

## BCH 252 Seminar Series

### *Special Seminar*



**Megan Norris, Postdoctoral Researcher, The University of Texas Southwestern Medical Center at Dallas**

**Seminar Title: “Role and regulation of mRNA localization to protrusions of migrating cells”**

**Abstract:** Over 1,000 genes localize their mRNAs to cell protrusions. However, how the mRNAs get there, and the purpose of their localization, is largely unknown. I used melanoma cells to characterize the robustly localized mRNA *Kif1c*. I found that *Kif1c* mRNA, which encodes a kinesin motor protein, uses GA-rich elements in the 3'UTR to drive mRNA localization to protrusions. Disruption of mRNA localization negatively affected cell migration but had no effect on total *Kif1c* mRNA or protein abundance. Instead, loss of mRNA localization led to dramatic dysregulation of the number and identity of KIF1C interactors. Thus, mRNA localization to protrusions allows the cell to regulate protein-protein binding specificity and downstream cellular functions.

**Biography:** Dr. Norris received her B.S. in Biology from the University of Kansas where she studied neuronal migration in *C. elegans*. She then received her PhD in Biology from Harvard University, where she studied the role of a small peptide during zebrafish gastrulation. Today, she is a post-doctoral scholar at UT Southwestern where she has developed an experimental system to study how spatial organization of RNA inside the cell affects protein function and cell motility in mammalian cells.

**Friday, April 21st, 2023 | 12:00 p.m. - 1:00 p.m. PST**

**ZOOM Link for Seminar:** <https://ucr.zoom.us/j/96042674936>

**Meeting ID:** 960 4267 4936

**Host: Dr. Jikui Song**