FACILITIES – BIOWORKSHOP, FISCHELL DEPT OF BIOENGINEERING

The BioWorkshop core instrument facility consists of 2000 ft^2 of dedicated research space in the state-of-the-art A. James Clark Hall on the campus of the University of Maryland – College Park. The facility is housed in the Fischell Department of Bioengineering and offers more than 20 new instruments supporting the needs of a range of biomedical researcher in the department, campus, and community. All lab space is recent construction (2018) with additional customization after opening. Utilities include vacuum and compressed air lines, distilled water, and emergency back-up power. The space is equipped for a range of user needs, including chemical fume hoods, solvent scavenging systems, refrigerators and freezers, two jacket-free microprocessor-controlled CO_2 incubators for temporary housing of live cell samples, and tissue preparation areas. Access is controlled through a real-time swipe card management system, and all core functions (training requests, reservations, billing) are completed on an interactive online portal that also supports real-time tracking of instrument usage. The BioWorkshop is staffed by a full-time, experienced, PhD application scientist, with additional formalized management by senior department faculty. Training and assisted usage is available from 9-5 Monday through Friday, and trained users are granted access to the facility and instruments 24 hours per day, 7 days a week. The BioWorkshop consists of a main instrumentation bay, as well as 4 specialized instrument room. The main lab space is equipped with material characterization equipment and biochemical/cellular analysis instrumentations: circular dichroism spectrometer, dynamic light particle sizer and zeta potential analyzer, FT-IR, dynamic mechanical analyzer, rheometer, BiaCore SPR, quantitative PCR, GPC chromatography, UHPLC, flow cytometer analyzer, imaging flow cytometer, multi-mode plate reader, lyophilizer, gel imager, a NanoDrop, and a *in vivo* whole animal micro-CT scanner. Housed in the Microscopy I and Microscopy II rooms are the single molecule imaging capable laser scanning confocal microscope and a fully motorized inverted fluorescence microscope with live cell imaging system. The Microscopy III room houses a scanning probe atomic force microscope optimized for biological sample imaging and a benchtop scanning and transmission electron microscope. The dedicated Histology Suite houses a complete histology setup, including tissue processor, embedder, microtome and Cryotome.