

## **Crash Course in R: An Introduction to R for Environmental Epidemiology**

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Powerful, flexible, open-source and free R statistical software has made enormous inroads in environmental epidemiology research. With more than 1600 tailor-made libraries and extensive graphics capabilities R can help you to understand your data like no other statistical software. Specific libraries exist for time series analysis, analyzing epidemiological data, creating maps and directly connecting to a multitude of external databases.

But R, somewhat famously, has a steep learning curve that can be a barrier to first-time users, even those with extensive statistical experience with, for example, SAS. The goal of this workshop is to get participants up and running with R, to provide users with enough background to begin manipulating data, preparing graphics and conducting simple statistics. Data from environmental epidemiology will be used in examples. Users will also learn how to install libraries and where to go to learn more about R.

Finally, the instructors will demonstrate some of the deep functionality provided by R including advanced graphics, time series analysis and spatial data manipulation. The instructors will also discuss some of R's limitations.

### **Details of the Workshop**

Expected number of participants: approximately 15. Participants are asked to bring their laptops and follow instructions for installation of R and a limited number of libraries in advance of the workshop.

Instructions as well as additional background materials and an agenda will be made available at <http://www.zevross.com/isee2011/> shortly before the workshop.

### **Bios**

Roger D. Peng is an Associate Professor in the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health. He has written several R libraries and is author of the book *Statistical Methods for Environmental Epidemiology with R*.

Zev Ross is president of ZevRoss Spatial Analysis where he puts R to work on spatial and environmental statistics projects focused on climate change, air pollution and other topics for clients such as the World Health Organization, US Centers for Disease Control and dozens of universities. He has used R/S-PLUS almost daily for more than 10 years and has a specific interest in spatial data analysis and data visualization.