



17th Annual

Pre-College Engineering Day

*Event Formerly Known As The:
High School Student Leadership Conference (HSSLC)*



Maximizing Our Potential Through
Our Youth

Hosted By:
Latin American Engineering Student Association chapter of the
Society of Hispanic Professional Engineers
(LAESA-SHPE)
at
The City College of New York

March 25th, 2011



Latin American Engineering Student Association
Chapter of the Society of Hispanic Professional Engineers
The City College of New York - Steinman Hall, Room CM-12
160 Convent Avenue, New York, NY 10031
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email: pced@laesa-shpe.org web: www.laesa-shpe.org/pced



Dear High School Representative,

The Latin American Engineering Student Association, chapter of the Society of Hispanic Professional Engineers (LAESA-SHPE), is proud to announce the 17th annual Pre-College Engineering Day (PCED) to be held on March 25th, 2011 at the City College of New York. We would like to extend a warm invitation for your school to attend PCED.

This year, our one-day event focuses on leadership and networking opportunities to introduce students to the engineering culture at The City College of New York. Our agenda includes workshops, lab tours, and a team project. The goal of PCED is to motivate and spark student's interests to pursue careers in science, technology, engineering and mathematics.

We look forward to speaking with you about your attendance and participation in this ongoing endeavor. We have included the PCED program for your review and, for more information you are welcome to visit our website at <http://www.laesa-shpe.org/pced>.

Sincerely,

Julian C. Perez
PCED 2011 Chair

Luis Soriano
PCED 2011 Co-Chair



BACKGROUND & OBJECTIVES

The Latin American Engineering Student Association, chapter of The Society of Hispanic Professional Engineers, is the largest, most reputable undergraduate student organization at The City College of New York. A group of dedicated students whose goals were to unite all minority engineering students, share cultural ideas and to promote leadership, founded this organization in 1985. With more than 200 members, LAESA-SHPE gathers students from all engineering disciplines and from a diverse pool of cultural backgrounds.

The idea of a Pre-College Engineering Day came about in the mid 1990's, as LAESA-SHPE's members grew concerned with the increasing high school dropout rate of minorities and their low representation in the math, science and engineering fields. LAESA-SHPE decided to take action, and in 1995, hosted the first annual Pre-College Engineering Day (PCED), an event formerly known as the High School Student Leadership Conference (HSSLC). Now going into its seventeenth year of operation, PCED continues to inspire and give students the tools needed for a successful college career in engineering and leadership roles.

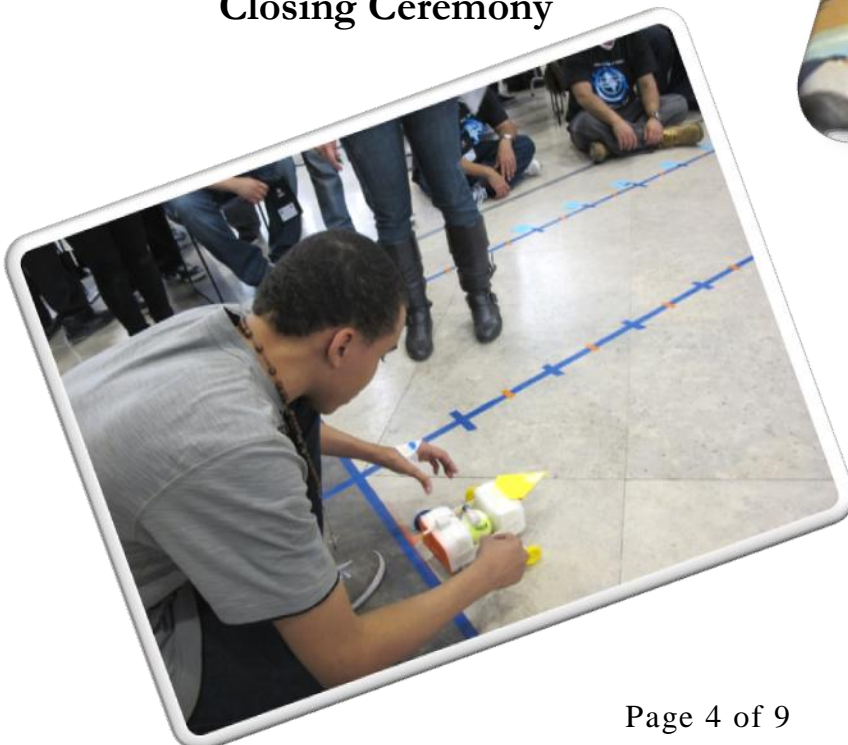
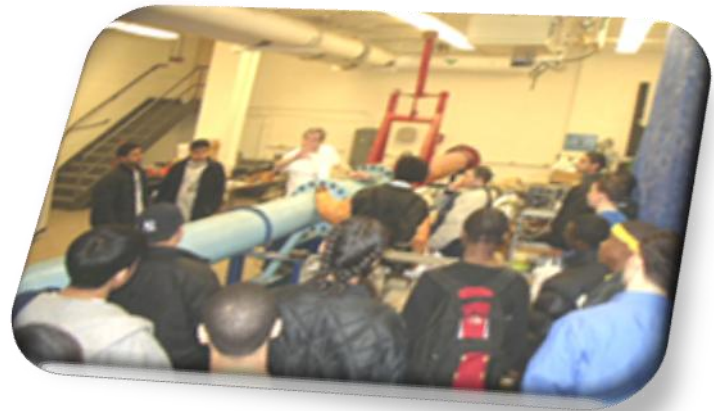
The objectives for the 2011 PCED are to:

- Educate and empower students to pursue careers in math, science and engineering.
- Inform High School students of the existence of college students as well as professionals willing to mentor them in their pursuit of math, science, and engineering careers; and at the same time provide as professional role models.
- Promote leadership among college and High School students in order to increase Hispanic and other minority representation in the engineering fields.
- Develop networking and communication skills among High School and college students, and create a peer support program.
- Develop teamwork, communicational and interpersonal skills, and prepare students for a more productive educational and professional career.
- Integrate privately educated students from schools throughout the five boroughs such as LaSalle Academy and Xavier High School.



PROGRAM HIGHLIGHTS

- @ 8:30 AM-9:30 AM
Registration, Continental Breakfast
- @ 9:30 AM-9:35 AM
Welcoming Remarks
- @ 9:35 AM-9:40 AM
Special Address
- @ 9:40 AM-10:00 AM
Motivational Speaker
- @ 10:10 AM-11:10 AM
Laboratory Tours*
- @ 11:10 AM-12:10 PM
Workshops/Team Building Activity*
- @ 12:10 PM-1:10 PM
Luncheon
- @ 1:10 PM-2:20 PM
Team Project*
- @ 2:25 PM-2:55 PM
Team Project Judging
- @ 3:00 PM-3:20 PM
Closing Ceremony





SESSIONS DESCRIPTION

Lab Tours

The City College of New York makes their engineering facilities and laboratories available for touring. Students visit the Biomedical, Chemical, Civil, Electrical, and Mechanical Engineering Departments as well as the Computer Science Department. The goal is to increase the understanding of what the different fields of engineering are able to accomplish, and the challenges faced by each discipline.

Biomedical Engineering

- Cell & Tissue Mechanics Lab

Chemical Engineering

- Unit Operations Lab

Civil Engineering

- Environmental Engineering Lab
- Transportation Lab

Computer Science

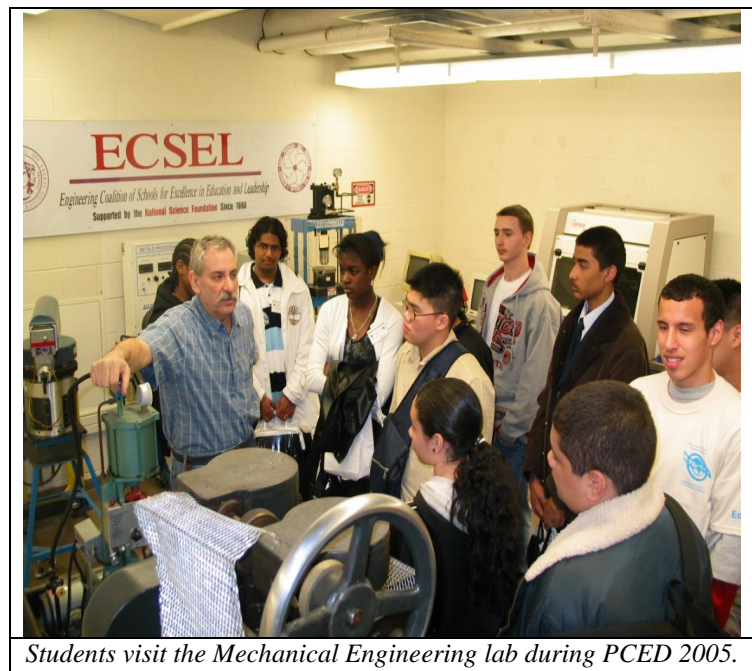
- Video Conferencing Lab
- Pentium/NT Lab

Electrical Engineering

- Remote Sensing Lab

Mechanical Engineering

- Aero Thermo Lab
- Materials Lab



Students visit the Mechanical Engineering lab during PCED 2005.



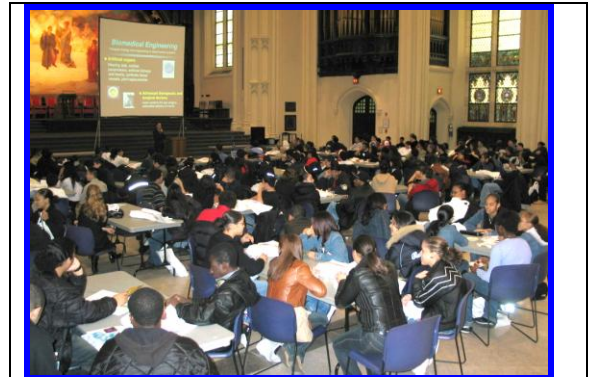
Workshops

In this section of our program, our corporate and university sponsors appoint representatives to prepare interactive leadership workshops. Our purpose is to empower youth to exercise leadership within their schools and communities and achieve success in all facets of their lives. Workshops are proven to be effective in preparing young minorities for successful careers. Success in today's competitive environment requires that youth develop their personal leadership skills. Leadership is essential in enabling youth to develop character and values that promote the goal of higher education. The following is a list of previous workshops presented:

- Scholarships 101
- How to get a 4.0
- Digitalize Communities
- Job skills & Marketing
- Leadership Skills
- Women in Engineering
- Setting Goals
- Engineering as a Career
- Communication Skills
- Time Management
- Mentors To Get Ahead
- Information Sessions



Students participating in an Engineering workshop at PCED 2008



Eladio Martin, a CCNY Alumni and Director of Development for SHPE, was the Keynote Speaker at PCED 2003.



Team Project

PCED strives to instill the concepts of teamwork and leadership as key tools for success. Productivity in the workplace heavily relies on the leadership and teamwork abilities of employees. One of the highlights of the PCED program is the team project, in which students discover practical ways to reach out to team-members in order to increase productivity. Students are divided into groups and are instructed to design a solution to an engineering problem posed. In order to



Students gather around the dropping area for the "Floatation Resistance Structure Competition" in PCED 2007.

enhance the dynamics of the team and to improve networking skills, everyone is placed with students from other schools. In the past, students built vehicles for egg-drop competitions, built a spaghetti stick structures to support a heavy load, assembled simple cars for racing, and constructed aluminum foil rafts to hold soda cans, and created shock absorber devices. At the end of the session, projects are judged (according to specifications) and prizes are awarded to each team member. Prizes for the team project are typically educational/organizational tools; for example, graphing calculators, palm pilots, USB flash drives and bookstore gift certificates.



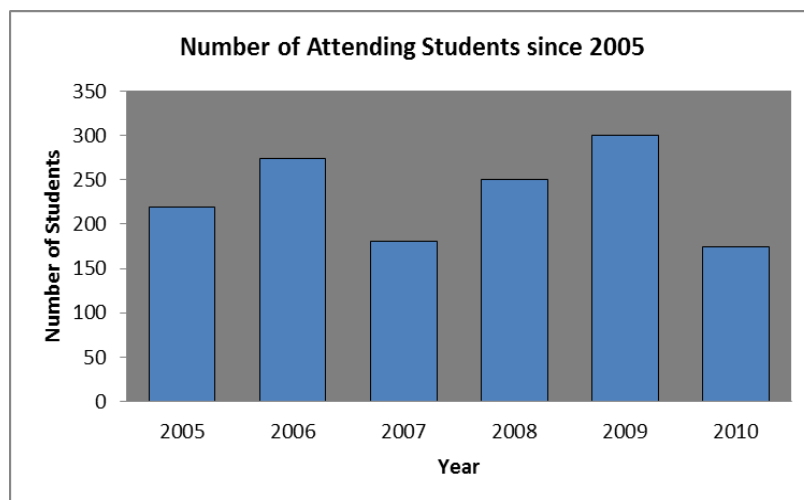
Student testing his car for the "Motorized Car" competition in PCED 2010.



PCED STATISTICS

The number of students attending the Pre-College Engineering Day, since the very first event was held in 1995 has increased over the past sixteen years, as many more students, teachers, and high school administrators have become familiar with its excellent program, continuously geared toward inspiring youth. The first PCED was able to attract 83 students from 5 participating high schools, while the most recent hosted 175 students from twenty high schools. Since its inception seventeen years ago PCED has hosted close to 2,000 students from 25 different schools at the City College of New York.

The following is a graph of attendance at PCED for the past five years.



These numbers continue to grow due to the years that have gone into perfecting every aspect of the event components.



These are some of the past sponsors and high school attendees

Past Sponsors

ACE
Aerospace Corporation
City College Academy for Professional Preparation
City College - Admissions Office
City College - School of Engineering
City College - Student Affairs
City College – Biomedical Engineering Department
Consolidated Edison of New York
Eastman Kodak
Elfun Society of NBC/GE
General Electric
Johnson & Johnson
Knolls Atomic Power Labs
Kraft General Foods
Lockheed Martin
Lucent Technologies
Louis Stokes Alliance for Minority Participation
(AMP)
McGraw-Hill
Merck & Co., Inc.
Motorola
NASA
Pepsi Cola
Program for the Retention of Engineering Students
Research Careers for Minority Scholars
SHPE NYC Professional Chapter
Telecordia
U.S. ARMY-TARDEC
U.S. Department of Transportation
Verizon
Xerox Corporation

Past High School Attendees

A. Phillip Randolph High School
Aviation High School
Bayside High School
Beach Channel High School
Bronx Aerospace Academy
Bronx Engineering and Technology Academy
Bronx High School of Science
Bronx Center for Science and Mathematics
Cardinal Hayes High School
Collegiate Institute for Math and Science
Columbia University - Double Discovery Center
Flushing High School
Franklin K. Lane High School
George Washington High School
High School of Arts and Technology
Harry S. Truman High School
Jamaica High School
Luperon Preparatory High School
Manhattan Center for Science and Math High School
Martin Luther King High School
Midwood High School
Newtown High School
New Explorations into Science, Technology and Math High
School
Norman Thomas High School
Queens Vocational High School
St. Agnes Boys High School
Samuel Gompers High School
Theodore Roosevelt High School
Thomas A. Edison Career and Technical Education High
School
Transit Tech Career and Technical Education High School