

## Seminars on Statistics in Marketing and Psychology, Autumn 2006

We will continue holding research seminars in Marketing, Psychology and Statistics on THURSDAYS 1.00-2.30pm this term, in FISHER 500. These seminars will consist mainly of ongoing research presentations and discussions of published papers. You are welcome to join us.

### LIST OF SEMINARS

12th October. Sandeep Rao, Marketing Department  
Hierarchical memory organisation and impact of advertising – linking consumer needs, attributes and brands.

October 26: Steven MacEachern, Statistics Department.  
The dependent Poisson race model—some updates.  
(Joint work with Shiling Ruan, Thomas Otter and Angela Dean).

Thomas Otter, Marketing Department  
Counting models with auto- and cross- correlations.  
(Joint work with Mario Peruggia, Statistics Department.)

November 2nd. Mario Peruggia, Statistics Department.  
Long range trends and short range dependencies in response time data.  
(Joint work with Peter Craigmile, Statistics Department)

November 9th. Brian Roe, Department of AED (Agricultural, Environmental and Development) Economics  
"Understanding Human Response to Risk"

Rapid advancements in neural imaging, genomic and other biomedical technologies provide social scientists with a new mix of tools to better understand complex human behavior. Human response to risk is one area in which these technologies may provide social scientists with improved models. Neoclassical economics, for example, posits a parsimonious view that individual differences in human risk response are driven by differences in personal wealth. The seminar will provide an overview of ongoing research that employs a novel mix of methods from cognitive neuroscience (functional Magnetic Resonance Imaging), molecular genetics (polymorphism screening), neuroendocrinology (stress-related hormone secretion) and experimental economics to improve our understanding

of individual differences in human response to risk. The research is designed to identify differences between more and less risk-averse individuals with regard to: (1) neural activity in key brain regions (2) genetic polymorphisms associated with key neurotransmitters and hormones (3) salivary levels of cortisol, a principal immune regulator (4) physiological traits such as height and handedness and (5) demographics.

November 16th. Chris Browning (Department of Sociology) and Kate Calder (Department of Statistics)

Recent research on the relationship between neighborhood informal social control and violence/crime has emphasized the importance of perceived control of public space, or collective efficacy. In addition, features of public space, such as levels of street activity and the spatial distribution of land use, may influence crime levels. In this presentation, we explore the relationship between characteristics of urban neighborhoods and violence exposure among adolescents using data from the Project on Human Development in Chicago Neighborhoods (PHDCN). The various components of this extensive project include a Systematic Social Observation (SSO) Study, providing measures of street activity and density of commercial property in Chicago neighborhoods; a Community Survey designed to elicit neighborhood characteristics from residents; and a Longitudinal Cohort Survey, which tracked a sample of children and adolescents from Chicago neighborhoods and provides indicators of exposure to various types of violence for individuals over time. We synthesize data from these three PHDCN studies using a hierarchical Bayesian item-response modeling framework, which readily allows us to explore the nature of the influence of neighborhood-level factors on violence exposure across Chicago. Preliminary findings from several variations of the model will be presented and discussed.

November 23: NO SEMINAR;  
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