Biomedical Engineering Awards at E-Days

On April 15, 2016, four members of the SBME Advisory Board—Dennis Bruner, Dr. Julie Dunn, Jeff Samson, and Dennis Schlalt—served as judges and provided three biomedical engineering teams with cash awards at E-Days, a longstanding annual showcase of capstone senior design projects. This year, three industry members also served as SME judges—Alan Dean of Beckman-Coulter, Arlen Ward of Medtronic, and Daniel Burke and Jared Walkenhorst of Zimmer Biomet—critically critiquing student projects on presentation, technical expertise, creativity, and overall impression.

First place honors went to group members Brett Baeverstad, Emma Lichtenfels, Minh Anh Nguyen, Megan Rives, Evan Siebenmorgen for their Terumo BCT-sponsored “Centrifuge Loading Human Factors” which developed a working prototype that will assist operators (primarily nurses and phlebotomists) in the loading of a complex disposable set onto a centrifuge intended for patient connected blood therapies in an effort to prevent misloads and alert an operator of loading errors.

Second place was awarded to group members Haley King, Daniel Vance, and three ECE senior design students for their “Canine Orthotronic Mobility System.” This project was advised by Electrical and Computer Engineering Professor Anura Jayasumana. Students developed technology for an electronically-controlled, active orthoses that would help partially paralyzed canines by obtaining the nerve and muscle signals, process them to recognize what the canine is attempting to do, and integrate it to a simple orthoses.

Third place was awarded to David Qualls, Jaclyn Strom, Noah Taherkhani, Tegan Walsh for their Sharklet Technologies-sponsored “Intraocular Lens Injector” which focused on designing and fabricating a one-time-use, disposable injector and cartridge system that facilitates both folding and delivery of an intraocular lens (IOL) with correct orientation, reducing complications in up to 50% of cataract patients worldwide.

E-Days provides undergraduate engineering students an opportunity to showcase the completion of their senior design projects to faculty, family, industry representatives, and peers. The capstone senior design project teaches students how to succeed in a well-integrated, interdisciplinary engineering design environment and allows students to develop practical, hands-on skills.