



Outreach & Education

WINTER 2007-SPRING 2008

Laboratory for Elementary Particle-Physics staff and faculty members, along with representatives from several other Cornell outreach programs and research centers including the Center for Materials Research, the Center for Radiophysics and Space Research and the Cornell Institute for Biology Teachers, traveled to New York City in March, April and again in November of 2007 to spend a total of seven, event-packed days providing underrepresented populations with research-based science education programming. The programs, delivered during successive visits to Queens and Manhattan, relayed basic science concepts embedded in research conducted by scientists at Cornell. These on-going programs connect Ithaca outreach providers with New York City teachers and enhance existing programs through the Weill Cornell Medical College outreach office.



Peter Wittich, assistant professor of physics at LEPP, helps second-graders from Harlem Children's Zone mount their samples and observe their specimen through a light microscope.

In October of 2007, CLASSE collaborated with the Cornell Center for Materials Research to host a forum entitled *Teaching Science in Context*. Invited to the forum were eighteen public school teachers from rural or urban underserved school districts

(those that qualify for Title One funding). The purpose of the forum was to initiate a dialogue between public school educators and higher-learning institutions to determine the needs of the teachers and the students from these impoverished environments. Both LEPP and CCMR are committed to addressing these needs, providing training and support to these teachers, and leveraging available resources to help underrepresented students achieve their full potential. A follow-up forum has been scheduled for the spring of 2008.



Middle school teachers work on a simple science activity co-presented by Professor of Physics Julia Thom and Science Education instructor Dr. Leanne Avery at the *Teaching Science in Context* workshop.

In June of 2007, Wilson Laboratory held its second open house for the community to celebrate 40 years of extremely successful programs in particle physics and x-ray science at the Lab. Over 500 people of all ages came to spend part of their afternoon with the fifty staff members, faculty and student volunteers who conducted activities and tours for the visitors. Events included hands-on activities on physical science topics light and color, electricity and magnetism, and waves and sound. Demonstrations involving liquid nitrogen, bell jars and the science of juggling were well received by visitors.

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Open House volunteers smile for the camera following the Wilson Synchrotron Laboratory celebration of 40-years of successful particle physics and x-ray science.

Two separate projects were coordinated and carried out during the summer and early fall at LEPP that were designed to enhance the scientific knowledge of three local school teachers by having the educators work with scientists to develop classroom materials. One project involved a middle school science teacher and reading teacher working together to write physical-science curriculum for middle school students that incorporates skills and strategies necessary for understanding expository text. The second project involved a high school physics teacher designing, constructing, and testing a drift-tube assembly for use in a high school classroom as well as the local science museum.



Professor of Physics Jim Alexander and high school physics teacher Deborah Lynn work together to monitor and adjust the voltage of the drift tube assembly they designed.

LEPP's connections with New York City's public school children have increased the number of contacts with underrepresented students during the last few years. In July of 2007, the Lab collaborated with the CRSR to host the *Cornell Physical and Space Sciences Summer Institute*. The institute provided New York City middle school teachers with the opportunity to gain content knowledge aligned with the NY City Science Standards and the NY State Learning Standards. Participants interacted with scientists conducting cutting-edge research in particle physics and were exposed to state-of-the-art technology in the setting of a world-class research university.



Cornell Physical and Space Science Summer Institute for Middle School Science Teachers from Brooklyn and Queens pose in downtown Ithaca while participating in the Carl Sagan Planet Walk.

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