

## “Investigating the role of microRNAs in Triple Negative Breast Cancer”



Maxine Umeh

PhD Candidate, Biochemistry  
UC Davis

**Friday, November 9, 2018**

3:00 – 4:00 PM

Science 2, room 109

For further information: [www.csufresno.edu/biology](http://www.csufresno.edu/biology)

---

**Abstract:** Triple negative breast cancer (TNBC) is clinically defined as tumors that lack expression of the estrogen and progesterone hormone receptors, and amplification of Her2. TNBC accounts for 10-20% of cases, and although it represents the most aggressive subtype of breast cancer, there are currently no effective targeted therapies for TNBC due to its lack of drug-targetable receptors. TNBC has the shortest time to relapse (highest metastatic rate) and lowest 3-5 year survival rate, compared to other subtypes, likely because the majority of TNBC patients show little/no response to standard chemotherapy, yet it is the only option for systemic treatment. Thus, TNBC remains both a challenge to understand and a challenge to treat, with the need to identify novel genetic drivers, signaling axes, and therapeutic targets for this breast cancer type. MicroRNAs (miRNAs) are small non-coding RNAs that negatively regulate the expression of genes through sequence specific interactions in the 3'UTR of mRNA targets, leading to translation inhibition or mRNA degradation. miRNAs have emerged as both master regulators of cancer signaling pathways and as promising targets for cancer therapy. miR-127 is a tumor suppressor miRNA that is downregulated in TNBC, suggesting that it may play a role in TNBC pathogenesis. The overall goal of our project is to investigate the biological function of miR-127 in TNBC using *in silico*, *in vitro*, and *in vivo* approaches.

**Bio:** I am a 5th year PhD candidate at UC Davis in the Biochemistry, Molecular, Cell, and Developmental Biology graduate group. My educational background includes a B.S. in Developmental Biology and a M.Sc. in Quantitative and Systems Biology, both from UC Merced. I am currently in the laboratory of Dr. Sweeney where we study mammary epithelial biology and breast cancer. My research focuses on triple negative breast cancer (TNBC), which is the most aggressive type of breast cancer, significantly affecting African- American and Hispanic women, younger women, and has a lower likelihood of survival.