

NSERC CREATE

Technology-Enhanced Pharmaceutical Discovery (TEPD)

Student Biography

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Connor is a 1st-year Ph.D. student in Dr. Mark Bayfield's lab at York University. His project studies the interactions between the human La protein, a ubiquitous RNA-binding protein, the TRMT1 tRNA methyltransferase, and transfer RNA (tRNA) substrates. This investigation evaluates pathways critical to tRNA maturation and key modulators of tRNA post-transcriptional modifications (PTMs). tRNA PTMs are integral to tRNA structure and stability, in addition to mediating interactions with the ribosome and translation factors, depending on the nature of the PTM. Aberrations in mRNA translation are a hallmark of malignant cells. In acting as key mediators of translational fidelity, tRNAs represent an additional level of translational control that cancer cells coopt to transform into a malignant state. Connor aims to uncover insights into the cellular processes that promote tRNA processing, as these processes hold promising implications for chemotherapy design.