SERIOUS RESEARCH...

PULSE!!

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U.S. Representative Solomon Ortiz

You watch a flight surgeon, nurse and medical technician guide a gurney bearing a wounded soldier and a truck of medical monitoring equipment into the intensive care unit of the National Naval Medical Center at Bethesda, Md. The soldier has just arrived from Baghdad, Iraq, via Landstuhl, Germany, where he was wounded by an improvised explosive device. He’s taken to Room 10 of the ICU.

The scene fades to black, suddenly you’re no longer watching. You’re in ICU Room 10, and you’ve become the attending physician.

The soldier’s treatment is in your hands. You hear the sights and sounds of the ICU through your headphones. Use your virtual stethoscope, and the patient’s heartbeat thunders in your ears.

Welcome to Pulse!! The Virtual Clinical Learning Lab, a high-tech computer learning platform that replicates in three-dimensional space the sights, sounds, symptoms and synergies of critical care in the real world.

There is nothing like it anywhere else — and it all started at the Island University.

Dr. Claudia L. Johnston, associate vice president for special projects at A&M-Corpus Christi, is the originator of and principal investigator for this multimillion-dollar federal research project, says Pulse!! dovetails with the university’s high academic standards and aspirations.

“The work undertaken by the Pulse!! project’s highly-skilled team puts A&M-Corpus Christi further on the technology map because of the ingenuity exercised in developing top-flight methods for medical training,” says Johnston. “The collaborative efforts on both the project’s creation and testing support our academic and research strengths.”

Three prestigious medical institutions have agreed to serve as Pulse!! test sites: Yale University School of Medicine in New Haven, Conn.; the Johns Hopkins School of Medicine in Baltimore, Md.; and the National Naval Medical Center in Bethesda, Md. Two years of field tests began in January.

A&M-Corpus Christi hired commercial game developers BreakAway Ltd. of Hunt Valley, Md., to help produce the Pulse!! learning platform. The University’s Office of Special Projects has created an on-campus production studio for a crew of BreakAway programmers, artists and animators overseen by Executive Producer Ild Firth and on-site Producer Ben Hanson.

Doug Whaley, founder and CEO of BreakAway Ltd., calls the Pulse!! project a trailblazing collaboration. “We’re thrilled to be collaborating with Texas A&M-Corpus Christi and these esteemed institutions to validate the tools and technologies for this first high-fidelity, persistent, 3-D virtual learning environment,” Whaley says.

The project is funded through the Office of Naval Research (ONR) and has been strongly supported through the congressional budget process by U.S. Rep. Solomon Ortiz, D-Corpus Christi, Chairman of the House Armed Services Committee’s Subcommittee on Readiness and Military Construction. Funding to date is almost $10 million.

“Pulse!! offers an opportunity to change how military physicians learn to treat injuries from the battlefield to the home front,” Ortiz says. “It could, more broadly, change the future face of medical education in our country.”

The Pulse!! concept has captured the attention of U.S. military officials as a way to train medical personnel quickly and effectively in the intensive care of battle wounds, which continuously evolve with weapons systems and frontline medical techniques.

Cmdr. James R. Dunn, chief of trauma/surgical critical care at the National Naval Medical Center in Bethesda, says he is eager to employ the Pulse!! platform. “I am very excited to be a part of this project because I can see the tremendous potential it has for just-in-time training as well as sustenance training, in regards to combat casualty care,” says Dunn.