

# 3rd *Computation and Visualization Consortium (CVC) Workshop*

**When: July 13-17, 2015**

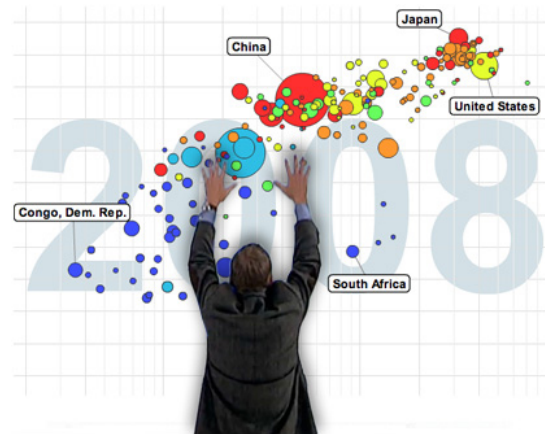
**Location: Smith College (Northampton, MA)**

**Workshop Leaders:** [Randy Pruim](#) (Calvin College), [Danny Kaplan](#) (Macalester College), [Nicholas Horton](#) (Amherst College), and [Ben Baumer](#) (Smith College).

**Application Deadline:** We will begin reviewing [applications](#) and selecting participants on **March 31, 2015**. Applications should be completed in advance of this date for full consideration.

## Workshop Audience and Topics

This gathering aims to engage science faculty who have an interest to better prepare science students to meet the challenges of formatting, analyzing, and visualizing increasingly complex and large data sets. Based on outcomes from the first two CVC workshops, the most successful participants have either arrived with a specific topic of interest or have attended as part of a team of 2 or more faculty from the same institution, often with one of the members being someone with experience with statistics. Preference will be given to applicants that fall into either of these groupings.



The *first half of the workshop* starts at noon on July 13. This portion of the workshop aims to introduce faculty members to the open source software package, RStudio. These days will serve as an introduction to using R for handling data and graphics and include

- An introduction to the RStudio environment
- A “Doing More with Less Cookbook” for R
- Designing and creating sophisticated graphical data visualizations
- Data wrangling: Manipulating data for graphics and insight
- Preparing documents that include text, static and dynamic graphics, and analysis

The *second half of the workshop* concludes at noon on July 17. During this time participants will dig in on their own projects -- the “work” part of the workshop. Time will be spent:

- Expanding elements of first half of workshop
- Planning a case study
- Development of case studies (individually or in small groups)

In order to support project development, participants will learn specific skills as needed including topics such as:

- Summarizing data with models
  - how to construct plausible models and fit them
  - displaying models on graphics
  - displaying inferential ideas on graphs
- Basic data scraping skills (how to get data from web sites)
- Connecting to and working with large databases in R
- More advanced data cleaning skills
- Additional programming skills
- resampling and bootstrap methods

## **The Computation and Visualization Consortium (CVC) and Workshop Application:**

The CVC formed during the preparation of proposals for the 2012 “College’s science education” grant program sponsored by the Howard Hughes Medical Institute (HHMI). Six institutions—Macalester College, Calvin College, Grinnell College, Gustavus Adolphus College, Smith College, and Lawrence University—invited to submit a proposal to the HHMI competition-- created a consortium with the goal of providing workshops for faculty to **enhance their capacity to use increasingly complex and large data sets** in their research and classrooms.

Although only a subset of schools received funding, the CVC structure facilitates participation of faculty from each of the founding CVC schools. This year, the Science Education Award from the Howard Hughes Medical Institute (HHMI) to Macalester College will cover all local workshop expenses (e.g. housing, food, local transportation, etc.). As agreed during the formation of the consortium, each CVC institution will provide travel funds for their participating faculty.

A set of seats and travel scholarships are available for Faculty from non-CVC institutions.

Please complete the [online application](#) form by **5 pm on March 31, 2015** for full consideration.

## **Lodging and Food:**

Lodging will be provided at the historic Hotel Northampton in the heart of downtown Northampton. The rooms are about a 10-minute walk from the Smith College Science Center, where the workshop sessions will be held. Breakfast, lunch, snacks, and dinner will be provided.

## **Arrival and Departure**

The workshop will begin at noon on Monday, July 13, 2015 and end at noon on Friday, July 17, 2015. Those flying to the workshop can book flights to the Bradley International airport. The airport is approximately 35 minutes from campus by car. Shuttle or taxi transportation will be arranged once the participant flight schedules are known. *As agreed upon during the planning of the Computational and Visualization Consortium (CVC), each CVC participating institution will cover transportation costs.* A limited number of travel scholarships are available for non-CVC participants and can be requested through the [online application form](#).

## ***Institutional Representatives of the Computation and Visualization (CVC) Steering Committee***

Macalester College	Paul J. Overvoorde (Professor of Biology)
Calvin College	Randy Pruim (Professor of Math and Statistics)
Grinnell College	Leslie Gregg-Jolly (Professor of Biology)
Gustavus Adolphus	Jeff Dahlseid (Associate Professor of Biology and Chemistry)
Lawrence University	Beth DeStasio and Nancy Wall (Professors of Biology)
Smith College	Ben Baumer (Visiting Assistant Professor of Statistical and Data Sciences)