In the K Hill laboratory, 2022 projects for undergraduate NSERCUSRA awardees will involve the study of factors that determine mutation signatures and determinants of genome sequence organization. We use in silico, bioinformatics tools and supervised and unsupervised machine learning to classify mutation signatures and genomic signatures. We study mechanisms of mutation, and we discover factors that determine mutation signatures and

genomic signatures. Wet bench work will involve confirming genetic variants discovered to be associated with new meiotic mechanisms of de novo mutation.