Sage: Unifying Mathematical Software for Scientists, Engineers, and Mathematicians

Sage is comprehensive unified open source software for mathematical and scientific computing that builds on high-quality mainstream methodologies and tools. This proposal would further the development of Sage by funding a series of three Sage Days workshops per year. The primary thrust of these workshops would be to improve the usability and value of Sage for scientists, engineers, and mathematicians, and especially as a tool to support research and education by undergraduate and graduate students. Morever, many graduate students would receive funding via their involvement in the workshops.

Intellectual Merit:

Sage has the potential to have a transformative impact on the computational sciences, by helping to set a high standard for reproducible computational research and peer reviewed publication of code. Sage excels at supporting cutting edge research in a broad range of areas of computational mathematics, ranging from applied numerical computation to the most abstract realms of number theory.

Broader Impact:

All data and software that comes out of this project will be made freely available over the Internet. This will result in tools that may transform how researchers in mathematics share and manipulate their data and collaborate.