



19th–20th April 2021
Virtual, times in CEST



Programme Tribology Exchange Workshop

Live Sessions

Monday 19th April 2021

09:00-09:30 Opening session

Workshop chairmen will set the stage

09:30-11:00 Tribology Fundamentals

Alfons Fischer (MPI für Eisenforschung)

Material Science Aspects of Wear of Metals

Mathias Woydt (Matrilub)

Importance of tribology for climate and sustainability

Fabrice Ville (LaMCoS Insa Lyon)

Power Losses in Gear Transmissions

11:00-11:30 Refresher Break

11:30-13:00 Applications

Ann Fenech-Andersen (Danfoss)

Case studies on Lubricant selection

Dirk Drees (Falex)

Wear testing in lubricated conditions

Deepak Veeragowda (Ducom)

On the Fictitious Grease Lubrication Performance in a Four-ball Tester

13:00-14:00 Lunch Break

14:00-16:00 Round Table Discussions in 5 virtual rooms

Participants can post their suggestions for table topics upfront and/or are invited to host one of the tables.

Topics should be around themes from today's live presentations or today's shown Tribology Frontier 2020

Conference recordings

16:00-16:30 virtual reception

Paul Hetherington (Petro Canada) – STLE President

Tuesday 20th April 2021

09:00-11:00 Modelling and Simulation

Jun Wang (SKF)

CFD simulations in bearings

Stefan Eder (AC2T)

Developing Nanoscale Simulations of Tribological Phenomena into

Engineering Tools

ZulfiqarKhan (Bournemouth University)

Wear analysis and modelling applied to nanocoatings

Hannes Grillenberger (Schaeffler)

Noise simulation in Rolling Element Bearings

11:00-11:30 Refresher Break

11:30-13:00 Applications

Joanna Procelewska (Schaeffler)

Exploring of new coatings and materials for the applications under extreme tribocorrosive running conditions

Lieuwe De Fries (SKF)

Friction in rolling bearings

Farshid Sadeghi (Purdue University)

A Novel Test Rig for Friction and Flow Visualization in Oil Lubricated Ball Bearing Cages

13:00-14:00 Lunch Break**14:00-16:00 Round Table Discussions in 5 virtual rooms**

Participants can post their suggestions for table topics upfront and/or are invited to host one of the tables. Topics should be around themes from today's live presentations or today's shown Tribology Frontier 2020 Conference recordings

16:00-16:30 wrap up

Discussion with workshop chairmen on outcome, format, suggestions etc.

Tribology Frontier 2020 Conference recordings**Monday 19th April 2021****09:30 Keynote**

Ali Erdemir (Texas A&M University)

Frontiers of Catalyst-Driven Tribochemistry: Implications for Friction and Wear

10:10 Cutting Edge

Prathima Nalam (SUNY University at Buffalo, Buffalo, NY)

Prediction of Nanoscale Friction for Two-Dimensional Materials Using a Machine Learning Approach

10:40 Cutting Edge

Edmondo M. Benetti (ETH Zürich, Zürich, Switzerland)

Graft Copolymers and Bottlebrushes at Surfaces for Tuning Physicochemical and Tribological Properties of Materials

11:30 Keynote

Jean-Francois Molinari (EPFL, Switzerland)

Revisiting Archard's Wear Model: A Dialog Between Scales

12:15 Keynote

Patricia Iglesias Victoria (Rochester Institute of Technology, New York)

Protic Ionic Liquids: Economical and Low-Toxicity Lubricants and Additives

Tuesday 20th April 2021**09:00 Cutting Edge**

Benjamin Gould (Argonne National Laboratory, Chicago, IL)

The Influence of Material and Electrical Current on the Formation of Premature Bearing Failures

09:35 Cutting Edge

J. Frenken (Advanced Research Center for Nanolithography, Amsterdam, NETHERLANDS)

The Origin of Frictional Energy Dissipation

10:10 Spotlight

Weizi Li (Shell Technology Limited., Shanghai, China)

Study of Vibration Wear in Plug-In Hybrid Vehicle Engine

11:30 Keynote

David Burriss (University of Delaware)

Cartilage Tribology and the Biomechanics of Joint Health

12:20 Spotlight

James Ewen (Daniele Dini, Imperial College London, London, United Kingdom)

Molecules Under Pressure

For Organisational Questions:	For Technical Questions: Workshop Chairmen	
<p>Carol Koopman ELGI Hemonylaan 26, 1074 BJ Amsterdam Netherlands T: +31 20 6716 162 E: carol@elgi.demon.nl W: www.elgi.org</p>	<p>Dr. Manfred Jungk MJ Tribology STLE Europe Representative Greater Frankfurt Suburb Office Germany T: +49 6722 500816 E: manfred.jungk@mj-tribology.com W: www.stle.org</p>	<p>Dr. Hannes Grillenberger Schaeffler Technologies AG & Co.KG E: grillhnn@schaeffler.com</p>