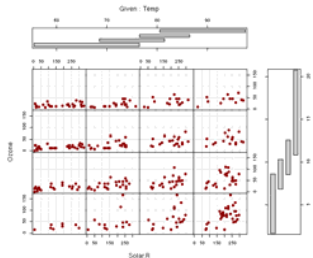


Sponsored by the New Jersey Public Health Association



Epidemiological Computing and Graphics in Public Health with



Wednesday, August 13, 2008, 9am-4pm
UMDNJ School of Public Health
683 Hoes Lane West, Room 2A
Piscataway, NJ 08854

A 1-day course providing hands-on experience with:

R basics, and more, for data professionals
Example real Public Health applications
Quality color graphics

Who Should Attend

Practitioners of epidemiology and statistical computing, with intermediate to advanced skills, who wish to do analysis and graphics in the R language on IBM compatible PCs, MacIntosh, or other computers running Windows NT, 2000, XP, Mac OS, Linux or Unix operating system.

Background

R is a public domain software package in active development by members of universities, government employees and company staff around the world. Books on R in many application areas are available. With R, the data professional can produce publication quality graphics with great flexibility, as well as fit epidemiological and statistical models of cutting edge

interest. Many of the concepts originated as the S language at Bell Laboratories. A commercial version exists as the language Splus.

This course will focus on developing programs and applications in R with relevance to public health. This course appears on the NJLMN List of Courses with Approved 5.75 CE/LE hours. Participants are encouraged to [bring datasets](#) for discussion and graphing. This is an also opportunity to network with other data professionals. Prepare for an active autumn season.

Course Content

Hour 1: Introductions of attendees. Epi. and laboratory calculations. Sources of R documentation and software, installation and system considerations. Basics of R language. Reading data into R, from various file formats including interactively, EPI-INFO, Excel, DBASE, MDB, free and fixed format text files. Discussion of three Epi. Packages. ***NEW***

Hour 2: Public health applications and biometric packages. A growth model fitting function for BMI, other body measurements. Wilkinson-Rogers Model notation. Experimental design analyses. Survey analysis. Epidemiological computations. Public Use datasets. LQAS, binary cusum, better Pareto charts.

Hour 3: Graphical facilities of R. Effective plotting. Importing and exporting of data and graphs. Programming, functions, libraries, programming, including user dialogs, recoding of data, and construction of customized menus. Application development exercises. Also, an innovative graphical grammar package.

Lunch break.

Hour 4-5: Algorithmic statistics ***NEW*** including recursive partitioning, randomForests, randomSurvivalForests. Regression and Survey analysis examples. Empirical Bayes rate smoothing. Problems and datasets discussions of attendee projects. Future uses and developments of R including participation in user group, the UseR Conferences. Discussion of student datasets and problems. Course evaluation.

Preparatory Reading / Browsing

R for Beginners by Emmanuel Paradis

R Reference Card by Tom Short

These and other documentation in PDF form, as well as R itself, are available at www.r-project.org by clicking on the Manuals link and then the Contributed Documentation link.

Practical reference books (there are many others):

Data Analysis and Graphics Using R: An example-based approach. by John Maindonald and John Braun.

Creating More Effective Graphs by Naomi B. Robbins.

Faculty

Giles L. Crane, MPH, Research Scientist and Statistician, has extensive experience in statistical computing on a wide variety of computers in the public and private sectors.

Course Assistant: Oliver Giller is an experienced professional from the Early Intervention Program of the NJ Dept. of Health.

Location 683 Hoes Lane, Piscataway, Room 2A, 9AM



Tuition

Course tuition is \$25 for NJPHA Members and \$35 for non-members of NJPHA. Tuition includes all instructional materials, R CD-ROM, continental breakfast, lunch, continuing education credits, and certificate. Please make check payable to NJPHA. Additional \$10 for USB memory stick with R.

Application

Complete the application & email or mail to:

Giles Crane

RE: Epi. Computing Course

621 Lake Drive

Princeton, NJ 08540

Email: gilescrane@verizon.net

All applications must be received by **August 1, 2008**. Early enrollment is recommended as the class is limited to 20. Prior registration is required for the School of Public Health Site. Promptly after this date Acceptances will be sent by email, and parking tags/instructions will be sent by mail.

**Epidemiological Computing
and Graphics in Public Health with R
Piscataway, Wednesday, August 13, 2008
Application Form**

1. NAME AND ADDRESS OF APPLICANT (Please type or print)

(Dr., Mr., Mrs., Ms., or Miss) (Last) (First) (Middle Initial)

Home (or Office) Address Applicant's Phone Number

City State Zip Code or Country and Postal Code
Trenton NJ 08625

2. EMPLOYER

Organization Applicant's Office Phone

Division/Unit Applicant's FAX Number

Local Address ()
Email (Important)

City State Zip Code or Country and Postal Code

3. PROFESSIONAL STATUS

Occupation

Position Title

Length of Time in Position

Brief Description of Your Present (or Expected) Position

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4. EDUCATIONAL BACKGROUND (List Degrees)

5. MICROCOMPUTER EXPERIENCE (Software you have used and programming experience if any)

6. EPIDEMIOLOGIC/STATISTICAL COMPUTING TRAINING AND EXPERIENCE

7. PUBLIC HEALTH OR OTHER COMPUTING APPLICATIONS IN PROGRESS OR OF INTEREST

8. YOUR GOALS FOR THIS COURSE (What you hope to gain from the experience)

Do you wish the USB memory stick with R material for \$10? yes No

Signature of Applicant

Date