

Nanoindentation at Elevated Temperature and Humidity

Wednesday, January 25th, 2023 | 1:00 PM GMT | 14:00 CET



Please join us and our special guest speaker **Dr Igor Zlotnikov, B CUBE - Center for Molecular Bioengineering, Dresden University of Technology, Germany**, for this virtual workshop showcasing the advanced temperature and humidity control capabilities of Bruker's **Hysitron TI 980 TriboIndenter**.

This powerful nanomechanical test instrument delivers a comprehensive understanding of material behavior at the nanoscale. It provides rapid, multi-sample, multi-technique testing capabilities. Smart automation routines combined with high resolution, multi-scale imaging and whole-sample optical surveying provide a streamlined testing process and high-throughput characterization.

In this workshop, we will use the Hysitron TI 980 TriboIndenter together with the xSol environmental control stage to:

- Demonstrate and discuss best practices for achieving repeatable and reliable nanomechanical testing results at elevated temperature and humidity levels.
- Combine advanced Bruker nanoindentation testing techniques, such as nanoDMA III dynamic nanoindentation, XPM high-speed indentation, and in-situ SPM imaging - all working together - to fully characterize materials under environmental control.

Dr Igor Zlotnikov will speak on the development of novel techniques with the unique ability to investigate environmentally dependent static and dynamic mechanical properties with high spatial resolution.

Highlights of the workshop

- Presentation by Dr Igor Zlotnikov, B CUBE
- Presentations and demonstrations by the Bruker EMEA Nanoindentation team
- Interactive Q&A session



Our special guest speaker Dr. Igor Zlotnikov, a specialist in the characterization of hierarchical mineralized biocomposites, is a group leader at B CUBE - Center for Molecular Bioengineering, Dresden University of Technology, Germany. He has extensive experience in nanomechanical testing and the simulation of the nano- and micro-mechanical behavior of biomaterials.

He is also an expert on measuring mechanical properties in controlled environments, such as humidity and temperature, the most influential factors for functional biomaterial systems. Igor Zlotnikov has (co)authored over 50 papers, coordinates symposiums, and is a reviewer for leading conferences and journals.

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Program – Wednesday, January 25th, 2023 | 13:00 GMT | 14:00 CET

14:00 Welcome

Carmen Pettersson, Bruker Nano GmbH

14:05 Introduction – Why Test at Elevated Temperature and Humidity Levels?

Dr Rhys Jones, Bruker Nano GmbH

14:10 Demo: Experiments and Analysis using the Hysitron TI 980 TriboIndenter

Dr Ude Hangen and Dr Jaroslav Lukes, Bruker Nano GmbH

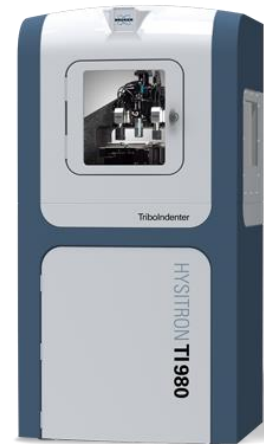
14:30 In-situ Nanomechanical Testing at Elevated Humidities

Dr Igor Zlotnikov, Dresden University of Technology, Germany

14:50 Q&A

Dr Ude Hangen and Dr Jaroslav Lukes

15:00 Closing



Meet the Bruker Team



Carmen Pettersson
Marcom Manager EMEA



Dr Rhys Jones
Product Specialist



Dr Ude Hangen
Application Manager



Dr Jaroslav Lukes
Application Scientist

Please don't hesitate to contact us at productinfo.emea@bruker.com if you have any questions.