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Mr. Josh Greenberg
Alfred P. Sloan Foundation
630 Fifth Avenue
Suite 2550
New York, NY, USA
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Dear. Mr. Greenberg,

I am writing to endorse the application for renewed support for Software Carpentry. I am an academic computer scientist—originally trained in applied mathematics—at the University of Ontario Institute of Technology (UOIT).

My own experience corroborates the literature pointing to the vast gap between the skills possessed by beginning postgraduate students and the skills required to carry out responsible computational science. Simply put, scientists and academics in general need to rethink contemporary approaches to teaching science students about computing—students at *all* levels. Until they make the effort to learn what has been done, self-taught scientific programmers are largely unaware of modern practices developed by software professionals. This knowledge has improved software engineering and can similarly improve research productivity when scientists master the basic skills. As such, I have been following and using Software Carpentry for a few years to better my own computational practice and to improve the mentoring I provide my students. Moreover, through Software Carpentry, I have become part of a larger community of like-minded researchers (including graduate students, junior faculty, and senior researchers alike) seeking to address this skills gap and aiming to do better science.

Recently, I have become more directly involved with Software Carpentry's growth. For instance, in my academic role at UOIT, I ran Software Carpentry as a graduate course in

the winter of 2011. Thus far in 2012, I helped in the organization of a Software Carpentry Bootcamp at the University of British Columbia and I participated as an instructor at two Bootcamps in Ontario (at the University of Waterloo and at the University of Toronto Scarborough respectively). I plan to deliver at least one more Software Carpentry Bootcamp later this year. At my home institution, I am currently integrating some of the core Software Carpentry material into the High-Performance Computing course that serves as a core course in our graduate programs in Modelling and Computational Science. Pushing the essential ideas of Software Carpentry to the undergraduate level (and even lower) is challenging, but, as the culture of science and the culture of computing in science changes, it makes sense to bring some elements of Software Carpentry into the undergraduate science curriculum. To this end, I am developing a junior-level undergraduate course in Practical Scientific Computation at UOIT with the hope that our science undergraduates can develop better computational habits earlier in their careers. My goal is to share most of the materials I develop in both of these courses with Software Carpentry using a Creative Commons framework.

It has been exciting to participate in the expansion of Software Carpentry. The Bootcamp model enhanced by on-line tutorials is working well, so I look forward to the next stage. As the Software Carpentry project matures and gains greater profile in the scientific community, the practice of computational science will improve. The forthcoming generation of scientists will be better prepared for addressing contemporary computational challenges in both academic and industrial contexts. I am confident that Software Carpentry will have played a significant role in bringing about that change.

Yours faithfully,



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