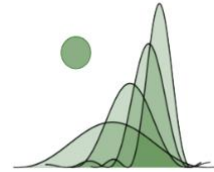
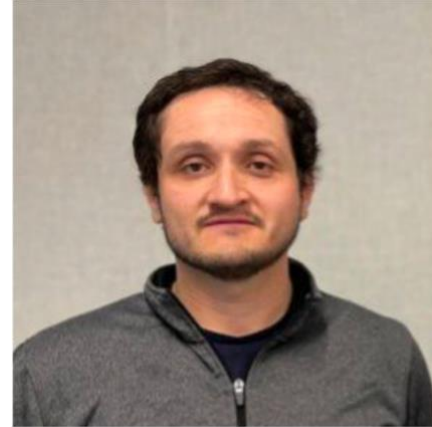




Colloquium Series  
Department of  
Mathematics & Statistics



**Dr. Noe Vidales**  
Cal Poly Pomona



**Partial Overlapping Batch Means Estimators  
and Application to Clustering**

**Abstract:** My research proposes a family of partial-overlapping batch means estimators, which are computationally efficient and can be conveniently applied in practice. The family is indexed by a shift parameter, which determines the overlap between batches and is a generalization of non-overlapping batch means and overlapping batch means. As an extension, I am researching the effectiveness of using batch means estimators to cluster stochastic processes using the Expectation and Maximization algorithm and mixture models. The proposed method is compared to existing clustering methods that do not use batch means estimators for autoregressive processes. Preliminary simulations show potential advantage of integrating batch means estimators into clustering algorithms. The goal is to potentially extend the proposed method to vector autoregressive processes and other stochastic processes that satisfy a Strong Invariance Principle.

November 5, 2025 1:05 – 1:50 pm in room 4-2-314

**Join remotely via Zoom:** <https://cpp.zoom.us/j/84908036425>