Louis Manzione, founding executive director of Bell Laboratories research center in Ireland, has been named dean of the College of Engineering, Technology, and Architecture (CETA) by President Walter Harrison and Provost Donna Randall. Manzione will assume his new position on Aug. 15.

“I am delighted we have been able to attract someone of Dr. Manzione’s leadership and experience in education and industry,” said Harrison. “I look forward to working with him to continue to raise the visibility and reputation of the college.”

Manzione said that he is honored to be selected to lead CETA at such a significant time. “The university’s establishment of CETA and the opening of its new $34 million Integrated Science, Engineering, and Technology (ISET) complex promises to significantly enrich the educational experience for students, and dramatically increase its effectiveness in reaching out to industrial partners,” he said.

As executive director of Bell Labs Ireland, Manzione developed a multidisciplinary research program and funding proposals for a new Bell Labs Research Center in the Republic of Ireland. The funding proposals resulted in an $89 million commitment by Lucent Technologies and the Irish government, one of the largest research initiatives ever funded in Ireland, and one of the largest external funding grants ever received by Bell Labs. As part of this research program, he created a partnership with nearly 100 academic researchers from nine Irish universities, known as the Center for Telecommunications Value Chain Research.

Manzione is recognized as a pioneer in the packaging of integrated circuits. He wrote the first book on plastic molded packaging of integrated circuits, Packaging of Microelectronic Devices, and such packaging is now used in more than 90 percent of the world’s integrated circuits. In recognition of his achievements, Manzione was named a Fellow of the Society of Plastics Engineers for career achievement in the use of plastics for electronics.

Manzione received his bachelor’s degree in chemical engineering from The Cooper Union in New York, and his Ph.D. in chemical engineering from Princeton University. Since 1990 he has been a member of the Advisory Council of the New Jersey Institute of Technology. He also participated in strategic plan development for Princeton University’s School of Engineering and Applied Sciences and was appointed a research professor at Trinity College Dublin as part of his role in Bell Labs Ireland.

United Technologies Corp. Chairman and CEO George David presented University of Hartford President Walter Harrison with a check for $250,000 at the company’s annual corporate volunteer luncheon on April 6. The gift will support the university’s new $34 million Integrated Science, Engineering, and Technology (ISET) complex, designed to encourage collaboration and interdisciplinary learning among the various departments housed there.

“United Technologies Corporation has made it a priority to support mathematics and science education, and this gift underscores both that commitment and UTC’s long connection to the University of Hartford,” said Harrison. “With UTC’s generous help, the ISET complex will help ensure the university’s leadership position in providing the best science, engineering, and technology education to all of its students.”

The largest single construction project in the university’s history, the ISET project involves the complete renovation of Dana Hall and the construction of a new building adjoining Dana, along with improvements to United Technologies Hall and East Hall. The first phase of the project, the construction of a 37,000-square-foot building, was completed this spring. The remainder of the project will be completed by January 2006.
Shetty Appointed CETA’s New Dean of Research

Devadas Shetty now adds being dean of research to his many duties in the College of Engineering, Technology, and Architecture (CETA), where he already serves as associate dean, director of the Engineering Applications Center, and Vernon D. Roosa Professor of Manufacturing Engineering.

With his new title, Shetty has been given responsibility for building interdisciplinary research programs within CETA and university-wide.

“The appointment reflects the university’s strong commitment to creating interdisciplinary research programs, not only within CETA but also to explore partnerships with other colleges and schools,” said Provost Donna Randall in announcing Shetty’s new responsibilities.

Shetty is known for setting up partnerships between the university and industry. During his 16 years as holder of the Roosa chair, he has established research programs in the areas of design, manufacturing, mechatronics, and laser applications. He is the recipient of several academic and research grants totaling $7 million from foundations and industry.

Under Shetty’s leadership, the integrated engineering curriculum was developed at the University of Hartford with support from the National Science Foundation Curriculum Reform Program. It has been adopted by other engineering schools across the country. He also designed a partnership with Albert Einstein College in New York on the transfer of technology for ambulatory suspension systems.

Students Work to Improve Lives of Those with Cerebral Palsy

by Judie Jacobson

Several weeks before they flipped their tassels at graduation, four College of Engineering, Technology, and Architecture seniors unveiled an innovative device they developed to improve the quality of life for many people with disabilities.

Presenting at the 2005 Undergraduate Research and Creativity Colloquium held at the magnet school on campus, the team of four students explained their senior-year project: a chin-support system for a young man with cerebral palsy who uses a head-powered wheelchair. The support is designed to prevent kyphosis in people with cerebral palsy who cannot hold their heads upright for extended periods of time. Kyphosis is an outward curvature of the spine that results in a rounded upper back. If not corrected, the condition can require surgery and a long recuperative period.

According to Elizabeth DiBona ’05, the team leader, the full-year project was an exceptional educational experience.

“We were able to complete the design phase and the manufacturing phase and make all the phone calls ourselves,” she notes. “It was a good experience dealing with the companies and really doing the work.”

The students—who received their BSE degrees in Biomedical Engineering at the university’s mid-May Commencement—are DiBona, Meghan Hegarty, Lina Rincon, and Darrah Speiser. Working with the Connecticut Children’s Medical Center and Hanger Orthopedics, the team met periodically with the 21-year-old man for whom the device was specifically designed. During the first semester, their research led to three designs—a neck brace, a chinstrap, and a chin table. With the help of Hanger Orthopedics, they fabricated the three designs in the second semester and presented them to the young man and his family. Of the three designs, the chinstrap turned out to be the most viable. With slight modification, the students say, their design can be adapted to suit the needs of the broader population of people with cerebral palsy.
Each summer for the past 10 years, Joanna Borucinska has stood on a dock in Montauk Point, Long Island, or Martha’s Vineyard during shark fishing season, her eyes scanning the horizon for returning yachts. She and her students are waiting for the boats and their well-heeled owners to bring in their catches for the day. It’s not that she’s a fan of the sport. Far from it. It’s the prey that interests her.

There are now five or six shark fishing tournaments every summer in New England, some offering $50,000 or more in money and prizes. Borucinska, associate professor of biology in the College of Arts and Sciences, studies blue, mako, and thresher sharks—the most commonly caught fish in these tournaments. Her research includes testing recent claims that sharks are a source of cancer preventatives.

Borucinska has developed a symbiotic relationship with the organizers of several of these contests that allows her to collect the discarded sharks after the prize money has been handed out. She admits to conflicted emotions about the arrangement.

“I have very mixed feelings. I am uncomfortable with the brutality of the event, but I am grateful that they allow us to take specimens for our research.” While some tournaments donate the shark flesh to soup kitchens, others throw the carcasses into dumpsters at the end of the day.

Borucinska joined Hartford’s Department of Biology in 1995. She teaches courses in anatomy and physiology to occupational and physical therapy majors in the College of Education, Nursing and Health Professions. Her office and labs are in the lower level of the newly opened Integrated Science, Engineering, and Technology building.

A practicing veterinarian in her native Poland, Borucinska came to Connecticut in 1987. She began a doctoral program in veterinary pathobiology, working at the University of Connecticut’s Northeastern Research Center for Wildlife Diseases. While in graduate school, Borucinska began doing lab work for Janine Caira, professor of ecology and evolutionary biology at UConn. Caira was studying tapeworms in blue sharks. Soon, Borucinska was also hooked on sharks.

“I feel I have a mission to collect data on sharks,” she says. “We are drastically changing the living environment of this planet and possibly shortening its life. As a scientist, I collect hard data through my research that I hope will convince people to make changes in the way they treat the environment.”

After many years of relative anonymity, sharks are suddenly the focus of scientific research bent on finding a cure for cancer.

Malignant tumors require new blood vessels to grow. Because shark skeletons are made of cartilage, which does not contain blood vessels, some investigators have suggested that sharks do not get cancer and that shark cartilage could be an effective cancer preventative. They reasoned that perhaps sharks have a natural defense mechanism against cancer that could be adapted for use in humans. Borucinska has received a Connecticut Sea Grant to look for tumor markers in sharks, which are proteins produced in response to cancer in the body. Sea Grant is a national program that partners universities and the National Oceanic and Atmospheric Administration. Her findings so far disagree with the hypothesis that sharks are cancer free.

“It is not true that sharks do not get cancer. We have found four of the 40 cases of tumors reported in sharks. People are making
On the 30th anniversary of the release of *Jaws*, Joanna Borucinska, associate professor of biology, says the idea that a shark could carry a grudge is ridiculous. “Sharks’ brains are primarily concerned with sight and smell,” she says, adding with a laugh, “They don’t have very developed areas for things like emotions!”

Squalamine, however is another story. First found in the livers of dogsharks, it is a steroid attached to an amino acid that can halt the growth of blood vessels. Although shark liver oil, which contains squalamine, does appear to prevent some kinds of cancer, Borucinska has other concerns about its use—not just for sharks, but for humans, too.

“Oxygen causes DNA to change, and some of these changes result in cancer. Squalamine works like an antioxidant. This is the good news. However, the most dangerous pollutants in the ocean, such as PCBs, are lipid, or fat, soluble. Because sharks do not have fat in their bodies, all the oil is in their livers, which means that the contaminants are concentrated there, too.” In other words, they’re also in the shark liver oil.

Borucinska, who says she no longer eats fish, recommends the oleic acid found in organic, cold-pressed olive oil as an effective anti-cancer alternative. “After all,” she says with a smile, “we’re closer to sharks than we are to olive trees evolutionarily.”
In 1980 Kendra Schank Smith, currently associate professor and
the new chair of the Department of Architecture in the College
of Engineering, Technology, and Architecture, had just received
her master's degree from Virginia Polytechnic Institute and State
University. She was hired by the award-winning architectural firm
of Kevin Roche John Dinkeloo and Associates in Hamden, Conn.,
where one of the first projects she worked on was the new
construction and renovation of Central Park Zoo in New York City.

“Sometimes architects need to solve unusual problems,” says
Smith. “For example, in the design of the Central Park Zoo, the
clients included the animals, so we needed to know such things as
how far a polar bear can jump. It’s not good if they can jump into
the crowds of zoo visitors!”

Four years later, Smith embarked on a new career as an
architectural educator, beginning a nearly 20-year trek from
Connecticut to Texas A & M University to the Georgia Institute
of Technology (where she got her Ph.D. in Architecture in 1992)
to SUNY-Buffalo and eventually to the University of Utah.

When Smith finally circled back to Connecticut to take up her
duties at the University of Hartford on January 1, 2005, it was
after teaching for eight years in Salt Lake City. Asked what drew
her back to the East Coast, she was quick to answer.

“To have the opportunity to develop a new school, to help
guide it through the accreditation process, that is very exciting.
I think it’s time for me to give back, to make use of my
knowledge, and take on a role that can really effect change.”

And it is a time of great change for the Department of
Architecture. Prior to Smith’s arrival, the department moved into
newly created offices and studios in the space previously occupied
by the Museum of American Political Life in the Harry Jack Gray
Center. This past fall, the first students were enrolled in the
university’s new Master of Architecture (M. Arch.) program.

While this year’s cohort of 10 came to Hartford from all over
the country, as well as Thailand and India, Smith says most of
the students accepted for next year will be graduates of our own
undergraduate architectural engineering program, now the third
most popular major.

The short-term enrollment goal for the two-year program is
two classes of 24 students each; eventually the department would
like to see that number grow. “But we want to keep the program a
nurturing environment,” says Smith. “Students spend long hours
working with our full-time faculty in the studio. It’s a very personal
education, and we want to keep it that way.”

While there are a number of accredited architectural schools
in New York, Hartford’s is one of only eight in New England and
two in Connecticut—the other is at Yale University. The master’s
program was given candidacy by the National Architecture Accredi-
ting Board (NAAB) in January 2003. If all goes as expected, the
M. Arch. program will receive full accreditation in 2007.

Smith describes the collaborative nature of the M. Arch program,
which joins with other schools at the university to create a curriculum
that reflects the multidisciplinary nature of architecture.

“We’re very interested in integrating a business understanding,
engineering fundamentals, and artistic principles into our curriculum
because we approach architecture from all three of these angles.
We encourage our students to take their electives in the Barney
School and the Hartford Art School.”

Smith also firmly believes in the importance of reaching out
to the surrounding community. This spring, the master’s students
spent the semester on a hypothetical urban design project that
involved renovations and the construction of an addition to the
Wadsworth Atheneum Museum of Art in Hartford. In reality,
the Atheneum recently purchased the Hartford Times building
on Prospect Street and reportedly will move some of its internal
departments there and then concentrate on renovating the
main building.

“The students displayed their designs in The Hartford Courant
Room to Willard Holmes, director of the Wadsworth Atheneum,”
says Smith. “They definitely gave him some new ideas about how
to approach the expansion of the museum.”
On Sept. 29, 2005, the university’s Joseloff Gallery will open a major exhibition focusing on the work of architect and teacher Samuel Mockbee and the Rural Studio. Mockbee put into practice one of the nation’s boldest programs in contemporary architecture.

This inspired designer and charismatic teacher founded the renowned Rural Studio at Auburn University in Alabama, and was its director until his untimely death at the age of 57 in 2001. There, he and his students designed and built modest, innovative, “warm, dry, and noble” buildings, as he put it, for people who simply needed decent shelter.

The Joseloff Gallery installation will include two built structures—a “temple” constructed from carpet yarn and a pavilion assembled from hay bales. The current director of the Rural Studio, Andrew Freear, and approximately 12 graduate architecture students from Auburn University will build the structures on site, assisted by students from the Hartford Art School and the College of Engineering, Technology, and Architecture’s Department of Architecture. Viewers will be able to enter both of these structures and experience the materials that the Rural Studio pioneered for architectural application. The exhibition also includes 11 architectural models, a series of photographs, and a selection of Mockbee’s paintings.

By Zina Davis