



The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



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Santa Clara Univ.

Algebraic Approaches to Solving the Structural Identifiability Problem in Systems Biology

APRIL 20, 2016, MH320

Abstract: The use of algebraic methods to attack problems arising in systems biology has become a popular and effective method to analyze such systems. I will explore some algebraic approaches to investigate the problem of structural identifiability of biological models, i.e., the problem of determining which unknown parameters can be quantified from given input/output data. In particular, I will discuss the use of computational algebraic tools such as Groebner bases and algebraic matroids to determine the identifiability properties of biological models. These tools become particularly helpful when the model is unidentifiable and can be used to help reparameterize the model over identifiable functions of the parameters.

Background: One course in abstract algebra.

About the speaker: Nicolette Meshkat is an assistant professor at Santa Clara University. Her research interests include mathematical biology and applied algebraic geometry. She is a proud native of San José.

SNACKS IN MH331B AT 2:30 PM

TALKS START AT 3 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>