

### **Short resource description for grant applications:**

The Advanced Light Microscopy Core @ The Jungers Center (ALMC) is a member of the OHSU University Shared Resource program. The ALMC's mission is to provide OHSU investigators with access to a comprehensive suite of microscopes that fulfill fundamental and advanced needs in light microscopy. Core staff serve as local experts to consult about sample preparation and image data analysis and to train users one-on-one on instrument operation.

The ALMC occupies ~1400 ft<sup>2</sup> in the Lamfrom Biomedical Research Building and ~450 ft<sup>2</sup> in the neighboring Medical Research Building, both centrally located on OHSU's Marquam Hill Campus; at the South Waterfront Campus, the ALMC occupies ~1200 ft<sup>2</sup> in the Knight Cancer Research Building. Instruments accessible in the core include a dedicated super-resolution microscope (ZEISS Elyra 7 with Lattice SIM<sup>2</sup>); three laser scanning confocal microscopes (ZEISS LSM 880 Fast Airy, ZEISS LSM 980 with Airyscan 2, Airy jDCV, and LSMplus, ZEISS LSM 900 with Airyscan 2 and LSMplus); two spinning disk confocal microscopes (Nikon Yokogawa CSU-W1, ZEISS Cell Observer Yokogawa CSU-X1); a multi-photon microscope for intravital imaging (ZEISS LSM 980 NLO with two BiG.2 detectors for four-channel non-descanned detection); a plane-illumination setup for aqueous wholemount or cleared tissue imaging (ZEISS Lightsheet Z.1); three fully automated widefield microscopes (ZEISS Celldiscoverer 7, ZEISS Axio Imager.Z1 with Apotome.2, and ZEISS Axio Observer 7 AI with Apotome 3); four 100-capacity slide scanners (three ZEISS Axioscan.Z1 and one ZEISS Axioscan 7); and an incubator microscope for longterm observation of cultured cells (Sartorius Incucyte S3). The instruments are equipped with a range of high numerical aperture objectives with optimal light gathering capabilities for sensitive multi-color imaging and many feature environmental control for live-cell imaging. The image analysis suites offer access to six high-end computers with offline versions of vendor-specific software packages (four seats of ZEISS ZEN Desk and 1 seat of Nikon NIS Elements) and advanced 3D visualization and analysis tools, including five seats of Oxford Instruments Imaris and one seat of ZEISS arivis Pro.

### **General Acknowledgement:**

We acknowledge expert technical assistance by staff in the Advanced Light Microscopy Core at the Jungers Center in the Department of Neurology at OHSU and a member of the University Shared Resources Program.

Shorter version (230815): We acknowledge expert technical assistance by staff in the OHSU Advanced Light Microscopy shared resource.

### **Acknowledgment for Knight Cancer investigators:**

We acknowledge expert technical assistance by staff in the Advanced Multiscale Microscopy Shared Resource, supported by the OHSU Knight Cancer Institute (NIH P30 CA069533) and the OHSU University Shared Resources Program. Equipment purchases included support from the OHSU Foundation, the Knight Cancer Institute, the MJ Murdock Charitable Trust, and the Collins Medical Trust.

**Research Resource ID:** The ALMC has its own Research Resource ID – Please list us as the OHSU Advanced Light Microscopy (RRID: SCR\_009961)