California State University, Fresno, Department of Biology presents

"Repetitive Element Splicing in the Brain and Psychiatric Disease"

Previously, we reported that repetitive elements are extensively spliced into coding regions of gene transcripts in the human brain yielding thousands of novel mRNA variants with altered coding potential. We recently discovered that these transcripts are enriched in genomic regions associated with schizophrenia in three independent postmortem brain cohorts. Bioinformatics analysis revealed that the expression of these uncharacterized splice variants are associated with aging in the human brain. Since a link between aging and schizophrenia has been previously suggested, we reanalyzed publicly available postmortem brain RNA sequencing datasets and discovered that robust age related transcriptional differences exist in disease. We conclude that transcription is altered in the schizophrenia brain and demonstrate that age should not be treated as a linear confounder in psychiatric disorders.

Sarven Sabunciyan, PhD
Department of Pediatrics, Johns Hopkins University
Friday, October 27, 2017, 3:00 – 3:50 PM
Science 2, room 109

BIO: Dr. Sabunciyan has a B.Sc. in Genetics and a Ph.D. from University of British Columbia. His postdoctoral work at Johns Hopkins University School of Medicine lead to a faculty appointment. Dr. Sabunciyan's work is focused on identifying the etiology of psychiatric disorders He uses high throughput sequencing methods to characterize RNAs that are differentially expressed in brain and peripheral tissues between disease cases and unaffected controls. His work has discovered that repetitive sequences are abundantly expressed in the human cortex and widespread splicing of these sequences into coding regions of gene mRNAs occurs in many tissues. His group is currently trying to determine the functional implications of repetitive element splicing in the cell. In addition, Dr. Sabunciyan is investigating the potential role of circulating RNAs in brain development using animal models. Dr. Sabunciyan's body of work includes genome wide characterizations of the methylome and the transcriptome in psychiatric disease. He has also been involved in the development of novel bioinformatics tools for analyzing high throughput sequencing data.

If you need a disability-related accommodation or wheelchair access, please contact Lindasue Garner at the Department of Biology at 278-2001 or e-mail lgarner@csufresno.edu (at least one week prior to event).