

## Segré Internships for summer 2017

June 5<sup>th</sup> through July 31<sup>st</sup>

Stipend: \$4,000

Students are invited to apply for the Segrè Internship, to be awarded to undergraduate or graduate students who have taught in, completed or are completing the 111-Advanced Laboratory course. Interns will use research techniques as they collaborate with faculty and staff to improve experiments and develop new ones. Working in the 111-Lab 8 hours a day for eight (8) weeks. This benefits students with work experience and job references for Graduate school.

Responsibilities include:

- researching the underlying physics of the experiments
- participating in building apparatus
- programming computers to acquire data and control experiments,
- testing and trouble-shooting experiments
- Improving the write-ups for the experiments.

### Planned projects list for summer 2017: (not in any order)

1. Testing of new software with old and new hardware for experiments
2. Make training videos for equipment and experiments.
3. Design, develop, & deploy the new 3D Printing experiment
4. Work on improving the advanced Lab write-ups making clearer
5. Making & developing new interactive Pre-Lab questions.
6. Work on Beta Ray experiment to modify and get operational.
7. Design, develop, & deploy the new NV Center experiment
8. TBD

### This award is provided in memory of Emilio Segrè (1905-1989).

Born in 1905, Segrè was the first student to earn his doctoral degree under the sponsorship of Italian physicist Enrico Fermi, his friend and collaborator for more than three decades. Upon immigrating to this country in 1938 (he later became an U.S. citizen), Segrè accepted a position at the University of California, Berkeley. There, he commenced one of his most productive periods in nuclear physics, working with Glenn Seaborg, a chemistry professor, on methods of separating nuclear isomers. In the period following World War II, the antiproton, an atomic particle that sought to prove nature's symmetry still eluded scientists. In 1955, using Berkeley's powerful



new cyclotron, Owen Chamberlain and Emilio Segrè made the first observation of the anti-proton. This discovery signaled a major leap in the study of matter and antimatter. Emilio G. Segrè received the Nobel Prize in 1959 for his work with Anti-Protons.

*The Physics Department gratefully acknowledges the generous gifts of Douglas C. Giancoli that have made this internship possible.*

## Application for summer 2017 Segré Internship

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ Initial \_\_\_\_\_

Home Address: \_\_\_\_\_

E-mail address: \_\_\_\_\_ Birthdate: \_\_\_\_/\_\_\_\_/\_\_\_\_

Phones: Cell (\_\_\_\_) \_\_\_\_\_ Home (\_\_\_\_) \_\_\_\_\_ Campus \_\_\_\_\_

SID# \_\_\_\_\_ CalNet Login Name: \_\_\_\_\_

Student Status: Undergraduate \_\_\_\_ Graduate \_\_\_\_ Major \_\_\_\_\_

Do you currently hold a fellowship? No \_\_\_\_ Yes \_\_\_\_ Title: \_\_\_\_\_

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**Have you now or ever, during your attendance at UC Berkeley, received any kind of financial aid**

Yes/ No \_\_\_\_\_

**If yes you must contact the Financial Aid Office (124 Sproul Hall) at UC Berkeley and check to see how this stipend may affect your financial aid money.**

**Submit this application to Don Orlando AFTER you have done so:**

**I have checked with Financial Aid Office Yes/ No \_\_\_\_\_ Your Signature \_\_\_\_\_**

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111 Lab Experience: Semester completed 111A BSC: \_\_\_\_\_

Semester completed 111B Advanced: \_\_\_\_\_

What was your 111A BSC Final Project: (If you need more space add sheets) Did it work? Y/N \_\_\_\_\_ explain

111B ADV Experiments performed:

Other relevant coursework:

Other lab/research experience:

Programming experience/knowledge/languages:

Shop and Tools experience (work with hand tools, soldering electronic circuits, etc):

*Please attach resumé describing work experience.*

**Submit completed application to:**

**Don Orlando** (office 282E LeConte , mailbox 366 LeConte)

[phylabs@berkeley.edu](mailto:phylabs@berkeley.edu), 510-642-5328; **Closing date: Monday, May 1<sup>st</sup>, 2017**