

UNIVERSITY OF MIAMI
COLLEGE of ENGINEERING



Pi Tau Sigma National Convention 2018



University of Miami

February 23-24, 2018

On Friday, February 23rd through 24th, 2018, the University of Miami's chapter of Pi Tau Sigma, Miami Sigma Upsilon, hosted the 2018 Pi Tau Sigma National Convention. This Convention would not have been possible without the tremendous effort of the following people.

Dr. Ines Basalo, UM Pi Tau Sigma Faculty Advisor

2017-2018 Executive Board:

Mitchell Hamann, UM Pi Tau Sigma President

Wesley Wynn, UM Pi Tau Sigma Vice President

Max Rosenfeld, UM Pi Tau Sigma Secretary

Swati Narasimhan, UM Pi Tau Sigma Treasurer

Niko Minasola, UM Pi Tau Sigma 2016-2017 President

Ryan Samuels, UM Pi Tau Sigma 2016-2017 Vice President

Danielle Coogan

M. Jacqueline Pape

Marisol Pernas

Kelly Castro

Ana Ayala

Dr. Charles Tomonto, Johnson & Johnson

Dr. Mauro Fittipaldi, NEOCIS

Florida Space Grant Consortium

United States Air Force

Rick Wilkinson, University of Miami Graduate School

Mariah Szpunar

Dan Banach, AutoDesk

Matt Pierce, AutoDesk

Felipe Leon, Tau Beta Pi

Dr. Yvonne Cagle, NASA

Dr. Alex Moutsoglou, National Pi Tau Sigma Secretary-Treasurer

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Day One: Friday, February 23rd, 2018

The National Convention officially began with the start of registration at 12:00 p.m. EST at the Shalala Student Center (SSC) on the University of Miami campus. Registration remained open throughout dinner for late arrivals. At 5:45 p.m., dinner began, catered by Chartwells at the University of Miami. Dinner was served banquet style in the Grand Ballrooms of the SSC. At 6:20 p.m., Dr. Darryl James, Pi Tau Sigma National President, as elected on Saturday, February 24th, welcomed the guests to the Convention. Mitchell Hamann, UM Pi Tau Sigma President, gave his welcoming remarks afterwards, and introduced Dean J.P. Bardet of the University of Miami College of Engineering. Following Dean Bardet's welcoming remarks, Mitchell Hamann resumed the conversation, giving an overview of the business meeting to follow dinner. Dan Banach of Autodesk spoke afterwards, followed by Matt Pierce, Senior Manager for Autodesk. Following dinner in the Ballrooms, the Business Meeting began at 8:00 p.m. Several motions were presented at the meeting. The Meeting was closed by Mitchell Hamann at 9:00 p.m., reminding guests about the upcoming events. At 9:00 p.m., a movie was played at the Cosford Cinema on campus for Convention attendees to enjoy (Guardians of the Galaxy 2).



Buffet Dinner from Chartwells at the University of Miami (2/23)



Guests at dinner, during Dean Bardet's welcoming remarks (2/23)



Some members of the registration team. Pictured left to right: Daniel Bolis, Mitchell Hamann, Moritz Koeppenkastrop-Lucke (2/23)

Day Two: Saturday, February 24th, 2018

Students began arriving at the Shalala Student Center at 7:30 a.m. for breakfast. Some students received breakfast at the Hampton Inn.



Breakfast spread (2/24)

Around 8:30 a.m., the students entered the Grand Ballroom for a great day full of events. First, Felipe Leon from Tau Beta Pi gave an outstanding talk on Engineering Futures.



Felipe Leon of Tau Beta Pi, during his Engineering Futures presentation (2/24)



Felipe Leon spoke to the students about group synergy, the process of team formation, and difficult situations that might arise in the workplace and how to navigate them. After listening to Felipe, Dan Banach from AutoDesk came to the stand to give a tutorial on using Fusion 360, the 3D modeling software that AutoDesk is pioneering.



Dan Banach of Autodesk, speaking to students during the Design Competition (2/24)

Dan Banach demonstrated some of the key features of Fusion 360, which includes defining by joints and freeform modeling. Dan demonstrated how to model a small cart while the students followed along, then he introduced the Design Challenge. The 2018 Design Challenge was to design an unmanned remote control vehicle that will explore Mars and research the soil and/or air. The student groups immediately leapt into action implementing innovative designs.



Students working on the Autodesk Design Competition. Pictured second from left, Dr. Patrick Currier, Embry Riddle Aeronautical University chapter advisor (2/24)



Students working on the Autodesk Design Competition (2/24)



The students prepared their designs for the next two hours and prepared a presentation for later in the day. Following that, All of the students were gathered outside by Lake Osceola to take the convention picture.



Pi Tau Sigma National Convention attendees, group photograph (2/24)



Some guests of honor: board members and guests of Pi Tau Sigma Nationals, and University of Miami Pi Tau Sigma Chapter Advisor (2/24)



The students were then provided lunch catered by Panera Bread. They ate casually and mingled, and some groups continued to work on their design challenge projects.



Students eating Panera lunch (2/24)

After lunch, the students gathered back into the Grand Ballroom to listen to a student panel. The panel was comprised of students from Cooper-Union, Purdue, Michigan, and Illinois. They talked about what each of their chapters does for their university, and took questions from the audience about what makes their chapters work so well.



Members of the Student Panel from Cooper Union, Purdue, Michigan, and Illinois (2/24)

After the panel, students moved into the Grand Ballroom West for the career fair. They conversed and learned more about our wonderful sponsors, which included Neocis, Johnson & Johnson, the Air Force, and the UM Graduate School.



Johnson & Johnson Engineer Dr. Charles Tomonto meeting with students (2/24)



Neocis Employee Dr. Mauro Fittipaldi meeting with students (2/24)



Air Force Technical Sergeant Aaron Shields meeting with a student (2/24)



UM Graduate School Admissions Manager Rick Wilkinson meets with students (2/24)

The attendees who registered for lab tours met in the Shalala Center and were divided into three groups. Each of these groups was led by a University of Miami Pi Tau Sigma member. The groups



were led to the College of Engineering building and began tours. The labs toured were the Advanced Nano Systems Laboratory (Dr. Celik), the Advanced Research for the Exploration of Space Laboratory (Dr. Coverstone), the Computational Fluid Dynamics Laboratory (Dr. Zha), the Fuel Cell Laboratory (Dr. Liu), and the Materials Laboratory (Dr. Zhou).

Dr. Zha held an optional CFD talk during lab tours which the attendees could choose to attend instead of visiting some labs. The groups were then rotated to tour the Johnson & Johnson Collaborative Laboratory.



UM Graduate student Brendan McBreen tells students about his research (2/24)



Dr. Luis Rodriguez tells students about his post-doctoral research (2/24)



Dr. Charles Tomonto giving a tour of the Johnson and Johnson Collaborative Laboratory (2/24)

Following the lab tours, the students returned to the Shalala Student Center and presented their design challenge projects. Among the 30+ groups, many incredible designs were shown, and each group was met with thunderous applause.

Dinner was then held in the grand ballroom. After everyone was settled in the ballroom with food, the induction proceedings began. The initiates for the new chapters and the Miami Sigma Upsilon chapter were led into the darkened room. Dr. Christopher Wilson and Dr. Ines Basalo read the induction proceedings. The initiates received their certificates, registration cards, and PTS emblems.

After the inductions, the final set of speakers began presenting. First Alex Moutsoglou recognized Dr. Mun Choi for his years of service to Pi Tau Sigma. Then the list of award winners were announced. The winners were given plaques.

Finally, Dan Banach introduced the keynote speaker, Dr. Yvonne Cagle. Dr. Yvonne Cagle is a NASA Astronaut and Family Physician. In 2008, Dr. Cagle retired as a Colonel in the USAF where she served as a Senior Flight Surgeon prior to her selection to the NASA Astronaut Corp in 1996. In 2005, Dr. Cagle was assigned to the NASA/ARC as the lead ARC Astronaut Science Liaison and Strategic Relationships Manager for Google and other Silicon Valley Programmatic Partnerships. Dr. Cagle's groundbreaking work is preserving historic NASA space legacy data while, simultaneously, galvanizing NASA's initiatives in global mapping, sustainable energies, green initiatives, and disaster preparedness. Dr. Cagle is advisor for the Commercial Reusable Suborbital Research Program (CRuSR). Previously,



Dr. Cagle served on faculty as the NASA liaison and Vice President for space exploration and space exponential technologies with Singularity University.



Dr. Yvonne Cagle lectures on the challenges of putting people into space (2/24)

Dr. Cagle gave a wonderful talk discussing the importance of space research, and specifically discussing her innovative research project called Lift. Afterwards, she took questions from the audience. The students were thoroughly enthralled, and afterwards she was met with a standing ovation.

Following Dr. Cagle's talk, students from Colorado State University invited the students to the 2019 convention, and then Sigma Upsilon President Mitchell Hamann closed the convention.



PTS National Board, AutoDesk Employees, Dr. Yvonne Cagle, and UM Convention Planning Team (2/24)



Closing Remarks

The 2018 Pi Tau Sigma National Convention ran smoothly. Registration ran smoothly, meals were served with plenty for all, and the AutoDesk Design Competition was a key highlight of the Convention. Some interesting descriptive statistics from the event can be found in the attached appendix. The University of Miami Pi Tau Sigma chapter, Miami Sigma Upsilon, would like to thank everybody who attended and help make this event a success.

Appendix

Figure 1: Registration: Monetary Break-Down Data

REGISTRATION: Monetary Break-Down as of 2/26/2018 @ 12:30PM EST	
Number of People who paid Early-Bird price (\$80.00)	66
Number of People who paid General Price (\$90.00)	119
TOTAL Number of People who Paid	185
Number of People who paid online via NelNet	
	155
Number of People who paid onsite via cash	
	18
Number of People who paid onsite via check	
	12
TOTAL Number of People who paid onsite	30

Figure 2: Roommate Request Data

ROOMMATE REQUEST	
Number of Roommate Requests	16

Figure 3: Participation: Registration vs. Attendance Data

PARTICIPATION: Registration vs. Attendance	
Number of UM Students who Registered	22
Number of UM Students who Attended	18
Number of Students who Registered	
	188
Number of Students who Attended	
	179
Number of VIPs who Registered	
	22
Number of VIPs who Attended	
	21
TOTAL Number of Registrants	210
TOTAL Number of Attendees	200

Figure 4: Metro Passes Data

METRO PASSES	
Number of One-Ride Metro Passes Purchased	250
Number of One-Day Metro Passes Purchased	250
Number of One-Ride Metro Passes Given Out to Convention Attendees	
	157
Number of One-Day Metro Passes Given Out to Convention Attendees	
	169
Number of One-Ride Metro Passes Donated to Booker T. Washington High School (Miami-Dade County Public School)	
	87
Number of One-Day Metro Passes Donated to Booker T. Washington High School (Miami-Dade County Public School)	
	81

Figure 5: Hotels Data

HOTELS	
Number of People who stayed at the Hampton Inn	94
Number of People who stayed at the Marriott	81
Number of People who stayed at some other location	16
Number of People who did not need a hotel	21



Figure 6: T-shirts Data

T-SHIRTS	
<i>Number of Small T-Shirts Given Out</i>	22
<i>Number of Medium T-Shirts Given Out</i>	67
<i>Number of Large T-Shirts Given Out</i>	60
<i>Number of Extra-Large T-Shirts Given Out</i>	15
<i>Number of Extra-Extra Large T-Shirts Given Out</i>	1
TOTAL Number of T-Shirts Given Out (Approx.)	165

Figure 7: Breakfast on 2/24/2018 Data

BREAKFAST on 2/24/2018	
<i>Number of Students who Attended Breakfast</i>	37
<i>Number of VIPS who Attended Breakfast</i>	UNK
TOTAL Number of People at Breakfast	37 + VIPS

Figure 8: Lunch on 2/24/2018 Data

LUNCH on 2/24/2018	
<i>There were a lot of extra Panera boxed lunches on Saturday, 2/24/2018. 220 boxed lunches were ordered. Particularly, there was a ton of Tuna and Mediterranean Veggie (the vegetarian option) sandwiches left.</i>	

Figure 9: Career Fair Data

CAREER FAIR: Attendance on 2/24/2018	
<i>Number of Non-Convention-Registered Student Attendees from General UM CoE</i>	3
<i>Number of Booths at the Career Fair</i>	4

Figure 10: Lab Tours Data

LAB TOURS on 2/24/2018	
<i>Number of People who were Interested</i>	131