At Pulichino Tong Business Center, Future Is Now for Students

“We did it.”

Kathryn Carter, former dean of the Manning School of Business, smiled proudly as she said the words to hundreds of students, faculty, staff and distinguished guests gathered on North Campus to commemorate the official opening of the $47 million Pulichino Tong Business Center.

While everyone basked in the glow of the moment, celebrated on the new building’s spacious Grande-Tomaney Innovation Plaza, Carter’s words were directed in particular at the small team of people who began working toward that specific day more than a decade ago.

People like Professor Emeritus Stuart Mandell, who joined the university in 1948 and founded the College of Management in 1971.

“This is the culmination of a life’s dream,” Mandell said after helping to cut the ribbon on the four-story, 54,800-square-foot building, where Manning School students will take their finals this spring and where classes will begin this summer.

Perched prominently on the corner of University Avenue and Riverside Street, the glass and steel structure features 10 classrooms wired with the latest audiovisual technology, a state-of-the-art trading room with two dozen Bloomberg terminals, and multiple collaboration spaces scattered across all four floors that provide sweeping views of North and East campuses and the city beyond.

The university named the building in honor of alumnus John Pulichino ’67 and his wife Joy Tong, successful entrepreneurs who in 2012 committed more than $4 million in scholarship funds for Manning School students.

UMass President Marty Meehan, who was chancellor at the university when the project took root, said of the center, “It’s smart, it’s innovative and it distinguishes us from other universities—not only across New England, but throughout the country.” Meehan recognized state Rep. Brian Dempsey ’99 of Haverhill for helping the university secure $25 million in state bond funding toward the building’s construction, as well as the work of the state Department of Capital Asset Management and Maintenance.

While the university has opened 13 buildings over the past eight years, Chancellor Jacquie Moloney said the Pulichino Tong Business Center is special.

“More than any other building that we’ve added to this campus, this was built on an extraordinary passion of our alumni and their commitment to realizing our vision to make this university one of the best in the country,” said Moloney.

Donors made gifts totaling more than $13 million toward the construction and several named spaces. They include two new centers focused on key areas of business education and research: the Richard and Nancy Donahue Center for Business Ethics and Social Responsibility and the Jack M. Wilson Center for Entrepreneurship. The four-story Joyce and Jerry Colella Atrium serves as the building’s main entrance and features an oval-shaped LED stock ticker. The Stuart L. Mandell and Ada Mandell Dean’s Suite, supported by 12 donors including faculty and staff who are also alumni, is named in honor of the emeritus professor.

Both Moloney and Meehan thanked the business school’s namesake, Rob Manning ’84, and his wife Donna Manning ’85, ’91 for their continued support of various university initiatives and scholarships.
More Residential Communities Added for All Students

UMass Lowell created living-learning communities (LLCs) nine years ago to provide social and academic support for first-year students. They’ve proven so successful at increasing academic success and retention that Residence Life is opening new ones and creating upper-class versions of six more.

For the first time next fall, the university will cluster related LLCs in themed buildings. For example, the first-year and upper-class Living Allegro and Creative Artists LLCs, along with the mixed-year Media Makers LLC, will all be in the Visual and Fine Arts House at Sheehy Hall.

“It’s turning on its head the whole concept of residential living at UMass Lowell,” says Phillip Begeal, associate director of residence life. “Freshmen will be in every hall except maybe the Inn & Conference Center, instead of being mostly confined to Fox Hall.”

The support services the LLCs provide, from tutoring and exam reviews to advising and enrichment activities based on a shared interest or major—not to mention an instant circle of friends and study partners—help students stay in school and improve their grades.

Lori Weeden, a lecturer in Environmental, Earth and Atmospheric Sciences, says connection is key to the LLCs’ better retention rates—whether that’s connection with the faculty adviser, other students or professors who come and talk informally about their careers.

Students in the Pre-Med LLC decorated a cake together during a kickoff event.

Preventing Another Fukushima Reactor Core Meltdown

Engineering Professor Leads Team to Safeguard Nuclear Power Plants

The U.S. Department of Energy recently awarded a three-year, $800,000 grant to a team of nuclear engineers and scientists led by chemical engineering Assoc. Prof. Dean Wang to develop tools to help keep America’s nuclear power plants safe during extended power disruptions.

“Our project aims to enhance the reactor system analysis code, which is used to predict how a reactor’s safety system will respond during an extreme event such as an earthquake or tsunami,” says Wang.

One of the greatest challenges facing nuclear power plant operators is how to keep the reactor core and spent fuel from overheating when the plant loses electrical power—and cooling capacity—for a long period of time. “Using the new analysis code developed in this project, we can better predict and quantify the performance of the reactor’s emergency backup system under extreme conditions,” Wang explains.

The team is collaborating with researchers from Texas A&M University, Oak Ridge National Laboratory and Idaho National Laboratory.

In 2011, a magnitude-9.0 earthquake struck near the coast of Japan, triggering a tsunami that devastated the Fukushima Daiichi nuclear power plant. Power and cooling was cut off to three of the plant’s six reactors and all three reactor cores largely melted, leading to the release of radioactive materials into the environment.

“This is a highly important lesson learned from Fukushima that needs to be explored and quantified for the benefit of America’s operating fleet of nuclear power plants,” says Wang.

Students use the 3-D scanner in the new Fabrication Laboratory at Dugan Hall.

Fab Lab Melds Art and Graphics

Art & Design Department Goes High Tech

The Art & Design Department is further broadening its blend of art and technology by adding a fabrication lab in Dugan Hall.

Work began during March’s spring break on renovations that will turn an area in the basement into the 400-square-foot Expanded Media Fabrication Laboratory. The space will hold a 3-D printer, a 3-D scanner, a long-form laser cutter and an industrial sewing machine. The room should be ready for full-time occupancy in fall 2017.

Both graphic design and fine art students will have the chance to fabricate prototypes and handheld objects and to understand the equipment and its software.

The lab’s aim is to bridge the gap between the physical world and digital creation and serve as interdisciplinary space for design and fine art students.

“This will help elevate numerous aspects of the art department,” says chair Jehanne-Marie Gavarini. “It will allow us to have more integration between graphic design and software programming.”

Anna Isaac-Ross, studio manager for the Art & Design Department, believes the lab will help shape the education of those in the animation and interactive media concentrations.

“Animation and interactive media’s future is heavily intertwined with digital technologies and hybrid platforms,” so students fluent in the new technologies will be highly prepared for the professional world, she says.

New Housing Options Include Themed Buildings, More Living-Learning Communities

In April 2013, experts from the International Atomic Energy Agency toured the heavily damaged Fukushima Daiichi nuclear power station, visible in the background, as part of the agency’s mission to review Japan’s plans to decommission the facility.

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UMass Lowell Is a Major Partner in the New Manufacturing Institute for Biopharmaceuticals

Initiative Will Help Bring Medicines from the Lab to Patients Faster

UMass Lowell is a major partner in a new manufacturing institute for biopharmaceuticals that will advance U.S. leadership in the biopharmaceutical industry, foster economic development, improve medical treatments and ensure a qualified workforce for the industry.

The U.S. Department of Commerce, through the National Institute of Standards and Technology, recently awarded $70 million to the newly formed National Institute for Innovation in Manufacturing Biopharmaceuticals. The University of Delaware is the project’s overall lead, with UMass and MIT as major partners. UMass is spearheaded by UMass Lowell and UMass Medical School’s MassBiologics. Assoc. Prof. Seongkyu Yoon leads the effort for UMass Lowell, with help from Assoc. Prof. Carl Lawton, both of the Department of Chemical Engineering, and the Massachusetts Biomanufacturing Center on North Campus.

The institute is supported by an initial private investment of $129 million from a consortium of 150 companies, academic institutions, research centers, state governments, nonprofits and manufacturing extension partnerships across the country.

With funding from the new National Institute for Innovation in Manufacturing Biopharmaceuticals, UMass Lowell will be able to help fund about 30 to 40 doctoral students per year.

New Archive Documents Southeast Asian Refugees and Immigrants

Faculty, Libraries Win $239,000 Grant for Digital Archive

The recent history of Lowell is intertwined with the history of refugees and immigrants from Cambodia, Vietnam, Laos, Burma and Bhutan.

Yet much of the history of Southeast Asians in Lowell—where they came from, why they came and the ways in which they created a new life here—is at risk of being lost, says Prof. Sue Kim, co-director of Asian American Studies Center and English.

Their stories can provide students, scholars and the community with a better understanding of the human toll of the Vietnam War and the Cambodian genocide, as well as the difficulties and triumphs involved in making a permanent home in a new country while still maintaining key aspects of their own culture, she says.

Now, thanks to a $239,000 grant from the National Endowment for the Humanities, the university libraries and the Center for Asian American Studies will set up a digital archive to preserve much of that history.

“A digital archive is sustainable and easily shareable with students, scholars and the community,” Kim says.

The Southeast Asian Digital Archive will include about 63,000 images of newspapers, documents, books and posters and nearly 620 hours of audio and audiovisual recordings, many of them donated by eight organizations, including the Cambodian Mutual Assistance Association, the Angkor Dance Troupe and the Southeast Asian Water Festival.

“Southeast Asians: A New Beginning in Lowell” by James Higgins and Joan Ross.

English Prof. Sue Kim pages through "Southeast Asians: A New Beginning in Lowell" by James Higgins and Joan Ross.

Physics Professor Co-invents New Low-cost Nanofilm Radiation Detector

Technology Can Be Used in Diagnostic Imaging and Homeland Security

A new class of inexpensive nanofilm radiation detectors can be used in everything from health care to homeland security. Nanofilms, measuring only a few billionths of a meter in thickness, are suitable for a variety of applications, from national security and nondestructive testing to medical imaging and cancer treatment.

Prof. Erno Sajo of UMass Lowell’s Department of Physics and Applied Physics, in collaboration with researchers from Brigham and Women’s Hospital in Boston, developed this technology, which uses thin-film sensors to harness the energy of the radiation it detects to power itself.

“Unlike existing technology, the detector does not need an external power supply to operate,” says Sajo. “Another important property is that it is flexible, able to conform to curved shapes while being largely transparent to radiation. The detector’s cost per unit area is only a fraction of that of current detectors.”

He says the detector can be used to monitor radiation in nuclear power plants and aboard nuclear-powered U.S. Navy aircraft carriers and submarines. It can also be used to identify and map areas contaminated with radioactive materials.

“In medicine, it can replace or augment existing radiation detectors that are part of fluoroscopy systems and image-guided radiotherapy in hospitals. In a CT scanner, it can tell the patient’s dose to X-rays. It can also monitor the radiation sources used in the treatment of prostate cancer,” says Sajo.

UMass Lowell and Brigham and Women’s Hospital have filed a patent jointly and founded a new startup company, RayWatch Inc., to commercialize the technology.
Students Can Earn Two Teaching Licenses for Elementary Education and Moderate Disabilities

Responding to the growing demand from school districts for elementary and special education teachers, the university is introducing a new bachelor of arts degree in education.

With the new degree, students may earn dual certification to teach elementary school children in grades one to six and children with moderate disabilities in grades pre-K to eight in Massachusetts. Prospective students may apply now to enroll this fall.

With the introduction of the bachelor’s degree program, the Graduate School of Education has been renamed the College of Education, a title it held until 1998. The College now offers undergraduate minors in education, including the UTeach program and bachelor’s, master’s and doctoral degrees in education.

“Building on UMass Lowell’s long legacy of preparing excellent teachers, this new degree will develop a generation of teachers who have the skills to work with all students in today’s increasingly diverse classrooms,” says College of Education Dean Anita Greenwood. “They will be technologically competent, community-engaged and ready to make a difference.”

The U.S. Department of Education and the Massachusetts Executive Office of Labor and Workforce each report shortages of teachers prepared to work with special needs students. The College of Education surveyed partner school districts and found that 95 percent needed dual-licensed elementary teachers who had the skills to teach children with disabilities in inclusive classroom settings.

“We designed this program to fill a void in the Commonwealth for more elementary teachers who can teach children with moderate disabilities,” Greenwood says.

The unique elements of the program include an immediate introduction to teaching during the freshman year, field-based coursework throughout the program, a curriculum that blends course work in the liberal arts and sciences as well as education, and two full-time teaching practica in senior year.

In the 1980s, the university stopped offering undergraduate education degrees in the wake of changing state teaching requirements. UMass Lowell took a step toward reviving undergraduate teacher training with the launch in 2012 of the UTeach program, a national initiative in which undergraduates majoring in the sciences and engineering can earn a minor in secondary STEM education.

With the new bachelor’s degree program, the College of Education will return to its roots. The college will relocate to Coburn Hall, the original home of State Normal School, Lowell, one of the university’s predecessor institutions where hundreds of teachers were trained during the late 19th and 20th centuries.

Plans are under way to restore the building to its position of prominence as the signature building on South Campus. Planned renovations include new, innovative instructional spaces, seminar rooms, additional academic offices and a comprehensive replacement of the building infrastructure. Construction is scheduled to begin in summer 2018, and the building is expected to be ready for classes at the start of the spring semester in 2020.