

Facilities and Other Resources

Laboratory: Dr. Ross's lab consists of approximately 1000 square feet of recently renovated space in the Department of Neurobiology on the 14th floor of the Thomas E. Starzl Biomedical Science Tower (BST) building at the University of Pittsburgh main campus. It includes desks and wet benches for six people as well as a perfusion room with a backdraft table and a confocal microscope room equipped with a Nikon A1R for immunohistochemistry. I will have exclusive access to a patch-clamp that is set up in the Ross Laboratory for slice electrophysiology recordings. The laboratory also offers ample bench space for solution preparation, a chemical fume hood complete with reagents, a small workshop for electronics and small part fabrication, and a station for micropipette fabrication with a Sutter 2000 microelectrode puller.

Animals: Mice used for the proposed experiments will be housed in the University of Pittsburgh Division of Laboratory Animal Resources (DLAR) vivarium facilities. These facilities have state of the art caging systems and rooms for quarantine and for breeding specialized populations. The facilities are fully accredited by the American Association for Accreditation of Laboratory Animal Care and professionally staffed by a manager and animal care technicians who provide basic animal care. The Ross Lab keeps ~130 cages of mice and has a full-time technician who maintains the animal colonies and performs genotyping for the lab.

Computer: Dr. Ross's lab has ten computers. Three are linked to equipment, and the rest are at dedicated workstations available to lab personnel. All computers are networked behind the University of Pittsburgh firewall and are supported by dedicated IT staff in the Department of Neurobiology.

Office: I have dedicated bench space within the lab that promotes productive interactions with lab members. I also have a desk on the 14th floor of BST right down the hall from our lab space, seated with postdoctoral fellows from collaborating laboratories. My sponsor's and co-sponsor's (Drs. Ross and Koerber) offices are both a few doors down from my desk.

Other: My training brings together the expertise of **Dr. Sarah Ross (sponsor)** and **Dr. H. Richard Koerber (co-sponsor)** in a collaborative project which will provide excellent training. Dr. Ross, my official mentor within the graduate program, has extensive expertise with modern genetic techniques, as well as seven years of experience with electrophysiology and optogenetics. Dr. Koerber, who will serve as my co-mentor, is a nationally-renowned expert in electrophysiology. I am also a member of the Pittsburgh Center for Pain Research, which consists of basic science researchers and clinical faculty. Most members of the Pain Center are physically located on the 14th floor of the Biomedical Science Tower, which facilitates collaboration. This proximity to other research groups fosters a collaborative environment among trainees, featuring weekly seminars and journal clubs attended by multiple groups.

As a member of the Center for Neuroscience at the University of Pittsburgh (CNUP) graduate program, I have the unique advantage of working closely with two renowned universities, University of Pittsburgh and Carnegie Mellon University, which are located less than half a mile apart. Being a member of the CNUP allows me to interact frequently with graduate students, postdoctoral fellows, and investigators from both universities studying diverse aspects of neuroscience. We also have an annual retreat weekend in the fall, which exposes me to a breadth of neuroscience research through speakers and posters, and provides me with the opportunity to present my research and gain valuable feedback from experts across the two institutions.

Finally, as a member of the Department of Neurobiology, I have access to shared freezers, water purification, autoclaves, a glass washer, a cold room, a warm room, cell culture facilities, a sterilization apparatus, dry ice, liquid nitrogen, ultracentrifuges, numerous -20°C and -80°C freezers, electronic hardware, software, the University of Pittsburgh Machine Shop, the Center for Biologic Imaging, and The University of Pittsburgh Brain Institute. I will also present my research annually to members of the Department of Neurobiology to gain feedback and share ideas.