Mathematics & Statistics Colloquium

When: Wednesday, April 8, 2:00 pm - 2:50 pm

Where: Lee Drain Building 400

Spatio-temporal models for some data sets in continuous space and discrete time
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Space time data sets are often collected at monitored discrete time lags, which are usually viewed as a component of time series. Valid and practical covariance structures are needed to model these types of data sets in various disciplines, such as environmental science, climatology, and agriculture. In this paper we propose several classes of spatio-temporal functions whose discrete temporal margins are some celebrated autoregressive and moving average (ARMA) models, and obtain necessary and sufficient conditions for them to be valid covariance functions. The possibility of taking advantage of well-established time series and spatial statistics tools makes it relatively easy to identify and fit the proposed model in practice. A spatio-temporal model with moving average type of temporal margin is fitted to Kansas daily precipitation to illustrate the application of the proposed model comparing with some popular spatio-temporal models in literature.

Second, I will speak on life after a Master Degree in Statistics from SHSU. What is it like getting your doctorate? What were some of the struggles I faced during my studies at K-State? What is it like to be a consulting statistician? What are the key areas of statistics that are used on a daily basis working at Shell Global Solutions?