**Atomic Force Microscope - Asylum Research MF3D-BIO**

- **Description**
  The Asylum MFP-3D-BIO is mounted on an inverted optical microscope to enable simultaneous brightfield, widefield epi-fluorescence, or phase imaging. The extended Z-head allows tapping mode and contact imaging within a range of 40µm in Z and 90µm in X and Y. It also is capable of nanomechanical property mapping, bimodal dual-AC imaging, single-molecule force extension measurements, conductive AFM, and STM. An open-access sample area and a range of environmental chambers (BioHeater, Petri Dish Holder, Heater/Cooler, and Polymer Heater) ensure compatibility for nearly any kind of sample (material, chemical, or biological) in air, fluid, or inert atmosphere. Excellent high-temperature (+300 °C) time-lapse imaging in inert atmospheres with minimal drift is a key advantage.

- **Configuration**
  - Extended Z head (40µm)
  - Heater/Cooler Stage
  - Polyheater Stage
  - Bioheater Stage
  - Nikon TE200 Inverted Fluorescence Microscope
  - ORCA Conductive AFM
  - Electrical AFM modes such as SKPM and EFM
  - Magnetic Force Microscopy
  - Gas/Liquid Perfusion

The MPML purchases in bulk to maintain a small stock of common cantilevers with spring constants for various applications. Users may purchase cantilevers at cost.

- **Training**
  Users are required to complete basic AFM training before training on the MFP3D.

- **Location**
  Scanning Probe Lab: ESB43A

- **Contact**
  Justin Jureller