

## Software Carpentry Bootcamp Saint Mary's University, May 5-6, 2016

The Software Carpentry Project (<http://software-carpentry.org/>) is a volunteer organization, founded in 1998, that runs short, intensive workshops (called bootcamps) that teach a core set of skills that enhance the efficiency and reliability of computer-based workflow for anyone who uses a computer as a significant component in their research. The Software Carpentry Project runs bootcamps all over the world, and also provides open access material for self-paced instruction.

On May 5-6, 2014, Saint Mary's University hosted a Software Carpentry Bootcamp, led by Dr. James Desjardins, a certified Software Carpentry Bootcamp instructor, Brock University, and Joey Bernard, ACEnet. Additional technical support was provided by Daniel Deveau, Ross Dickson, and Chris Geroux. The local organizers for the workshop were Paul Muir and Linda Campbell, from Saint Mary's University, and Ross Dickson, from ACEnet. An additional feature of this workshop is that it also provided interpreting services for the Deaf.

The bootcamp consisted of short tutorials alternating with hands-on practical exercises; learners worked on their own laptops and each had a working software environment by the time the bootcamp was completed. The primary areas covered by the bootcamp were the Unix shell (and how to automate repetitive tasks), R (and how to grow a program in a modular, testable way), and Git and GitHub (version control software that allows one to track software or document development and share work efficiently). A pre-assessment survey of the registered learners, provided by Software Carpentry, allowed the teaching team to customize the material to the learning community.

The bootcamp had approximately 40 participants. The intense two day workshop featured hands-on learning by all participants, with enthusiastic participation from the instructors and the technical support team. A large fraction of the participants were graduate students from Saint Mary's and Dalhousie University, but the learning community also included some undergraduates, faculty, and a few industry participants, local to the Halifax region. There was of course no national/international participation as the point of this sort of outreach activity is to serve as a regional base.

As this was an outreach event rather than a scientific conference, it did not feature research breakthroughs or publications itself, but the improved productivity experienced by the participants will certainly lead to improvements in research output.

The learners came from a variety of fields such as mathematics, computer science, environmental science, engineering, biology, astronomy, physics, oceanography, atmospheric science, psychology, etc.. The hands-on learning approach with a team of teaching assistants meant that, for the most part, the pace of the coverage of the material could be calibrated to the learning community. There was substantial interest in the local community and the bootcamp experience appears to have been considered quite valuable by a large majority of the participants.

The bootcamp provided coffee breaks and lunches for 40 learners and eight support people for two days. The bootcamp also covered travel expenses for the two instructors, two interpreters, and covered minor costs for a student helper who provided admin support. Revenues included contributions from a registration fee, the Dean of Science and Dean of Grad Studies, Saint Mary's University, and AARMS. A detailed budget is provided below.

Revenues:

Registration: \$1260.

Dean of Science, Saint Mary's University: \$500

Dean of Grad Studies, Saint Mary's University: \$500

Expenditures:

Travel Expenses for Instructors, James Desjardins and Joey Bernard: \$1487.29

Coffee Breaks: \$686.42

Lunches: \$841.44

Interpreters: \$1260.00

Service charges for registration fees: \$69.30

**Requested from AARMS: \$2173.71**

**James Desjardins + Joey Bernard: Travel Expenses: \$1487.29**

**Coffee Breaks: \$686.42**

(Remaining expenses will be covered by Revenues listed above.)