XGBSB(Genetics, Bioinformatics, & Systems Biology Colloquium Genetics, Bioinformatics, & Systems Biology Colloquium presents Genevieve Konopka, PhD **UT Southwestern Medical Center** IN-PERSON Mar. 7, 2024 Leichtag ()) **12PM** Zoom JOIN Auditorium with Pizza *Live stream via Zoom available

Cell Type-Specific Transcriptional

Networks in Brain Evolution and Disease

The human brain is comprised of heterogenous cell types and understanding the gene expression patterns and chromatin states within each of these cell types can provide important insights into both brain evolution as well as the development of cognitive disorders. We have used single cell genomics to compare human and nonhuman primate brains to uncover human brain innovations including changes in the proportions of immature oligodendrocytes and cell type specific expression patterns of key genes such as FOXP2. We have also applied this approach to brain tissue surgically resected from living humans to determine the cell type specific patterns of genes relevant to human memory encoding. Together, these data highlight the complex intersection of cellular genomics with brain evolution and function.



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