

More than 500 undergraduates participate in first Texas A&M Engineering Project Showcase

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By: **Barbara Mendoza**



The Dwight Look College of Engineering hosted the first Texas A&M University Engineering Project Showcase April 19 in G. Rollie White Coliseum to demonstrate the diverse activities inside the college and exhibit the ways in which engineers build solutions that solve real-world problems.

More than 100 engineering teams participated with posters and prototypes representing the work of more than 500 undergraduate engineering students. The student participants

presented work from their Senior Capstone Design courses, AggieE-Challenge program, directed-study courses and others.

The inaugural showcase event brought industry representatives to campus and provided them with the opportunity to discuss possible collaborations for future industry-sponsored projects for undergraduates and faculty. Showcase organizers said these collaborations are essential in meeting the goals of the college of engineering to increase the opportunities for experiential learning.

Approximately 80 industry representatives attended the event and were exposed to the work of students from freshman to seniors across all disciplines of engineering. Several industry representatives said they came away with a deeper understanding of the breadth of skills, the diverse topics and the quality of the work by students in the college. Others said they were impressed with the innovative solutions while some encouraged students to consider taking their ideas forward to a commercial product.

"It's been a really good showcase in order to meet the students and I think it's a very good thing for the students as well," said Michael Konopczynski of Halliburton. "It allows them to practice presenting their ideas and communicating to industry people."

Bryant Poffenberger, a senior computer science major, worked with his team on their first place award, Kamistry.

Poffenberger said, "Kamistry started off as simply a new way to visualize the laws of chemistry. Once we started to understand the implications of such a system, we got really excited. Working in a capstone class was extremely exciting. We were able to explore some really cutting-edge technologies and build something really great.

"To see our hard work pay off with this win was really validating. And it's a win not only for us, but for our professors, our teaching assistants, the entire department of computer science and engineering and everyone else who forwarded our education. Kamistry would not be a reality without them."



By working in multidisciplinary teams, students could collaborate with other disciplines to better prepare them for entering their careers. Troy Menendez, senior mechanical engineering major, developed a project with his AggieE-Challenge team to use solar energy to provide efficient water quality improvement

for the developing world through membrane distillation.

"I really enjoyed working on this project this year because it gave me the opportunity to apply all the principles and things that I've learned over the past four years in my engineering education to a real world problem, something that can really have an impact on other peoples lives," Menendez said. "I've been very fortunate and very blessed in my life, and I've been given a lot of opportunities and a lot of things have been provided for me. So, working on this project has been just one small way that I've been able to give some of that back and hopefully be able to help some other people."

An awards ceremony at the end of the event recognized the top teams in the showcase.

The first-place AggieE-Challenge award (\$750) went to the "Solar-Powered Membrane Distillation" team. Team members were Troy Menendez (mechanical engineering), Kori Modin (chemical engineering), Matt Martinez (mechanical engineering), Matt Moerbe (chemical engineering), Maria Garcia (mechanical engineering) and Cody Wainscott (biological and agricultural engineering). Faculty mentors for the team were Dr. Devesh Ranjan and Dr. Arun Srinivasa in the Department of Mechanical Engineering.

The second-place AggieE-Challenge award (\$500) was given to the "Designing Transparent Energy Storage Devices" team. Team members were Dion Hubble (chemical engineering), Nathan Kudlaty (electrical and computer engineering), Colton Ream (electrical and computer engineering), Wyatt Smitherman (mechanical engineering), Raul Calzada (chemical engineering), Malcolm Stein (mechanical engineering), Sarah Widger (mechanical engineering), Robert Fitzgerald (mechanical engineering), Veronica Medrano (electrical and computer engineering), Hung Nguyen (mechanical engineering) and Noe Villanueva (electrical and computer engineering). Faculty mentors were Dr. Hong Liang and Dr. Partha Mukkerjee in the Department of Mechanical Engineering.

The third-place AggieE-Challenge award (\$250) was given to the “Sustainable Energy Harvesting from Environment” team. Team members were Taufik Ridha (chemical engineering), Melinda McClure (chemical engineering), John Piatt (chemical engineering), Tiffany Hargett (chemical engineering), Santiago Aguiar (electrical and computer engineering), Diana Lainez (chemical engineering) and Jiyeong Kwon (electrical and computer engineering). Faculty mentors were Dr. Choongho Yu from the Department of Mechanical Engineering and Dr. Arum Han from the Department of Electrical and Computer Engineering.



The first-place Capstone award (\$750) was given to the “Kamistry: Discovering Chemistry Through a New Dimension” team (pictured). The team members were Bryant Poffenberger (computer science and engineering), Andy Hampton (computer science and engineering) and Connor Taylor (computer science and engineering). Faculty mentors were Dr. Tracy Hammond

and Paul Taele (teaching assistant) from the Department of Computer Science and Engineering.

The second-place Capstone award (\$500) was given to “DISH” (Distributed Information Sensor Hub). The team members were Ulises Brindis (electrical and computer engineering), Bradley Coffman (electrical and computer engineering), Nicholas Oborny (electrical and computer engineering) and Aaron Osterhage (electrical and computer engineering). Faculty mentors were Dr. Samuel Villareal, Dr. Gregory Huff and Dr. Jean-Francois Chamberland from the Department of Electrical and Computer Engineering.

The third-place Capstone award (\$250) was given to the “Hospital Electrical Safety Analyzer” team. The team members were Rachel Anthony (biomedical engineering), Amy Banaszek (biomedical engineering), Austin Butts (biomedical engineering), Kristen Duckworth (biomedical engineering) and Cason Longley (biomedical engineering). Faculty mentors were Dr. Gerard Cote and Dr. Michael McShane from the Department of Biomedical Engineering.

The Most Commercial Ready award (\$500) was given to the “Smart Stethoscope” team. The team members were Alex clay (electrical and computer engineering), Asher Friedman (electrical and computer engineering), Aneesh Rai (electrical and computer engineering) and

Arnold Zhang (electrical and computer engineering). Faculty mentors were Dr. Samuel Villareal and Dr. Aydin Karsilayan from the Department of Electrical and Computer Engineering.

The Industry Choice award was given to the “SENSE™” team. Team members were Mickie Byrd (engineering technology and industrial distribution) and Willis Twigge (engineering technology and industrial distribution). Faculty mentor was Dr. Joe Morgan from the Department of Engineering Technology and Industrial Distribution.

One outstanding project from each department was also recognized.

- Aerospace engineering, “AggieSatX” team. Team members were Andrew Leidy, Ian Neel and Olga Rodionova. Faculty mentor was David Kanipe.
- Biomedical engineering, “Hospital Electrical Safety Analyzer” team
- Chemical engineering, “Upgraded Fuels Optimization: Coker 2 Unit” team. Team members were Bridget Ehlinger, David Hardy, Hunter Fields and Jenni Beetge. Faculty mentor was Dr. John Baldwin.
- Civil engineering, “Design of Mooring Berth for Liquefied Natural Gas Vessels.” Team members were Marshall Clapp, Shelby Clark, John Kundmeuller, Jake Schragar and Brandon Stapleton, all from the Ocean Engineering Program in the Zachry Department of Civil Engineering. Faculty mentor was Dr. Robert Randall.
- Computer science and engineering, “Kamistry: Discovering Chemistry Through a New Dimension” team
- Electrical and computer engineering, “DISH” team
- Engineering technology and industrial distribution, the “NASA Wireless Smart Plug” team. Team members were Akeem Whitehead, Derek Garsee, Christian Carmichael and Jeffrey Jordan. Faculty mentors were Dr. Jay Porter, Dr. Joe Morgan and Matt Leonard from the Engineering Technology Program.
- Industrial and systems engineering, the “Risk Identification and Escalation of Non-project Orders” team. Team members were Taylor Shipp, Esteban Del Valle, Clay Hooper, Bryan Junker and Leo Landivar. Faculty mentor was Dr. Georgia-Ann Klutke.
- Mechanical engineering, “Part Tracking and Metrology” team. Team members were Tyler Halbert, Justin Lacy, Micah Hignight and Zach Kell. Faculty mentor was Dr. Brian Rasmussen.

The event was sponsored by the Dwight Look College of Engineering and the Texas A&M Engineering Experiment Station (TEES). For descriptions of all the showcase projects, visit [**project-showcase**](#).

For project sponsorship information, please contact Andy Acker '13, senior director of development, at 979/458-4493 or a-acker@tamu.edu.