

Undergraduate Research in Astrophysical Sciences, Princeton Summer 2008

The Program

The Astrophysical Sciences Department runs a summer research program for Princeton undergraduate students. Students at all levels are welcome to apply, and we particularly encourage students in their freshman and sophomore years who are interested in majoring in the physical sciences, especially astrophysics and physics, to consider working with us in the summer. The program will be run by Jill Knapp (gk@astro.princeton.edu). Please contact with any questions at all.

Please note that participation in this program is almost entirely confined to Princeton undergraduates. On occasion we have students from other institutions who're working with individual faculty members and take part in our program. We don't have students from outside the US unless they're already in residence in Princeton - the logistics and restrictions make this too difficult.

Research in Astrophysical Sciences

Astrophysics participates in several major observational programs - the Sloan Digital Sky Survey, the Atacama Cosmology Telescope, and others. The department is also home to several theory groups. Many summer students will be working with these groups, but you can also work with a professor on his/her individual research. Most of the research activity involves analytic and computer work, but in some cases there are opportunities for travel - summer students have done observational work in Chile, New Mexico, South Africa and Hawaii. The students also attend the group meetings as appropriate. Please see the Astro web page (click on "Research") for further information about what we do.

Projects and Lectures

Students will work one-on-one with an adviser in the department, usually a professor or a postdoctoral fellow, on a research project which is conceived to be self-contained, so that real progress can be made in a summer session. There will also be a lecture series on current astrophysics and we usually arrange a trip to the Hayden Planetarium in New York. Students are also more than welcome to attend the usual department events - morning coffee, afternoon tea, seminars etc. Things tend to be a bit quieter in the summer but there is still a lot going on.

I am currently gathering information about projects and will post these on this web site when I have them.

Logistics

You will be paid a stipend plus in some cases, depending on the source of funds, a housing subsidy. Your hours are basically your own - you can work a maximum of 40 hours a week, and you keep track of your hours on line, but of course you should be sure to have sufficient overlap with your adviser! If you have not worked on campus before this, you should register your employment status at Human Resources, New South building. Our department manager, Susan Dawson, will help you with this. She also releases your time sheets to payroll. You're paid every two weeks.

The summer runs for a nominal 10 weeks, beginning early June through to the middle of August, but can be shorter or longer if mutually agreeable to you and your adviser (more on this below), so that if you have a trip planned that can be worked around. The big constraint is housing. On-campus housing is available for this time period. It becomes available after all the festivities associated with graduation and reunions are over and availability ends in middle August to allow the dorms to be readied for the upcoming semester. You have to apply separately for summer housing through the housing department. The forms to do so become available around the beginning of April. I'll put a link on the summer research web page when they do so. You fill out the form, have your faculty adviser (or me) sign it, and submit it to housing.

You'll be working in one of the two undergraduate work areas in Peyton Hall, and will have access to a workstation as well as to the Department's computer, library and data base resources.

Applications

There's no formal application procedure. Please send me (Jill Knapp) a statement of interest and an informal vita. Please list your physics, math, and astro courses, describe your computer expertise/experience, and tell me about any other relevant experience, such as previous research you've done in high school or college. Also list your major or intended major. Please send me your information in pdf! I'll begin looking at the applications on about February 15 and make offers until the available slots are filled, but positions may become available later in the semester as new funding is received. Keep checking back on this web site if you're interested.

Student Group

A typical group of summer students contains some majors who have arranged the summer research with one of their professors and are supported by the professor's funding, some Princeton students, both majors and potential majors, who apply to the summer program through me, and often a couple of students from US institutions outside Princeton, including students in the PSURE and other programs. Typically, there will be 10-12 students in astrophysics and a similar number in physics. Some of our activities are done

together with the physics students. As well as collaborations with the Physics department, Astrophysics collaborates with the planet- finding group from MAE, so students can work in this area also.

Summer Research Outside Princeton

There are many opportunities for research in astronomy across the country. I've put a listing of astrophysics programs and physics programs with an astrophysics component on the web page. Deadlines are typically between Jan 31 and March 15. Check each program for the deadlines and application procedures. Many of these programs require you to be a U.S. citizen or permanent resident. Our program has no such restrictions. I'll update this listing from time to time as new programs come on line.