



hands-on

## Eligibility

NSF REU programs are restricted to US citizens and permanent residents. This program is intended primarily for sophomore and junior students in science and engineering. In exceptional cases first year students could have enough familiarity with physics, engineering, or computer science to profit from the research experience. Students who have not yet enrolled as undergraduates and students who will have a Bachelors degree by the summer of 2007 are not eligible. Consideration of completed applications will begin 1 February, with first offers being made by 15 February. Your application should include:

- A completed application form. Please use the online form if possible ([www.lepp.cornell.edu/public/reu/2007program.html](http://www.lepp.cornell.edu/public/reu/2007program.html)). Otherwise, please send the information requested on the form to Ms. Monica Wesley via email ([man5@cornell.edu](mailto:man5@cornell.edu)) or to the LEPP REU Program address below by U.S. mail.
- A transcript (a photocopy is acceptable).
- Two letters of recommendation from individuals (at least one from a professor) who are familiar with your potential for research. Letters submitted by fax must be followed by the originals in US Mail.
- A short (1 or 2 page) personal statement describing your experience, skills, interests, and goals.

### Please send your application materials to:

LEPP REU Program  
134 Newman Laboratory  
Cornell University  
Ithaca, NY 14853

## About REU and LEPP

LEPP is a Laboratory of the Cornell University Department of Physics. Its primary source of support is the National Science Foundation. It has been an REU site since 1998.

The REU program seeks to expand student participation in all kinds of research - whether disciplinary, interdisciplinary, or educational in focus - encompassing efforts by individual investigators, groups, centers, national facilities, and others. The program seeks to attract a diversified pool of talented students into careers in science and engineering and to help ensure that they receive the best education possible.

## For further information:

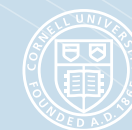
Ms. Monica Wesley  
(607) 255-4952 (ph)  
(607) 254-4552 (fx)  
[man5@cornell.edu](mailto:man5@cornell.edu)

[www.lepp.cornell.edu/public/reu/](http://www.lepp.cornell.edu/public/reu/)

CORNELL UNIVERSITY

LABORATORY FOR ELEMENTARY-  
PARTICLE PHYSICS

# 2007 Research Experience for Undergraduates



## 2007 LEPP REU PROGRAM

# learning, collaboration & results

### About the LEPP REU Summer Program at Cornell

Since 1998, the National Science Foundation (NSF) has funded a Research Experience for Undergraduates (REU) program in Cornell University's Laboratory for Elementary-Particle Physics (LEPP).

Under this program, ten science and engineering students from around the country will be invited to participate in research at the Laboratory. The program is enriched substantially by contributions from the Physics Department, Wayne State University, other collaborating institutions working at LEPP, and the Cornell High Energy Synchrotron Source (CHESS). In addition there are several other REU programs on campus with whom we share housing and programs.

For 2007, the ten-week program will start Monday, June 4, and end Friday, August 10. In addition to participation in research, the program will include informal seminars, formal lectures, tours of research facilities, social and recreational events, and a forum at summer's end

in which participants present the results of their research.

Participants will receive a stipend of \$4000, a housing allowance, and a travel allowance for a round trip to/from Ithaca. Group housing will be available through Cornell University and it is hoped that all students can participate in this arrangement. Cornell also has meal plans available at its various dining facilities.



*Richard Galik, LEPP  
Professor and REU Director.*



### Research groups

Each student will work in a research group which typically involves a professor, postdoctoral research associates, and graduate students. These mentors will define the nature of the research project, organize access to the resources necessary to carry out the research, and guide the participant's effort through frequent interaction. The student projects are always important elements of the overall research program at the Laboratory. Recent areas of research have included:

- \* Experimental Elementary-Particle Physics
- \* Theoretical Elementary-Particle Physics
- \* Accelerator Physics
- \* Microwave Superconductivity
- \* Instrumentation for Scientific Research
- \* Synchrotron Radiation in Scientific Research

Good oral and written communication of results are essential elements of scientific research. To develop these communication skills, each student will:

- \* present an oral statement of the goals early in the program
- \* present an oral report on results at the end of the program, and
- \* write a report describing final results of the research.

In order to enhance the educational value of these efforts, mentors will assist students in preparing these reports. The written reports are available on the web at: <http://www.lepp.cornell.edu/public/reu/>

“  
I got a much better idea of how much effort and new physics goes into the design of an accelerator, and it was great to feel like I was contributing to something so big.  
—Elise Novitski, Yale University”



LEPP has long been a leader in the design and testing of superconducting resonating cavities.



LEPP is building a prototype of a new high intensity X-ray machine called the Energy Recovery Linac.

“  
I did a lot of hands-on work, so seeing what I've learned in textbooks and classes put to good use was very exciting.  
—Randall Cates, Wayne State University”

“  
The summer was excellent, the most educational and stimulating summer I've had in college. The experience has definitely put Cornell at the top of my list for grad school applications.  
—Colwyn Gulliford, New College of Florida”



REU students assist visiting high school students in building drift tubes during a summer workshop at Cornell.



The CLEO experiment continues to provide important data on fundamental particles.