

## Job Description

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<b>Job Title:</b>	Senior Research Associate
<b>Department:</b>	Statistics and Actuarial Science
<b>Reports To:</b>	Dr. Richard J. Cook, Professor, Tier I Canada Research Chair
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	USG 10
<b>Effective Date:</b>	August 2014

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### **Primary Purpose**

This position is responsible for supporting and coordinating all aspects of Dr. Cook's statistical and collaborative health research programs. This includes scientific programming and data analysis for report generation, managing projects (assisting in grant applications, ensuring timelines are met, preparing for meetings), and mentoring and co-supervising activities of the broader research team comprised of junior research associates and an administrative assistant.

### **Key Accountabilities**

#### **Scientific Programming**

- Scientific computing and simulation to evaluate new statistical techniques
- Custom software development to facilitate the implementation of new statistical methodologies and algorithms and help in their dissemination
- Areas of research include the analysis of life history data, longitudinal data and statistical methods for incomplete data

#### **Data Analyses**

- Carry out statistical analyses using existing statistical software packages
- Report preparation to summarize findings from statistical analysis
- Collaborative works involving health researchers within the university, external medical researchers (e.g. Ontario Institute for Cancer Research; Centre for Prognosis Studies in the Rheumatic Diseases (UHN); McMaster Transfusion Research Program), and researchers in the pharmaceutical industry (e.g. Novartis; AMGEN; GlaxoSmithKline).

#### **Ongoing oversight and guidance to research team including, but not limited to the following:**

- Providing day-to-day supervision and coordination of research activity (e.g. providing computing advice and direction for data analysis and report generation) of other members of the research team
- Discuss and resolve technical issues related to computational/programming issues, implementation of new algorithms, data manipulation and the use of statistical packages for graduate students in the Biostatistics program

#### **Contribute to the preparation of written reports including:**

- manuscripts to be submitted for peer-review
- monographs
- research grant applications

#### **Assist in the preparation of presentations for dissemination of research at:**

- scientific meetings
- workshops
- seminars at research institutions

## Required Qualifications

<b>Education</b> <ul style="list-style-type: none"><li>• Master's Degree in Statistics required</li></ul>
<b>Experience</b> <ul style="list-style-type: none"><li>• Extensive experience in advanced methods of statistical computing and data analysis</li></ul>
<b>Knowledge/Skills/Abilities</b> <ul style="list-style-type: none"><li>• Excellent interpersonal communication</li><li>• Excellent written communication</li><li>• Expert knowledge of several statistical software packages for tasks including data processing, simulation, data analysis, graphical analysis and report generation</li><li>• Use of other scientific computing packages (e.g. MATLAB, Maple) software is essential</li><li>• Proficiency in LaTeX and Microsoft Office for preparation of reports, manuscripts and presentations</li></ul>

## Nature and Scope

### **Contacts:**

In working closely with and under the direct supervision of Professor Richard Cook the work involves

- Receiving, discussing and clarifying instructions
- Independent and creative problem-solving
- Presenting findings and explaining challenges faced and interpretation of findings

In working with other members of Professor Cook's research team (including Research Associates and graduate students) and other faculty, work involves

- Mentoring and advising on strategies for statistical analysis and scientific computing
- Troubleshooting programming problems
- Sharing knowledge of statistical methods and computing techniques

Other internal communication includes

- Office of Research at the University of Waterloo regarding contract preparation and research ethics forms

Work with groups external to the University of Waterloo involves

- Report generation on the results of statistical analyses
- Participating in meetings off campus (Toronto, Hamilton) to discuss and explain findings
- Sample size calculation in study planning and grant preparation for national and international studies
- Participation in teleconference calls

Contact groups and individuals include, but are not limited to:

- Faculty members, research associates and graduate students in Statistics and Actuarial Science
- Collaborators from other research groups at UW
- External researchers in oncology, transfusion medicine, rheumatology and epidemiology at institutions such as McMaster University, University of Toronto, and schools of public health in the United States

- **Level of Responsibility:**

- The job has specialized work with minimal supervision and provides guidance to other members of the research team and graduate students
- Mentor new statistical programmers
- Manage numerous simulation and data analysis projects
- Work with highly confidential data

- **Decision-Making Authority:**

- Prioritize multiple projects and set timelines to ensure project goals are met as required

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- Provide detailed instructions to others for developing computer programs for the implementation and evaluation of new statistical methods
- **Physical and Sensory Demands:**
  - Minimal demands typical of a technical support staff position within an office environment
- **Working Environment:**
  - Occasional travel required
  - Regular working hours, some evening/weekend work required
  - No significant physical or psychological risks