



# An Architectural Gem

# “It’s beautiful!”

Such is the response of almost all who first see the architectural sketches of the Betty and Bob Beyster Institute for Nursing Research, Advanced Practice, and Simulation (BINR). The head architect, Ed Holakiewicz of San Diego’s gkkworks, has done a masterful job of sketching the dreams of the original School of Nursing design team, Sally Hardin, Cynthia Connelly, and Karen Macauley, who first began working on the project in 2009 for a HRSA grant application.

The key principles guiding the BINR design were that the space should meet LEED Gold Standards for sustainability, be flexible and easily adaptable to future health care and education trends, provide state-of-the-art technology, take

full advantage of San Diego’s climate with exposure to light, sunshine, fresh air, and healing gardens, and assure that external spaces were as functional as internal spaces. The team knew that this new building should be connected but not affixed to the main SON building. Although the building design would pay homage to the campus’s Spanish Renaissance design, the team did not envision a castle or fortress, but rather a domain of comfort, healing, warmth, and tradition. They asked that the designers keep in mind that the archetypal student would be a mature, clinically experienced female graduate student, often holding a leadership position in a health care agency.

## CORE CONCEPTS GUIDING PRINCIPLES

### CAMPUS CONNECTION

#### Expression of Campus

- 16th Century Spanish Renaissance Architecture
- Access to Marian Way

#### Respect the Hahn Building

- Building scale
- Complimentary entrances
- First and second floor links

### PERSONAL EXPERIENCE

#### Welcoming

- Dramatic entrance hall
- Clear circulation
- Central courtyard
- Terraces

#### Human Comfort

- Inside – outside seating
- Interactive learning spaces
- Natural daylight
- Secure

### BUILDING PERFORMANCE

#### Program

- Distinct clinical experience
- Diverse, flexible learning spaces
- Enhanced research capability

#### Efficient & Flexible

- Room organization
- Technology
- Building systems
- Energy consumption
- On budget

# First Floor Plan: SIMULATION LAB



Functionally, the building had to provide much more physical space, given that the faculty and student body had tripled in size. The main building was cramped, providing no more office, meeting, or conference space, and absolutely no space for the SON research teams. The current Simulation and Standardized Patient Nursing Laboratory (S&SPN) was located over a half mile away, causing a barrier to students' integration and clinical application of their theoretical learning. It also diluted the SON's "presence" on the main campus --many did not even know that there was a Nursing Lab on the campus.

These principles were actualized in a plan for a three-story, 30,000 sq. ft. building on the grassy area adjacent to

the main nursing building. The BINR entrance fronts Marian Way, with a first story dedicated to the S&SPN Lab, the second story focused on the education of advanced practice nurses, and the third floor housing the Center for Nursing Research. Each of the floors will contain innovative learning and study areas, faculty offices, conference rooms, and faculty and student study, research, lounge, and social areas. BINR will more than double the SON's current space. Although the Nursing Research Center will house the school's primary research teams, research will be an integral part of every aspect of the new Institute. This space truly was designed to prepare the next generation of nurse scientists, educators, executives, and advanced practitioners.

# A State of the Art Keystone for Clinical Teaching

The BINR first floor will house the Donald C. and Elizabeth M. Dickinson Simulation and Standardized Patient Nursing Laboratory, the keystone of the School's clinical teaching facilities, and a national model for nursing education. The Dickinson Sim Lab will provide 10,617 sq. ft., double the current Lab's size. It will include six primary care exam rooms, three acute care hospital rooms including one birthing room, a nursing/medication station, a standardized patient lounge for the patient-actors, and an office suite for faculty and staff. In addition, this Lab will contain an eight bed clinical skills/classroom space equipped with high-fidelity human simulators, and ample work and storage rooms.

The Dickinson Sim Lab will be unique in its focus on and its capacity to conduct research on how students learn to integrate theoretical and clinical knowledge and actualize that in a clinical setting. Two control rooms with two-way mirrors and observation spaces wired for audio/video viewing and a state of the art data management system will allow

faculty to record and retrieve data about students' clinical reasoning and judgment, and their clinical and interpersonal skills. Three debriefing rooms will enable faculty and students to reflect upon and discuss simulation experiences, and how clinical practice can be improved. Dr. Karen Macauley, Director of Innovative Learning who runs the existing Sim Lab, sees the new Dickinson Sim Lab as a significant gain for practice-relevant learning. The new expanded space will enhance learning for the more than 300 nursing students a week who currently use the Sim Lab, permit students in all programs to spend a greater percentage of their education in hands-on experiential learning, and provide the potential for increased enrollment in the future. The new lab will allow doctoral students to participate in simulation residencies to explore the potential of experiential learning in healthcare education and its impact on patient care. The Lab's increased capacity also will foster inter-professional shared learning opportunities with community healthcare academic and service partners.



Donald C. and Elizabeth M. Dickinson Simulation and Standardized Patient Nursing Laboratory

# Second Floor Plan: ADVANCED PRACTICE TRAINING



# Training for Advanced Practice Registered Nurses

**F**or over a quarter century, the School has prepared RNs for advanced practice at the Master's level. The CNS Master's program began in 1984 and the Master's Nurse Practitioner program has been in existence since 1987. To date, over 1,000 Advanced Practice Registered Nurses (APRNs), including 58 students who have earned a Doctor of Nursing Practice (DNP) degree, have graduated from USD.

In addition to diagnostic and treatment skills, APRNs hold hospital admitting privileges, coordinate care among specialists, facilitate patients with preventive care, evaluate patients' social and family situations, manage complex illnesses such as diabetes and heart disease, and lead interdisciplinary teams to promote patient-centered care models. The National Board of Medical Examiners has developed APRN certification exams based on the same test physicians take to qualify for a medical license. Approximately half of the states have either approved or are engaged in legislative processes to assure independent practice for APRNs. California APRNs currently are involved in such a legislative struggle.

In keeping with its mission, and responding to AACNs mandate that APRNs be prepared at the Doctoral level, the School initiated the DNP program in 2008. The rationale for the program was based on the Institute of Medicine's recommendations, national data showing a shortfall of up to 200,000 primary-care physicians by 2020, and research findings from the *Journal of the American Medical Association* and many others demonstrating comparable or better patient outcomes and large economic savings when APRNs rather than MDs provide primary care. In addition to course work, USD DNP students collaborate with faculty to design individualized scholarly practice experiences to conduct an Evidence-Based Clinical Project, present this project to a faculty-approved, large interdisciplinary audience, and submit a manuscript regarding their work.

The School's faculty view students as partners in a collaborative learning environment in which critical

thinking, diagnostic reasoning, and case-based application of clinical knowledge are emphasized. For the past decade faculty have utilized problem-based learning and standardized cases and patient actors to prepare APRNs. The outcomes from incorporating these educational principles into the clinical evaluation process have been impressive, resulting in a reconceptualization of the clinical faculty role while bringing the final clinical evaluation process back into the academic setting. The new second floor Center for Training APRNs will allow innovative and expanded learning opportunities for APRN students and faculty.

This Training Center contains a High Tech Specialty Classroom and three classrooms that hold 30 students each. One of these classrooms will be named for the Morin Family and another for Dean Emerita Janet Rodgers. The three classrooms are separated by modern electronic dividers which can be opened into one large space that can accommodate 90 students or audience members. These classrooms access an exterior terrace for students and faculty to conduct formal or informal meetings, or to enjoy study or social groups between classes.

Ten faculty offices and a large work room are housed here, along with a conference room and faculty lounge that both open to a large exterior terrace for classes, meetings, or informal gatherings. All of the terraces on the second floor overlook the Plaza and Healing Gardens. The second floor provides a Lactation Station for mothers and access to the main building with a connecting bridge to its second floor hallway.

# Third Floor Plan: NURSING RESEARCH CENTER



# Preparing Nurse Scientists

**T**he BINR's third floor Nursing Research Center is designed to show that clinical research is vital, exciting, stimulating, and, sometimes, downright fun! Here is where our PhD students will become the next generation of nurse scientists. Flexible spaces will facilitate student collaboration, scholarly discourse, and opportunities for research mentoring by research faculty and visiting scientists.

Third floor interview spaces facilitate contact with research subjects, and provide areas for junior and senior nurse scientists to work with each other, sharing ideas, instruments, analytic strategies, and large population data sets.

A large outdoor terrace faces onto the courtyard, and provides additional research space and relaxing social areas for all of the building's occupants. The third floor also provides utilitarian spaces accommodating male and female restrooms, a janitor's closet, and electrical, computer, and data closets.

The Director of Nursing Research and senior research faculty will have their offices on the southwest side of the Nursing Research Center. This space also contains a large workroom where research assistants, PhD students, and staff can work individually or in small groups. A very large file area with the latest designs for efficient data filing systems also is housed here.

One of the most unique Nursing Research Center spaces is the Senior Citizen Research Apartment. Designed to facilitate research with senior citizens, this apartment includes a small kitchenette, bathroom, and bedroom/living

area outfitted with equipment and furniture that enhances safety for the elderly. The apartment contains French doors that open into a dining area that can be used as part of the apartment, or for psychotherapy training or research groups.

The Nursing Research Center will provide opportunities for the most experienced nurse scientists to show PhD students the adventure, drama, and excitement of working with real life, hands-on clinical research. Students will be able to engage in research and professional scholarly activities both within and beyond their coursework.

The Executive Classroom in the Nursing Research Center is designed for groups of about 20 PhD students and faculty in an upscale seminar environment. Since PhD classes occur within 12 hour time blocks, the Executive Classroom was designed with student's comfort in mind. Adjacent to this area is an Event Storage Pantry and the exquisite Krause PhD Research Library and Study.





## The Krause PhD Research Library and Study Design

The Krause PhD Research Library and Study, at 719 square feet, is the third floor's largest dedicated space. Its décor evokes a Renaissance scholar's study with a Spanish Renaissance fireplace and lovely front window that offers sweeping views of Founders Chapel, the Immaculata, and the campus.

The Krause Library evokes a setting for deep thinking, relaxed sharing, and peaceful contemplation. Close by the Executive Classroom, the library shelves will showcase the evolution of nursing science provided in over 250 USD Nursing Dissertations. In addition, PhD students and faculty will enjoy direct access to online research databases for current and historic, domestic, foreign, and international nursing materials. The Krause Library also will assure a scholarly, yet comfortable, space for receptions and PhD Dissertation Defense celebrations.



Ed Holakiewicz, Principal

## What Did It Take to Design the BINR?

It's the monthly meeting between the School's design committee and the team from gkkworks, the architecture firm for the BINR. Dean Hardin, Dr. Karen Macauley, and Linda Johnston greet their colleagues: architect Ed Holakiewicz, principal at gkkworks, and the interior designer, and the lighting designer. It's May 2013, and the Faculty Design Committee, which also includes Professor Cynthia Connelly, has met monthly with Holakiewicz and his team since last October. This is where decisions get made that determine what the new building will look and feel like for the people who use it. Everyone here understands that a building has a grand overarching design, but it's the details that support the design. Today their task is to choose interior materials: flooring and lighting; and case goods: storage units, cabinets, and countertops for everything from a display cabinet for Florence Nightingale's lamp in the Krause PhD Research Library and Study, to the Dickinson Simulation Lab's laundry room.

The designers lay out the samples and the team clusters around. The tile colors are good, soft neutrals that won't go out of fashion. What will this floor tile for the halls be like for people wearing high heels? The restrooms need a shelf. Would hooks do? Maybe, but a shelf would be better. Ed Holakiewicz

listens and takes notes, and relates each design element to the overall design. The white cabinets in the clinic exam rooms are beautiful but they'll show every fingerprint. Perhaps something other than white? Will the hanging light fixtures in the Sim Lab interfere with the camera's view? There needs to be space to store the laundry bins. Holakiewicz learns that hospitals use rolling bins to reduce the transmission of infection. "We'll work on this," he says. He takes more notes. This is how a building comes together.

The architectural firm was awarded the design contract in September 2012, and Holakiewicz was named to head the BINR team. His first job was to learn what his new client needed. Through the fall he met several times with Dean Hardin and the faculty design committee. He met with the full faculty. He held a town-hall meeting with clinical faculty and students in the existing Sim Lab, to plan the new lab. Always he listened.

Faculty told him that the BINR should provide work space and offices and a library for faculty and student researchers. The seminar and classroom spaces should be comfortable and also flexible, easy to reconfigure as teaching needs changed. The new Dickinson Sim Lab should have clinic exam rooms, hospital beds, and an ICU, and debrief-

ing and meeting rooms. Their building should make use of natural light as much as possible. It should provide spaces for formal events, and especially for coffee and lunch and the casual connections with classmates and faculty that are vital threads in the fabric of graduate education. Their building should have welcoming outdoor spaces --a large central courtyard, balconies, outdoor terraces on the upper floors, plantings that complemented the space, and an easy flow from inside to out. It must integrate visually and spatially with the School's existing building, and with its campus neighbors.

The scale of the Institute presented the first design challenge: how to link the School's existing building to the Institute to provide visual harmony and easy circulation between them. The Institute is taller, three stories, and, at 30,000 sq. ft., larger than the existing building, which is 26,000 sq. ft. The courtyard between them became the solution. The Institute is C shaped. It wraps around three sides of the courtyard, and the Hahn building's east facade is the fourth side. The courtyard is both destination and passage: an attractive, inviting space in itself, and the connection between the two buildings that embrace it.



Dr. Karen Macauley, Director of Innovative Learning, Linda Johnston, Assistant to the Dean for Operations and Fiscal Affairs, Deborah Elliott, Interior Designer for gkkworks.

gkkworks' team worked on siting and design and chose construction materials, and at every step, Holakiewicz brought their proposals back to the School's design team.

**"It's important to keep everyone informed,"**

he said. "Everyone needs to know what's going on, because we're developing a shared vision of how this building will work, and how it will look."

Two other design decisions needed to be settled early: what building system to use, concrete block or steel, and circulation, how the interior was laid out. Concrete block prevailed. It's less expensive, easier to build with, and block walls create thick walls and windows with deep sills. The gkkworks team opted for a single hall on each floor, with all rooms facing onto it. The simplicity of this layout provided space and easy access for the internal systems: HVAC, electrical, plumbing, and telecommunication. It's important to resolve these decisions early, Holakiewicz said. "If you don't manage what you don't see, you'll end up spending a lot more. You want to spend your money and effort on what you do see."

In designing the building, and producing the highly detailed drawings

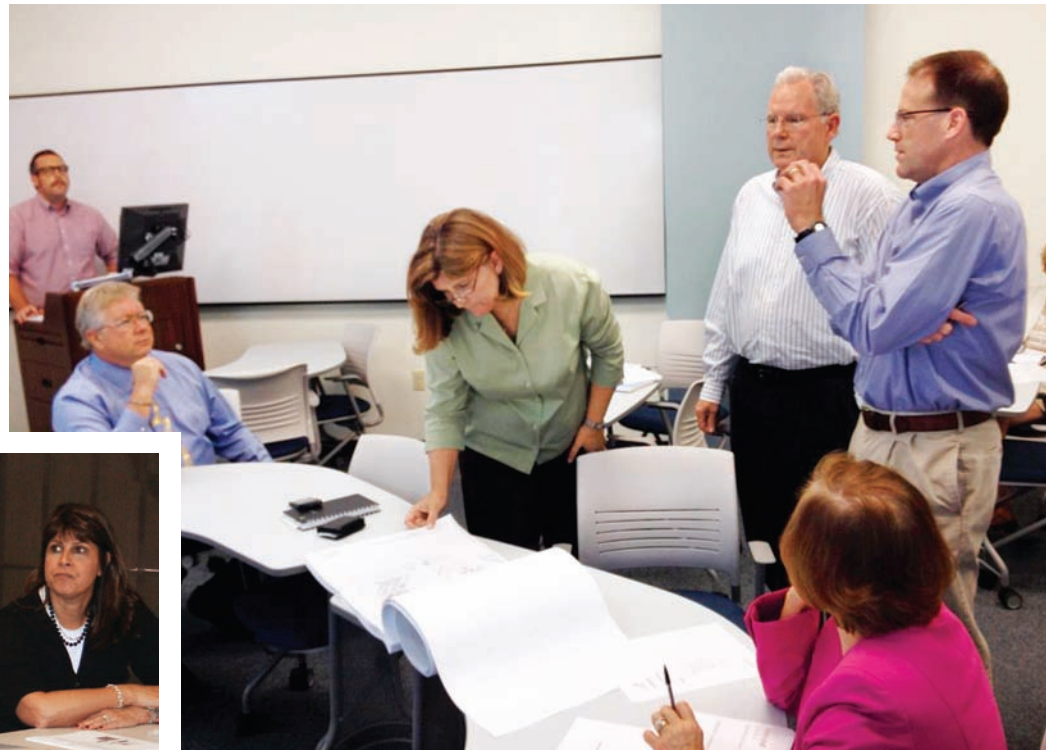
that the construction company requires, gkkworks used architectural software called BIM (Building Integration Management). As the team entered all information about the structure --its dimensions, materials, cabinet work, placement of entrances, windows and doors, plumbing and wiring, and every other piece of information—the software transformed the data into a three-dimensional picture. The picture was effectively an MRI of the building; a designer could zoom in on a detail, or pull up a cross-sectional slice anywhere in the building and have all the information, from window dimensions to placement of air ducts, to electrical wiring for that slice.

BIM software wasn't the design team's only tool. They also relied on the elegant, lacy drawings of the building, hand-drawn by their drafts-

person, that appear in this issue. These renderings capture the look and spirit of the Institute in ways that helped designers develop a visually coherent and beautiful building.

Holakiewicz figures that, at his end, more than 50 people were involved in designing the building. They include a project manager, project architect, an architectural team, an architectural draftsman and artist, structural, mechanical, electrical, and civil engineers, landscape architects, interior designers and lighting designers. At the School all faculty and many students have contributed their views and their expertise. The building that houses the Beyster Institute for Nursing Research will reflect the expertise of many disciplines, and will support the School's mission as a leader in healthcare in the 21st century.

gkkworks



Principal Architects, Construction Engineers, School of Nursing, and USD Design Team



## A Plaza and Healing Garden Bring Beauty, Peace, Healing, and Celebration

**T**he Beyster Institute embraces a 4,000 sq. ft. Plaza and Healing Garden where students, faculty, staff, and visitors can join together and be surrounded by beauty. As Mother Rosalie Hill expressed, she wished that the campus be beautiful, because those who love beauty, also love and seek truth –seeking truth, the essence of the University. Mother Rosalie Hill most likely will smile upon the Beyster Institute’s Plaza and Healing Garden. The Plaza is designed to be used daily throughout the year with heating, lighting, music, and aquatic systems.