

## **Data Management Plan for “Explicit Approaches to Elliptic Curves and Modular Abelian Varieties”**

The proposed research would result in tables of data about elliptic curves, modular forms, and modular abelian varieties. These tables will be made freely available on the PI’s website under an open (Creative Commons) license. Some of the data, especially tables of elliptic curves over  $\mathbf{Q}(\sqrt{5})$ , will also be made available as a package for use with Sage, and will be distributed on the Sage website (see <http://sagemath.org>), which the PI hosts at University of Washington using hardware purchased with an NSF SCREMS grant.

The proposed research would also produce a large amount of new software. All of this software would be made freely available under the GPL (GNU Public License) either as part of PSAGE (see <http://code.google.com/p/purplesage/>) or as part of the standard distribution of the free Sage software itself, which is mirrored to dozens of servers around the world. Unstable code will first be posted for anybody to download on the PSAGE website or use via the interactive webpage <http://sagenb.org>; more generally useful code will then migrate to the stable distribution of Sage, after it undergoes a peer review process. The PI will retain the copyright of all code submitted to Sage, but will license it under the GPL, so that others may use and modify the code for free. As mentioned above, Sage is completely free.

The papers resulting from this research will be published in standard journals, conferences proceedings, etc., and also made freely available on the PI’s website, and posted to the Arxiv.