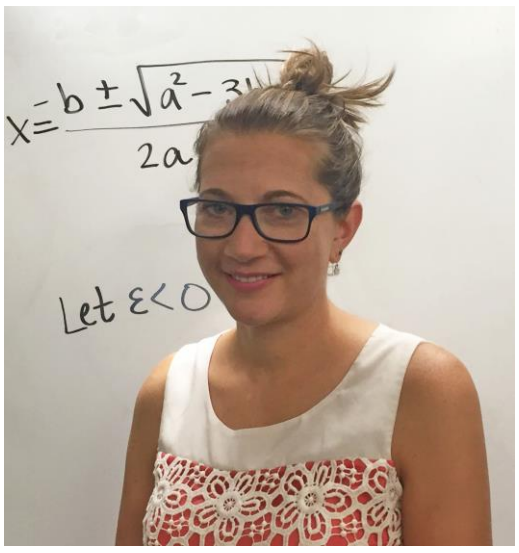
# Department of Mathematics and Statistics

CAL POLY POMONA

# Distinguished Lecture

## Simple classification from binary data

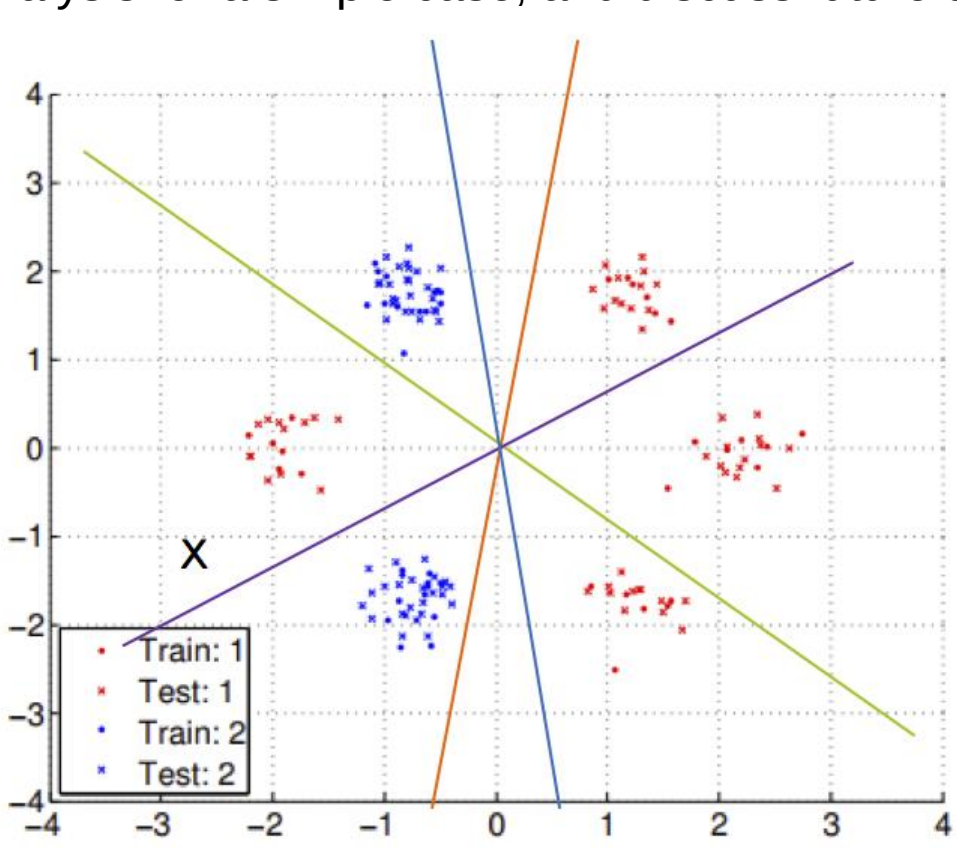
Professor Deanna Needell
Department of Mathematics, UCLA




Deanna Needell earned her PhD from UC Davis before working as a postdoctoral fellow at Stanford University. She is currently a full professor of mathematics at UCLA. She has earned many awards including the IEEE Best Young Author award, the Hottest paper in Applied and Computational Harmonic Analysis award, the Alfred P. Sloan fellowship, an MSRI Research Professorship, an NSF CAREER and NSF BIGDATA award, and is the current recipient of the IMA prize. She also serves as associate editor for IEEE Signal Processing Letters, Linear Algebra and its Applications, SIAM Journal on Imaging Sciences, and Transactions in Mathematics and its Applications as well as on the organizing committee for SIAM sessions and the Association for Women in Mathematics.

**Abstract:**

Binary, or one-bit, representations of data arise naturally in many applications, and are appealing in both hardware implementations and algorithm design. In this talk, we provide a brief background to sparsity and 1-bit measurements, and then present new results on the problem of data classification from binary data that proposes a framework with low computation and resource costs. We illustrate the utility of the proposed approach through stylized and realistic numerical experiments, provide a theoretical analysis for a simple case, and discuss future directions.




**Thursday**

**May 24, 2018**

**12:05 - 12:50 pm**

**Room 3-2870**

**Reception: 11:30-12:00 pm**

Light lunch compliments of the
Department of Mathematics and Statistics

Additional Information for off-campus visitors available at https://www.cpp.edu/~sci/mathematics-statistics/