

**RUTGERS UNIVERSITY  
DEPARTMENT OF STATISTICS AND BIostatISTICS**

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**Seminar**

Speaker: **Professor Ursula Mueller-Harknett**  
**Department of Statistics**  
**Texas A&M University**

Title: **Efficient estimation in regression with missing responses**

Time: **3:20 – 4:20pm, Wednesday, April 15, 2015**

Place: **552 Hill Center**

**Abstract**

I will first review some of my results on efficient estimation in semiparametric regression with responses  $Y$  "missing at random" based on imputation. Then I will demonstrate that characteristics of the conditional distribution of  $Y$  given a covariate vector  $X$  can be estimated efficiently using complete case analysis. This means that one can simply omit incomplete cases and work with an appropriate efficient estimator without losing this desirable property. The "efficiency transfer" is a general result and holds true for all regression models for which the distribution of  $Y$  given  $X$  and the marginal distribution of  $X$  do not share common parameters. The derivation uses the "transfer principle" for obtaining limiting distributions of complete case statistics (for general missing data models) from corresponding results in the complete data model. For an illustration we consider estimation of regression parameters and of functionals of the error distribution.

**\*\* Refreshments will be served @2:50pm in Room 502 Hill Center \*\***