

## BCH 252 Seminar Series



**Jikui Song, Professor, Department of  
Biochemistry, UC Riverside**

**Seminar Title: "Structure and  
mechanism of heterochromatin-  
regulated DNA Methylation"**

**Abstract:** DNA methylation is an evolutionarily conserved epigenetic mechanism that critically regulates gene silencing, imprinting and chromatin compartmentalization. Functional crosstalk between DNA methylation and other epigenetic mechanisms, such as histone modifications, ensures proper heterochromatin assembly and genome stability. Dysregulation of DNA methylation has been linked to variety of human diseases, such as cancer and neurological disorders. However, how DNA methylation is regulated in cells remains poorly understood. Our long-term interest focuses on understanding the mechanistic basis of DNA methylation and its relationship to development and diseases. Through a combined approach where structural biology is integrated with biochemistry and cellular biology, our recent studies have uncovered the mechanisms by which heterochromatin interaction modulates the activities of DNA methylation machinery, providing insights into the functional regulation of DNA methylation across evolution. Furthermore, our study provides a basis for development of novel therapeutic strategies against DNA methylation abnormalities in diseases.

**Tuesday, May 28th, 2024 12:00 p.m. - 12:50 p.m. PST**

**In-Person: Genomics Auditorium 1102A**

**Host: Drs. Sihem Cheloufi & Maria Ninova**