R WORKSHOP ANNOUNCEMENT

"An Introduction to the Statistical Software Package R"

<u>Dates:</u> **April 15 and 16, 2010**
<u>Time:</u> **8:30 a.m. - 4:30 p.m.**
<u>Location:</u> **BCIT Building, 555 Seymour Street, Vancouver, B.C.**
(Workshops not affiliated with BCIT)

~ Participants can choose to attend both days or either day. ~

We are pleased to announce the two-day workshop **"An Introduction to the Statistical Software Package R"**. This workshop is ideal for participants who are new to R as well as R users who wish to expand their proficiency in R.

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. R shares many of its strong points with its commercial competitor S-PLUS. In addition to providing a comprehensive suite of conventional statistical tools, R has many freely available add-in 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.

Workshop Description

Day 1 on April 15th 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 April 16th will show you how to use R to visualize and analyze data. You will learn 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, 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.

You can choose to attend both days or either day.

Benefits to Participants

After Day 1, you will be able to:

- Install and run R in a Windows-based environment.
- Manage and customize the R working environment.
- 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.
- Use helpful tips for efficient programming in R.

After Day 2, you will be able to:

- Construct basic statistical graphs.
- Create advanced statistical graphs using the lattice package.
- Customize and save graphical output produced by R.
- Perform a variety of basic statistical procedures, including t-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 where 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.
- Simple Linear Regression.
- One-Way ANOVA.

Workshop Format

The workshop is limited to 20 participants per day 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.
- 30 days of free workshop-related technical support following the workshop.

Workshops 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 sold-out public and private workshops on the statistical software package R to graduate students, researchers and others involved in cancer research, environmental and ecological research, biostatistics and bioinformatics. She also lectures part-time on basic and advanced statistics at the Sauder School of Business, UBC and is actively engaged in statistical consulting. Isabella has co-authored the publications "Seasonal Confounding and Residual Correlation in Analyses of Health Effects of Air Pollution" (*Environmetrics*, Vol. 18, Issue 4, June 2007, pp. 375-394), "Robust estimation of error scale in nonparametric regression models" (*Journal of Statistical Planning and Inference*, Vol. 138, Issue 10, October 2008, 3200-3216) and "Incorporating multiple interventions in meta-analysis: an evaluation of the mixed treatment comparison with the adjusted indirect comparison" (*Trials*, 2009 Sep. 21,10:86).

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, simple linear regression, analysis of variance).

Participants should bring a laptop computer pre-installed with the free R software. Detailed instructions for downloading and installing R are available on our website at www.ghement.ca/Rinstructions.html.

Upon request, we can provide a computer for you to use during the workshops for an additional cost of $100.00 plus GST per person per day.

Location

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

Date and Time

Dates: April 15 and 16, 2010

Registration: On both days, workshop registration begins 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 each day of the workshop is $195.00 plus GST per participant and includes a bound copy of the Workshop Notes, a CD-ROM containing all workshop examples and exercises 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 GST per participant per day.

Discounts

- Participants who are not part of a group and attend both days receive a 10% discount.
- Groups of 3, 4 or 5 from the same organization receive a 10% discount.
- Groups of 6 or more from the same organization receive a 15% discount.
- Groups attending both days receive an additional 5% discount.

Cancellation Policy

- 100% refund if written notification of cancellation is received by April 6, 2010. Please note that no refunds will be issued after this date.
- In the event you become unable to attend after the April 6, 2010 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

- Places are limited to 20 participants per day so we encourage you to register early. The registration deadline is April 6, 2010.
- 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 April 8, 2010. Please do not make any travel arrangements until your reservation has been confirmed by us in writing.
- A registration receipt will be issued to you after the workshop.

Registration Form follows on next page.

REGISTRATION FORM

For the Workshop "An Introduction to the Statistical Software Package R"
April 15 and 16, 2010

For additional attendees, please duplicate this form, or download extra forms on-line at
www.ghement.ca/RformApr15and16_2010.html.

Name: _____

Organization: _____

Position: _____

Address: _____

_____

E-mail: _____ Telephone: _____ Fax: _____

Signature: _____ Date: _____

Please check the appropriate boxes:

☐   I will attend Day 1 on April 15th. $195.00 + $9.75 GST = **$204.75**.

☐   I will attend Day 2 on April 16th. $195.00 + $9.75 GST = **$204.75**.

☐   I will attend both days on April 15th and April 16th and qualify for a 10% discount.
     $351.00 + $17.55 GST = **$368.55**.

☐   Please provide me with a computer to use during the workshops at a cost of
     $100.00 + $5.00 GST = $105.00 per participant per day.

☐   I will bring a laptop computer.

☐   Group discount. Please contact us at info@ghement.ca or 604-767-1250.

☐   Please invoice my organization for _____ participant(s).
     Number of participants bringing a laptop computer is _____.
     Number of participants requiring a computer to use during the workshop at an additional
     charge of $100.00 plus GST per participant per day is _____.

GST Reg. No. 845705722.

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

Ghement Statistical Consulting Company
301-7031 Blundell Road, Richmond, British Columbia, Canada V6Y 1J5

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: _____

_____