



This spring, 2016 course is a two-day intensive that takes place in the greater Boston area. The course mixes lecture with labwork on the basics of atomic force microscopy and its application to imaging polymer materials. Attendees will have hands-on instrument time with AFMs from AFMWorkshop, but the techniques learned are applicable to any make or model of AFM.

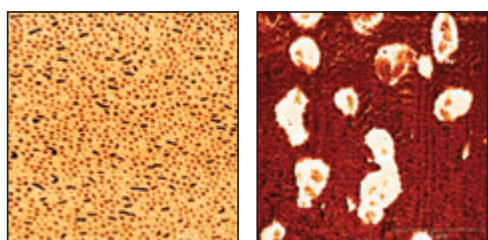
AFM FOR CHARACTERIZATION OF POLYMER MATERIALS

**Taught by Dalia Yablon, Ph.D.
May, 2016 - Boston, MA**

AFMWorkshop is pleased to offer **AFM for Characterization of Polymer Materials** taught by Dalia Yablon, Ph.D., an expert in AFM operation and applications from SurfaceChar LLC.

Class size is limited to 10 students. The price is:

- **\$1495*** before April 1st
- **\$1750*** after April 1st



Topics to be covered:

- Overview of AFM operation and different modes
- Polymer sample preparation
- Overview of AFM hardware
- Overview of AFM software and image processing
- Imaging artifacts and best practices
- Tapping mode and phase imaging for best contrast of polymers
- Imaging mechanical properties of polymers
- Force spectroscopy and associated mechanical measurements of polymers
- Common models to interpret force distance curves
- Hybrid AFM-spectroscopy characterization (Raman and IR)

Labwork:

- Scanning standard and reference samples
- Polymer blends and films imaging
- Polymer blends image processing
- AFM calibration

▶ Atomic Force Microscopy for Characterization of Polymer Materials

May 10-11, 2016

For polymer applications, Atomic Force Microscopy (AFM) now resides alongside optical microscopy and electron microscopy as an essential tool for nanoscale characterization of polymer structure, morphology, and material properties.

The Atomic Force Microscope provides several important advantages over other microscopy methods, including an unmatched ability to provide contrast with minimal sample preparation. Additionally, because the AFM operates through a mechanical interaction between the tip and sample, it provides unparalleled material-based contrast together with the ability to measure mechanical properties such as stiffness and adhesion on the nanoscale in many polymer materials.

The ability to discriminate materials based on their mechanical properties, coupled with nanometer lateral resolution, makes AFM the method of choice to characterize a variety of polymer materials including blends and composites.

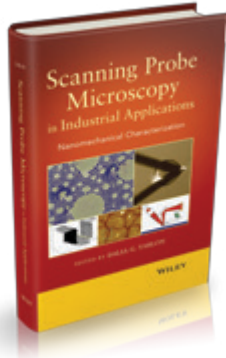
This AFMWorkshop two day course mixes lecture with labwork on the basics of atomic force microscopy and its specific application to imaging polymer materials. AFM hardware and software will be reviewed, with special emphasis on the imaging modes and image processing needed to study polymer materials. While we utilize AFMs from AFMWorkshop to teach basic concepts and demonstrate AFM operation, attendees with experience on any make or model of Atomic Force Microscope will find the labwork relevant and practical.





Dalia Yablon Ph.D. is a physical chemist with 15 years of experience in the field of scanning probe microscopy (SPM). Dalia's 2013 book **Scanning Probe Microscopy in Industrial Applications: Nanomechanical Characterization** was published by Wiley. Dr. Yablon spent over a decade in the energy industry developing and leading a state of the art scanning probe microscopy/nanomechanical characterization facility at ExxonMobil. In 2013, Dalia founded SurfaceChar LLC, a scientific consulting company specializing in surface and interface characterization and measurement with a focus on scanning probe microscopy/atomic force microscopy.

Dr. Yablon holds an A.B. in Chemistry from Harvard University and a Ph.D. in physical chemistry from Columbia University.



TO REGISTER

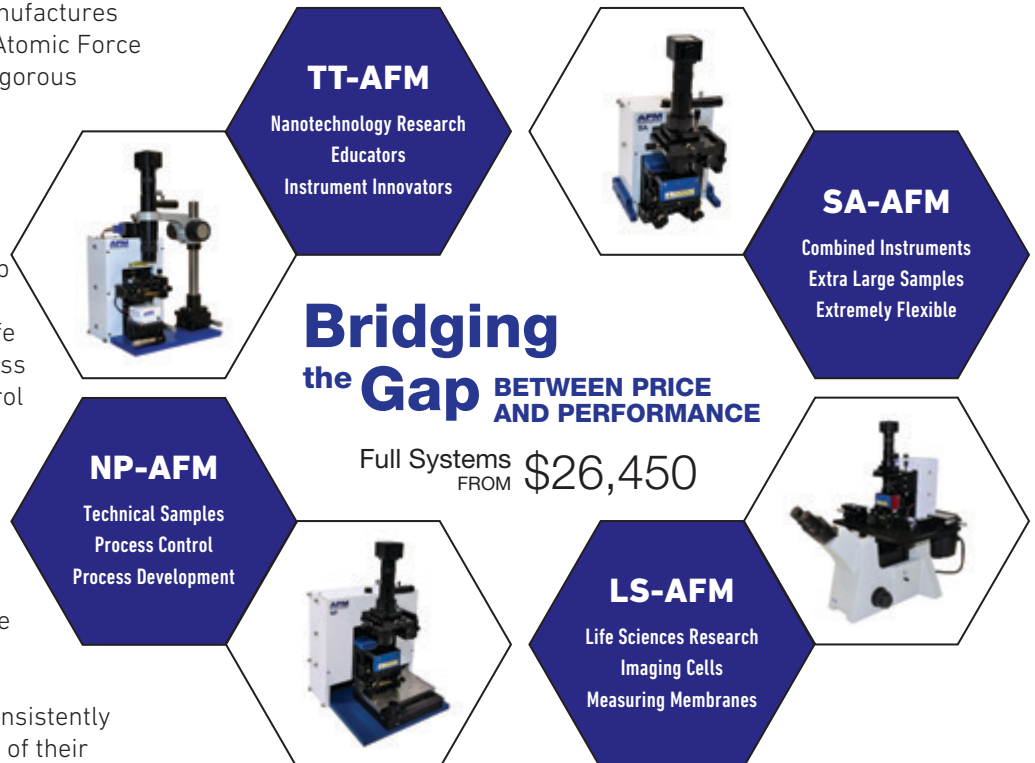
Contact AFMWorkshop
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www.afmworkshop.com

▶ About AFMWorkshop

AFMWorkshop designs and manufactures high-performance, low-priced Atomic Force Microscopes. Our AFMs meet rigorous research applications, daily industry tasks, and a wide range of educational needs.

Modular AFMs designed and manufactured by AFMWorkshop are used around the world by researchers in materials and life sciences; by industries in process development and process control for photonics, semi conductor, and other arenas; and by educators for student training and research. AFMWorkshop also works directly with scientists and engineers in creating custom-built innovative instrumentation solutions.

Customers of AFMWorkshop consistently comment on the amazing value of their instruments and on the depth of quality training and technical assistance available.



We guarantee our instruments and care about our customers' success!

