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Co-creation in the value chain: More from less – achieving competitive advantages with new material and service concepts.

Thursday, September 1, 2022, 13:30 to 17:30

Materials IQ: Extreme Tribology

From academic findings to industrial innovation

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



Thursday, September 1, 2022

MATERIALS IQ: EXTREME TRIBOLOGY



Registration

www.nano.swiss/materialsiq



Location

Hightech Zentrum Aargau AG, 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 tribosystems are constantly increasing, driven by high-tech application areas such as robotics or xEV mobility. High operating speeds, repetitive start-stop motions or other extreme environments pose challenges for developers and engineers in ensuring safe device operation and a low environmental footprint.



The participants will get an overview on requirements and innovative solutions for tribosystems in extreme conditions. Speakers from industry and applied research 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

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- 13:30 **Welcome and Concept of Materials IQ**
Dr. Marcus Morstein, Hightech Zentrum Aargau AG and
Dr. Jörg Güttinger, Association NTN Innovative Surfaces
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- 13:40 **Introduction to the workshop topic**
Prof. Dr. Patrik Hoffmann, Empa, Thun
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- 13:50 **Development and testing in extreme tribological environments**
Dr. Ewald Badisch, AC²T Research GmbH, AT-Wiener Neustadt
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- 14:10 **Sliding bearing for oscillating movement at high loads**
D. Guillaume-Gentil & C. Sagués Mitjana, Bobst SA, Lausanne
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- 14:30 **Moving accurately, sensing precisely, living longer – On the importance of friction models for industrial robotics**
Dr. Arne Wahrburg, ABB AG, DE-Ladenburg
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- 14:50 **Tribological challenges in high-voltage switchgears**
Dr. Moritz Böhm, Hitachi Energy Ltd., Zürich
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- 15:20 Break
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- 15:50 **Mastering extreme conditions: The wheel-rail contact**
Dr. Rowena Crockett, Empa, Dübendorf
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- 16:10 **DLC coatings for extreme tribological conditions in modern automotive components**
Dr. Emanuel Tack, Oerlikon Surface Solutions AG, LI-Balzers
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- 16:30 **Tribological questions and surprises in fractional horsepower electrical drives and gears**
Max Erick Busse-Grawitz, maxon international ag, Sachseln
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- 16:50 **Discussion**
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- 17:20 **Wrap-Up, Next Steps**
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- 17:30 **Apéro Riche and Networking**
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