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Angelica Caicedo Casso and **Hye-Won Kang***, hwkang@umbc.edu, and **Christian Hong**
and **Sookkyung Lim**. *Stochastic effects on biochemical oscillators*.

Oscillatory behaviors are observed in the biological systems with circadian rhythms. In this talk, I will suggest five minimal models of nonlinear ordinary differential equations with feedback. Bifurcation analyses of the models demonstrate that positive feedback may increase oscillatory domains. Using period sensitive analysis and stochastic simulation, the robustness of the models in the context of maintaining the period is investigated. This is joint work with Angelica Caicedo Casso, Christian Hong, and Sookkyung Lim at University of Cincinnati. (Received January 26, 2014)