



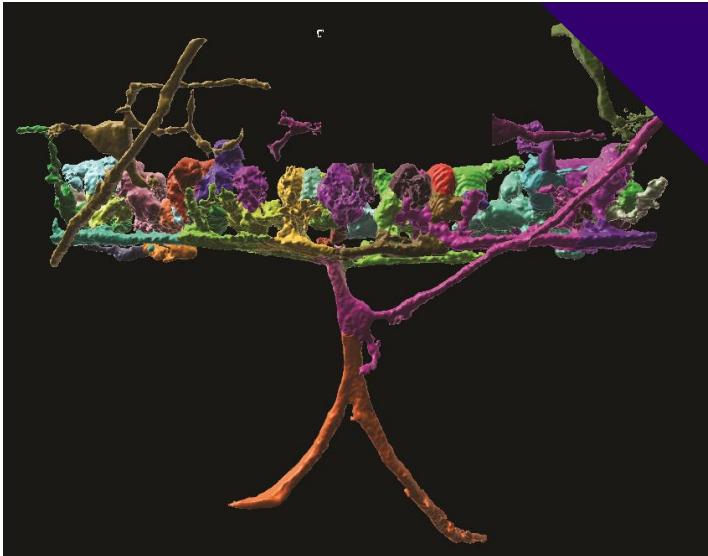
Biology Seminar

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Unwrapping Glial Engineering in the Vertebrate Nervous System



**Monday, January 11, 2021
12:00 PM PST**

The long-term goal of the Kucenas Lab is to fundamentally understand the cellular and molecular mechanisms that mediate neural-glia and glial-glia interactions during nervous system development and injury/regeneration. Using *Danio rerio* (zebrafish) as a model system, we combine genetic and pharmacological perturbation, single cell manipulation,

laser ablation/axotomy, small molecule screening, and in vivo, time-lapse imaging to directly and continuously observe glial cell origins, behaviors, and interactions in an intact vertebrate. Over the last several years, we have deliberately chased our data and pursued the science that is most intriguing to us, which has resulted in some very unexpected and exciting findings that have driven our work in new directions. Currently, our main interests involve: 1) Determining the molecular mechanisms that mediate glial tiling in both the CNS and PNS, 2) Elucidating glial heterogeneity/diversity in the developing CNS and PNS, and 3) Investigating the role and nature of glial-mediated debris clearance during development and after injury. By exploring these questions both during development and in injury/disease contexts, our work not only lays the groundwork for a more fundamental understanding of the rules that form a functional nervous system, but will also shed light on mechanisms that could be perturbed in disease.

