

**University of California, Irvine
Statistics Seminar**

***Tensor Regression with Applications
in Neuroimaging Data Analysis***

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**Thursday, November 3, 2016
4 p.m., 6011 Bren Hall
(Bldg. #314 on campus map)**

Classical regression methods treat covariates as a vector and estimate a corresponding vector of regression coefficients. Medical imaging and genomic studies generate covariates of more complex form such as multidimensional arrays (tensors). Traditional statistical and computational methods are proving insufficient for analysis of these high-throughput data due to their ultrahigh dimensionality as well as complex structure. We propose a family of tensor regression models that efficiently exploit the special structure of tensor covariates. Under this framework, ultrahigh dimensionality is reduced to a manageable level, resulting in efficient estimation and prediction. Potential of the new method is demonstrated on imaging data.

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<http://www.ics.uci.edu/about/visit/index.php>