



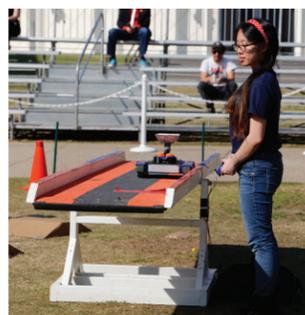
Left to right: Diandra Almasco, Caroline Paules, Hannah Chen, and Mohar Chatterjee

All-Female Team Wins Robotics Competition

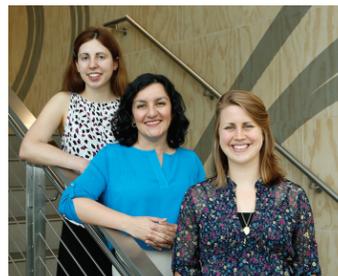
After 20 battle rounds at this year's mechanical engineering and design competition (ME 72), the Riveters—Mohar Chatterjee, Caroline Paules, Diandra Almasco, and Hannah Chen, who named their team after Rosie the Riveter—emerged victorious, having never lost a single match. They used a track-wheeled tank design topped by flywheel-based cannons and relied on a consistent and effective strategy of capturing two key bases quickly and holding onto them for the remainder of the match. Even at the end of the competition, after having fought through seven grueling rounds, the Riveters' designs held up so well that they never had a

tank fail during battle. Though the Riveters were the only all-female team, women outnumbered men in this year's ME 72 course for the first time in its 33-year history.

Learn more at www.mce.caltech.edu/events/me72.



The Riveters deployed what would become their signature strategy: parking one robot at the apex of the seesaw, turning it into an elevated plank that was unassailable by their opponents.



Left to right: Ellen Feldman Novoseller, Trity Pourbahrami, and Rachel Gehlhar

Her Path to Engineering

The EAS Division hosted a salon, in partnership with TEDx-Pasadena, featuring three women and their stories of science and engineering passion. The diverse audience met graduate students Ellen Feldman Novoseller and Rachel Gehlhar, who shared personal and professional challenges and opportunities that guided their path to Caltech engineering. Feldman Novoseller's research involves programming electrode arrays in the backs of paraplegic and quadriplegic patients to assist in standing and walking. Gehlhar's work involves building a robotic prosthetic leg that learns from and adjusts to the human body. The salon also included facilitated small-group discussions led by EAS Director of Communications Trity Pourbahrami on different paths to engineering.

Inaugural AI4Science Workshop

AI4Science is a new initiative at Caltech aimed at bringing together computer scientists and experts in other disciplines. During the inaugural workshop, a packed and enthusiastic room of students, faculty, postdocs, and other researchers listened as Professor Yisong Yue shared the core machine-learning paradigms before focusing on active learning, a subfield of machine learning relevant for efficiently running experiments. Professor Joel Burdick built on this, discussing bandit algorithms and how they have been useful in optimizing input stimuli to help paralyzed spinal-cord-injury patients stand again. Professor Andrew Stuart added that using data to learn about model error is an area in which machine learning can have a tremendous impact. He used the specific example of predicting the weather, which involves hundreds of years of knowledge about physics but also vast amounts of data from satellites, aircraft, weather balloons, and numerous other instruments. Professor Anima Anandkumar elaborated on deep neural networks as particular models that can be used in supervised learning. She then pointed out that humans are theorized to do a lot of unsupervised learning, so a deeper understanding of that process would help to push the field forward. Plans are already underway to organize the next workshop, and one area that is of great interest is machine-learning applications in astrophysics.

Learn more by searching [#AI4Science](#).



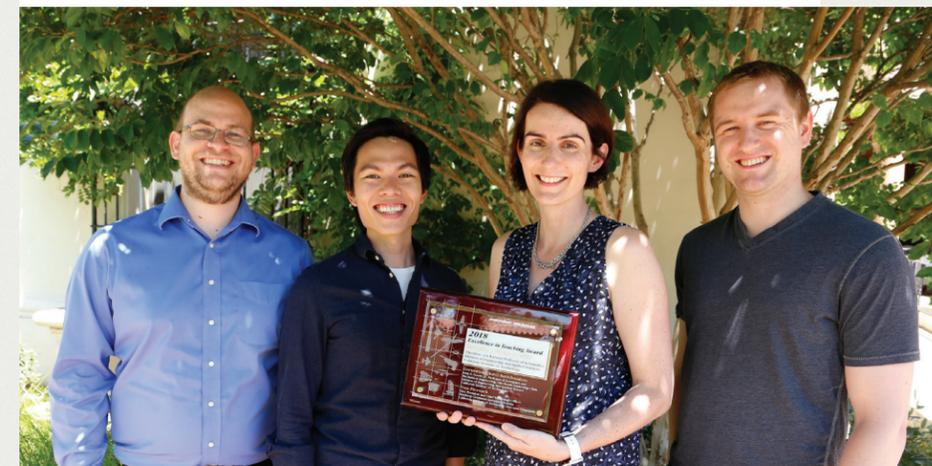
Left to right: Professor Yisong Yue shared core machine-learning paradigms at the inaugural AI4Science Workshop.

Northrop Grumman Teaching Prize

Beverly McKeon, Caltech's Theodore von Kármán Professor of Aeronautics, is the 2018 recipient of the Northrop Grumman Prize for Excellence in Teaching. The prize is awarded to an EAS professor or lecturer who demonstrates unusual ability, creativity, and innovation in classroom or laboratory teaching. A nomination for Professor McKeon read, "She is a firm

believer in the importance of having all students, regardless of their ultimate specialty, participate in laboratory coursework. Her courses serve as a solid foundation for research across disciplines. She takes tough subjects and uses her colorful approach to make the concept easy to comprehend."

Learn more at eas.caltech.edu/teachingprize.



Left to right: Beverly McKeon with EAS students Kevin Rosenberg, David Huynh, and Sean Symon.