Mathematical Sciences Colloquium Series

Friday (January 25, 2008)
3:00pm WA 103A

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An Introduction to 2-part Models

Samples where a portion of the sample has zero values can arise as a result of censoring the data (assigning a cut-off below which measurements are not made) or because the data is truly structured in this way. Data structured in this way is commonplace in social science research (the cost of health services or the hours spent in after school programming as examples) Two-part models are appropriate when comparing samples with one part of the sample at zero and another part of the sample being continuous and non-zero. In this first part of our discussion, I will demonstrate the dangers of treating a sample of this sort as strictly continuous and how t-statistics yielded by such analyses can be misleading. In contrast to these, the statistics associated with an alternative two-part model by Lachenbruch will be presented. Secondly, we will take a brief look at the hypotheses associated with two part and one part models. Finally, I will present several competing estimators of the overall variance.