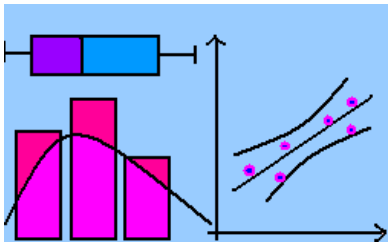
Ghement Statistical Consulting Company Ltd.
301-7031 Blundell Road, Richmond, British Columbia, Canada V6Y 1J5
Telephone: 604-767-1250 ◆ **Fax:** 604-270-3922 ◆ **E-Mail:** info@ghement.ca ◆ **Web:** www.ghement.ca



R WORKSHOP ANNOUNCEMENT

"A Basic Course on R for Data Analysis"

Thursday and Friday, November 8 and 9, 2012
8:30 a.m. - 4:30 p.m.
BCIT Building, Room 830, 555 Seymour Street, Vancouver, B.C.
(Workshop not affiliated with BCIT)

We are pleased to announce the two-day workshop **"A Basic Course on R for Data Analysis"** on November 8 and 9, 2012 in Vancouver, B.C., Canada. This workshop is ideal for participants who are new to R as well as R users who wish to expand their proficiency in R by understanding how R works behind the scenes.

What is R?

R is a free, powerful, open source software package with extensive statistical computing and graphics capabilities, which can be used to explore and analyze data. In addition to providing a comprehensive suite of conventional statistical tools, R has many freely available add-on packages which can be used to carry out more specialized statistical tasks. More information on R can be found on the website www.r-project.org. A user-friendly interface for R can be downloaded from www.rstudio.org.

Workshop Description

Day 1 on Thursday November 8th will introduce you to the R environment and programming language. You will learn the fundamental R commands necessary for data storage, manipulation and summarization. You will get a jumpstart in R programming and develop a solid foundation for using R to manage your data and produce descriptive statistics.

Day 2 on Friday November 9th will show you how to use R to visualize and analyze data. You will learn the appropriate R commands for constructing, customizing and saving simple and complex statistical graphs. You will perform a variety of basic statistical analyses (e.g., t-tests, chi-square tests, simple linear regression analysis, one-way analysis of variance) and become familiar with the interpretation of the corresponding R output. You will build a strong foundation for using R to solve your statistical analyses problems.

Benefits to Participants

After Day 1, you will be able to:

- Work with R within the R Studio environment.
- Manage and customize your R sessions.
- Access R help and documentation.
- Install new R functionality through add-on packages.
- Communicate with R via the command-line and via scripts.
- Transfer data from other software applications to R and vice versa.
- Store data in R using a variety of data structures.
- Prepare data stored in R for use in statistical analyses.
- Produce numerical summaries of data using R.
- Write customized R functions to automate repetitive data-processing tasks.

After Day 2, you will be able to:

- Construct basic statistical graphs.
- Create advanced statistical graphs using the lattice and ggplot2 packages.
- Customize and save graphical output produced by R.
- Perform a variety of basic statistical procedures, including t-tests, chi-square tests, simple linear regression analysis and one-way analysis of variance (ANOVA), and interpret the resulting R output.
- Assess the adequacy of these statistical procedures through appropriate diagnostics and adopt remedial actions when warranted.

Workshop Outline

Day 1

Morning

- Overview of R.
- Data Import/Export.
- Data Types.

Afternoon

- Data Management.
- Data Summarization.
- Programming Essentials.

Day 2

Morning

- Basic Graphs.
- Advanced Graphs.
- Graph Customization and Saving.

Afternoon

- T-Tests.
- Chi-Square Tests.
- Simple Linear Regression.
- One-Way ANOVA.

Workshop Format

The workshop is limited to 16 participants and consists of a series of short lectures and demonstrations followed by hands-on, interactive sessions for the participants.

Participants are provided with:

- A bound copy of the Workshop Notes.
- A CD-ROM containing all examples and exercises used during the workshop.
- A variety of handouts on statistical analysis using R.
- 30 days of free workshop-related technical support following the workshop.

Workshop Leader

The workshop is led by Dr. Isabella Ghement. Isabella obtained her Ph.D. in Statistics from the University of British Columbia (UBC) in 2005. Isabella has presented numerous public and private workshops on the statistical software package R to graduate students, researchers and others working in areas such as medical research, environmental and ecological research, biological research, fisheries research, forestry research, and so on. She also lectures part-time on advanced statistics at the Sauder School of Business, UBC and is actively engaged in statistical consulting through her company Ghement Statistical Consulting Company Ltd.. Isabella co-authored the following publications based on her Ph.D. work on nonparametric regression: "*Seasonal Confounding and Residual Correlation in Analyses of Health Effects of Air Pollution*" (Environmetrics. 2007; 18(4): 375-394) and "*Robust estimation of error scale in nonparametric regression models*" (Journal of Statistical Planning and Inference. 2008; 138(10): 3200-3216). Most recently, Isabella has acquired statistical expertise in the field of mixed treatment comparisons, a generalization of meta-analytic methods allowing for the comparison of multiple medical interventions with respect to their efficacy and safety. In this field, Isabella has co-authored publications such as *"Incorporating multiple interventions in meta-analysis: an evaluation of the mixed treatment comparison with the adjusted indirect comparison"* (*Trials* 2009, **10**:86 doi:10.1186/1745-6215-10-86), *"Estimating the Power of Indirect Comparisons: A Simulation Study"* (PLoS ONE 6(1): e16237. doi:10.1371/journal.pone.0016237) and *"Multiple treatment comparison meta-analyses: a step forward into complexity"* (Clinical Epidemiology. 2011; 3: 193–202).

Prerequisites

Day 1

Participants should have some basic knowledge of descriptive statistics and familiarity with the Windows operating system.

Day 2

Participants should have some basic knowledge of R, familiarity with the Windows operating system and an understanding of basic statistical procedures (e.g., t-tests, chi-square tests, simple linear regression, one-way analysis of variance).

Participants should bring a laptop computer pre-installed with the open-source R software and its user-friendly interface R Studio. R can be downloaded from http://cran.stat.sfu.ca/ and R Studio can be downloaded from http://www.rstudio.org.

Upon request, we can provide a computer for participants to use during the workshop for an additional cost of $100.00 plus HST per participant per day.

Location

Downtown Vancouver in the new British Columbia Institute of Technology (BCIT) Building, Room 830, 555 Seymour Street, Vancouver, B.C.
(Workshop not affiliated with BCIT)

Dates and Times

Dates: Thursday and Friday, November 8 and 9, 2012

Registration: On both days, workshop registration and set-up begin at 8:30 a.m.

Time: The workshop starts at 9:00 a.m. and ends at 4:30 p.m. on each day.

Cost

The attendance fee for the workshop is $245.00 per day plus HST per participant and includes a bound copy of the Workshop Notes, a CD-ROM containing all workshop examples and exercises, a variety of handouts and 30 days of free workshop-related technical support following the workshop. The attendance fee also includes morning and afternoon coffee, tea and snacks.

If you would like us to provide a computer for you to use during the workshop please add $100.00 plus HST per participant per day.

Discounts

- Groups of 2 - 5 from the same organization receive a 10% discount.
- Groups of 6 or more from the same organization receive a 15% discount.

Cancellation Policy

- 100% refund if written notification of cancellation is received by **October 26, 2012**. Please note that no refunds will be issued after this date.
- In the event you become unable to attend after the **October 26, 2012** refund deadline, you may delegate a substitute attendee. Please notify us of any changes as soon as possible via e-mail at info@ghement.ca or telephone at 604-767-1250 or fax at 604-270-3922.

Registration

- The workshop is limited to 16 participants so we encourage you to register early. The registration deadline is **October 26, 2012**.
- To reserve your place, please follow the instructions below:
  1. Pre-register by e-mailing us at info@ghement.ca, or telephone us at 604-767-1250, or fax us at 604-270-3922.
  2. Complete the attached Registration Form.
  3. E-mail or fax the completed Registration Form to us, and mail your cheque payable to Ghement Statistical Consulting Company; or request us to invoice your organization where indicated on the Registration Form.
- Your reservation will be confirmed via e-mail by **October 30th, 2012**.
- **Please do not make any travel arrangements until your reservation has been confirmed by us in writing**.

Registration Form follows on next page.

REGISTRATION FORM

"A Basic Course on R for Data Analysis"

Thursday and Friday, November 8 and 9, 2012, Vancouver, B.C., Canada

For additional attendees, please duplicate this form, or download extra forms on-line at http://www.ghement.ca/RformNov8and9_2012.html.

Name: _____

Organization: _____

Position: _____

Address: _____

_____

E-mail: _____Telephone: _____Fax: _____

Signature: _____ Date: _____

Please check the appropriate boxes:

☐ I will attend the workshop as an individual participant who is not part of a group. Attendance fee per participant for both days: $490.00 + $58.80 HST = **$548.80**.

☐ I will attend the workshop as part of a group of 2-5 participants and claim the 10% discount. I am affiliated with this organization: _____. Attendance fee per participant for both days: $441.00 + $52.92 HST = **$493.92**.

☐ I will attend the workshop as part of a group of 6 or more participants and claim the 15% discount. I am affiliated with this organization: _____. Attendance fee per participant for both days: $416.50 + $49.98 HST = **$466.48**.

☐ I will bring a laptop computer to the workshop.

☐ Please provide me with a computer to use during the workshop at a cost of $100.00 + $12.00 HST = $112.00 per participant per day.

☐ Please invoice my organization for _____ participant(s). Please issue the invoice to the attention of _____.

HST Reg. No. 83822 7205.

*Please make cheques payable to **Ghement Statistical Consulting Company Ltd.** and mail the completed registration form along with your payment to:*

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Optional Registration Information

Statistical background: _____

_____

Statistical software used previously: _____

_____

Subject matter area(s) where you may apply R: _____

_____

Most important thing(s) you hope to take away from this workshop: _____

_____