

Department of Industrial and Systems Engineering
&
Department of Statistics

**“Statistical Challenges and Promise
When Sampling Bias Is Present”**

Monday, March 25, 1:50 – 2:40
4002 Emerging Technologies Building



Abstract:

The complexity of sampling mechanisms and various biases associated with prospective observational studies, cancer screening trials and industrial reliability investigations raise statistical challenges in both the design and data analysis. Standard analysis tools are often not applicable and, in fact, can lead to severely biased results. The peril of selection bias is exacerbated in prevalent cohort studies, because randomly sampled patients from the cohort are not random samples of the target population. Although the issues about biased inference have been recognized in the statistical and related applications literature, there are limited tools available for flexible modeling of data from these studies. We will show some recently development in the area, and introduce practical analytic approaches for analyzing time-to-event data observed from such studies.

Bio:

After obtaining her Ph.D. in biostatistics from University of Washington in Seattle in 1995, Yu Shen joined the faculty of the Department of Biostatistics at the University of Texas M. D. Anderson Cancer Center, where she holds the rank of Professor. She is also an adjunct Professor of Statistics at both Rice University and Texas A&M University. She is a Fellow of the American Statistical Association. Her research interests include the development of statistical tools to improve scientific inference in cancer research, with a principal focus on the elucidation of the long-term effects of prevention and treatment strategies for breast cancer.