



Inaugural Mechanical Engineering Newsletter, Spring 2018

ME Alumni,

It's been a long time since we've spoken with some of you, and we plan to send out an alumni newsletter at least once a year going forward. Our department is doing well. We currently have about 870 students in the department – 750 undergraduate and 120 graduate – which is our second largest number ever after 2015. We've added four new full-time faculty since Fall 2015, and we hope to hire two more for Fall 2018. Check out some of our news below, and if you're in downtown San Jose, stop by to see us! Nicole Okamoto, Chair

Alumni event planned!

Come back to SJSU on May 11 between 6:30 and 8:00 pm. We'll have hors d'oeuvres and drinks, and 2018 senior design students will be showing off their prototypes. Please RSVP at goo.gl/Xi6Mht so we can plan for how much food to order. Non-alumni guests are also welcome. Most full time ME faculty will be there. The event will be held in the Engineering Building Room 285/287. We'd love to catch up with you!

Focus on new faculty



Dr. Vimal Viswanathan

Education: B-Tech ME National Institute of Technology, Calicut, India; MSME and Ph.D. Texas A&M University

Date Joined SJSU: 2016

Courses Taught: ME 20 Design and Graphics; ME 101 Dynamics; ME 154 Mechanical Design; ME 195A/B Senior Design Project and ME 297/256 Product Design

Research: Dr. Viswanathan's primary research area is product design with an emphasis on design theory and methodology. Currently, he is working on several projects in this area including the creation of a neural network algorithm for measuring creativity of ideas, mathematical modeling of user preferences

in product design and the mitigation of design fixation in computer-aided design (CAD). A number of graduate students are also working with him on product development projects. Engineering Education is Dr. Viswanathan's secondary area of research. He has a current grant from the National Science Foundation (NSF) to implement a freehand sketch-based tutoring program for solving dynamics problems. In addition, currently, he is collaborating on multiple research efforts to introduce physical and virtual reality-based tools in engineering classes. He is also working with the Spartan Hyperloop student team to design and fabricate a prototype for their participation in the SpaceX Hyperloop Contest 2018 (levitation) as one of the two finalists.

What he likes about SJSU: Diversity, very enthusiastic students and supportive colleagues.



Dr. Saeid Bashash

Education: BS from Sharif University of Technology (Tehran, Iran), MS and Ph.D. from Clemson University (Clemson, South Carolina)

Date Joined SJSU: August 2015

Courses Taught: ME 101 (Dynamics), ME 190 (Mechatronic systems Design), ME 280 (Automatic Control Engineering), ME 281 (Advanced Control System Design), and ME 296N (Applied Nonlinear Control)

Research: Dr. Bashash's research is focused on the modeling, optimization, and control of advanced dynamical systems, with applications ranging from precision motion control at the micro and nano scale, to energy management in buildings, electric vehicles, and smart power grids. Dr. Bashash has been an active member of the ASME's Dynamic Systems and Control Division in the past 12 years and has been the author or co-author of over 50 technical publications in this field. Since joining SJSU, Dr. Bashash has received a number of grants from local industry, including an R&D grant from Flowe.green LLC for developing a smart faucet system for water conservation in households, and a research grant from Western Digital Corporation for investigating a new class of data-driven controllers for hard disk drives.

What he likes about SJSU: Being surrounded by talented and highly motivated students, friendly and supportive colleagues, and a lively academic community with a track record of contributions to the society.

and Air-Conditioning Engineering (ASHRAE) in Spring 2017. The competition focused on the design of an energy-efficient HVAC system for a research building on the Diego Ramirez Islands, Chile. Advisors were professors Nicole Okamoto, Sargon Ishaya, and Raghu Agarwal. 2nd place (tied) was taken by King Fahd University of Petroleum and Minerals (Saudi Arabia) and Lakeland University, followed by Texas A & M in 3rd place. Winton Chang attended ASHRAE's Winter Conference in Chicago to accept the award.

Their winning design report can be found on ASHRAE's website at <https://www.ashrae.org/File%20Library/Communities/Student%20Zone/Design%20Competition/2017-Design-Calcs---San-Jose-State-Univeristy.pdf>

In Other News

Dr. Fred Barez is now the chair of the Aviation and Technology Department at SJSU. He still keeps involved with the ME Department by teaching one class a semester and advising master's students.

Dr. Nicole Okamoto took the reins as department chair in Spring 2016 after Dr. Tai-Ran Hsu stepped down from that position following a four-year term. **Dr. Raymond Yee** joined the management team as associate chair in Spring 2018. **Dr. Raghu Agarwal** continues to serve as Graduate Coordinator.

Dr. Buff Furman has been keeping busy supervising a giant project dedicated to sustainability mobility for Silicon Valley, the Spartan Superway. It's an interdisciplinary project focused on using renewable energy for a next-generation elevated transport system for cities. Check out their website at <http://www.sjsu.edu/smssv/>

Dr. Crystal Han joined SJSU as a full-time faculty member this spring. Her research focus is on biological applications of microfluidics, and she's teaching ME 111 Fluid Mechanics this semester. We'll hear more from her in a future newsletter.

The **Spartan Hyperloop** team qualified for the SpaceX 2018 Hyperloop Pod Competition, beating out over 100 teams. ME Professor **Vimal Viswanathan** is one of the club advisors. Check out the story at http://www.sjsunews.com/spartan_daily/news/article_39054978-1ba5-11e8-b3ad-c7148ea35c08.html

SJSU Student **Meshal Alshahrani** made it to the final four in the TV show "Stars of Science", a competition located in Qatar for inventors, out of 8000 original applicants. His invention, the Hajj Navigation Bracelet, may help people find their way while performing the Hajj.

ME graduate student **Vijay Lalith Cuppola**, advised by **Buff Furman**, was a finalist in this spring's SJSU Student Research Competition. His work is being submitted to the 32nd Annual CSU Student Research Competition in May 2018.

ME Professors **John Lee** and **Kathryn Gosselin**, along with Biomedical, Chemical, and Materials Engineering professors Alessandro Bellofiore, Liat Rosenfeld, and Anand Ramasubramanian were awarded a major research instrumentation grant from the National Science Foundation for a \$450k. They are acquiring a state-of-the-art particle image velocimetry (PIV) system for advanced fluid flow imaging.

ME Students **Sean McMurphy** and **Bryne Jocson** took first and second place, respective, at the regional ASME Old Guard Oral Competition in March 2018. They are advised by **Drs. Winncy Du** and **Buff Furman**. They will go on to the National ASME Congress in November for the national competition.

