The tools in the NBTC labs have been selected to be of the greatest use to the majority of researchers doing interdisciplinary research in nanobiotechnology and related fields. NBTC staff can train and give experimental advice to any user with an interest in using this equipment, or can prepare and/or run samples for off-site researchers. For more information, please visit the NBTC website: http://nbtc.cornell.edu

Imaging tools available in Room 220 and 226:

**PicoPlus AFM**

Atomic Force Microscopy (AFM) is a technique for imaging topography or chemical patterns. The PicoPlus AFM can perform this imaging in air, fluid, or controlled atmosphere.

- High-resolution scanner (10 µm scan range) for molecular scale imaging
- 100 µm scanner with closed loop z positioning for accurate height and force measurements over large scan ranges
- Can be used in conjunction with fluorescent microscope for simultaneous force and fluorescent imaging.

For more information, please contact Teresa Porri (tp252).

**Nikon TIRF microscope**

Total Internal Reflection Fluorescence (TIRF) microscopy is a method for imaging fluorophores located very close to the coverslip, with sufficient sensitivity for single-fluorophore experiments.

- Lasers wavelengths available: 405, 488, 561, 635 nm (up to 3 laser lines can be used simultaneously)
- Adaptable to FRET, FRAP, PALM experiments
- Combine PicoPlus fluid atomic force microscope (AFM) with TIRF or epifluorescence

For training or assistance, contact Carol Bayles (cjb4).

**Veeco 3100 AFM**

Atomic Force Microscopy (AFM) is a technique for imaging topography with Angstrom vertical resolution. The AFM can also be set up to image surface chemical patterns at the micron-to-sub micron scale.

- 90µm Square XY imaging area
- 6µm Z Range
- < 0.05nm RMS vertical noise floor
- Samples up to 150 mm diameter and 12 mm thick
- Optical microscope: 150 to 675 µm horizontal viewing area with 1.5 µm resolution

For more information, please contact Teresa Porri (tp252).

**Fluorescence Microscopes**

BX51 (upright) and IX71 (inverted) Olympus microscopes can take brightfield or fluorescence images.

- Image Pro software can perform image processing or analysis.

For more information, please contact Teresa Porri (tp252).

**Rame Hart 500 Goniometer**

The Rame Hart 500 is capable of measuring contact angle or determining the surface energy of a liquid or surface.

- Features: Automated dispensing system and droplet analysis, environmental chamber for heating or cooling.

For more information, please contact Teresa Porri (tp252).