### Robert P. Apkarian Integrated Electron Microscopy Core

The Robert P. Apkarian Integrated Electron Microscopy Core (IEMC) at Emory University provides electron microscopy (EM) training and services to academic, clinical, and industry users. The IEMC is located at two sites on the Emory University main campus. Cherry L. Emerson Hall site provides services and training that include conventional (room temperature) transmission electron microscopy (TEM), cryo-transmission electron microscopy (cryo-TEM), cryo-electron tomography (Cryo-ET), conventional scanning electron microscopy (SEM), cryo- scanning electron microscopy (cryo-SEM), energy dispersive spectroscopy (EDS), cryo-electron microscopy of vitrified sections (CEMOVIS), and micro electron diffraction (micro-ED). The Biochemistry Connector site provides services and training in TEM, and single particle cryo transmission electron microscopy (sp-cryo-TEM). Instrumentation at Emory includes a ThermoFisher Talos Arctica 200 kV field emission TEM, a JEOL JEM-2200FS 200 kV field emission TEM (equipped with an in-column Omega filter, hole-free phase-plates, a Direct Electron DE-20, and a Gatan K2 direct electron detectors), a ThermoFisher Talos 120 kV TEM, a JEOL JEM-1400 120 kV TEM, a Hitachi HT7700 120 kV TEM, two field emission SEMs (both capable of cryo-SEM), and a Leica DM6 FS (with STP8000) cryo-CLEM microscope. Additional sample preparation equipment includes two ThermoFisher Vitrobot Mark IV(one on each IEMC site), a Gatan CP3, several plasma-cleaners and glow dischargers, carbon/gold evaporators and sputter coaters, three ultramicrotomes, a Leica UC6i/FC6 cryo-ultramicrotome, a Baltec HPM-010 high-pressure freezer, and a Leica EM AFS2 instrument for freeze substitution and progressive lowering of temperature ( PLT ) techniques.

We have dedicated GPU and CPU clusters, and workstations for image processing, cryo-TEM and cryo-ET data reconstruction and refinement, and data storage.

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*Data can be gathered on the TALOS L 120C TEM, the TALOS Arctica 200kV TEM.*

*Data can be collected on the JEOL JEM-1400, 120kV TEM, supported by the National Institutes of Health Grant S10 RR025679.*

*Data can be collected on the JEOL JEM-2200FS 200kV TEM supported by the National Science Foundation Major Research Instrumentation Grant 0923395.*

*Data can be gathered on the Hitachi HT7700 120kV TEM supported by the Georgia Clinical and Translational Science Alliance under award number UL1TR002378.*