NSF Fellowship
http://www.nsfgrfp.org/

The NSF fellowship supports students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master's and doctoral degrees at accredited United States institutions. It is a three year scholarship of $30,000 a year and $10,500 cost of education allowance for your institution, allowing a student to conduct research at any accredited US graduate school. This allows the student to focus on classes and research, rather than having to take up TA position.

Students must be a U.S. citizen, national, or permanent resident. Eligible students include seniors planning to immediately start a graduate program, graduated students planning to start a graduate program in fall of the coming year, and first-year graduate students (see website for more specific details.) The graduate program must be in science, technology, engineering, or mathematics.

The application requires 3 reference letters, a personal statement, previous research essay, and an essay proposing research at a specific school (whether you're accepted yet or not) to be done in graduate school.

Reviewers look at the following criteria:

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.)
- To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
- How well conceived and organized is the proposed activity?
- Is there sufficient access to resources?
- How well does the activity advance discovery and understanding while promoting teaching, training, and learning?
- How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?
- To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?

Helpful websites:

- http://www.alexhunterlang.com/nsf-fellowship
- https://docs.google.com/file/d/0BxTJoMOw_GADYjE4OWQwZWItODdjYy00MWNjLTk5MTctYmYwNGEyOTVmY2Y5/edit?hl=en&pli=1
- http://grfpessayinsights.missouri.edu/index.php
- http://www.nsf.gov/pubs/2012/nsf12599/nsf12599.htm?WT.mc_id=USNSF_25&WT.mc_ev=click
- http://www.jenniferwang.org/nsf.html
- http://djstrouse.com/guide-to-applying-to-us-science-phd-programs-and-fellowships/