

Tribology Research at AM²T encompasses the following areas:

- Fundamental theories of friction, wear, contact, and lubrication
- Model-based tribological simulations
- Thin-film lubrication breakdown mechanisms
- Contact fatigue testing and modeling
- Surface science and surface chemistry
- Novel lubricants
- Model based surface and texture design
- Advanced materials, coatings, and composites for tribology applications
- Tribology for advanced manufacturing



Tribological Testing Laboratory

The Tribological Testing Laboratory allows students to use the following equipment:

- ✚ Reciprocating Bearing Tester
- ✚ Roller-on-Ring Tribotester
- ✚ Reciprocating Tribotester
- ✚ Journal-Bearing Tester
- ✚ Block-on-Ring Tribotester
- ✚ Phase-Shift White-Light Interferometer
- ✚ PCS EHL Thin Film Tribometer

Nano/Micro-Tribology Laboratory

The Nano/Micro-Tribology Laboratory allows students to use the following equipment:

- Ball-on-Disk Tester
 - Combination of relative motions
 - Lubricant behavior and lubrication method
 - Material performance
 - Contact, lubrication and failure transition
- High-Temperature Nano-Tribotester
 - Nano-indentation at elevated temperature
 - Nano-scratching at elevated temperature
 - Nano/microscopic material performance
 - Nano/micro scale contact and failure transitions
- Phase-Shift White-Light Interferometer
 - Surface inspection
 - Surface digitization
 - Topographic and statistical analyses

- PCS EHL Thin Film Tribometer
 - EHL film thickness measurement
 - Film distribution map
 - Liquid friction

