

## **Summer Institute of Advanced Epidemiology & Preventive Medicine**

### **Environmental Epidemiology – Summer course 2012 Outline**

Sunday – Thursday (August 5<sup>th</sup> - August 9<sup>th</sup>)

08:30 to 13:00

Room 927 (9<sup>th</sup> floor, Sackler Building, Faculty of Medicine)

**Course Instructor: Prof. Joel Schwartz**

Course Assistant: Ms Sharon Dar - [darsharon@gmail.com](mailto:darsharon@gmail.com)

### **Course Objectives**

The course will be centered on three questions in environmental epidemiology, and examine different methodologies to address them.

**Question 1** will be “How do we identify the effects of heat waves on mortality in a population, and who is particularly susceptible”. Following this we will ask “How do we identify the effects of hot, but less extreme temperatures on mortality?” To address these questions we will learn to use Poisson time series analyses and case-crossover analyses. For the last question, we will learn how to fit linear splines, nonlinear splines, and penalized splines to examine the shape of dose-response.

**Question 2** will ask whether exposure to air pollution in a panel of subjects seen multiple times post discharge for an acute coronary event is associated with changes in heart rate variability. We will consider fixed effect and mixed effect models, discuss their differences, and also look at the shape of the dose-response relationship.

**Question 3** will examine a closed longitudinal cohort and look at the association of particulate air pollution with lung function. Key issues to be addressed are informative censoring, inverse probability weights, and heterogeneity and its sources.

*For those who wish to receive academic credit for the course, the final exam will take place on Friday, August 10<sup>th</sup>, at 09:00 – 11:00 am.*