

The Biological and Biomedical Joint Seminar Series

(Hosted by the departments of Molecular & Cellular Biology, Chemistry & Biochemistry, Cellular & Molecular Medicine, and Plant Sciences)

“RNA-Directed DNA Methylation: A Maternal Influence During Seed Development”

Rebecca Mosher

Associate Professor

Plant Sciences

The University of Arizona

Tuesday September 21st, 2021

ENR2 Room S107 @ 11AM

Hosted By: Ross Buchan (MCB)



Small RNAs establish and maintain DNA methylation at euchromatic transposons in a process known as RNA-directed DNA Methylation (RdDM). In *Brassica rapa*, loss of RdDM causes seed abortion without other developmental phenotypes, suggesting a link between RdDM and seed development. RdDM is required in the maternal soma, although abortion occurs after fertilization. Recently, we discovered overwhelming expression of small interfering (si)RNAs from a small number of loci in maternal somatic tissue. These siRNAs trigger DNA methylation in trans at related protein-coding genes, and might allow the maternal sporophyte to influence gene expression in the developing endosperm. Understanding the complex communication between maternal and filial tissues could provide a novel avenue for improvement of seed crops.

To see all upcoming seminars, please visit mcb.arizona.edu/events or join the MCB Seminar Listserv (listname: [mcbjointseminar](mailto:mcbjointseminar@list.arizona.edu)) at list.arizona.edu.



UA SCIENCE

**Molecular
& Cellular Biology**