

Technological Systems for Medical Solutions



Medical Devices and Systems Initiative

Truong Nguyen, Professor and Chair, Electrical and Computer Engineering Department

CURRENT RESEARCH

Using electrical and computer engineering to tackle dominant medical challenges

Electrical and Computer Engineering is at the forefront of medical advancements as it creates solutions for increasing medical needs. Wearable electronic devices to detect, determine, and monitor patient activity and state as well as higher resolution imaging programs and devices are but only a few of the breakthroughs with which electrical and computer technology has revolutionized the medical field. The Medical Devices and Systems Initiative, i.e. MDS Initiative, established by the Electrical and Computer Engineering Department (ECE) at the University of California, San Diego, is working on various prototypes and topics that utilize engineering to solve medical problems. Combining efforts between ECE faculty members and the UCSD medical community, experts hope to further apply engineering competencies to the needs in the medical field.

Directed by Dr. Dan Sievenpiper and headed by Dr. Truong Nguyen, chair of Electrical and Computer Engineering Department at UCSD, the MDS Initiative is comprised of experts in circuit, photonics, machine learning, and other subsectors of engineering who partner with members of the UCSD Medical Center and the Veterans Affairs (VA) hospital. When the idea of the initiative formed in March 2014, the founding members asked for proposals from ECE faculty members; six of the nine proposals were then selected and are currently in development. All six projects are multi-year projects, aiming to showcase prototypes during the Alumni Day at UCSD in the beginning of June 2015.

The six projects in development include:

- Compact, Invisible, and Solar Powered Wearable Electronics: Our well-being calls for technologies that can continuously monitor our health...

[Read More at benefunder.com/](http://benefunder.com/)

AFFILIATION

 University of California, San Diego

EDUCATION

- Truong Nguyen, Ph.D. in Electrical Engineering 1989, California Institute of Technology
- M.S. in Electrical Engineering 1986, California Institute of Technology
- B.S. in Electrical Engineering 1985, California Institute of Technology

AWARDS

- Advanced Substrates and Next Generation Semiconductors Workshop, Winner of Student Paper Competition, 2008
- 34th Conference on Physics and Chemistry of Semiconductor Interfaces (PCSI-34) Young Scientist Award, 2007
- Material Research Society (MRS) Best Poster Award, Spring 2007
- Material Research Society (MRS) Graduate Student Award, Spring 2007
- Electronic Materials Conference (EMC) Outstanding Oral Presentation, 2006

RESEARCH AREAS

Life Science, Diagnostics, Immunology / Inflammatory, Infectious

FUNDING REQUEST

The Medical Devices and Systems Initiative engages in translational, interdisciplinary research that centers on the partnership between Electrical and Computer Engineering faculty members of University of California, San Diego and doctors in the UCSD medical affairs. Your donations will contribute to the \$1M/year required to support personnel and fund each project currently under way, facilitating further advancements in not only the engineering but also the medical community.