PI TAU SIGMA ANNUAL CHAPTER REPORT
2010-2011
Stevens Phi Omicron

A. Initiations

Stevens Institute of Technology follows a broad based engineering curriculum with a common core for the first three semesters and students are not required to declare their engineering major before their fourth semester. In addition, nearly a quarter of all engineering students complete 3 to 4 semesters before declaring their major.

In order to ensure that all initiates graduate as Mechanical Engineering majors, the chapter has established a policy to initiate only juniors (5th and 6th semesters) and seniors (in their 7th semester). Students who have excellent academic record (top sixth or 16.7% and who have a GPA of 3.6 or "High Honors") and who are in good standing are reviewed and invited to become members of the Stevens Phi Omicron Chapter.

During AY 2010-11, Stevens conducted two initiation ceremonies. The fall initiation ceremony for the Academic year was conducted on December 7, 2010 and 18 new members were initiated. The spring initiation ceremony was conducted on May 3, 2011 and 8 new members were initiated. The following is a listing of the AY 2010-11 initiates.

Fall 2010 Initiates:

Christina M. Alecci	Kendra L. Appleheimer
Samantha L. Biscottini	David W. Carlson
Matthew J. Cunningham	Daniel J. DiClemente
Matthew A. Gelmetti	Andrew J. Kotz
Thomas J. MacKinnon	Ryan M. McCormick
Thomas D. McMenamin	Preethi Moorthy
Jesus Ramirez	Steven J. Rawson
Joshua Skole	Andrew A. Verderame
Sandi Von Ohlen	Ken Zhao

Spring 2011 Initiates:

Laura N. Barito	Dominic V. Catalano
Steven Moss	Andy Moy
Alexander O. Mukhanov	Sara E. Pacella
Yang B. Park	Peter A. Supernavage

The chapter pays the dues for all the students who are initiated. In addition, the chapter also provides stoles at no cost to all graduating seniors, who are members of the chapter. Funds for all chapter activities and socials are provided by the Mechanical Engineering Department.

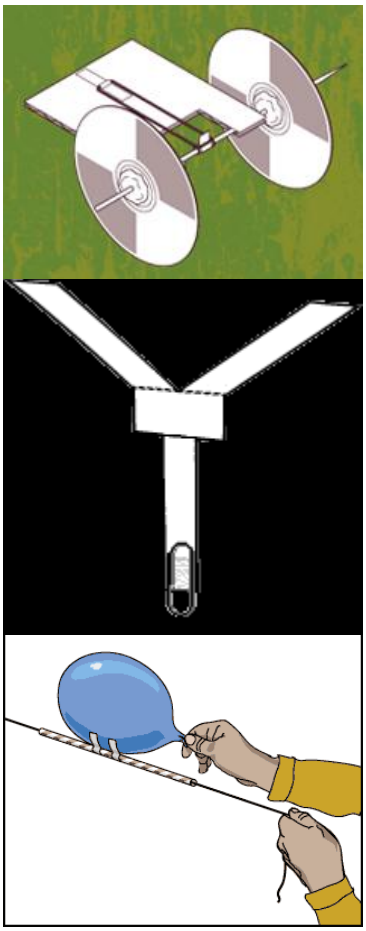
B. Chapter Activities

Goals for 2010-11

- Initiate Members from the Senior and Junior Class during 2010-11 academic year
- Participation in the ASME Region II student conference and in the design and oral presentation competitions
- Participation in the Annual Pi Tau Sigma conference, out-reach activities through the co-sponsorship of faculty-student activities
- Participation in the 2011 Engineering Day Events
- Promotion of entrepreneurship through involvement in the Stevens Technogenesis® program
- Participation in the 4TH Stevens Research and Entrepreneurship Day (April 29, 2011) Activities
- Participation in other activities associated with promoting Mechanical Engineering.

All goals for AY 2010-11 were met and the following is a brief summary of other chapter activities.

Activities



The chapter successfully organized and implemented a tutoring program for the mechanical engineering undergraduate students during the fall and spring terms. The event covered all core engineering topics for the sophomore and junior class with a special review during the final exam period.

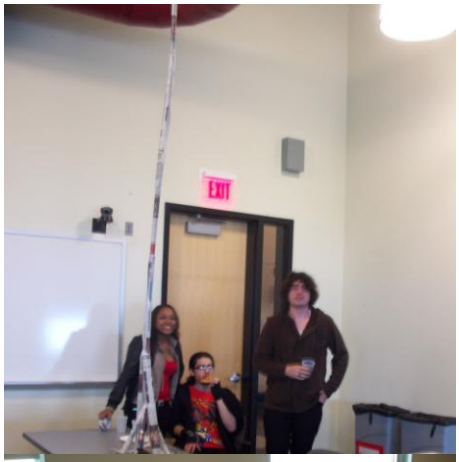
Two special outreach programs were initiated this year to promote STEM education.

The first involved the hosting of a local Brownie Girl Scout troop to an all day event that was required to complete a badge. This activity was lead by the chapter president Stephanie Miller and the girls (age 7-8) completed the "Movers" badge for which they had to complete a number of activities. All activities completed pertained to the engineering world.

The event started off with a discussion of engineering and where it could be seen in day to day life. This was to give the girls a perspective of how much engineering affected them. The girls were then divided into three groups and rotated through the following three competitive and fun-filled activities: 1) Rubber-band propelled car, 2) Paper copter, and 3) Balloon Rocket. For each activity, the basic principles were discussed and the teams were provided with a set of items from which they designed, built and competed.

Overall this event was a resounding success in exposing the girls to the fun and excitement of engineering. The event was co-sponsored by the Stevens Student Government Association.

The second event involved the hosting of a local high school field trip to Stevens and was filled with seminars and a broad overview of engineering as a discipline and mechanical engineering in particular as a profession of choice. This event included an introductory seminar that covered design of various machinery and highlights of techniques to solve industrial problems as well as the various focus areas within mechanical engineering that students can pursue. After the seminar, the students were given a tour of the entire campus with emphasis on the different mechanical engineering labs. One of the labs that were toured was the robotics and automation laboratory. The students were given an introduction and demonstration on the autonomous mobile robots, control systems, and the autonomous quad-copter. The students also toured the engineering design labs that show-cased the ongoing capstone design projects.



The end of the field trip was comprised of two small engineering competitions that required the high school students to use their brain to solve simple problems. The students were divided into groups and a Pi Tau Sigma member was assigned with each group. The first competition was called the news paper tower competition. The challenge was to create a stable newspaper tower using three stacks of newspaper, a roll of tape and a bottle of glue. The winning tower rose to a height of 151 inches.

The second competition was an egg drop competition. Each of the team was given an egg that was to be protected from impact of a series of drops from progressively increasing heights (at 5 feet intervals). The teams were given a package of straws and tape to construct a protective housing around the egg. The winning entry was able to sustain the impact from a height of 50 feet.

An assessment of these two outreach events indicated not only their success but also their potential for exposing K-12 student population to the excitement of STEM in general and Mechanical Engineering in particular.

Several members of the chapter again participated in the collection of food and clothing for the needy and the Hoboken shelter during the holiday period.

Ms. Stephanie Miller (chapter president) was selected to represent Stevens in the Pi Tau Sigma National conference at the University of Illinois, Chicago (held during Feb 11-13).

The chapter organized an Engineering Design Competition for all students at Stevens to promote Engineering Education on April 13, 2011. The competition involved the design of a load bearing boat within a limited budget. The budget allowed the teams to "buy" supplies from a store to build their boat with the items that strongly aided floatation having higher prices. The load was set up using a standard size plastic bucket filled with gravel. The winning entry was the boat with “best load to cost” ratio. Additional prizes were given for “most weight”, “most innovative”, “most pleasing” designs.

The Stevens Phi Omicron chapter again assisted the Mechanical Engineering Department with the pre-freshmen open house that was hosted by Stevens on Sunday, April 17, 2011.

The Engineering day was held on April 27, 2011 and the Stevens Phi Omicron chapter assisted the Mechanical Engineering Department with the set up for the vent and the distribution of ASME literature.

Stevens held its third Research and Entrepreneurship Day on April 29th and final round of the design projects that were nominated for their innovation and quality included several members of the Stevens Phi Omicron Chapter.

The chapter's web page (www.stevens.edu/pts) has been updated.

Graduates

Abel N. Alvarez
David Barth
Katherine L. Crane
Daniel DiClemente
Matthew J. Dos Santos
Robert J. Fitzgerald
Travis J. Heithoff
Joshua E. Laryea
Nicholas Marzorati
Preethi Moorthy
Brian P. Pilapil
Laura J. Sneider
Sandi Von Ohlen
Ken Zhao
Laura N. Barito
Shawn P. Beyer
Matthew J. Cunningham
Alessandro DiLeonardo
Jamie L. Fishbein
Karl P. Flores
Johanna L. Heureaux
Rowena J. Lee
Stephanie A. Miller
Philip J. Ponce De Leon
Justin Richman
Derek Straub
Justin N. Wenthold

Awards & Recognition

Several of the Stevens Phi Omicron chapter members from the 2011 graduating class were recognized for their academic excellence and participation in various extra-curricular activities during the graduation.

The following chapter members of the graduating class were recognized for their academic excellence.

- **Stephanie Miller** was the recipient of the *Eugene Fezandie Award* for best overall performance by a graduating senior in Mechanical Engineering in the sequence of junior and senior year Mechanical Engineering courses.
- **Philip Ponce de Leon** was the recipient of the *Andrew Carnegie Machine Systems Award* given to an outstanding student of Machine Systems and Design
- **Abel Alvarez** and **David Barth** were the recipients of the *Richard B. Cole Award* for demonstrating high academic performance, integrity, and personal dedication.
- **Sandi Von Ohlen** received the *Arthur J. Grymes award* for demonstrating greatest interest and proficiency in fluid mechanics.

- **Matthew Dos Santos** was the recipient of the *Elie Fonrose Award* for his promise of advancement in the field of aerospace engineering.
- **Shawn Beyer** received the *Kenneth J. Moser Award* in recognition of his outstanding performance in heat transfer.
- **Travis Heithoff** received the *Col. John Stevens Power and Energy Systems Award* for being the outstanding student of Power and Energy Systems.
- **Travis Heithoff** was also the recipient of *Humphreys/Ennis/LesserAward* for his outstanding performance in the required undergraduate engineering economics core courses.
- **Katherine Crane, Travis Heithoff, Rowana Lee, Stephanie Miller, Derek Straub** and **Justin Wenthold** were the recipients of the *Senior Design Project Award* for their outstanding capstone design project.
- **Derek Straub** received the *Robert Oakner Award* for demonstrating the innovative spirit, creativity, and resourcefulness during the course of his senior capstone design project.

The following chapter members of the graduating class were recognized for their academic excellence and their participation in campus activities.

- **Abel Alvarez** was the recipient of the *Waldo Shumway Award* for academic excellence as well as outstanding contributions to the student activities and the enhancement of the campus community.
- **Laura Barito** was the recipient of *Eastern College Athletic Conference Robbins Scholar Athlete Award* for excelling in Academics and Athletics.
- **David Barth** was the recipient of the Clifford W. Kirmss Award for his contribution to the sport of fencing during his years at Stevens.
- **Katherine Crane**, **Travis Heithoff** and **Joshua Laryea** were the recipients of the *Farber award* for creating awareness among students of the impact their innovation can have on society at large and the power it has to improve lives all over the world.
- **Stephanie Miller** was the recipient of the *Co-operative Education Academic Excellence Award* for being the graduating senior with highest academic performance who participated in the co-operative education program.

Katherine Crane, Justin Richman and Travis Heithoff were members of the capstone senior design project that was part of a multi-university *Empowerhouse* team, which was selected by the U.S. Department of Energy for the 2011 Solar Decathlon.

Abel Alvarez, David Barth, Jamie Fishbein, Karl Flores, Rowana Lee, Stephanie Miller, and Brian Pilapil received both a Bachelors degree in Mechanical Engineering with High Honors as well as a Master of Engineering Degree.

Laura Barito had an outstanding year as an athlete and became the first-ever Stevens *NCAA National Champion* in late March when she won the 50-yard freestyle at the *Swimming and Diving Championships* in Knoxville, Tenn. Barito became a two-time national champ after winning the 400-meter hurdles at the *Outdoor Track and Field Championships* two months later in late May in Delaware, Ohio. She graduated as a 19-time All-American and a two-time

Academic All-American. She was profiled in *Sports Illustrated* (week of June 26, 2011, "Faces in the Crowd," p. 12).

The following members of the Stevens Pi Tau Sigma chapter graduating class of 2011 were also members of Tau Beta Pi: Abel Alvarez, Laura Barito, David Barth, Katherine Crane, Daniel DiClemente, Matthew Dos Santos, Robert Fitzgerald, Jamie Fishbein, Travis Heithoff, Stephanie Miller, Preethi Moorthy, Brian Pilapil, Justin Richman, Derek Straub and Justin Wenthold. Matthew Dos Santos was elected as the Corresponding the New Jersey Alpha Chapter of Tau Beta Pi for 2010-11 academic year.

The following chapter members who are class of 2012/2013 are elected members of Tau Beta Pi for 2010-11: Kendra Appleheimer, Samantha Biscottini, Matthew Gelmetti, Thomas MacKinnon, Thomas McMenamin, Steven Rawson and Peter Supernavage. In addition Kendra Appleheimer was elected to be the Recording Secretary of the New Jersey Alpha Chapter of Tau Beta Pi for 2010-11 academic year.

Plans for 2011-2012

Our plans for the upcoming year consist of educational, social, and outreach activities. Among others, it will include participation in entrepreneurship and Stevens Technogenesis® program, sponsorship of engineering seminars, co-sponsorship and participation in professional society student chapter activities, as well as the promotion and publicizing of the Mechanical Engineering program activities within Stevens.

In addition, we are once again planning to distribute the stoles and recognize the graduating seniors during the annual banquet.

Chapter Officers

President:	Stephanie A. Miller
Vice President:	Philip J. Ponce De Leon
Secretary-Treasurer:	Karl P. Flores
President Elect:	Jesus Ramirez
Vice President Elect:	Samantha L. Biscottini
Secretary-Treasurer Elect:	Christina M. Alecci

The elections for the chapter officers were held on May 3, 2011 following the initiation ceremony. The current group of officers explained the responsibilities and chapter activities to the officers-elect who will govern during the 2011-12 academic year. The chapter responsibilities were transferred during the last week of the term.

Chapter Advisor: Siva Thangam, Professor, Department of Mechanical Engineering**,** Stevens Institute of Technology, Castle Point on Hudson, Hoboken, NJ 07030 **(**sthangam@stevens.edu)

Chapter Website: www.stevens.edu/pts

Reporter: Siva Thangam