

The Rickey Summer Science Institute for high school physics teachers is supported by a generous endowment for the purpose of expanding and enhancing the teaching of physics, physical science, and mathematics.



Institute Dates

The five-day Institute will consist of morning and afternoon sessions, starting Monday, July 7, 2008 and finishing Friday, July 11, 2008.

Objectives

Through shared exploration of new learning and teaching models, we seek to contribute to the effort to improve physics education in the United States. Conceptual understanding has been shown to be the most difficult aspect of physics for students to master. We emphasize direct interaction with the physical world because research shows this is the most powerful means by which students can develop an understanding of physics concepts.

Instructors

The project will be conducted by Drs. Dennis Kuhl, Craig Howald, Cavendish McKay, and Ann Bragg of the Physics Department at Marietta College.

A special session on demonstrations will be taught by 2007 Connecticut Technical High School System Teacher of the Year Martin Sagendorf.

“Although I have taught physics for 26 years, my teaching practice has changed profoundly because of these experiences, and I work to spread the word about the ideas I learned.”

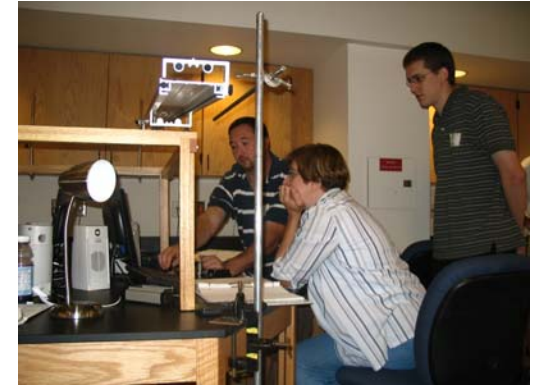
- T. Stork, past participant

Benefits for Participants

- The primary benefit to the participants will be the expected gain in teaching effectiveness.
- All instruction is **free of charge**.
- Participants in the Institute **will be given** a variety of hardware and software to take back to their respective schools.
- Room and board **will be provided** to each attendee.

Graduate Credit

Participants have the option of receiving continuing education credits free of tuition charge or receiving three graduate education credits for which they will pay their own tuition. The credit is given through the Department of Education at Marietta College. The course is: EDUC 671-98 Special Topics: *Physics Pedagogy*



Institute Description

We will rely primarily on hands-on activities designed to teach concepts in electricity, electric circuits, and magnetism. The activities will be either directly applicable or adaptable to the participants' own classrooms.

We use integrated hardware, software, and curriculum developed from research in student learning of physics concepts. Common misconceptions are confronted and overcome by guiding the students through the development of a physicist's model for understanding nature.

A typical day involves review of a written assignment, instruction in the technology to be employed, hands-on laboratory activities, a written assignment, and discussion sessions. For the most part, lecture is in the form of interactive lecture demonstration sequences, which model the type of effective pedagogy the participants will present themselves.

Past Participants

“As a Physics teacher, I am always looking for ways to improve my instruction and to bring the love and understanding of Physics to my students. ... I can truthfully say that this is one of the best [workshops] that I have attended. I know that what I have learned has enhanced my ability to give my students a better understanding of the concepts of science.”

- J. Shamitko, past participant

Over 85 teachers have participated in Rickey Summer Science Institutes. Many have used elements in a variety of ways to become more effective educators. For example, one recent participant used material from a Rickey Summer Science Institute as the basis of a Best Buy Project Te@ch award.

Application Process

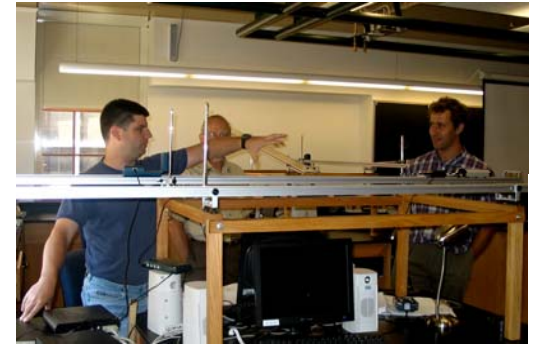
This year's institute is open to all past participants, as well as newcomers.

Limited space is available. Participants will be accepted on a first-come, first-served basis. To apply, complete the application form and return it to Dr. Craig Howald at the address below.

If you have any questions, please contact Dr. Howald at craig.howald@marietta.edu or (740) 376-4872.

Send completed applications to:

Dr. Craig Howald
Marietta College
215 Fifth Street
Marietta, OH 45750



Exploring Ways to Teach Electricity and Magnetism

**Seventh Annual Rickey
Summer Science Institute for
High School Physics Teachers**

July 7-11, 2008



Marietta College