**RESOURCES- Research Microscopy and Histology Core**

**Research Microscopy and Histology Core Facility (RMHC)**

The RMHC occupies 5 laboratories on the 1st floor of Schwitalla Hall, basement of Doisy Hall, and 2nd floor of the Doisy Research Center all on the campus of the SLU School of Medicine. M102 is a histology tissue processing laboratory with 4°C/-20°C refrigerators, two fume hoods, Sakura Autostainer, Leica EG1150C tissue embedding station, Leica EMUC7 ultramicrotome, Leica RM2225 rotary microtome, and in separately partitioned spaces an Olympus FV1000 confocal microscope, Leica DM6 epifluorescence microscope, and Olympus VS120 slide scanning microscope. M99 is approximately 150 sq. ft. and contains a Microm HM550 cryostat, vibratome, ThermoShandon tissue processor, Tousimis Autosandri 810 critical point dryer, and Polaron E5100 sputter coating apparatus. M107 is a 150 sq. ft. room with a dedicated air handling system for a Leica TCS SP8 STED 3X super-resolution microscope. DRC254 (200 sq. ft.) houses an Olympus FV1000 MPE microscope and a custom Olympus IX83 live cell imaging microscope. R001 (250 sq. ft.) houses a JEOL 1400plus transmission electron microscope, along with cooling systems and electrical shields as well as an Andor Dragonfly LS410 spinning disk confocal microscope and a Nanostring GeoMx digital spatial profiler.

**Staffing:**

The RMHC is directed by Grant R. Kolar, M.D., Ph.D., who is a trained anatomical and neuro/ocular pathologist. He offers study design and interpretation assistance as well as facility resource management and direct oversight for molecular-spatial projects involving RNAscope and GeoMx technologies. Caroline B. Murphy, M.S. is a senior research assistant managing daily operations and providing direct services including plastic sectioning and staining for electron microscopy, immunohostochemistry/immunofluorescence, histochemistry, RNAscope, GeoMx, and instrument operation services. Other staff provide paraffin and cryo processing and sectioning services.

**Computing**: The RMHC has a number of computing resources for investigators including 2 HP Z workstations with NVIDIA Quadro 6000 graphics cards hosting SVI Huygens Professional and Imaris software respectively. In addition these workstations are equipped for python and R analysis with Cellpose and Napari packages for advanced analysis. Programming assistance is available through the skills of the staff of the RMHC. In addition images are distributed both by a sFTP (large images) as well as an AWS cloud computing based custom version of OMERO.