, Universidade do Porto, Faculdade de Engenharia, PRT</i>	The Importance of Inoculum for Biodegradation Testing of Lubricants <i>Dr. Peter Lohmann, Hermann Bantleon GmbH, GER</i>
17:00	SAPS-free Bio-based Additives for Lubrication in Next-generation Vehicles <i>PhD Xi He, Syensqo, USA</i>	How can Esters Improve the Sustainability of Both Intrinsic and Extrinsic Factors? <i>Gemma Stephenson, Cargill, GBR</i>	Effect of Polar Additives on the Slip and Bulk Shear of Hydrocarbon Oils <i>Seyedmajid Mehrnia, Institut für Fluidsystemtechnik, TU Darmstadt, GER</i>	Optimisation of EV Transmission Efficiency Using a Tribological Model <i>Amir Kadiric, Imperial College of London, GBR</i>	Soft Contact Electroadhesion for Controlling Tactile Perception Through Active Friction Modulation <i>PhD Luigi Portaluri, Università del Salento, ITA</i>
17:30	Short Break				
18:00	Evening Reception – Kubino				
Thursday, January 25, 2024 – Conference Program					
	G1 - New Trends in Lubricants and Additives <i>Siegfried Lucazeau</i> room 1	G2 - Machine Elements and their Application in Tribology <i>Dr. Rich Baker</i> room 2	G3 - Sustainability and Resource Efficiency <i>Dr. Markus Matzke</i> room 3	G4 - Young Tribologists <i>Dr. Max Marian</i> room 4	G5 - Test and Measurement Methodologies <i>Rüdiger Krethe</i> room 5

09:00	Antioxidative Action and Tribological Performance of CuDTP as a Potential Additive for Hydraulic Fluids <i>Noriko Ayame, ENEOS Corporation, JPN</i>	Enhancing Reliability and Service Life Predictions of Tribological Contacts through Friction Monitoring during Assembly Process and Sensor-Embedded Smart Contacts for Verification <i>Dr. Michael Gieß, ContactEngineering, GER</i>	New Technologies of Antiwear and Antioxidant Additives used for Designing Nonhazardous Turbine Oils and Sustainable High-Performance Lubricants Including Greases <i>Dr. Gregoire Herve, Nyco, FRA</i>	Amorphous carbon coatings for total knee arthroplasty – a knee simulator evaluation <i>Benedict Rothammer, Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, GER</i>	Limit Values for the Evaluation of Lubricant Analyses <i>Stefan Mitterer, OELCHECK GmbH, GER</i>
09:30	Boundary Lubricant Additive Responses on Steel, Aluminum and Copper Using Twist Compression Tests (TCT) for Multi-metal Lubricant Formulation <i>Ted McClure, Sea-Land Chemical Company, USA</i>	The Effect of Electrical Currents and Lubricant Formulation on Rolling Contact Fatigue <i>Dr. Monica Ratoi, University of Southampton, GBR</i>	The Effects of Applying the Tribological Compound TZ NIOD <i>Patrick Eisner, FH Technikum Wien, AUT</i>	On the Relation between Friction and Surface Topography – Models and Challenges <i>Charlotte Spies, Robert Bosch GmbH, GER</i>	Rheological and Tribological Characterization of Grease – From sub-zero Temperature to Influence of Electric Field <i>Paul Staudinger, Anton Paar GmbH, AUT</i>
10:00	Effect of Phosphonium Ionic Liquid as Lubricant Additive in Gear Oil against White Etching Areas Formation in Bearing Steel <i>Linto Davis, Indian Institute of Technology Madras, IND</i>	Film Formation Evolution in Grease-Lubricated Rolling Contacts: Impact of Operating Temperatures <i>Shuo Zhang, Institute for Machine Elements and Systems Engineering, RWTH, GER</i>	cancelled	Modeling of shape deviations for the development of predictive models of TEHD contacts <i>Klara Feile, Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, GER</i>	Tribological Investigations under Varying Pressure Atmospheres <i>Felix Zak, Optimal Instruments Prüftechnik, GER</i>
10:30	<i>Coffee Break / Exhibition</i>				
	H1 - Computational Methods and Digital Transformation in Tribology <i>Johannes Müllers</i> room 1	H2 - Machine Elements and their Application in Tribology <i>Prof. Andreas Pauschitz</i> room 2	H3 - Sustainability and Resource Efficiency <i>Siegfried Lucazeau</i> room 3	H4 - Tribology - various topics <i>Rüdiger Krethe</i> room 4	H5 - Test and Measurement Methodologies <i>Dr. Xavier Borrás</i> room 5
11:00	Role of Coating Thickness on Static Leakages, Contact Area and Electrical Resistance: A Theoretical and Experimental Study for Randomly Rough Interactions <i>Prof. Dr. Michele Scaraggi, University of Salento, ITA</i>	Analysis of Biodegradable Lubricants for Radial Shaft Seals under Critical Conditions <i>Stefanie Haupt, Klüber Lubrication München GmbH, GER</i>	Innovative Lubricant Components with Lower Greenhouse Gas Emission to Address Sustainability Needs of the Lubricant Industry <i>Dr. Sabrina Stark, BASF SE, GER</i>	Estimation of Remaining Useful Life of Greases after Thermo-Oxidative Ageing by Application of New Method DIN 51830-2 <i>Dr. Markus Matzke, Robert Bosch GmbH, GER</i>	Efficiency Improvements of In-Situ Hydrogen Permeation Measurements in Lubricated Bearing Steel Contacts Using a Modified Devanathan-Stachurski Cell <i>Dr. Ajay Lodhi, University of Leeds, GBR</i>
11:30	Numerical and Experimental Analyses of the Multiscale Effects in the Tribological System Rotary Shaft Seals <i>Jeremias Grün, University of Stuttgart, Institute of Machine Components, GER</i>	Influence of the Steel Disk on the NVH Behavior of Industrial Wet Disk Clutches <i>Patrick Strobl, Technical University of Munich, GER</i>	High Quality Sustainable Base Oils from Plastic Waste and Biomass <i>Prof. Dr. Boris Zhmud, Tribonex AB, GBR</i>	Proper Lubricant Selection for Metal Forming <i>Dr. Rich Baker, Tribotonic Ltd., GBR</i>	Parallel Wear Testing - an Update. Can we Produce Enough Data to Enable AI in Tribology? <i>Dr. Dirk Drees, Falex Tribology, BEL</i>
12:00	Simulative and Experimental Characterization of the Tribo-Electrical Contact of Roller Bearings <i>Stefan Paulus, RPTU Kaiserslautern-Landau, GER</i>	Enhancing Machining Efficiency and Sustainability of Ti-6Al-4V through MQL with Polymeric Ester Based Metalworking Fluids: A Comparative Study with Conventional Cutting Fluids <i>Ramazan Hakki Namlu, Atilim University, TUR</i>	Hybrid Lubricating Grease Formulations: A Sustainable Approach for Utilizing Renewable Resources within A Circular Economy Model <i>Dr. George S. Dodos, Eldon's S.A., GRC</i>	Measurable Sustainability enhancements and Asset Life Extension by applying In-Service Grease Analysis <i>Rich Wurzbach, Tribology Research Center at Knowledge, USA</i>	Building Tribology Application Testing to Determine Wear and Characterization of Polymer-Based Composites <i>Michael Katzer, Versiv Composites Limited, IRL</i>
12:30	<i>Lunch Break / Exhibition</i>				
	P3 - Plenary and Farewell Session, room 1				
14:00	Towards Superefficient Transmissions <i>Thomas Lohner, TU München, GER</i>				
14:30	The Data Science Frontier in Tribology <i>Dr. Nick Garabedian, Karlsruhe Institute of Technology, GER</i>				
15:00	<i>Final Discussion and Farewell</i>				
15:30	<i>End of conference</i>				



Register online now at:
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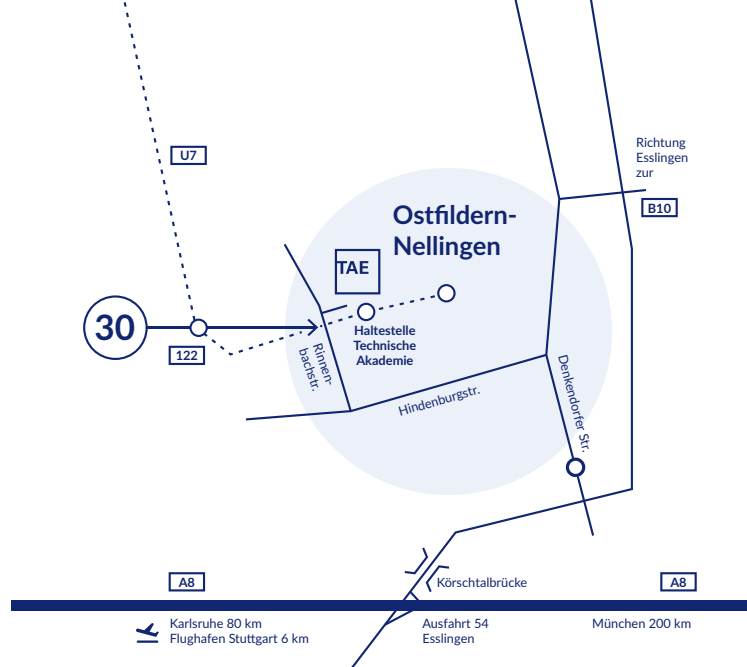
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Colloquium office

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