

# Research Experiences for Teachers

*Program Directory*

*2007- 2008*



*\*This directory has been compiled by the Research Experiences for Teachers program at Northeastern University for distribution at the NSF RET Networking Meeting at the NSTA National Meeting in St. Louis, Missouri (March 2007).*

<http://www.ret.neu.edu>

# Research Experiences for Teachers

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<http://www.ret.neu.edu>

## **CASPER's Summer Research Experience for Teachers**

<http://www.baylor.edu/casper/index.php?id=20536>

**Institution:** *Baylor University*  
**Mailing Address:** One Bear Place #97310  
Waco, TX 76798

**Phone:** (254) 710.3763  
**Fax:** (254) 710.7309

**Primary Contact:** Truell W. Hyde  
**Program Dates:** June – August 2007

**Contact email:** [Truell\\_Hyde@baylor.edu](mailto:Truell_Hyde@baylor.edu)  
**Application due date:** March 2, 2007

### **Brief description of program:**

CASPER's Summer Research Experiences for Teachers Program (sponsored by the National Science Foundation, Baylor University, the Physics Department and CASPER) offers elementary school, middle school and high school teachers an opportunity for active research participation with Baylor University faculty in the Center for Astrophysics, Space Physics & Engineering Research. The primary purpose of the Summer RET Program is to allow teachers to develop new curriculum while interacting in a working research environment. This is part of a nation-wide effort to enable public school teachers the opportunity to infuse cutting edge science and technology into the classroom. The eight-week program will begin around the first of June and end around the middle of August. (The starting and ending dates are flexible and may be adjusted to fit ISD schedules.) RET Fellows will be paid up to two months of their current annualized salary for the eight-week period.

### **Program prerequisites:**

Current teachers in math or any of the physical sciences (or education majors interested in pursuing a career in STEM) are eligible. Applicants will be considered for appointment without regard to race, creed, color, sex, national origin, age, handicap status or any other non-merit factor. Appointment selection is competitive on a national scale and will be based upon the following criteria: (1) career objectives and scientific interest, (2) match of applicant interest with available projects within the Center or the Department and (3) letters of recommendation. The program is pending funding by the National Science Foundation and applications for the summer of 2007 are now being accepted. For final confirmation of appointment, successful applicants must sign a letter of acceptance (or rejection) of the offer to participate within one (1) week of notification.

### **Other pertinent information:** (cost, etc.)

- Applications are processed via the Web (except for recommendation letters which must be sent via snail-mail).
- References must be on school letterhead and in a sealed envelope.
- RET Fellows will be paid up to two months of their current annualized salary for the eight-week period.

## **Summer Research Program for Science Teachers**

<http://www.ScienceTeacherProgram.org>

**Institute:** *Columbia University*  
**Mailing Address:** 630 W. 168 Street 11-444  
New York, NY 10032

**Phone:** (212) 305.6899  
**Fax:** (212) 305.5775

**Primary Contact:** Jay Dubner  
**Program Dates:** June 29 – third week of August

**Contact email:** [jd109@columbia.edu](mailto:jd109@columbia.edu)  
**Application due date:** Mid-February

### **Brief description of program:**

The primary aim of the program is to provide science teachers with sustained hands-on experience in scientific research so they can better understand the practice of science, and better transmit to their students and fellow teachers a feeling for its practice. Each teacher spends two consecutive summers working as a laboratory research assistant under the supervision of a Columbia faculty mentor. Opportunities are available in astronomy, biological sciences, chemistry, earth sciences, engineering, environmental sciences, genetics, material science and engineering, medicine, microbiology, nanotechnology, physics, physiology, toxicology, and other specialties.

### **Program prerequisites:**

Middle or high school science teacher in the New York metropolitan area.

### **Other pertinent information:** (cost, etc.)

- Each successful applicant receives a stipend of \$6,000, \$1,000 for classroom supplies and funds to attend a professional conference.

**Research Experiences for Teachers**  
**Areas of Innovative & Novel (RETAIN) Technologies in the Delaware Valley**

<http://www.coe.drexel.edu/ret>

**Institution:** *Drexel University*  
**Mailing Address:** 3141 Chestnut Street, MEM Department  
Philadelphia, PA 19104

**Phone:** (215) 895.2288  
**Fax:** (215) 895.1478

**Primary Contact:** Joanne Ferroni, Director of Outreach  
**Program Dates:** July 9 – August 10, 2007

**Contact email:** [jmh49@drexel.edu](mailto:jmh49@drexel.edu)

**Application due date:** April 1

**Brief description of program:**

Research Areas: Biotechnology, Nanotechnology, Information Technology.

As an RET Fellow you will:

- Gain hands-on experience working in a research laboratory.
- Develop lesson plans for your classroom based on your research experience.
- Build your own website.
- Learn what goes into a winning grant proposal.
- Attend field trips that illustrate engineering in action.
- Receive a \$5,000 stipend and opportunities for graduate and/or Act 48 credits.

**Program prerequisites:**

Applicants must have:

- An appointment as a teacher of science or mathematics in grades 7-12.
- An interest in including emerging technologies into your courses.
- Demonstrated creativity in teaching.
- Basic computer technology skills.
- No research experience necessary.

**Other pertinent information:** (cost, etc.)

- Participants will receive a \$5,000 stipend and the opportunity to purchase graduate credits upon completion of the program.

**Research Experiences for Teachers in Nanotechnology:  
A Drexel University/University of Pennsylvania Partnership**

<http://nano.materials.drexel.edu/ret/t>

**Institutions:** *Drexel University & University of Pennsylvania*  
**Mailing Address:** 3141 Chestnut Street  
Drexel Nanotechnology Institute  
**City:** Philadelphia, PA 19104  
**Phone:** (215) 895.6630  
**Fax:** (215) 895.6760

**Primary Contact:** Holly Burnside, Nanotech Program Coordinator   **Contact email:** [hcb23@drexel.edu](mailto:hcb23@drexel.edu)  
**Program Dates:** July 5 – August 10, 2007                   **Application due date:** April 1, 2007

**Brief description of program:**

As an RET Fellow you will:

- Gain hands-on experience working in a research laboratory.
- Develop lesson plans for your classroom based on your research experience.
- Build your own website.
- Learn what goes into a winning grant proposal.
- Attend field trips that illustrate engineering in action.
- Receive a \$5,000 stipend and opportunities for graduate and/or Act 48 credits.

**Program prerequisites:**

Applicants must have:

- An appointment as a teacher of science or mathematics in grades 9-12 or as a Community College faculty member.
- An interest in including nanotechnology and emerging technologies into your courses.
- Demonstrated creativity in teaching.
- Basic computer technology skills.
- No research experience necessary.

**Other pertinent information:** (cost, etc.)

- Participants will receive a \$5,000 stipend and the opportunity to purchase graduate credits upon completion of the program.

## **Summer Teacher Experience in Packaging- Utilizing Physics**

<http://www.prc.gatech.edu/academics/pre-college/step-up.htm>

**Institution:** Georgia Institute of Technology  
**Mailing Address:** School of Electrical and Computer Engineering  
777 Atlantic Drive  
Atlanta, GA 30332-0250

**Phone:** (404) 385.0439  
**Fax:** (404) 894.4641

**Primary Contact:** Dr. Leyla Conrad      **Contact email:** [leyla.conrad@ece.gatech.edu](mailto:leyla.conrad@ece.gatech.edu)  
**Program Dates:** June 4 – July 27, 2007      **Application due date:** March 16, 2007

### **Brief description of program:**

The program has three components: (1) to enables teachers to fully take advantage of their subsequent research experience, a two-week course on modern physics, with a laboratory component is given; (2) a three day module course on applications of modern physics concepts to microelectronics; and (3) a five and a half week summer research experience. Workshops are also held during the teachers' stay at Georgia Tech to help them with the development of lesson plans and classroom material derived from their research experience.

### **Program prerequisites:**

Program is open to metro-Atlanta in service physics teachers.

### **Other pertinent information:** (cost, etc.)

- A summer stipend of \$5,700 as well as \$1,000 of funds to acquire materials and supplies will be provided to each participating teacher.

## **NINN RET Program**

<http://www.ninn.ret.org>

**Institution:** Georgia Institute of Technology, Harvard University, Howard University,  
Pennsylvania State University, University of California Santa Barbara

**Mailing Address:** Microelectronics Research Center  
791 Atlantic Ave. NW  
Atlanta, GA 30332

**Phone:** (404) 385-4307  
**Fax:** (404) 894-5142

**Primary Contact:** Nancy Healey                      **Contact email:** [nancy.healy@mirc.gatech.edu](mailto:nancy.healy@mirc.gatech.edu)  
**Program Dates:** Varies by NNIN site                      **Application due date:** April 17, 2007

### **Brief description of the program:**

Six week summer program in nanotechnology plus two weeks school year follow-up.

### **Program prerequisites:**

- Two years teaching in science or
- A pre-service teacher with undergraduate science degree science working on initial certification and
- Focus is on middle and high school teachers.

### **Other pertinent information (cost, etc.):**

- Stipend of \$5,500 plus travel to NSTA for NNIN RET meeting.
- Minimum of \$150 for classroom supplies.
- This is not a residential program.

**Center for Materials Science and Engineering**  
**Research Experience for Teachers**

<http://mit.edu/cmse/educational/research.html>

**Institution:** *Massachusetts Institute of Technology*  
**Mailing Address:** Center for Materials Science and Engineering  
77 Massachusetts Avenue, Room 13-2082  
Cambridge, MA 02139

**Phone:** (617) 253.0916  
**Fax:** (617) 258.6478

**Primary Contact:** Susan Rosevear  
**Program Dates:** Late June – mid-August

**Contact email:** [susang@mit.edu](mailto:susang@mit.edu)  
**Application due date:** March 15, 2007

**Brief description of program:**

Middle and high school science teachers spend seven summer weeks at MIT's Center for Materials Science and Engineering engaged in cutting-edge materials research as a member of a faculty-led research team. A broad range of research topics are available in the fields of chemistry, chemical engineering, electrical engineering, mechanical engineering, materials science and engineering, biomaterials, and physics.

Participants are encouraged to return for a second summer devoted to developing classroom material based on the previous year's research experience.

**Program prerequisites:**

- Applicants must be middle or high school science teachers who are US citizens or permanent residents.
- Preference is given to applicants who teach at schools within commuting distance of MIT.

**Other pertinent information:** (cost, etc.)

- Participants are awarded a \$7,000 stipend for the initial research summer.

## **Research Experiences for Teachers at Northeastern University**

<http://www.ret.neu.edu>

**Institution:** *Northeastern University*  
**Mailing Address:** 360 Huntington Avenue, 031 Lake Hall  
Boston, MA 02115  
**Phone:** (617) 373.8380 or (617) 373.8497  
**Fax:** (617) 373.8496

**Primary Contact:** Claire Duggan **Contact email:** [c.duggan@neu.edu](mailto:c.duggan@neu.edu)  
**Program Date:** June 25 – August 2, 2007\*\* **Application due date:** March 15, 2007

### **Brief description of program:**

The Research Experiences for Teachers (RET) program at Northeastern University is a six-week summer research experience funded by the National Science Foundation for middle and high school mathematics and science teachers and community college STEM faculty. Participants work in research laboratories affiliated with the Colleges of Arts & Sciences and Engineering, the Gordon Institute for Sensing and Imaging at Northeastern University, and the Center for High-rate Nanomanufacturing at Northeastern University and the University of Massachusetts-Lowell. The professional development component of the summer program is provided by Northeastern's Center for STEM Education. Teachers are encouraged to share program information with colleagues within their respective institutions.

### **Program prerequisites:**

- Completion of formal application.
- Letters of recommendation.
- Candidates will be interviewed.

### **Other pertinent information:** (cost, etc.)

- Participating teachers will be required to prepare and present a research poster and develop a classroom lesson or connection based on their research experience.
- Participating teachers will be required to commit to attendance at both pre- and post-professional development sessions.
- Electronic support is continued throughout the academic year.
- Cross-school district collaboration is encouraged.
- Participants receive a stipend of \$1000 per week; however, this is a non-residential program and out-of-state participants will be responsible for their own housing and transportation.
- Graduate credits are available.

*\*\*Contingent upon continued funding.*



## **Center on Polymer Interfaces and Macromolecular Assemblies RET**

<http://www.stanford.edu/group/CPIMA/education>

**Institution:** *Stanford University*  
**Mailing Address:** CPIMA/Dept. of Chemical Engineering  
381 North-South Mall  
Stanford, CA 94305-5025

**Phone:** (650) 725-3351  
**Fax:** (650) 725-5558

**Primary Contact:** Marni Goldman  
**Program Dates:** June 18 – August 10, 2007

**Contact email:** [mgoldman@stanford.edu](mailto:mgoldman@stanford.edu)  
**Application due date:** March 31, 2007

### **Brief description of program:**

The program is part of the larger university-wide Summer Program of Professional Development for Math and Science Teachers. It is an eight-week program in which participants spend Tuesday—Friday working on individual projects determined by their faculty hosts. For the CPIMA RET teachers, the projects are performing cutting edge research in a scientific laboratory (directly or indirectly related to CPIMA) with direct interactions with research scientists, post-doctoral scholars, and graduate students. On Mon., come together for program activities. These include faculty talks, tours of campus labs and facilities as well as guidance on ways in which they can bring their summer experience back to their classrooms as all participants are required to develop an education transfer plan (ETP).

### **Program prerequisites:**

- Bachelor's degree in a science or engineering discipline.
- Full time teacher.
- U.S. citizen or permanent resident.

### **Other pertinent information:** (cost, etc.)

- \$6400 stipend.
- Some travel and housing subsidy for out-of-town participants.
- Deliverables include a poster on individual project and education transfer plan.

## **Animated Real-time Traveler Information Visualization For Broadcast and the Internet**

<http://www.trianglesoftware.com>

**Institution:** *Triangle Software LLC*  
**Mailing Address:** 1901 S. Bascom Avenue, Suite 900  
**City:** Campbell, CA 95008

**Phone:** (408) 879-5805  
**Fax:** (408) 879-5810

**Primary Contact:** Andre Gueziec      **Contact email:** [andre@TriangleSoftware.com](mailto:andre@TriangleSoftware.com)  
**Program Dates:** January 2006 – June 2007      **Application due date:** February 2007

### **Brief description of program:**

Supported by a NSF SBIR Phase II Award, Triangle Software LLC has developed models for forecasting traffic flow and visualizing real-time and predictive traffic information using three-dimensional animated maps. Triangle Software's system received a Top Innovation Award by Television Broadcast magazine upon its launch at the NAB conference and trade show. Teachers participating in the RET program will integrate our team and help expand our forecasting model or our three-dimensional mapping system.

### **Program prerequisites:**

- Experience programming in a language such as C/C++/Java or C#.
- Expertise in advanced statistics or in geometric computing and cartography.

### **Other pertinent information:** (cost, etc.)

- \$10,000 stipend per teacher.

## **International Research Experience for Teachers**

<http://mse.arizona.edu/reu-ret/>

**Institution:** *University of Arizona and  
King Mongkut's University of Technology, Thonburi, Bangkok, Thailand*

**Mailing Address:** RET Director  
Materials Science and Engineering  
University of Arizona  
Tucson, AZ 85721

**Phone:** (520) 237-7259  
**Fax:** (520) 621-8059

**Primary Contact:** Gary Chandler  
**Program Dates:** May 31 – July 13, 2007(tentative)

**Contact email:** [gwc@u.arizona.edu](mailto:gwc@u.arizona.edu)  
**Application due date:** February 16, 2007

### **Brief description of program:**

Six weeks research experience in Thailand at KMUTT University. Rich cultural and scientific experience.

### **Program prerequisites:**

Participants must have previous research experience, such as RET.

### **Other pertinent information:** (cost, etc.)

- Participants will receive a stipend of \$4,500.00.
- Travel to and from Thailand and lodging is covered by the program; however, weekend trips will be at participant's expense.

## **Research Experience for Teachers at UC Santa Barbara**

<http://www.mrl.ucsb.edu/mrl/outreach/educational/RET/>

**Institution:** *University of California Santa Barbara  
Materials Research Laboratory*

**Mailing Address:** Materials Research Laboratory  
University of California Santa Barbara  
Santa Barbara, CA 93117

**Phone:** (805) 893 7928

**Fax:** (805) 893 8797

**Primary Contact:** Martina Michenfelder  
**Program Dates:** June 18 – July 27, 2007

**Contact email:** [martina@mrl.ucsb.edu](mailto:martina@mrl.ucsb.edu)  
**Application due date:** March 31, 2007

### **Brief description of program:**

This is a two-year program. For the first summer of participation, each teacher works on a research project for six weeks with MRL researchers. For the second summer of participation, teachers work for four weeks on their teaching units for publication and presentation to their colleagues.

### **Program prerequisites:**

- Secondary science teacher.

### **Other pertinent information:** (cost, etc.)

- This program serves mainly local teachers since only a small stipend for travel/housing is available.

## **Research Experience for Greater Houston Science and Math Teachers**

<http://www.egr.uh.edu/ret>

**Institution:** University of Houston  
**Mailing Address:** E421 Engineering Building 2  
Cullen College of Engineering  
Houston, TX 77204-4007

**Phone:** (713) 743-3299  
**Fax:** (713) 743-8240

**Primary Contact:** Dr. Julie Trenor  
**Program Dates:** TBA: June 8 – July 19 2006      **Contact email:** [ret@egr.uh.edu](mailto:ret@egr.uh.edu)      **Application due date:** TBA: April 6, 2006

### **Brief description of program:**

Six-week summer program for teachers in Houston area.

## **Chicago Science Teacher Research Program**

<http://vienna.bioengr.uic.edu/RET/index.htm>

**Institution:** *University of Illinois at Chicago (UIC)*  
**Mailing Address:** 851 Morgan Street, 218 SEO  
Chicago, IL 60607

**Phone:** (312) 413-7743  
**Fax:** (312) 996-5921

**Primary Contact:** Andreas Linninger, PhD.  
**Program Dates:** June 19 – August 4

**Contact email:** [linninge@uic.edu](mailto:linninge@uic.edu)  
**Application due date:** January 31

### **Brief description of program:**

The UIC RET program is a seven-week full time research experience in the areas of nanotechnology, bioengineering, environmental engineering, and novel materials. Participants work alongside graduate students, REU students, and fellow RET participants with the support of UIC faculty.

### **Program prerequisites:**

- The program is open to all K-14 Math and Science Teachers.
- Selection is based on applicant's resume, essay, and two reference letters.

### **Other pertinent information:** (cost, etc.)

- RET fellows will receive a stipend of up to \$8,000 for the full program.
- Additional funding for research projects and development of classroom projects is also available.

## **Chemistry Research Experiences for Teachers**

<http://www.chem.rochester.edu/chemsummer/REU-RET/RET-Announcement-2007.htm>

**Institution:** *University of Rochester*  
*Department of Chemistry*

**Mailing Address:** PO Box 270216  
Hutchison Hall  
Rochester, NY 14627

**Phone:** (585) 275.8286  
**Fax:** (585) 276.0205

**Primary Contact:** Marguerite Weston, Program Coordinator **Contact email:** [weston@chem.rochester.edu](mailto:weston@chem.rochester.edu)

**Program Dates:** June 11 – August 3, 2007 **Application due date:** February 20, 2007

### **Brief description of program:**

The primary focus of this program is full-time, hands-on research. Each teacher will be a working member of a specific research team in the Chemistry, Biochemistry, or Chemical Engineering Departments. One of the members of the team will work closely with the teacher to provide day-to-day guidance. The research work will be supplemented by a short course, seminars, discussion groups, and workshops that provide more structured opportunities for learning. The Summer Research Program offers exceptional academic research, along with exposure to undergraduate and graduate education in a university setting. Teachers also participate in hands-on workshops on computer-based technologies useful for instruction. PowerPoint will be used for laptop-based oral presentations, and to prepare a 3'x4' poster at the end of the program. Workshops culminate with production of web sites. Workshops take place in a computer classroom and accommodate teachers without prior experience.

### **Program prerequisites:**

- 2 years tenure as a full time science teacher at a middle school or high school.

### **Other pertinent information:** (cost, etc.)

- Stipend of \$7100.
- Campus housing (if needed).
- Limited travel expenses provided.

## **BioNano 2007**

<http://depts.washington.edu/gemsec/education/RET.html>

**Institution:** *University of Washington*  
**Mailing Address:** Box 352120,  
University of Washington  
Seattle, WA 98195

**Phone:** (206) 616-9760  
**Fax:** (206) 685-4434

**Primary Contact:** Ethan Allen  
**Program Dates:** July 9 – 31, 2007

**Contact email:** [ethana@u.washington.edu](mailto:ethana@u.washington.edu)  
**Application due date:** May 1, 2007

### **Brief description of program:**

- 3.5 week (7/9 - 7/31) immersion in bionanotechnology.
- Small MS and HS teacher teams research topics & develop classroom materials.

### **Other pertinent information:**

- Stipend of \$1,200\*\*.
- Supplies budget\*\*.
- Academic credit.

*\*\*Contingent upon funding.*

## **Research Experiences for Teachers at University of Wisconsin-Madison**

<http://mrsec.wisc.edu/Edetc/index.html>

**Institution:** *University of Wisconsin-Madison*  
*Materials Research Science and Engineering Center on Nanostructured Interfaces*

**Mailing Address:** 1550 Engineering Drive  
Madison, WI 53706

**Phone:** (608) 263-7128  
**Fax:** (608) 261-1357

**Primary Contact:** Greta M. Zenner  
**Program Dates:** Mid/late June – July (flexible)

**Contact email:** gmzenner@wisc.edu  
**Application due date:** Rolling, before April 15

### **Brief description of program:**

The Research Experiences for Teachers (RET) program is funded by the National Science Foundation and is hosted by the Materials Research Science and Engineering Center (MRSEC) on nanostructured interfaces. The MRSEC RET program provides an intensive, five-week, full-time professional development opportunity for K-12 science teachers during the summer. RET teachers work with MRSEC faculty members and postdoctorals on a curriculum development project related to nanotechnology, technology at the scale of atoms. The program is a combination of research and curriculum development, and the resulting teaching modules are made available online. Applications to the program are available on the Web site.

### **Other pertinent information:** (cost, etc.)

- Participants receive \$5,000, but there are no additional funds to cover housing, etc.
- Out-of-state residents have the possibility of receiving \$250-\$500 for travel, depending on circumstances.

