



## Department of Mathematics and Statistics

### COLLOQUIUM

**Tuesday, October 21<sup>st</sup>, 2014**

4:00 – 5:00 pm, Adel Mathematics Bldg., Room 164  
(refreshments served at 3:45)

**Dr. Brent Burch**

Northern Arizona University

## Distribution-dependent and Distribution-free Confidence Intervals for the Population Variance

**Abstract:** Confidence intervals for the variance are readily available for cases in which the population is normally distributed. These intervals, however, have inexact coverage probabilities if the population is not normally distributed. Confidence intervals for the variance using large-sample theory can also be obtained. These large-sample intervals, however, may perform poorly in small-sample size applications. The speaker will present a confidence interval procedure that makes use of the underlying distribution (if known) and the large-sample properties of a function of the sample variance. A simulation study is conducted to explore coverage probabilities in a variety of scenarios.

Algebra Combinatorics Geometry and Topology (ACGT) Seminar: Tuesday October 21<sup>st</sup>, 12:45 – 1:45 pm, AMB 164: Dana Ernst will speak about “T-avoiding elements in Coxeter groups.”

Applied Math Seminar (AMS): Thursday, October 23<sup>rd</sup>, 12:45 – 1:45 pm, AMB 164. Thomas Holtzworth will continue talking about his mentored research with Dr. Falk.

Friday Afternoon Undergraduate Mathematics Seminar (FAMUS) meets Friday at 3pm.