



RNA Innovation Seminar
Co-sponsored with the [UM Chromatin Club](#)
Wednesday, February 27th at 3:00pm
ABC Seminar rooms, Biomedical Research
Science Building (BSRB), 109 Zina Pitcher

[Samie R. Jaffrey, M.D., Ph.D.](#)
Greenberg-Starr Professor
Department of Pharmacology
Weill Cornell Medicine

“The dynamic epitranscriptome: Control of gene expression through regulated and reversible mRNA modifications”

Abstract: An emerging concept is that an “epitranscriptomic code” of nucleotide modifications is found within mRNA and long noncoding RNA, and control their fate and function in cells. This concept was initiated by our transcriptome-wide mapping technology of N^6 -methyladenosine (m^6A) which revealed that m^6A levels change during development, are differentially expressed in different tissues, located in at least a fourth of all mRNAs, and enriched in specific regions of the transcript body. More recent studies show that other nucleotide modifications are present in mRNA, including $N^6,2'$ -O-dimethyladenosine (m^6A_m), which is exclusively located adjacent to the 7-methylguanosine-cap at the first encoded nucleotide in up to 40% of mRNAs. The mechanisms by which m^6A affects mRNAs and noncoding RNAs, will be discussed. We also discuss evidence that m^6A_m can affect mRNA stability and regulate mRNA translation. Evidence for other nucleotide modification in mRNA and their functions will be discussed.