# Pi Tau Sigma Annual Chapter Report
# 2013-2014
# California Pi Omega

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## 1 Initiations

### 1.1 Selection Process

The California Pi Omega chapter extends eligibility towards the top third of the senior class and the top fourth of the junior class in the Mechanical Engineering Department, as determined by grade point average (GPA) and number of completed credits at the university. The official requirement for junior standing is at least 60 credits and for senior standing it is 90 credits. The list of eligible students is delivered by the College of Engineering through Engineering Student Services between the fourth and fifth week of each semester and the qualified candidates are notified immediately of their eligibility by the External Vice President. A candidate meeting is held on the first Wednesday after the list is released to introduce these candidates to Pi Tau Sigma and inform them of the benefits of joining the society. In the fall of 2013 there were 12 candidates who crossed and became members; in the spring of 2014 there were 8.

### 1.2 Pledge Requirements

As in the past, the pledge process consists of several required meetings, two outreach events, two to three social activities, the pledge project, various required submissions, and dues. These requirements are outlined at the candidate meeting and included in the candidate packet as shown below. The terminology was recently changed to points in order to avoid any confusion with the term units which is used by the university to designate relative class workload.

Required Events- Attend ALL events:
10/12 Pledge Barbeque [5]
10/23 General Meeting 1 [5]

11/6 General Meeting 2 [5]
11/20 General Meeting 3 [5]
12/7 Initiation [5]
TBD Big/Little Sibling Event [1]

Outreach  Accumulate 10 points:
10/19 Berkeley Marina Clean Up [5]
11/16 Explore Engineering [5]
TBA Berkeley Food and Housing Project [5]
TBA More to be scheduled! [5]

Social Activities  Accumulate 15 points:
10/16 Big C/Indian Rock Hike [5]
10/26 Engineering Sports Night [5]
10/30 Fentons Ice Cream [5]
11/7 Bowling Night [5]
11/1 Pyramid/Trumer Brewery Tour [5]
11/15 Rock Climbing [5]
11/18 Ice Skating in SF [5]
12/2 Winter Social/Destress [5]
12/4 Movie Night [5]

Pledge Project  6 points:
Submission of concept sketches by GM1 [1]
CAD model or low fidelity prototype by GM2 [1]
Evidence of near completion and testing by GM3 [1]
Project challenge on initiation day [3]

Student Services  5 points:
Submit a course review from the SR approved classes list [2]
Three Electronic Copies of Exams [3]

Required Submissions  1 points:
Resume [1]

Dues  requirement to become a member (pay to the Treasurer)

## 1.3 Pledge Project

As mentioned in the previous section, the pledges are required to work on a project throughout the course of the semester. These projects are always of an engineering nature and allow the pledges to develop and showcase their mechanical engineering skill sets. On the day of

the pledge barbecue, pledges are separated into teams of four and are presented with an overview of the project, including rules and requirements. They then have until initiation to design, build, and test their engineering devices; their progress is monitored with regular check-ins and presentations to the Pledge Projects Committee or the society as a whole. In the fall the project was to build a non-mechanically powered battle bot (i.e. rubber bands) and see which team's bot could survive the longest. In the spring the project was to build a projectile launcher (at the final challenge the projectile was a water balloon) to shoot the projectile at a given target.

Figure 1: Pledges demonstrating their projectile launchers at the culmination of the Pledge Project

## 1.4 Initiation Day Ceremony, Rituals and Celebration

**Pledge Project Competition:**
The pledge project competition is hosted on the day of initiation early in the morning. The members of the Pledge Project Committee serve as the official judges and award points based on aesthetics, creativity, craftsmanship, performance, and each groups presentation of their project. The team with the highest scoring project is awarded a prize either a T-shirt or small trophy. The competition runs for about an hour.

**MATLAB Scavenger Hunt:**

One of Pi Omegas unique characteristics is the scavenger hunt portion of the initiation, which has been honed and perfected since its introduction. The scavenger hunt consists of six stations inside the mechanical engineering building which the pledges must find by using clues provided to them. At each station they are presented with a computer running MATLAB and must answer questions about Pi Tau Sigma, UC Berkeley, and basic mechanical engineering concepts. Upon giving the correct answer, they are given a clue for the next station and are ultimately given a final clue which leads them to the ceremony room for the official initiation ritual. The scavenger hunt portion of the initiation usually lasts two hours depending on how well the pledges remember engineering and physics equations.

**Ceremony, Elections, and Banquet:**
Pledges are inducted into the society according to the official rituals of the national chapter. Once all have crossed, they are taught the societal handshake, then shake hands with each officer and sign the Pi Omega roll book. After a ten minute break officer elections begin and generally last about half an hour. In the fall of 2013 the society had 31 officers and in the spring of 2014 it had 27. Once the officer corps for the next semester is elected, photos are taken of the pledge class and the outgoing officers. After adjourning and recuperating for several hours, all officers and new members meet for the end of semester banquet at a local restaurant in the city of Berkeley. In both Fall 2013 and Spring 2014 the banquet was held at Racha Cafe. Several hours of jovial, yet nostalgic socializing are followed by a speech from the outgoing President who then names the winner of the Officer of the Semester award, which is given to the officer who has demonstrated commitment to the society above and beyond the requirements of their position. Afterwards all graduating members are asked to stand and reveal their future plans, after which they are applauded and are bid many a tearful goodbye. The fall 2013 initiation was held on December 7 and in the spring of 2013 it was held on May 3.

Figure 2: Officers pose for a final photo after Spring 2014 Initiation

# 2 Chapter Activities

## 2.1 Industrial Relations

### 2.1.1 Mechanical Engineering Career Fair

Due to UC Berkeley's proximity to Silicon Valley, the career fairs hosted through the Career Center for engineers tend to be dominated by companies looking to hire students studying computer science or electrical engineering. Therefore, we host a career fair every year for companies interested in hiring mechanical engineering interns and graduates. Over ten companies attended last year's fair, including Microsoft, General Motors, Chevron, and British Petroleum. It was also well attended by the student body and many companies that attended later informed us that they were very pleased at the number of students they were able to recruit through the Mechanical Engineering Career Fair.

### 2.1.2 Infosessions

In addition to the mechanical engineering career fair that was hosted in the fall, PTS also organized recruiting sessions for Apple, the CIA, and Alloy Product Development to have another opportunity to meet students. Representatives from companies generally speak to students for approximately an hour about the company, the different opportunities for mechanical engineers, as well as the perks of being an employee at his or her company. The presentations are generally followed by a 30 minute question and answer period, after which students have the opportunity to speak with the recruiters directly about their qualifications and submit their resumes. Most infosessions were attended by approximately 30-40 students, with a few infosessions seeing upwards of 80-100 students attend, like the one organized for Apple. While these events are intended for mechanical engineering students, they are also promoted in the engineering community as a whole in order to benefit all students.

## 2.2 Outreach

### 2.2.1 Explore Engineering

This past year we hosted our second annual Explore Engineering event, a half day of activities for middle school students to garner their interest in STEM fields. We invite organizations and students from around campus to demo their past projects, such as robotics, or perform experiments. We then give the students a 5 minute lecture on an Engineering topic in an easy to understand manner, and then give the students a thirty minute activity in which they apply the concepts from the lecture. Activities are competitions and done in groups, to increase student enthusiasm. We then follow this up with another five minute lecture and thirty minute group competition. This year the activities were egg drop and bridge building activities.

## 2.3 Social Activities

In order to strengthen the bonds within PTS, all chapter members are invited to attend the social events that are required for pledges; most often officers and pledges will attend two or three. Some of the activities are mentioned in the pledge requirements section, but the following is a summary of the most popular events of the past academic year.

- Engineering Sports Night - Collaboration with Tau Beta Pi
- Fenton's Ice Cream Social
- Rock Climbing at Bridges Rock Gym
- Attending Cal sporting events
- Big C Hike

- Pyramid Brewery Tour
- Movie Night
- Bowling at Albany Bowl

Figure 3: Photograph from Bowling Social Event

## 2.4 Student Relations

### 2.4.1 Mechanical Engineering Department Town Hall

The chapter once again organized and hosted this semesterly forum for students to express their concerns to the department and for the department to discuss its future plans with the students. The turnout was on the order of 40-50 students and 10-15 faculty / staff members. Typically the Chair of the Department and the Vice-Chair of Instruction attend, as well as involved members of the department. The theme for the spring Town Hall was Machine Shop Space, Facilities Access, and new curriculum for the Jacobs Institute of Design. In the spring, Pi Tau Sigma co-hosted the Town Hall meeting with the Mechanical Engineering Transfer Student Union. The end of the meeting was an open forum for transfer students to address issues specifically related to transfer students.

### 2.4.2 Mentorship Program

This year PTS continued its summer mentorship program, in which our officers are matched with incoming freshman and transfer Mechanical Engineering students to be their mentors and answer their questions in order to ease their transition into the rigor of Berkeley's Mechanical Engineering program. We have had a lot of success with the program, with many officers continuing their relationships with their mentees well beyond the summer and being a source of continuous advice. Last summer we had over fifty people sign up, and expect even more this summer.

### 2.4.3 Tutoring Hours

Every week for the last two semesters PTS has hosted three hours aimed at providing students with tutoring in all core Mechanical Engineering classes and many electives, as well as mentorship in regards to graduate school, research, internships, and selecting classes. These are meant to be open hours, where students can ask questions about any course from our tutors.

## 2.5 General Meetings

There are three general meetings (GMs) each semester; officer and pledge attendance is required. The first meeting focuses on the professionalism of the society, so usually a professor will speak about his or her research, path to becoming a professor at Berkeley, or any topic of choice. The second meeting is intended to make pledges and officers mingle and get to know each other better. This is the fun GM and usually consists of a chapter-wide building project or ice breaker activity. In Spring 2014 this activity was a balloon tower competition. The third meeting has changed over the semesters, but usually involves another professor giving a talk to PTS Members. In Spring 2014 the theme of the meeting was Graduate School Applications. At the end of the third general meeting, the External Vice President prepares a photo slide show of the current officers detailing each officer's nickname. The pledges are encouraged to memorize the nicknames as this is part of the MATLAB scavenger hunt that they will complete at initiation.

## 2.6 Officer Retreats

The officer retreat occurs at the beginning of each semester and is an opportunity for the new officers to integrate into the society, thus improving chapter cohesion. It is also a lot of fun and usually consists of a road trip to a state or national park. The fall semester officer retreat was held at Yosemite, where the officers stargazed at the cabin, hiked the Vernal Falls trail, and enjoyed a home-cooked meal from veteran officers. The spring semester retreat was held in Lake Tahoe, as is the custom, and officers enjoyed a zip-line adventure

course, snowball fighting, snowman/snow angel building, Settlers of Catan, and once again a delicious home-cooked meal from veteran officers.

Figure 4: Officers pose for a photo at the Fall 2013 retreat in Yosemite

### 2.7 Convention Participation

This year our chapter ran into funding issues and was unable to send members to the convention in Texas. We look forward to being able to attend next year's convention in the Spring!

## 3 Other

### 3.1 Website

Our chapter has a dedicated website for chapter-related business. Some key features allow pledges to access their information and track their pledge progress. Additionally, members and pledges are allowed to RSVP to social events to that the coordinating officers have a head count prior to an event. The website is also the host to our extensive Mechanical Engineering Test Bank. Our chapter has been maintaining a test bank of past exams as a

study resource for students. Only exams that have been approved by instructors are uploaded to this test bank. Additionally, the test bank recently transitioned from being only visible to PTS members to being publicly viewable. Lastly, the website has a media gallery so that anyone can view pictures from previous events.

### 3.2 2014 Graduates

Chiang, Kyle - Pursuing MS in Electrical Engineering at Stanford
Dave, Neil - Employed at General Motors
Lee, HoSeok - Employed at Ford
Lee, Timothy - Pursuing PhD at Georgia Tech
Mathew, Melbin - Employed at Schlumberger
Mohal, Monica - Employed at Ford
Tang, Alexander - Employed at Boeing
Teh, Su - Pursuing MS at UC Berkeley
Tiwari, Sawan - Pursuing MS at UCLA
Venkatesh, Sunita - Pursuing MS at UC Berkeley
Williams, Dodge - Employed at Enercon Energy Systems

## 4 Contact Information

Reporter: Monica Mohal (Spring 2014 President)
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Chapter Website:
http://pts.berkeley.edu