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

Chrysoula Tsogka

UC Merced

The Noise Collector for sparse recovery in high dimensions

October 30, 2019, MH320

Abstract: Detecting sparse signals from noisy, high-dimensional data is a top priority in modern science and engineering. For optimal results, current approaches need to tune parameters that depend on the level of noise, which is often difficult to estimate in practice. In this talk, the Noise Collector, a new parameter-free, ℓ^1 norm minimization approach will be presented. The Noise Collector has a zero false discovery rate (no false positives) with high probability for any level of noise and provides exact support recovery when the noise is not too large. The effectiveness of the method will be demonstrated in imaging applications.

I will also discuss Ph.D. study in applied mathematics at UC Merced.

Background: Basic linear algebra and statistics.

About the speaker: Chrysoula Tsogka is a Professor at the Applied Mathematics Department at UC Merced. Her research interests are in numerical methods for forward and inverse wave propagation problems. She is particularly interested in imaging in complex media with applications in remote sensing, geophysics, microwave imaging and optics.

Snacks in MH331B at 2:30 pm
Talk starts at 3:00 pm

For more information, see our full schedule at:

`http://www.timhsu.net/colloq/`