



Colloquium Series



A Skew-Product Flow Model for
Hybrid Dynamical Systems

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Abstract: In this talk, we consider a finite family of dynamical systems all on the same compact metric space, M , and study what happens when switch between these systems at regular time intervals. We begin by isolating and examining the “switching” dynamics by constructing a space made up of piecewise constant functions, and then study the dynamics of this space under the left shift map. We demonstrate that this function space, when paired with the behavior on M , gives a skew product flow. We then define and generalize various recurrence and limit concepts for this new skew product flow that demonstrates hybrid continuous and discrete behavior. **Keywords:** Dynamical Systems, Analysis

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