Fellowships to support students conducting summer research in the Division of the Natural Sciences and Engineering are available from several funding sources. The departments in the Division are: Biology, Chemistry and Biochemistry, Computer Science, Engineering, Mathematics and Statistics, Physics and Astronomy, and Psychology. The sources and the criteria for the individual fellowships and grants are outlined below.

**Howard Hughes Medical Institute (HHMI)**

Coordinator: Professor Kathleen Siwicki, Dept. of Biology (ksiwick1 or x8215)

A grant from HHMI provides summer research fellowships for Swarthmore students conducting research in biology and the related sciences. Projects with clear biological or biomedical relevance in any NSE department are eligible for HHMI support. Students receiving HHMI stipends will conduct full-time research for ten weeks during the summer under the guidance of a faculty member. Approximately twenty awards will be made to support such research projects. In addition, a limited number of fellowships will be awarded to students who meet the criteria for the following three categories:

- **Interdisciplinary projects.** As many as five HHMI awards are available for projects that are mentored by faculty from two different NSE departments. Students with special interdisciplinary science majors (e.g., Psychobiology) will also be eligible for these, but the goal is to foster collaborative interactions across departments within the college, so projects mentored by faculty in two different departments will have higher priority for these fellowships than projects of interdisciplinary majors that are mentored by a single faculty member.

- **First-year students of underrepresented minority groups.** As many as five HHMI fellowships will be awarded to 1st-year students who are members of groups that are underrepresented in the sciences and who will work with a Swarthmore faculty member from the NSE Division. This includes minority students and first-generation college students in any NSE department, and women in engineering, math, computer science, chemistry, and physics. First-year students who are interested in summer research and believe that they qualify for one of these fellowships should discuss their interests and this funding opportunity with their favorite NSE faculty member(s).

- **Off-campus research.** A limited number of HHMI fellowships will be awarded to support summer research to be conducted at an off-campus laboratory. Applications for these stipends should be accompanied by two letters: one from the off-campus researcher who will directly mentor the student's project and one from a Swarthmore faculty member (from the NSE Division) who knows the student and has reviewed the proposal.
**Eugene M. Lang Summer Initiative Grant**  
**Surdna Summer Research**  
**Pat Tarble Summer Research**

Coordinator: Professor Don Shimamoto, Dept. of Mathematics & Statistics (dshimam1 or x8567)

These fellowships support Swarthmore students' participation in ten weeks of full-time summer research in collaboration with a faculty member in any department in the NSE Division. Priority is given to students majoring in the field. Priority will also be given to students whose projects clearly reflect prior academic work in the area and the potential for thesis or project work in their senior year, and to students who have not received any other Swarthmore College funding for research-related activities.

**Starfield Student Research Grant**

Number of Awards: At least one  
Coordinator: Professor Don Shimamoto, Dept. of Mathematics & Statistics (dshimam1 or x8567)

Barbara Starfield '54 and Phoebe Starfield Leboy '57 established the Starfield Student Research Endowment in 2004. This award supports student summer research fellowships, up to a maximum of $3750, in social justice with a preference for students who pursue research in the areas of health services delivery/health policy and social, demographic, and geographic equity. Dr. Starfield and Dr. Leboy established the fellowship to honor their parents, Martin and Eva Starfield, educators who instilled a love of learning and social justice in their daughters. Selection will be by the Social Science, Humanities, and Natural Science and Engineering Division Chairs making a recommendation to the Provost.

**The Arthur S. Obermayer '52 International Summer Internship**

Number of Awards: At least one  
Coordinator: Professor Don Shimamoto, Dept. of Mathematics & Statistics (dshimam1 or x8567)

The Arthur S. Obermayer '52 International Summer Internship was established in 2005 and is intended to broaden and enrich the experience of a Swarthmore student. The grant shall be awarded with preference to a domestic student who is studying in a major that may not inherently offer an international opportunity.

A student who has identified an opportunity for an internship, to conduct research, or to volunteer abroad can submit a proposal for support for travel and living expenses associated with the opportunity, up to a maximum of $3750. The application should contain a description of the proposed project or activity, including where it will be carried out and how it will contribute to the applicant's program and enrich his/her Swarthmore experience. If the opportunity is in the form of an internship, a letter from the sponsoring agency or institution should be included with the application. Selection will be by the Social Science, Humanities, and Natural Science and Engineering Division Chairs making a recommendation to the Provost.
**Fellowship Conditions**

The standard fellowship for a research project lasting ten weeks is $3750. These research grants and fellowships are intended to allow students to engage in full-time research and to relieve students of the need to seek other employment during the summer. Therefore, a condition of the acceptance of any fellowship is that the student agrees to engage in full-time research for ten weeks and not to pursue other paid work on campus during the summer.

Moreover, a student may **not** receive more than the equivalent of one full stipend ($3750) during a single summer from any combination of College sources. This includes scholarship awards and other Swarthmore College fellowship programs, for example, the Mellon Mays Undergraduate Fellowship program, Evans Scholars, and the Summer Social Action Award (S2A2). Students who receive financial aid or fellowships from non-Swarthmore sources should also check whether the terms of their awards limit their eligibility for a Swarthmore summer stipend.

All students receiving a summer research fellowship will be required to submit a report at the end of the summer about their research activities. Students receiving HHMI support should submit their reports to Julie MacMullan in the Biology Department; students receiving fellowships from other sources should submit their reports to the Office of the Provost. All reports are due no later than September 1. In addition, students receiving summer research fellowships from any of these sources will be expected to cooperate with requests from College offices to participate in surveys designed to assess their research experience.

**N.B. TAXES ARE NOT WITHHELD FROM FELLOWSHIP AWARDS, NOR DOES THE COLLEGE REPORT THE AWARD TO THE IRS; HOWEVER, IT IS CONSIDERED INCOME TO THE RECIPIENT. WHEN FILING YOUR TAX RETURN, THE AMOUNT OF THE GRANT SHOULD BE REPORTED.**

**Application Procedures**

**For HHMI, Lang, Surdna, or Tarble awards**

**Students:** To apply for a summer research fellowship from any of these sources, a student must submit an application to their faculty research mentor by **February 6**, consisting of:

- an application cover page (use the form at the end of this announcement)
- a brief description of the research project, including the research goals, where and when the work will be done, and an explanation of how the research will benefit the student’s academic program (limit to no more than 250 words)
- a current grade report or copy of the student’s record from mySwarthmore

**Faculty:** In order for the student's application to be eligible for funding, the faculty mentor should complete the “FACULTY” section of the application cover page and also attach a letter of support, which includes information about where the work will be done, how it will be supervised, and how it fits into the faculty member’s research program.
Additional requirement for off-campus research projects: Proposals for projects to be conducted with off-campus research mentors should include a letter of support from the off-campus researcher who has agreed to oversee the student’s project. This letter should include an explanation of where the work will be done and how it will be supervised. Applications for off-campus stipends also should include a letter of support from a Swarthmore faculty member (from the NSE Division) who knows the student and has reviewed the proposal.

Faculty mentors should forward their students' completed applications to Julie MacMullan in the Biology Department by **February 10**. Students can expect to be notified of the outcome of their proposals before Spring Break.

Additional application forms are available in Department offices. They are also available at: [http://www.swarthmore.edu/NatSci/Biology/research/index.html](http://www.swarthmore.edu/NatSci/Biology/research/index.html).

**For Starfield or Obermayer awards**

These awards are administered under a different process, with a different timetable, from the one described above. Applicants for these awards should complete the Social Sciences application form available at: [http://www.swarthmore.edu/SocSci/ssgrants/ssindex.html](http://www.swarthmore.edu/SocSci/ssgrants/ssindex.html).

The required supporting materials are described in detail on the form, but they include a description of the research project, a grade report, and a letter of support from a faculty member. Applications for Starfield and Obermayer awards are due February 20 and should be submitted to Rose Maio, Administrative Coordinator for the Divisions, in Kohlberg 232.
Summer Research Fellowships in the Division of Natural Sciences and Engineering
2006 Application

STUDENT TO COMPLETE:

Name: ________________________________
Class Year: ______________________
Major: _______________
Minor (if any): ____________
Faculty Research Sponsor/Department: _______________________________________________________________________
Location of Research: __________________________________________________________________________________________
Title or Topic of Project: _______________________________________________________________________________________

Have you previously received a summer grant from Swarthmore College? Yes or No
If yes, what grant did you receive? ________________________________________________

Are you applying for other summer 2006 funding from Swarthmore College? Yes or No

All applications should contain the following documentation:

_____ brief description of the research project, including the research goals, where and when the work will be done, and how the research will benefit the student’s academic program (limit to no more than 250 words)

_____ grade report or a transcript (a print-out of the student’s current record from mySwarthmore is okay)

_____ letter of support from a faculty member, including where the work will be done, how it will be supervised, and how it fits in with the faculty member’s research efforts

In addition, proposals for research projects to be conducted in off-campus laboratories should include:

_____ letter of support from the off-campus researcher who will directly mentor the student’s project, including where the work will be done and how it will be supervised

FACULTY TO COMPLETE:

This project is eligible for support from (check all that apply):

HHMI: [ ] (if checked, you must choose one of the four options)

[ ] on-campus student-faculty collaborative research project [ ] off-campus student research project

[ ] first-year student research project [ ] interdisciplinary

DIVISION: [ ] INDIVIDUAL FACULTY GRANT: [ ] INTERNAL DEPT. FUNDS: [ ]

I expect to support #_____ students from my own research funds this summer (e.g. NSF, NIH grants).

I plan to be on campus for the following summer period: ________________________________

Have you applied for other support for this student? If so, please name. ______________________

THE TOTAL AWARD FROM ALL COLLEGE SOURCES MAY NOT EXCEED $3,750.00.

ADMINISTRATIVE USE ONLY:

Date Received: _____________________ Notification of Receipt (by e-mail): _______________
Award Letter Mailed: _______________ Research Summary Received: _______________