25th Annual Morris Hansen Lecture

Adaptive and Network Sampling in Changing Populations

Speaker: Dr. Steve Thompson

Shrum Chair in Science, Professor of Statistics
Simon Fraser University, British Columbia, Canada

Discussants:
Dr. Mark S. Handcock, Professor and Chair, Statistics Department,
University of California, Los Angeles, CA
Dr. Andrew Gelman, Professor of Statistics and Political Science and
Director of the Applied Statistics Center, Columbia University

Abstract: Adaptive sampling typically has the form of selecting new units near sample units with high observed values or far from sample units with low observed values in surveys of rare, clustered, or unevenly distributed populations. In network settings adaptive link-tracing designs may be used in surveys of hidden and hard-to-reach populations, and the probabilities of following different social links may depend on values of variables associated with people or their links. In surveys that are carried out over time in populations that are continually changing, it is useful to think of sampling designs in stochastic process terms, with units coming into the sample and leaving the sample as time goes on.

Sampling designs have traditionally been used for making inferences about population characteristics, but also have a role in setting experiments in populations and distributing interventions to benefit a population. In this talk, I will discuss existing and potential uses of adaptive sampling designs in each of the above settings and for each of these uses. Examples from human health, environmental and natural resource studies, agriculture and other fields will be used for illustration.

STEVE THOMPSON is Professor of Statistics at Simon Fraser University. His research interests center on sampling theory and methods. Particular interests include adaptive sampling, network sampling, and using sampling designs to set experiments in populations and to distribute interventions to best benefit a population. His research studies have included sampling designs for populations that change in time, units that move spatially, and link-tracing designs through social networks. His research has taken motivation from problems in sampling natural populations, including rare, clustered, and hard-to-detect populations of animals and plants, and in sampling of human populations including hidden, hard-to-reach, and marginalized populations. He is author of the book "*Sampling*" and co-author of "*Adaptive Sampling*". He is a Fellow of the American Statistical Association and an elected member of the International Statistical Institute. He served as President of the Survey Methods Section of the Statistical Society of Canada and currently serves on the Advisory Committee for Statistical Methods for Statistics Canada. He has served on a number of advisory committees and panels for the National Research Council, the National Institutes of Health and the Centers for Disease Control and Prevention.

Tuesday, November 17, 2015
3:30 – 5:30 pm
Jefferson Auditorium, US
Department of Agriculture
Independence Avenue
(between 12th and 14th Streets)
At the Smithsonian Metro Station
(Blue/Orange/Silver lines)

A reception will follow at 5:30 pm in the Whitten Building Patio.
Please pre-register for this event to help facilitate access to the building on line at
http://www.nass.usda.gov/morrishansen/

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