

This is an opportunity for you to:

- experience independent research in the rapidly developing field of nanotechnology at a leading academic center
- develop your practical skills for research
- gain in-depth perspective on opportunities in the interdisciplinary science of nanotechnologies
- become part of a nanotechnology research community
- recognize the importance of reporting and dissemination of results and development of skills in this integral and essential part of research

The REU program consists of:

- interdisciplinary nanoscience projects with Cornell faculty
- addressing the physics, chemistry, fabrication and analysis of next generation information technologies
- nano-lectures on cutting edge research
- courses for research skill building and laboratory visits
- a variety of recreational activities including a visit to Niagara Falls and New York



Application Deadline:

February 1, 2008

Notification by:

March 3, 2008

The REU program specifics:

- duration: 10 weeks
- from June 2nd to August 8th
- stipend: \$3800 + up to \$600 for travel
- on-campus housing with your fellow summer students
- meal plan including on- and off-campus dining

Eligibility:

- open to fall 2008 undergraduates who are US citizens or permanent residents
- minority and female candidates are strongly encouraged to apply
- all physical science and engineering majors are welcome to apply

2007 projects included:

- growth and measurement of carbon nanotubes
- light propagation in photonic crystal fibers
- quantum confinement of electrons in lead-salt nanocrystals
- fabrication of organic electronic devices
- local measurement of charge mobility in organic field effect transistors
- characterization of novel silicon nanoelectronic devices
- manipulating nanomagnets with spin-polarized currents
- chemical control of nanomechanical strength
- millimeter wave silicon electro-optics

- flash memory device optimization for nonvolatile computing
- magnetic materials at the nanoscale: studying and developing new spintronic devices for high performance information technologies
- study of quantum structures with atomic resolution electron microscopy and spectroscopy

Some quotes from previous participants:

- 'I learned so much and made many good friends. This program definitely convinced me that graduate school is the right choice for me'
- 'an excellent program with many great opportunities for learning and maturing as a scientist'
- 'got research experience, a great stipend, and possibly a publication'
- 'research facilities and projects are great'
- 'great experience that is very useful for our development as professionals'
- 'allows one to see true research and make a better educated decision concerning graduate school'
- 'a lot of potential for teaching how science operates at a practical research level'
- 'well organized and very professional'
- 'You get to do meaningful work in a real lab, and Cornell has some of the best nanoscience facilities in the world'



Research in the Center is addressed through different interdisciplinary thrust groups:

- **nanoelectronics.** Overcoming materials limitations to fabricate the next generation of nanoscale electronic circuits – scaled down in size – scaled up in performance.
- **nanomagnetics.** Providing high-performance, ultra-high density, nonvolatile, on-chip nanoscale memory cells, going beyond the current approach of storing information magnetically.
- **nanophotonics.** Exploiting nanoscale phenomena to provide all-optical telecommunication circuits and networks.
- **nanocharacterization and nanoprocessing.** Meeting the needs of advanced nanofabrication through the development of unique analytical tools and novel processes.

About Ithaca and its environment:

Cornell University is located in the heart of the New York's Finger Lakes region. Situated at the southern tip of Cayuga Lake, Ithaca offers every type of outdoor activity imaginable. The Cornell campus is located between two magnificent gorges that provide ample opportunity to have a refreshing swim break on a hot summer day.



Contact information

For information on the REU program or application forms please contact:

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For technical or project information please contact:

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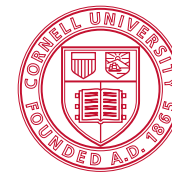
For more information on the program and application: www.cns.cornell.edu/reu

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Cornell is an equal-opportunity, affirmative-action educator and employer.

October 2007



Cornell University

Research Experience for Undergraduates

June 2 – August 8, 2008



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www.cns.cornell.edu/reu