



JOHNS HOPKINS  
BLOOMBERG  
SCHOOL of PUBLIC HEALTH

*Department of Biostatistics*

# BIostatISTICS SEMINAR

## Piecewise Constant Estimation Algorithm for Predicting Clinical Outcomes

Annette Molinaro, Ph.D.  
Biostatistics  
Yale School of Public Health

### Abstract

Clinicians aim toward a more preventative model of attacking cancer by pinpointing and targeting specific early events in disease development. These early events can be measured as genomic, proteomic, epidemiologic, and/or clinical variables. Such measurements are then used to predict clinical outcomes such as primary occurrence, recurrence, metastasis, or mortality. Recursive partitioning seeks to explain the individual contributions of various covariates as well as their interactions for the purposes of predicting outcomes, either continuous or categorical. Potential algorithms such as Classification and Regression Trees (CART) and part DSA aggressively search these highly-complex covariate spaces. We are in the process of extending part DSA to censored outcomes through the use of modified loss functions, specifically the IPCW squared error and Brier loss functions. In this talk, part DSA will be introduced, accommodation for censored data discussed and results presented.

**The Johns Hopkins Bloomberg School of Public Health  
Department of Biostatistics, Wednesday, April 14, 2010  
Room W2030 School of Public Health, 4:00-5:00pm (Refreshments: 3:30)**

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