

**Pi Tau Sigma**  
**National Convention Report**  
**2016**

**University of Southern California**

**February 19-21**



# Pi Tau Sigma | 2016 National Convention Report

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## Convention Summary

### DAY 1: Friday, February 19, 2016

As students made their own way from LAX to the USC Radisson Hotel, adjacent to the main campus, they were received by a few of the USC Tau Beta chapter students at a check-in booth in the lobby. After checking in, students either mingled in the hotel lobby or ventured out to explore the campus prior to dinner.



1. Joao, Justin & Stephen at USC Check-in Desk

At 5:30pm all guests reconvened in the Radisson Grand Ballroom to kick off the 95th annual National Convention of Pi Tau Sigma. Dinner was served immediately upon entry and students conversed at their 10-person round tables during throughout the meal as late arrivals trickled in. As dessert was served, National PTS President, Dr. Mun Choi, gave a short welcome address to the students. Head Convention coordinator, Buck McKay, was called up to the stage to give a very short welcome to visitors before Dr. Choi introduced the main speaker for the evening, Dr. Yannis Yortsos, Dean of the Viterbi School of Engineering at USC.



2. Dr. Choi welcomes 2016 attendees during Friday dinner.

His speech and PowerPoint highlighted the importance of creativity and innovation in the practice of engineering. He defined technology as exploitation of a physical phenomenon for useful purpose and explained how it evolves exponentially and digitally. As Yortsos put it, “problems are inevitable; all problems are solvable...as engineers, we not only solve problems, but we also create opportunities for the betterment of the world...”

After dinner the breakout sessions were held in the same room. First on the agenda was a vote on various national board positions - including president - which saw a re-election of current members. Next there was an open discussion on the potential for updating the policy on graduate student entry into PTS. Finally there was a call for volunteers to host the 2017 convention, to be decided upon the following day at dinner.

At 8:30pm, the dinner was called to a close and students made their way onto USC campus to meet at Traditions Bar for the Friday night social event.

### **DAY 2: Saturday, February 20, 2016**

The day started with breakfast in the Radisson ballroom from 7:30-8:30am. Tables were configured in a “classroom” style setting, with rows of 6’ tables and all chairs facing the stage. At 8:45am, national board VP, Dr. Darryl James, introduced the first presenter of the morning. Dr. Greg Autry, professor of clinical-entrepreneurship at USC, gave a rousing presentation on entrepreneurship in modern engineering. He cited “New Space” as a prime example of combining entrepreneurial spirit in the private sector, with engineering skill and discipline to be able to create entirely new industries. Next to speak was Dr. Behrokh Khoshnevis, professor of Industrial & Systems engineering at USC. He presented on his research in large-scale 3D printing, in which special concrete is used to rapidly print

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housing in the near future. He reminded students that many emerging technologies (3D printing) can be applied in new and innovative ways not originally intended. The innovative spirit allows for such thinking outside the box in engineering.

After Dr. Khoshnevis concluded his presentation, Dr. James introduced Dan Banach of Autodesk for a 30-minute training session on Fusion 360. Immediately following this training, students were broken up into 28 teams of about 7-8 students each to compete for



3. PTS Students with SpaceX Employees Katherine Beer and Nathan Pandian during tour.

the best design of a “Galaxy Battle” (NOT “Star Wars”) themed android or vehicle. Each team had one hour to design and prepare their presentation to be shown at dinner. At 11:45am, 25 lucky students (who applied and were then chosen at random weeks prior), left for an early lunch and to grab a bus to SpaceX for a tour of their Hawthorne facility.



4. Group picture in front of Tommy Trojan.

The competition concluded at noon and students made their way to the center of USC campus for a group photo beside the Tommy Trojan statue. From here, it was a short walk over to the “E-quad” outdoor plaza for lunch provided by two popular LA food trucks (tacos or burgers?).



5. Lunch outdoors with two LA Food Trucks!

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The local chapter inauguration was re-scheduled for dinner so that the local chapter advisor, Dr. Paul Ronney, could lead a tour to the Space Shuttle Endeavor which is housed in a museum across the street from campus. 136 lucky students (and a few members of the national PTS committee) were broken into two groups to tour the shuttle facility and learn about the shuttle's history and mechanics from Dr. Ronney who was a reserve astronaut of the shuttle program in the 1990s.



6. Dr. Ronney beside Neil Armstrong Statue (L), and explaining about Space Shuttle Endeavor (R)

Meanwhile, back on campus, there were five research labs that were open to visitation from interested students (Autonomous Microbotic Systems, Biodynamics, Dryden Wind Tunnel, Shock Wave and 3D4E prototyping labs).

At 3:30pm, students had the opportunity to share their resumes with four industry reps (SpaceX, Palomar Technologies, Medtronic, Autodesk) as well as network with two USC startups (Kraffit, an air-quality monitoring system, and 121c, a carbon skateboard manufacturer).

As the sun went down, everyone made their way over to the Town & Gown ballroom on campus for dinner. Representatives from SpaceX, Virgin Galactic and Palomar Technologies were in attendance, in addition to 71 PTS chapters, national board, and various USC professors/department heads. The evening started with a few brief announcements and roll call by Dr. Mun Choi. Then the local Tau Beta chapter inducted

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five new members in a formal ceremony conducted by local chapter advisor, Dr. Paul Ronney, and National Secretary Treasurer Dr. Alex Moutsoglou.



7. National Secretary-Treasurer Dr. Alex Moutsoglou performs initiation ceremony for 5 new USC PTS initiates.



8. Dr. Mau deRidder of Virgin Galactic

Next, Dr. Geoffrey Spedding, chair of the Mechanical Engineering department at USC, introduced the keynote speaker, Dr. Mau deRidder, who is head engineer of propulsion at Virgin Galactic.

Dr. deRidder gave a rousing presentation on the virtues of hard work, ambition, and optimism in modern engineering, with examples from his own experience in the new space sector. “Make sure everyone is successful around you, set your goals high and push as hard as possible and do not be defined by your failures...many of you are dreamers — you stare skywards and you see endless possibilities. That will make you a good innovator, but more importantly, it will make you a good engineer.” Virgin Galactic had just formally unveiled their second spaceship the day before in a press conference, and in addition to a recap

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of the previous day's announcement, the PTS crowd was given the FIRST exclusive viewing of a special video address by Dr. Stephen Hawking who christened the new vehicle - and announced he will accept a seat offered by Richard Branson to be one of the first customers to be launched into space! After his speech, Dr. deRidder answered questions from the crowd about his educational path and his work history at both Virgin Galactic and SpaceX.



9. A full-house for Saturday dinner and Keynote - 230+ attendees!

Next it was time for the morning competition presentations. A student rep from each team made their way to the back of the room where a laptop and microphone were available to present their entry as the best of show. After all teams presented, votes were cast by anonymous electronic ballot, and a winner was chosen - receiving various awards



10. Students meet Dr. Mau deRidder after dinner.

from Autodesk. Finally, the evening ended with various chapter awards being presented by Dr. Alex Moutsoglou.

After dinner, a dozen or so students were able to shake hands and ask questions of Dr. deRidder, while everyone else made their way back

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over to the Radisson hotel to get ready for a night out on the town. Most guests made their way to LA Live, where PTS members filtered into various crowded bars that were filled with Clippers fans who just got out of a game next door at the Staples Center.

### **DAY 3: Sunday, February 21, 2016**

Sunday morning was informal and many students had to grab their breakfast and run to catch their flights. For the 150 or so who were able to stay, there was a feedback session hosted by Secretary-Treasurer Alex Moutsoglou and VP Altaf Khan. Drexel University emerged as the winning bid for the 2017 Convention. At 8:30am, the 2016 convention came to a close and folks made their way to LAX or to various tourist destinations around LA.



11. Sunday breakfast discussion with national board members Alex Moutsoglou and Altaf Khan.