



Nanotribology: Call for Abstracts

The Nanotribology sessions will cover aspects of friction, wear, and adhesion between materials at atomic and nanometer length scales, using direct and semi-direct experimental methods or computational techniques. Specific topics include, but are not limited to:

Nanotribology Fundamentals

- Mechanisms for friction, wear, and adhesion at the atomic and nanoscale
- Structure-property relationships derived from nanoscale mechanics
- Nanoscale surface metrology and contact mechanics
- Models for describing nanoscale contact, friction, and wear
- Nanotribology in extreme environments and multi-physical fields
- Relating nanotribology experiments and simulations
- Confinement effects on friction, wear, and adhesion
- Nanotribology of 2D Materials
- Superlubricity

Applied Nanotribology

- Scale dependence and issues in bridging nano and macroscale tribology
- Tribology in nanomechanical or electromechanical devices; wear and reliability issues in nanotribology
- Tip-based manufacturing; nanolithography
- Synthesis, formulation, and performance of nanostructures (nanoparticles, nanorods, nanosheets) for tribology
- Recent advancements in aqueous and ionic lubrication
- Nanotribology of novel lubricants for electrified and energy systems
- Material transformation and manipulation at the nanoscale
- Tribological challenges in semiconductor and information technology

Methods in Nanotribology

- In-situ instrumentation and measurement techniques
- Novel simulation methods for nanoscale tribological contacts and behaviors
- Novel microstructural, mechanical, or chemical characterization techniques

- Advances in conventional experimental techniques
- Machine learning methods for understanding friction, wear, and lubrication
- Other novel methods

For more information and to submit your abstract, visit www.stle.org/annualmeeting.