

**University of California, Irvine
Statistics Department
Seminar**

Tajima Coalescent

**Julia Palacios
Assistant Professor of Statistics
and of Biomedical Data Science
Stanford University**

**Thursday, June 6 2019
4 p.m., 6011 Bren Hall
(Bldg. #314 on campus map)**

In this talk I will present the Tajima coalescent, a model on the ancestral relationships of molecular samples. This model is then used as a prior model on unlabeled genealogies to infer evolutionary parameters with a Bayesian nonparametric method. I will then show that conditionally on observed data and a particular mutation model, the cardinality of the hidden state space of Tajima's genealogies is exponentially smaller than the cardinality of the hidden state space of Kingman's genealogies. We estimate the corresponding cardinalities with sequential importance sampling. Finally, I will propose a new distance on unlabeled genealogies that allows us to compare different distributions on unlabeled genealogies to Tajima's coalescent.

For directions/parking information, please visit <https://uci.edu/visit/maps.php> and
<http://www.ics.uci.edu/about/visit/index.php>