UC RIVERSIDE

BCH 252 Seminar Series

Dr. Maria Ninova, Assistant Professor, Department of Biochemistry, UC Riverside

Seminar Title: "Molecular mechanism of epigenetic silencing by piRNAs"

Abstract: Histone modifications are essential for the regulation of gene expression and chromosome architecture in eukaryotes. Regulated recruitment of histone-modifying 'writer' complexes to specific genomic regions is crucial for precise control of gene activity and establishment of eu- and heterochromatin. While the majority of writer complex recruitment is mediated by DNA-binding transcription factors that recognize specific regulatory sequences, an elegant alternative strategy employs small RNA guides associated with Argonaute proteins to identify genomic targets. In animals, the best established role of small RNAs in chromatin regulation is in the repression of transposable elements by a distinct clade of Argonautes, Piwi proteins, and their associated piwi-interacting RNAs (piRNAs). However, how the Piwi/piRNA complex recruits the silencing effector to chromatin targets is poorly understood. This seminar will discuss a recent discovery of a new and critical role of the SUMO E3 ligase Su(var)2-10 that bridges target recognition by piRNAs to the effector complex that catalyzes repressive histone marks, thereby providing a mechanistic link between small RNAs and epigenetic modifiers in animals.

ZOOM Link:
https://ucr.zoom.us/j/94186144189pwd=cjNWbURGYTB3TEJpODFSNVl6aDMxdz09

Tuesday, October 5th, 2021
12:00 p.m. - 12:50 p.m.

Host: Dr. Jikui Song