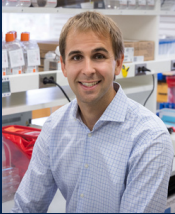


## BCH 252 Seminar Series



**Dr. Michael Lawson, Assistant Professor,  
Department of Chemistry and  
Biochemistry, UC Los Angeles**

**Seminar Title: “Defining the Pathways of  
Eukaryotic Translational Quality Control”**

**Abstract:** It was unclear how eukaryotic translation termination, which liberates newly synthesized polypeptides from the ribosome, is fast yet also specific for stop codons. We used an in vitro-reconstituted yeast translation system and single-molecule assays to directly observe the molecular choreography that underlies translation termination. We found that the highly conserved eukaryotic release factors bind rapidly to ribosomes and elicit termination via a multistep process that is similar to the selection of proper tRNAs in translation elongation. We further discovered that diverse effectors inhibit translation termination to promote stop codon readthrough, suggesting a new route to treat the 11% of heritable human diseases caused by premature stop codons. In the future, these technologies will be applied to understanding the molecular mechanisms used by ribosomes and decay factors to evaluate stop codons in Nonsense-Mediated Decay.

**Tuesday, October 3rd, 2023 | 12:00 p.m. - 12:50 p.m. PST**

**In-Person: Genomics Auditorium 1102A**

**Host: Dr. Sean O’Leary**