UC RIVERSIDE

BCH 252 Seminar Series

Dr. Xuemei Chen, Professor, Botany & Plant Sciences , UC Riverside

Seminar Title: "Non-canonical RNA caps – NAD+, FAD, and dpCoA"

Abstract: Hao Hu1, Yuan Wang1, Hailei Zhang2, Yiji Xia2 and Xuemei Chen1
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In eukaryotes, messenger RNAs (mRNAs) harbor a 5′ methylguanosine (m7G) cap, which stabilizes mRNAs, assists in their processing such as splicing and polyadenylation, and facilitates their nuclear export and translation. It is well known that prokaryotic mRNAs begin with a 5′ triphosphate. In recent years, it has come to be realized that the metabolite and redox agent, NAD+/NADH, can serve as an RNA cap in prokaryotes and all major lineages of eukaryotes (plants, fungi, and animals). We and others showed that NAD+-capped RNAs (NAD-RNAs) are widespread in Arabidopsis and are largely mRNAs from the nuclear and mitochondrial genomes. We found that Arabidopsis NAD-RNAs are spliced and polyadenylated and may be associated with polysomes. We developed various transcriptomic strategies to identify and quantify NAD-RNAs with specificity and sensitivity. We are studying decapping mechanisms that regulate the levels of NAD-RNAs. We are also developing technologies to profile RNAs capped with other cellular metabolites.

ZOOM Link: https://ucr.zoom.us/j/97233953239?pwd=U2w1VVdtcDI4WW8rRXdTUVp2WWp4dz09
Meeting ID: 972 3395 3239
Passcode: 609143

Tuesday, March 8th, 2022
12:00 p.m. - 12:50 p.m.

Host: Dr. Xuan Liu