Tuesday, May 23, 2023, 13:45 to 17:20

Materials IQ: Tribology at Very High and Low Speeds

From academic findings to industrial innovation

The event is aimed at researchers, engineers and practitioners concerned with friction, wear and lubrication for advanced industrial applications. Further target groups are technology experts from tribology, surface engineering and sensor technologies.

Materials IQ®

innovative surfaces®

Empa
Materials Science and Technology

Schweizerische Eidgenossenschaft
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TITANOE

Tuesday, May 23, 2023

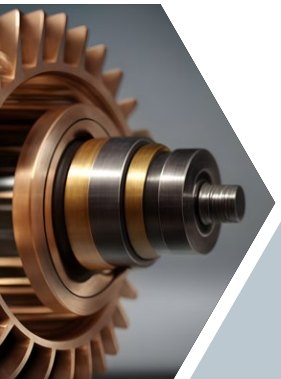
10 JAHRE MISSION INNOVATION HIGHTECH ZENTRUM AARGAU

MATERIALS IQ: TRIBOLOGY AT VERY HIGH AND LOW SPEEDS

Registration
www.nano.swiss/materialsiq

Location
TECHNOPARK® Aargau, Aula / 1. UG
Badenerstrasse 13, 5200 Brugg
www.hightechzentrum.ch/lageplan

Participation fee
Participation is free of charge, but your registration is required (limited number of participants)



The requirements placed on tribo-systems are constantly increasing, driven by high-tech applications. High operating speeds, repetitive start-stop motions or other extreme environments challenge designers and engineers in terms of operating equipment safely and ensuring a low environmental footprint. Such extreme conditions often also ask for a targeted redesign of material concepts, where multicale numerical modeling finds it application.

The participants will get an overview on requirements and innovative solutions for tribosystems in extreme conditions. Speakers from industry and academia show the state of the art, a selection of practical examples and current challenges. Recent multiscale numerical tools, testing methods, materials and tribological coatings will be discussed.

Program

13:45	**Welcome and Concept of Materials IQ** Dr. Marcus Morstein, Hightech Zentrum Aargau AG and Dr. Jörg Güttinger, Association NTN Innovative Surfaces
14:00	**Extreme Tribology – From the run-in of a tribosystem** Prof. Dr. Matthias Scherge, Fraunhofer IWM MikroTribologie Centrum, Freiburg/Karlsruhe
14:40	**MAX Compression 2.0 – Solutions for Wear and Tear in Hydrogen Compression** Christoph Nagl, MAT Maximator Advanced Technology, AT-Wien (Online Presentation)
15:00	Break
15:30	**Modeling friction and wear across scales** Prof. Dr. Jean-François Molinari, Computational Solid Mechanics Laboratory, EPF Lausanne
16:10	**Online monitoring and faults predictions for industrial tribo-systems** Dr. Sergey Shevchik, Empa, Thun
16:40	**Abrasion resistance and frictional behavior for different types of DLC surface treatments** Mirko Zago, ARGOR-ALJBA SA, Mendrisio
17:00	**Discussion, Future Topics**
17:20	**Apéro Riche and Networking**