Ubiquitous and participatory sensing for exposure assessment in Environmental Epidemiology.

Chair:
Michael Jerrett, Berkeley, USA

Aims and short description: Many of the important opportunities that will guide exposure assessment for Environmental Epidemiology in the 21st century arise from innovations in related science and technology. Cell-phone technologies increasingly contribute to improving diagnostics and patient care through telemedicine. Innovations from telemedicine are now spurring fields known as "ubiquitous", "embedded" and "participatory" sensing, which generate unparalleled opportunities to measure real-time exposures and biological responses. Working prototypes based on cell-phone technologies have already demonstrated capacity to measure physical activity, geographic position, lung function, and pollution exposures. This symposium will review the prospects of such technology for Environmental Epidemiology with conceptual and empirical presentations.

Presentations

1. Ubiquitous Sensing for Exposure Assessment in Environmental Epidemiology
   Speaker: Michael Jerrett, PhD, University of California, Berkeley, USA

2. Mobile phones as personal environmental sensing platforms: Development of the CalFit system
   Speaker: Edmund Seto, University of California, Berkeley, School of Public Health, Berkeley, CA, USA

3. Improving estimates of travel activity and air pollution exposure through ubiquitous sensing technologies.
   Speaker: Audrey de Nazelle, Centre for Research in Environmental Epidemiology

4. Measuring the lung function continuously and unobtrusively.
   Speaker: Ville-Pekka Seppä, Tampere University of Technology, Finland

5. Assessing real-time relationships Among physical activity, green space, and community design in children.
   Speaker: Estela Almanza, University of California, Berkeley, USA

6. The participatory design of exposure assessment apparatus.
   Speaker: David Holstius, University of California, Berkeley