

The CEHS Office of Research Services and the Statistical Consulting Studio bring you the

# Stat Studio Workshop Series - 2019

Statistical Methods for Addressing Common Quantitative Issues

Open to CEHS Faculty and Graduate Students

**Select Wednesdays 3:00 – 5:00 pm in EDUC 454**

Date	Topic
<p><b>February 13</b> <i>Sarah Schwartz</i></p>	<p><b><u>Time-to-Event Modeling: Survival Analysis</u></b></p> <p>In some situations, we are most concerned with monitoring participants to see if an event occurs, yet due to time constraints, attrition, and other factors some participants are censored. Survival analysis is a statistical methodology to study the occurrence of an event over time. It is referred to as survival analysis because it was originally derived in contexts where the event was death, but the event under study need not be death. Examples from the social sciences where survival analysis can be used are studies that investigate time from marriage until separation or divorce and intervals between births. Several common methods (eg. KM plots and Cox Regression) will be introduced.</p>
<p><b>February 27</b> <i>Sarah Schwartz</i></p>	<p><b><u>Intro to Multilevel &amp; Marginal Models: MLM, HLM, &amp; GEE</u></b></p> <p>Multilevel modeling (MLM) is growing in use throughout the social sciences due to the common hierarchical or clustered structure of data collected. Although daunting from a mathematical perspective, MLM is relatively easy to employ once some basic concepts are understood. Whether your participants are nested (eg. students in classes, multi-site trials) or you are monitoring repeated measurements (eg. Longitudinal), correlation between observations should not be ignored, but leveraged. This workshop will provide a solid foundation and introduction, but PSY 7650 offers a full course.</p>
<p><b>March 20</b> <i>Sarah Schwartz</i></p>	<p><b><u>Random Forests: Classification &amp; Regression Trees</u></b></p> <p>It is common in statistical modeling to have far more predictor variables available than will be included in a final model (especially when including combinations of variables as interaction effects). Often, predictor variables are correlated with one another and have differing patterns of missingness. In order to arrive at the most parsimonious statistical model that accounts for as much of the variance in the outcome as possible, a systematic approach to variable selection is needed, which also allows for interactions, correlations, missingness, and unbalancedness across groups. This workshop will demonstrate the use of Random Forests as a method to arrive at the strongest and most parsimonious set of predictor variables. Although a limitation of Random Forests is interpretability of effects, methods for using the results of Random Forests as a guide in other modeling approaches will be presented.</p>

**RSVP**  
Seating limited

*For more information and to register,*  
(ZOOM available for distance attendees)  
please visit the ***Workshop Series*** page at:

[www.cehs.usu.edu/statstudio](http://www.cehs.usu.edu/statstudio)

