

Help your students visualize the world at the nanoscale!

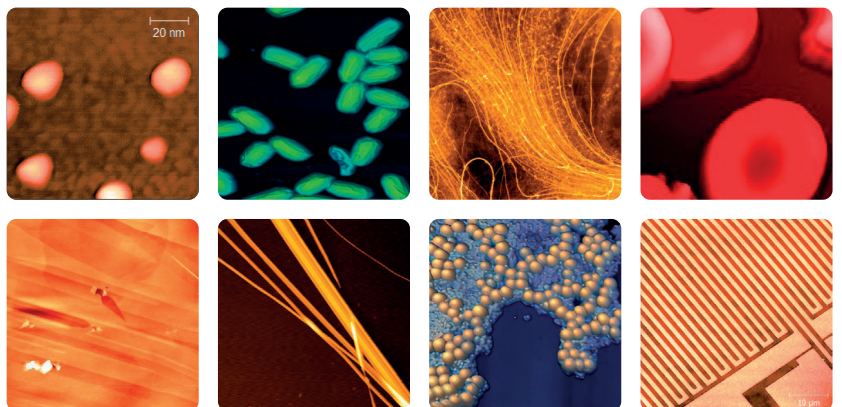
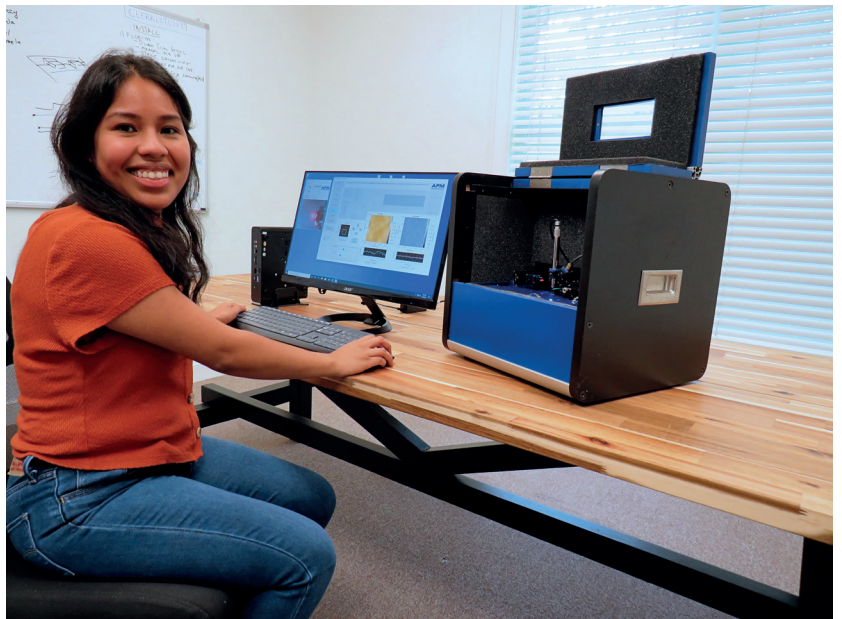
The **B-2 AFM** from **AFMWorkshop** provides a rare opportunity for students to gain hands-on operation of a cutting-edge microscope.

## B-2 AFM Atomic Force Microscope

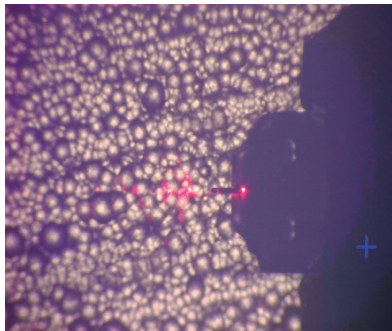
### For Advanced Science Education Programs

With a B-2 AFM in your school, students can:

- ▶ Develop advanced hands-on microscopy skills and an appreciation for micro and nanoscale imaging
- ▶ Gain a solid foundation for technical careers and/or higher education in STEM
- ▶ Learn about nanotechnology and other advanced scientific concepts
- ▶ Participate in award-winning research projects



# PREPARING FOR THE FUTURE



*B-2 AFM video optical view of pyrolytic graphite sample. This enables users to visually locate a surface feature for AFM scanning.*

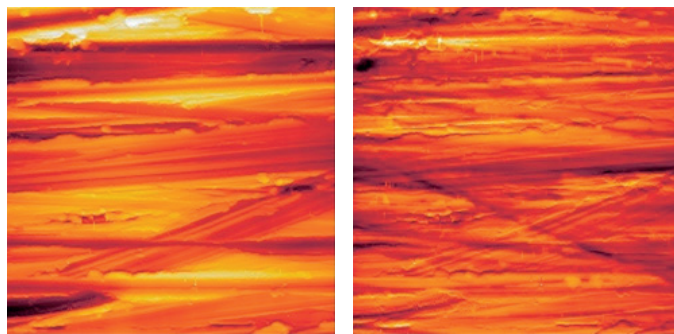
An effective method to prepare your students for careers in STEM is through providing hands-on experience with scientific tools, such as an atomic force microscope (AFM). The **B-2 AFM** provides an affordable and easy entry into the world of probing and imaging surfaces, forces, and objects that are unsuitable for standard optical microscopes. Atomic force microscopy provides a strong interdisciplinary foundation for more complex characterization techniques such as scanning tunneling, and scanning electron microscopy.



## Hands-on Learning

Students will increase their understanding of:

- » Conceptual and experimental designs of scanning probe and atomic force microscopy
- » Using a computer-controlled instrument to image surfaces and objects that are too small for optical microscopes
- » Changing software parameters to control and improve image quality
- » How sample surfaces can be probed, measured, and imaged.
- » Using micro tools and performing tasks like sample mounting, cantilever tip exchange, keeping samples clean and dust-free

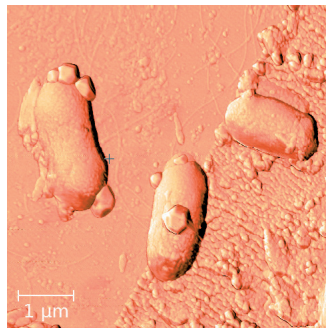


*Copper foil, smooth and sanded*

## Developing Valuable Skills

Students will gain valuable skills for STEM careers in fields such as:

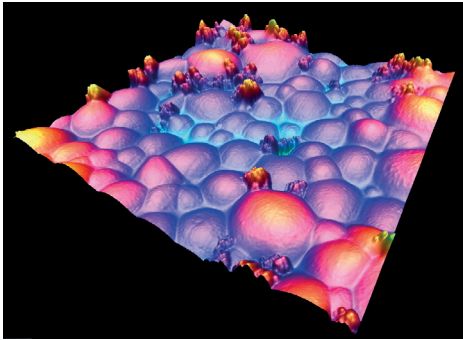
- » Quality Control
- » Failure Analysis
- » Metrology and Tribology
- » Scientific Research
- » Environmental Science
- » Nanotechnology



*E. coli bacterial cells*

With exposure to AFM, a Nobel Prize-winning technology, students can gain skills that will facilitate their preparedness for advanced challenges in STEM careers and education.

# NANOTECHNOLOGY



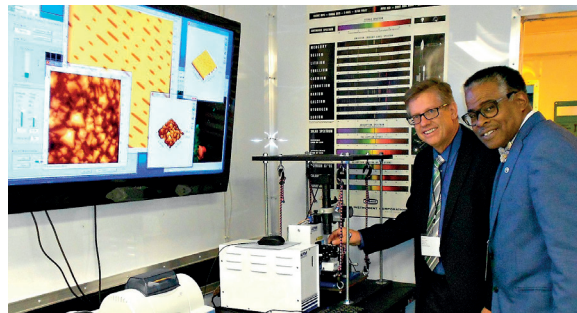
*Artist's emulsion paint*

The atomic force microscope is credited with the birth of nanotechnology and its inventors won the 1986 Nobel Prize. Measuring and visualizing nanostructures is at the foundation of the nanotechnology revolution. Scientists and engineers in the field of nanotechnology are developing amazing innovations in all disciplines of science and technology, medicine, electronics, and so much more. And now your students can be part of this revolution!



## The AFMWorkshop Advantage

AFMWorkshop developed the first truly affordable, quality AFMs beginning in 2010. Since then over 300 AFMWorkshop AFMs have been installed around the world. In the USA, prestigious universities such as MIT, UC Berkeley and Stanford chose our product to use as a tool to teach their students. The University of Michigan has 4 AFMWorkshop AFM units and has taught over 1000 students with our products. We understand that an AFM for education needs to be robust, easy to use, and involve very low maintenance costs.

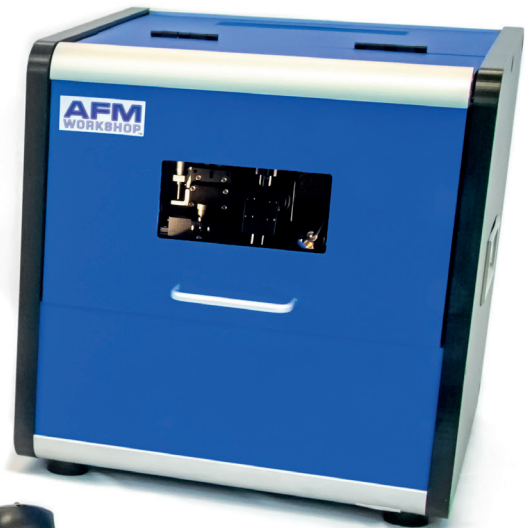


*Dr. Paul West, AFMWorkshop and Dr. Gary Harris (1953-2020), Howard University, on Howard's "Nano Express," a mobile learning unit exposing thousands of young people to the Nano world every year.*

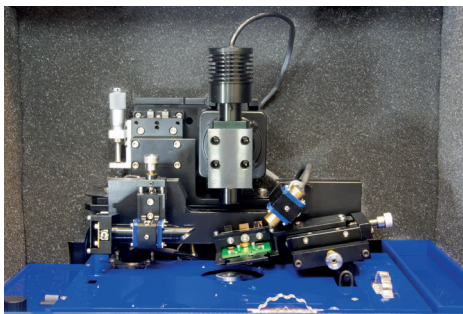
## We Are Here To Help

We understand that purchasing an AFM is a major decision. AFMWorkshop is here to help as your partner in educating your students about the nano-world. We aim to support you as an educator while you learn more about this exciting technology along with your students. We will guide educators through learning the concepts with instrument tutorials, application briefs, and teaching materials for a strong educational program.

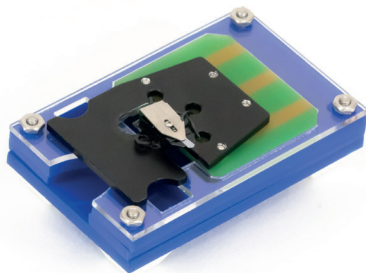




With an open design, students can understand the theory behind the AFM's light lever force sensor.



The removable probe holder has a probe exchange station that facilitates the easy exchange of probes. Minimal adjustment is required when probes are changed in the **B-2 AFM**.

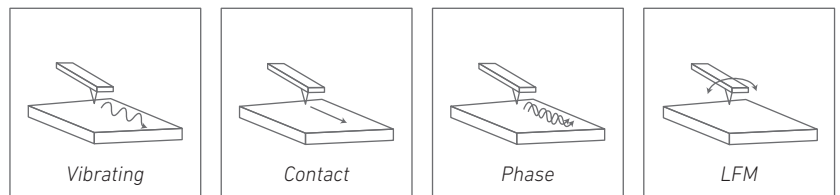


The B-2 AFM comes with everything you need to start imaging surfaces with students at your school. Accessories with the unit include:

- » Light Lever Force Sensor
- » Video Optical Microscope
- » Noise and Vibration Reducing Enclosure
- » Piezoelectric Scanner
- » Computer with easy-to-use 7-step software
- » Probes and Probe Exchange Tools

Installing the B-2 AFM is as easy as setting the unit on a sturdy table, plugging it into a socket and attaching a USB to the control computer.

### Standard operating modes with the B-2 AFM



Several additional modes are available as options for the B-2 AFM

