Glia as Engineers of Neural Development

January 10

Tuesday, 12:30pm

Billings Building – Rosedale

For Researchers

Speaker:

Sarah Kucenas, Ph.D.

Professor of Biology, Cell Biology, and Neuroscience
Co-Director, Brain Institute
Director, Program in Fundamental Neuroscience
University of Virginia
Department of Biology
Charlottesville, VA

Host: Edmund Hollis II, Ph.D.

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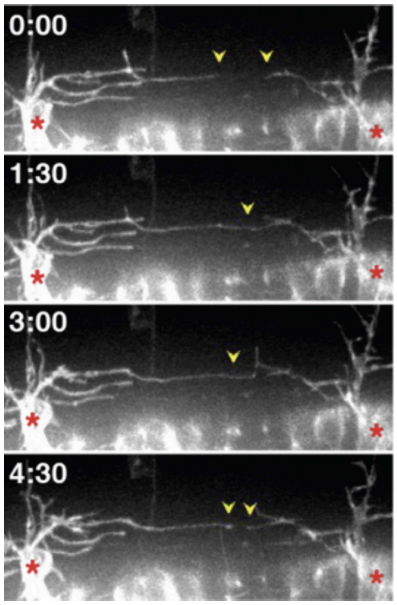
Abstract

The long-term goal of our research program is to elucidate the roles of peripheral and central glia and glial-glial interactions during nervous system development, maintenance and disease/injury. Using Danio rerio (zebrafish) as a model system (and to a lesser extent, mouse), we combine genetic and pharmacological perturbation, single cell manipulation, RNAsequencing, laser ablation/axotomy, and in vivo, time-lapse imaging to directly and continuously observe glial cell origins, behaviors and interactions in an intact vertebrate.



1. Arena K, Zhu Y, Kucenas S. **Transforming growth factor-beta signaling modulates perineurial glial bridging following peripheral spinal motor nerve injury in zebrafish.** Glia. 2022 Oct;70(10):1826-1849. doi: 10.1002/glia.24220.

2. Wiltbank AT, Steinson E, Criswell SJ, Piller M, Kucenas S. **Cd59 and inflammation regulate Schwann cell development.** Elife. 2022 Jun 24;11:e76640. doi: 10.7554/eLife.76640.

3. Piller M, Werkman I, Brown EA, Latimer AJ, Kucenas S. **Glutamate signaling via the AMPAR subunit GluR4 regulates oligodendrocyte progenitor cell migration in the developing spinal cord.** Journal of Neuroscience. 2021.June 23;41(25):5353–5371.

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