

*Department of Mathematics,  
University of California San Diego*

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# Math 218 - Seminar on Mathematics for Complex Biological Systems

**Ms. Gaoyang Bridget Fan**

Department of Mathematics, University of Utah

## Modeling the Role of Feedback in the Adaptive Response of Bacterial Quorum Sensing

**Abstract:**

Bacterial quorum sensing (QS) is a form of intercellular communication that relies on the production and detection of diffusive signaling molecules called autoinducers. Such a mechanism allows the bacteria to track their cell density in order to regulate group behavior, such as biofilm formation and bioluminescence. In a number of bacterial QS systems, including *V. harveyi*, multiple signaling pathways are integrated into a single phosphorylation-dephosphorylation cycle. In this talk, we will explore how QS uses feedback loops to 'decode' the integrated signals by actively changing the sensitivity in different pathways.

Hosts: Li-Tien Cheng, Bo Li, and Ruth Williams

**Friday, June 14, 2019**

**1:00 PM**

**AP&M B402A**

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