TEXAS STATE UNIVERSITY ®

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Discrete Mathematics Seminar

Time: Friday, March 2, 2018, 2:15-3:15 PM
Room: 237 Derrick Hall
Title: Matroids and statistical dependency
Speaker: Dr. Art Duval, Department of Mathematical Science, UT-El Paso

Abstract:

What does it mean for a set of more than two variables to be statistically dependent, even if no two of them are pairwise dependent? We compare different ways of determining this dependency and show they are consistent. We show that, if we make common statistical assumptions on data, then the resulting structure of dependencies may be described by a matroid. We use real examples from biology to demonstrate how the description with matroids helps simplify the presentation of complex variable dependency.

I will assume no knowledge of matroids, or of statistics. This is joint work with Amy Wagler.