Shiley-Marcos School of Engineering

Inspiring Innovation

Leading Change™
THE CAMPAIGN FOR USD

Bioengineering Garage / Software Studio: **$5 million**

Background

The Shiley-Marcos School of Engineering is seeking $5 million to build a **bioengineering garage/software studio**. San Diego has become a regional leader in the biotech industry and is home to numerous companies specializing in medical devices and technologies. In fact, the Shiley-Marcos School of Engineering proudly bears the name of a visionary leader in biomedical devices. The Shiley-Marcos School of Engineering added a design-centered approach throughout the curriculum, along with specific specializations in bio and software engineering, in Fall 2015. This curriculum requires a complementary space for students to create, test and prototype new bioengineering designs and solutions. Currently, the school of engineering does not have such a space.

Objectives

The Shiley-Marcos School of Engineering embraces the spirit of innovation that thrives in a garage and celebrates that space in one's home where so many inventors and entrepreneurs, including Donald Shiley, have done groundbreaking work. To best prepare engineering students for careers in innovative bioengineering, the school seeks to build a bioengineering garage — a place where students can imagine, prototype, and build bio-inspired products of the future.

Students will use this space to apply principles of engineering and physics to design new types of medical, electronic and prosthetic devices, which allow for direct human/machine connection. For example, students may use this space to develop and test a robotic leg, to create wearable devices that measure personal health and provide warnings and data that can be used for remote diagnostics, or to develop devices that preserve quality of life for the elderly. The garage will be equipped with an array of electronic design and test equipment, materials design and test equipment, mobile device development equipment, rapid prototyping equipment, and specialized bioengineering equipment (microfluidics, biorobotics, MEMS, biomaterials test equipment, and human performance test equipment).

Impact

When engineering students enter their senior year, they take all they've learned to create something innovative — and then design, build and test it. A few years ago, students built underwater robots. Now, however, with a bioengineering garage, students can explore the way nature works, try to mimic, and have the tools to design and build.

The bioengineering garage will:

- Prepare USD engineering students for employment in the biotech and medical technology sectors, in San Diego and elsewhere;
- Prepare students to start their own companies based on their bioengineering innovations; and
- Attract and enable corporate partnerships.

For More Information

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