

B I O S T A T I S T I C S S E M I N A R

UCLA

FALL 2016

RESPONDENT DRIVEN SAMPLING AND THE HOMOPHILY CONFIGURATION GRAPH

IAN FELLOWS
FELLOWS STATISTICS INC.

Wednesday, October 19 , 2016

3:30pm - 4:30pm, Dentistry 13-041

Refreshments served at 3:00 PM in room 51-254 CHS

ABSTRACT:

Respondent-Driven Sampling is an approach to sampling design and inference in hard-to-reach human populations. It is typically used in situations where the target population is rare and/or stigmatized in the larger population, so that it is prohibitively expensive to contact them through the available frames. Common examples in the public health arena include injecting drug users, men who have sex with men, and female sex workers.

Adjusting for the complex sampling mechanism of the RDS procedure is challenging and many competing estimators are used in practice. We propose a new model for the RDS mechanism motivated by a graph model, which we call the homophily configuration graph, and develop an estimator for population proportions that is robust to seed bias, differential activity, differential recruitment and short recruitment chains. The properties of this estimator are explored and compared to existing recommended estimators.