

*You and two of your students are invited  
to attend the CIPT Fall Workshop*

## **"Nanomagnetism"**

**Saturday, November 11, 2006**

### **Teacher Schedule**

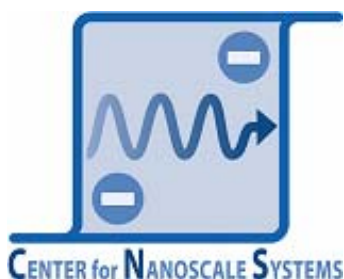
8:30 – 9:00 a.m.	Registration and Continental Breakfast
9:00 – 10:00 a.m.	Prof. John Marohn, “Detecting A Single Magnetic Spin”
10:15 – 11:30 a.m.	Lab Tour
11:30 – 12:30 p.m.	Lunch
12:30 – 1:45 p.m.	Hands-on Activity I (see below)
2:00 – 3:15 p.m.	Hands-on Activity II (see below)
3:15 – 3:30 p.m.	Closing and Evaluation

### **Teacher Activities**

- **“Physics on the Electric Guitar”** – A “pick-up” on an electric guitar uses magnetic induction to detect the motion of strings. Students are led through a series of explorations on magnetism and electromagnetism designed to build understanding of these phenomena. The lab culminates in an activity where students use a homemade pick-up and inexpensive amplifier to play a mock electric guitar.
- **“Exploring Magnetic Force”** – Although students can be told about the right-hand rule, they generally do not have a chance to experience it. First, students determine the direction of magnetic force on a current-carrying wire. Second, they determine the relationship between the magnitude of the magnetic force and the length of current-carrying wire. For Regents students, the first activity can be used to gain experience with the concept of the direction of a force vector that is probably unexpected. For AP students, understanding and applying the right-hand rule is critical.

*There is no charge for the workshop.*

*Five and one-half contact hours will be awarded for participation.*



*Students, you are invited to attend with your physics teacher the CIPT Fall Workshop*

## **“Nanomagnetism”**

**Saturday, November 11, 2006**

### **Student Schedule**

8:30 – 9:00 a.m.	Registration and Continental Breakfast
9:00 – 10:00 a.m.	Prof. John Marohn, “Detecting A Single Magnetic Spin”
10:15 – 11:15 a.m.	Activity I (see below)
11:15 – 1:00 p.m.	Informal campus tour and lunch
1:00 – 2:00 p.m.	Activity II (see below)
2:15 – 3:15 p.m.	College Admissions Panel
3:15 – 3:30 p.m.	Closing, Evaluation and Meet Teachers

### **Possible Student Activities**

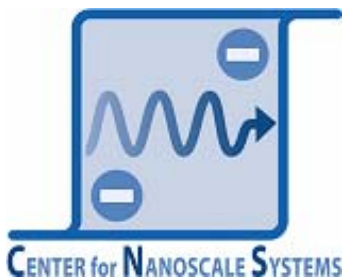
- **Tour** the Cornell Center for NanoScale Science & Technology Facility.
- **Image** atoms with a scanning tunneling microscope (STM).
- **Visit** a Cornell high tech physics lab.
- **More** being explored! Information will be available at sign-up.

**Activities for students will be described at sign-up which takes place at registration on a first-come first-served basis.**

*Registration is limited to 40 teachers and 40 students.*

*Breakfast and lunch will be provided for all participants.*

*CIPT will provide \$50 reimbursement for accommodations to the first 6 teachers and 12 students (may be required to share rooms) who request it.*



Registration Form  
CIPT Fall Workshop

## “Nanomagnetism”

Saturday, November 11, 2006

The workshop is limited to the first **40** teachers and **40** high school students who register. CIPT will provide continental breakfast and lunch for all participants, and reimbursement of \$50 for lodging for the first **6** teachers and **12** students (may have to share rooms) who apply for it. A block of rooms has been reserved at the **University Best Western**, two miles from campus. A \$20 **refundable** fee is required by **October 31** to reserve your space at the workshop. A \$50 **refundable** fee is required by **October 24** to reserve lodging. Make checks payable to **Cornell University**. Checks will be returned to you at registration.

Teacher name: \_\_\_\_\_

Home telephone: ( ) \_\_\_\_\_ Work telephone: ( ) \_\_\_\_\_

Email: \_\_\_\_\_

Home address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

High school/institution where employed: \_\_\_\_\_

School/institution address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Yes, I have enclosed the \$20 reservation fee for the workshop.**

**OR**

**Yes, I need lodging for November 10. Enclosed is the \$50 lodging reservation fee.**  
Limited to the first **6** requests. Submit receipt for reimbursement.

**Yes, I need lodging for my students. No additional reservation fee required.**  
Limited to the first **12** requests. Students may be required to share a room. Submit receipt for reimbursement.

Student name \_\_\_\_\_ Grade \_\_\_\_\_

Student name \_\_\_\_\_ Grade \_\_\_\_\_

*Please return the completed form by October 31, or October 24 if you need housing, and send to:*

Linda Clougherty, CIPT, 632 Clark Hall, Ithaca, NY 14853