

## Colloquium

# Wesley Johnson

University of California  
Irvine, CA

Friday, May 1, 2015 at 3pm in Bell Hall 143

### Bayesian Semi-parametric Methods in Biostatistics

We review some recent developments in the application of Bayesian nonparametric methodology to semi-parametric problems in the areas of receiver operating characteristic curve estimation, survival analysis and jointly modeling longitudinal and survival data. We begin with a brief review of Mixtures of Polya Trees and Dirichlet Process Mixtures, which provide flexibility in modeling, followed by illustrations of their use in the above contexts. An emphasis is given to selecting among classes of semi-parametric models eg. in survival analysis with time dependent covariates, we may wish to choose among proportional hazards, proportional odds and Cox and Oaks models.