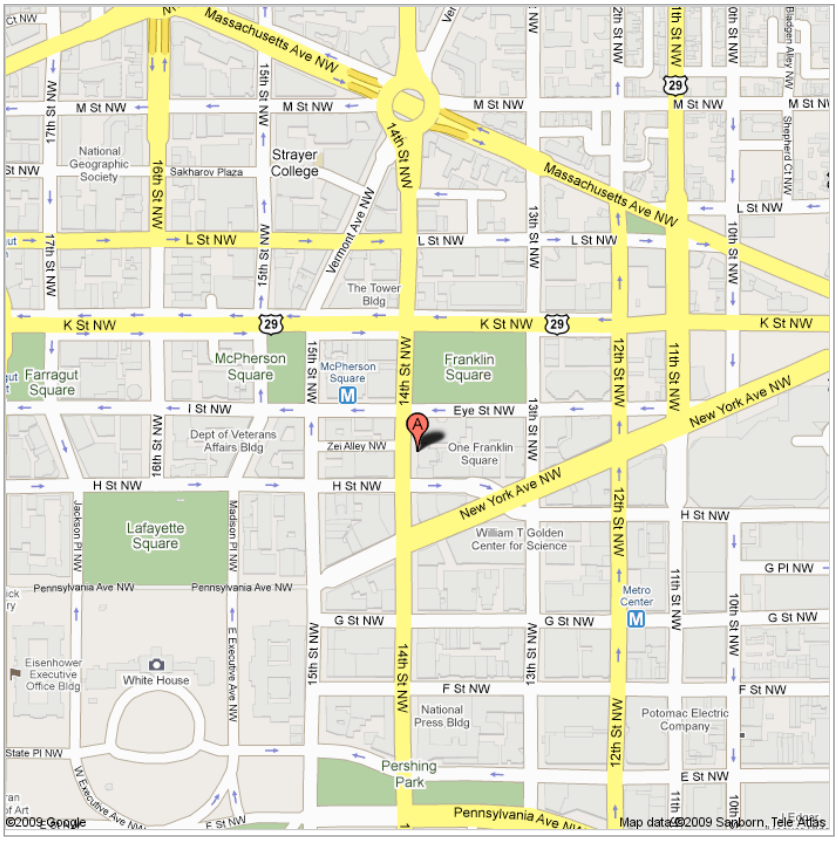
Working with R to Analyze and Plot Data

Professor Heike Hofmann, Statistics, Iowa State University
Professor Di Cook, Statistics, Iowa State University

This workshop focuses on a data centric introduction to using R, in a reproducible way, incorporating lots of data graphics and exploratory data analysis. The sections will center around contemporary data examples, showing participants how to work their way through the analysis, and answer questions about the data.

Introduction to R and reproducibility	Participants get started with R, learn how to organize a work project and use knitr to incorporate code into documentation to produce pdf, html or Word documents.
Introduction to plotting data	Mapping data to plots using ggplot2. Simple plots, scatterplots, bar charts, time series, profiles, boxplots.
Rearranging and cleaning data	Data rarely comes in a form that can be immediately analyzed and takes some work to rearrange it in different ways to examine different aspects, and to check quality. The packages tidyr, dplyr and lubridate will be used.
Advanced plotting and polishing graphics	Layering different data sets, drawing maps, fitting models. Using cognitive principles to produce quality publication graphics. Packages used include ggplot2, maps, ggmap, ggsubplot, productplots, GGally, gridExtra.
Making shiny apps	Learn how to create interactive web applets that allow users to interact with their/your/public data and statistical analyses in a user-friendly setting.


Massachusetts Ave NW
M St NW
15th St NW
14th St NW
Massachusetts Ave NW
2th St NW
1th St NW
0th St NW
Badgen Alley NW
29
M St NW
M St NW
M St NW
17th St NW
National Geographic Society
16th St NW
Sakharov Plaza
Strayer College
Shepherd Ct NW
L St NW
L St NW
L St NW
L St NW
10th St NW
13th St NW
15th St NW
Vermont Ave NW
The Tower Bldg
K St NW
29
K St NW
29
K St NW
McPherson Square
15th St NW
McPherson Square
Franklin Square
14th St NW
12th St NW
11th St NW
Farragut Square
I St NW
Eye St NW
13th St NW
New York Ave NW
16th St NW
Dept of Veterans Affairs Bldg
Zei Alley NW
One Franklin Square
H St NW
H St NW
New York Ave NW
12th St NW
H St NW
Jackson Pl NW
Lafayette Square
Madison Pl NW
William T Golden Center for Science
G Pl NW
Pennsylvania Ave NW
Pennsylvania Ave NW
Metro Center
11th St NW
10th St NW
G St NW
G St NW
G St NW
15th St NW
14th St NW
13th St NW
E Executive Ave NW
Eisenhower Executive Office Bldg
White House
F St NW
F St NW
National Press Bldg
Potomac Electric Company
12th St NW
State Pl NW
Pershing Park
E St NW
W Executive Ave NW
F St NW
Pennsylvania Ave NW
©2009 Google
Map data ©2009 Sanborn, Tele Atlas