

October 10, 2011 | By Rex Graham

UC San Diego's Sulpizio Cardiovascular Center Combines Greenness with State-of-the-Art Treatment

The exterior shiny metal louvers and heat-reflecting glass, combined with interior spaces sprinkled with modern art and low-wattage lights gives the newly opened UC San Diego Sulpizio Cardiovascular Center the lean and healthy crispness of a salad with non-fat dressing.

The final garnish, as cool as a slice of cucumber, is a circular etched-glass plaque from the U.S. Green Building Council in recognition of the center's attainment of LEED (Leadership in Energy & Environmental Design) "Gold" certification standards, the first hospital in San Diego County to achieve such a high rating. The center is the eighth UC San Diego building to achieve LEED certification, and 21 additional projects are expected to receive a minimum of LEED Silver certification.

"The LEED plaques have become standard in all our building projects, but they're not decorative – they reflect the university's commitment to energy savings, water efficiency, reduction of CO₂ emissions and stewardship of our resources," said Gary C. Matthews, UC San Diego's vice chancellor for Resource Management and Planning.

The 127,000-square-foot Cardiovascular Center's mechanical and energy systems are designed for high efficiency and the building itself is constructed with environmentally friendly regional materials where possible. "We're all thrilled to see how beautiful this green building, dedicated to patient care, research and education, turned out," Matthews said.



Jim Ruby, UC San Diego fleet manager. Photo Credit: Rhett Miller

The design of the Sulpizio Cardiovascular Center minimizes most patient movements. The center was designed to consolidate outpatient and inpatient cardiovascular services, accommodate the expected increase in demand for services, and prepare for more complex cases in Southern California's booming population of seniors.

The new facility has grouped diagnostic cardiovascular services, interventional catheterization, and operating rooms under one roof to streamline the delivery of a full range of cardiac treatments. Patient wait times have been reduced with the more efficient use of space.

As part of the design process, RTKL Associates, the Los Angeles health care studio of a global architectural design firm chosen to design the project, built temporary mock-ups of rooms in an off-campus warehouse. UC San Diego physicians, nurses, donors, medical technologists and project managers visited the warehouse and offered suggestions to streamline efficiencies while increasing patient comfort.

"We wanted the medical teams, engineers and donors to walk through these mock-ups so they could better envision how those rooms would function within the completed project," said RTKL designer Jacky Yung.

Yung and project managers then took the additional intermediate step of constructing five rooms in the Cardiovascular Center before work was started on the remaining rooms. It was yet another collaborative check that allowed doctors, nurses, technicians and donors to tweak the design yet again before the final construction phase of the project was started.

Energy efficiency is apparent even within intensely illuminated operating rooms, catheterization labs and treatment rooms. The bright lights in those areas dim automatically when cardiologists and surgeons complete an angioplasty or bypass operation.

The path that patients take before they enter an operating room or interventional catheterization lab is a hallway with calming, panoramic views of trees and a canyon. After their procedures are completed, patients recover a few feet away in sun-illuminated rooms on the same floor, maximizing their interactions with surgeons, cardiologists and other care-givers.

"The building was designed to deliver a new paradigm of cardiac care and treatment," said Ehtisham Mahmud, MD, a professor of medicine and cardiology and co-director of the center. "It works so well I spend less time in a car, and more time with patients and collaborating with colleagues. We bring compassionate interdisciplinary care and a wide range of expertise and technology to the patients."

The center's 54 patient rooms have identical beds and monitoring equipment to minimize the need for patient transfer from one unit to another. "As the level of patient acuity rises, nursing ratios are adjusted to accommodate patient acuity," Mahmud said.

Since it's opened in August, the Cardiovascular Center has met the expectations of Mahmud and his team. For instance, when a patient arrived with three blocked arteries, two were repaired in a common procedure called angioplasty in which a collapsed balloon catheter is passed into the blocked blood vessels, inflated to open them and a tube-shaped stent left behind to keep the arteries open. The third, more seriously blocked artery was repaired at the same time in a robot-assisted bypass surgery that required only a three-inch incision in the patient's chest.

"It was all done in one procedure," Mahmud said. "It was actually a medical first in San Diego, and it was possible because we had designed the center so this kind of patient would have immediate access to a highly skilled, multidisciplinary approach to heart care."

The same flexibility is built into the center itself. "Globally, the building has designed-in flexibility and versatility," Mahmud said. In whatever ways the building's treatment programs evolve, its sustainable infrastructure will serve it well. "The sun-shading devices along the south and east facades of the building reduce the overall energy consumption and the light color PVC roof reflects the majority of the overhead sunlight based on our sun study," RTKL's Yung said.

"We looked at the entire design from the patients' total experience," Yung said. "The front-curb drop off is near a water fountain made from regional boulders with landscape berm serving as visual and acoustical barrier separating vehicular from pedestrian traffic. Beyond that are increasingly modern materials as patients move into a waiting area and then into treatment suites giving them confidence in the quality of care they will receive from this world-class facility."

The UC San Diego Sulpizio Cardiovascular Center, which opened to the public in August, is the region's first and only dedicated cardiovascular facility, providing outstanding patient care, leading-edge technology, research, education and groundbreaking clinical trials under one roof.

Located on the UC San Diego Health System La Jolla campus, the center was named in honor of the donors and supporters who made the state-of-the-art facility a reality. More than \$30 million in philanthropic funds made it possible, including a leadership gift six years ago from

Richard and Maria (Gaby) Sulpizio.

UC San Diego Project	LEED Registration	LEED Certification	Category
Sulpizio Cardiovascular Center	Yes	Gold	New Construction
Rita Atkinson Graduate Housing	Yes	Gold	New Construction
Scripps Seaside Forum	Yes	Certified	New Construction
Campus Services Complex	Yes	Silver	Existing Buildings
Mesa Childcare Center	Yes	Gold	Commercial Interiors
Sustainability Resource Center	Yes	Gold	Commercial Interiors
Goody's Place & Market	Yes	Silver	Commercial Interiors
Stewart Commons	Yes	Gold	Commercial Interiors
North Campus Housing, Phase 2	Yes		New Construction
Revelle College Housing	Yes		New Construction

Housing & Dining Services Administration Building	Yes		New Construction
Telemedicine & PRIME- Heq	Yes		New Construction
Rady School of Management Phase 2	Yes		New Construction
Structural & Materials Engineering	Yes		New Construction
Muir College Housing & Dining	Yes		New Construction
Health Sciences Biomedical Research Facility 2	Yes		New Construction
Central Research Facility	Yes		New Construction
Scripps Marine Ecosystem Sensing, Observation and Modeling Laboratory	Yes		New Construction
East Campus Office Building	Yes		New Construction
East Campus Parking Structure	Yes		New Construction

Torrey Pines Center North	Yes		Existing Building
Clinical & Translational Research Institute	Yes		New Construction
Scripps Research Support Facilities	Yes		New Construction
Jacobs Medical Center	Yes		New Construction
San Diego Supercomputer East Expansion	Yes		Existing Buildings Operations & Maintenance
Price Center	Yes		Existing Buildings Operations & Maintenance
Sverdrup Hall	Yes		Existing Buildings
The Zone (Price Center)	Yes		Commercial Interiors
Student Health Services	Yes		Commercial Interiors

MEDIA CONTACT

Rex Graham, 858-534-2248 or ragraham@ucsd.edu

UC San Diego's Studio Ten 300 offers radio and television connections for media interviews with our faculty, which can be coordinated via studio@ucsd.edu. To connect with a UC San Diego faculty expert on relevant issues and trending news stories, visit <https://ucsdnews.ucsd.edu/media-resources/faculty-experts>.