Cancer Center Support Grant – CCSG 2018

*"*Therapeutic Targeting of Brain Tumors as Informed by
Oncogenic Gene-Enhancer Network Inference"

UC San Diego
MOORES CANCER CENTER

Principal Investigators:
Lukas Chavez, PhD
John Crawford MD

SCIENTIFIC ABSTRACT
Genomic sequencing has driven precision-based oncology therapy; however, the genetic drivers of many malignancies remain unknown or non-targetable. Ependymomas are chemotherapy-resistant brain tumors, which lack effective molecular targets. We have recently demonstrated an innovative approach for predicting drug sensitivities by interrogating enhancer associated master regulators in surgical ependymoma specimens [Mack et al., Nature, 2018]. We now aim to generate and integrate tumor specific chromosomal conformation information for an improved analysis of oncogenic gene-enhancer networks. We hypothesize that this approach will increase the success rate of experimental validation and improve clinical application of routine epigenetic profiling for informing targeted therapies.