

# USC College of Nursing Health Sciences South Carolina

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## Crestron Helps HSSC Advance Medical Care, Research and Education

When the leaders of South Carolina’s largest healthcare systems and top universities envisioned a unique public-private partnership to improve the quality of medical care, education, research and practice, they knew technology would have to play a major role. In a few short years, Health Sciences South Carolina (HSSC) has become a progressive statewide healthcare entity comprised of six prestigious member institutions – The Medical University of South Carolina (MUSC), Clemson University, University of South Carolina, Greenville Hospital System University Medical Center, Palmetto Health, and Spartanburg Regional Healthcare System – with high tech systems paving the way.



**“We really like the way the Crestron touchpanel has tied all our technology controls together in a neat package”**

The success and value of this innovative collaboration, whose programs also connect providers, transform patient care, and streamline administration, is due to the implementation of cutting-edge information technology, including Crestron control and advanced audio/video presentation systems.

As part of a statewide network of next generation simulation environments, advanced Crestron AV control technology was implemented at the new Clinical Simulation Lab (CSL) at the

University of South Carolina College Of Nursing. Columbia, SC-based systems integrator, ClarkPowell, provided consulting, design and integration of AV systems, working closely with simulation expert, Dr. John Schaefer III, MD, the HSSC Lewis Blackman Endowed Chair in Clinical Effectiveness and Patient Safety.

This state-of-the-art teaching facility offers a variety of learning environments for aspiring nurses. A 40-seat classroom enables large group simulation trainings and advanced AV presentations. For smaller groups of six or less, four individual suites, which are designed to replicate an authentic clinical environment, allow students to experience real life manikin-based simulation exercises.

The rooms can simulate any type of situation where a medical procedure or emergency can occur, and are equipped with a full spectrum of simulation equipment including beds, headwalls that have functional suction, air, and oxygen, exam tables, task trainers, and high fidelity computerized manikins from Gaumard Scientific and Laerdal Medical, the leading providers of healthcare education simulators.

These manikins are amazingly life-like - they can breathe, be poked and prodded, and even be given shots – and are designed for scenario-based training for the care and management of a wide variety of in-hospital situations. They also enable doctors and students to perform real procedures, while recording all “patient” vitals and responses for real-time and future analysis, and playback.



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Presentations consist of simulation exercise playbacks, displaying video images of medical data on two wall-mounted LCD displays, and audio of the attending doctor or student. A Crestron Wideband 8x8 RGB Matrix Switcher and AV2 Dual Bus Control System in each suite enable seamless distribution of all AV sources and displays. TPS-6X touchpanels provide fast, easy control of any desired command during teaching exercises, delivering an interactive and highly effective instructor/student experience.

“We really like the way the Crestron touchpanel has tied all our technology controls together in a neat package. It provides smooth management of our manikins and helps novice faculty get up and running quickly with operating and facilitating simulation scenarios,” says CSL Director Erin McKinney, MN, RNC.

The intuitive GUI design is the result of a collaborative effort between ClarkPowell programmers and CSL personnel, which required easy-to-navigate touchpanel functionality tailored to meet the lab’s unique needs. “Our programmers worked with Dr. Schaefer and his staff to create an interface which was simple enough for anyone to step into the room and run or review any type of simulation, with only a few button touches,” explains ClarkPowell project manager, Ron Edmonds.

The control system enables students and doctors to experience the full potential of the simulation system’s AV capabilities by providing three modes of operation, as well as presets for administrative users. From the touchpanel home page, an instructor can automatically set the system for any simulation experience, including recording a student’s activity in a simulated situation, playback of the recorded simulation, and viewing recorded simulations in streaming full-motion video.

Administrative users can easily set recording inputs, change camera angles, and set camera presets, as well as toggle between Gaumard and Laerdal simulations. Volume and microphone adjustments are simple with intuitive volume controls, which also provide valuable real-time graphical feedback to the touchpanel.

“We love the customized screens and the polished look it (TPS-6X) gives our lab. The flexibility built into the design has allowed us to utilize the AV equipment in a variety of ways. We use the controls in various ways depending on whether we are recording, demonstrating, practicing or providing orientation to new users,” explains McKinney.

This winning combination - visionary medical professionals putting ideas into action, complementary institutional partnerships, and facilities equipped with advanced audio/video and control technology - is proving to be a formula for success for both HSSC and the national healthcare community.

