New Coin Celebrates Lowell Mill Girls

For the past decade, Ellen Anstey ’08 has been on a mission to get Lowell into every American pocket and purse. Her efforts paid off last month when the U.S. Mint released the newest quarter in its “America the Beautiful” series—a coin that celebrates the state of Massachusetts with a design representing Lowell National Historical Park. The quarter’s flip side features an early 1900s mill girl loading a loom’s bobbin battery, with a smokestack and the Boott Mill clock tower in the background and “Lowell” inscribed on top.

“These quarter designs show the importance of place,” says Anstey, manager of administration and engagement at the Tsongas Industrial History Center (TIHC), a partnership between UMass Lowell’s College of Education and Lowell National Historical Park. “They’re also an educational tool. The goal is to reach the public with Lowell’s history, and then people can come visit us here and see all of those things that are on the quarter.”

Anstey’s role in championing the quarter, from promoting Lowell as the featured federal site to critiquing designs and providing lesson plans, has taken place mostly behind the scenes. But it’s part and parcel of her job and the TIHC’s mission: hosting thousands of schoolchildren every year on field trips to the park; creating learning materials for teachers and the public; educating teachers in hands-on learning; and helping to design exhibits that bring Lowell’s history and technology to life.

Anstey and others from the TIHC were on hand when the Mint officially unveiled the quarter at a launch ceremony at Lowell Memorial Auditorium on Feb. 6. The event drew hundreds of schoolchildren and community members. Guest speakers included UML Chancellor Jacquie Moloney, former U.S. Rep. Niki Tsongas, National Park Service Regional Deputy Director Rose Fennell, Lowell National Historical Park Superintendent Celeste Bernardo, Lowell City Manager Eileen Donoghue and Marc Landry, the Mint’s acting associate director for the Numismatic and Bullion Directorate.

Attendees were excited to get their hands on the newly minted coins, waiting in a long line to purchase rolls of the quarters. Schoolchildren were each given one of the shiny coins to take home.

The introduction of the new quarter opens up new learning opportunities for local schools. The Mint used TIHC lesson plans and materials to create a resource booklet and website for teachers. Anstey and a colleague met with the Lowell public schools’ curriculum specialists to encourage them to use the material with their fourth-grade classes.

The Mint began issuing the America the Beautiful Quarters in 2010. Lowell National Historical Park was selected for the coin by popular vote via an online ballot, besting dozens of other federal sites around the state, including Boston’s Freedom Trail, Concord’s Minute Man National Historical Park and the Cape Cod National Seashore.
Breakthrough Hydrogen Technology to Power Next-generation Electric Cars

Renewable Technology Produces Zero Greenhouse Gases

A team of researchers from the Chemistry Department has found a way to safely, cleanly and efficiently produce hydrogen gas that can be used to power next-generation electric vehicles.

According to Prof. David K. Ryan, who is the project’s principal investigator, the technique uses only water, carbon dioxide and cobalt metal particles with surface nanostructures measuring billions of a meter in size to produce hydrogen on demand at relatively low temperature and pressure.

“Current hydrogen production methods are expensive and inefficient. This, coupled with the lack of existing infrastructure, has hampered the transition from a petroleum economy to a hydrogen economy. Our hope is that the catalytic hydrogen technology we have developed would help solve all of these challenges,” says Ryan.

The Massachusetts Clean Energy Center has awarded Ryan a $25,000 seed grant to get the team started on the path of commercializing the technology; he will also be applying for state and federal funding. The invention was awarded a provisional patent; a full patent is still pending.

According to some industry estimates, the hydrogen market is expected to grow from $5 billion today to $180 billion by 2024. That expansion is driven largely by the growth in electric vehicles and demand for cleaner fuels, Ryan says.

Other members of the research team include chemistry Ph.D. students Ahmed Jawhari, Kehley Davies and Elizabeth Farrell and chemical engineering senior and Honors student Colleen Ahern.

Students Find Solutions for Reusable Bags

Public Health Seniors Help Town of Westford with Plastic Bag Ban

A team of public health students from the Zuckerberg College of Health Sciences is helping to keep reusable bags green and clean.

Seniors Nicole Kebler, Adorrah Khan and Ross Goding, who are working at the Toxics Use Reduction Institute (TURI) on their capstone project, conducted a survey on consumer habits related to cleaning reusable bags for the town of Westford, which instituted a ban on plastic bags on Jan. 1. They found that many people store such items as gym clothes, laundry and lunches in their reusable shopping bags. They also found that people usually do not clean the bags after using them.

With growing concerns about the environmental impact of single-use plastic bags, more communities are restricting them. In Massachusetts, 40 percent of cities and towns have enacted bans.

Jeffrey Stephens, Westford’s health director, was concerned about keeping reusable bags clean to protect public health, so he asked TURI to help find safe cleaning solutions.

The students tested various formulations and, with help from graduate student Spencer Gifford, came up with safe and effective solutions that consumers can make with common household ingredients. (Their recipes for cleaning reusable bags can be found at www.uml.edu/cleanbags.)

The students say that the project has not only given them important lab and research experience, but it is also helping them to sharpen their communications skills. They compiled the survey results and recipes in a brochure to educate Westford residents and are creating a public service announcement with the help of Lowell Telecommunications Corp.

Psychology Professor Professor Wins Grant to Study Plea Bargains

Research Will Examine Why the Innocent Plead Guilty

Asst. Prof. Miko Wilford has won a five-year, $498,000 National Science Foundation CAREER grant to study an urgent issue for the justice system: the growing number of innocent suspects who plead guilty.

Wilford, a member of the Psychology Department faculty, hopes to restore some balance to the justice system, doing research to inform policy changes that could reduce the number of false guilty pleas, especially by juveniles who don’t fully comprehend the consequences.

Before the 1980s, about 20 percent of criminal cases went to trial; now, fewer than 5 percent do. The change was fueled in part by the passage of mandatory minimum sentence and “three strikes” laws. Today, the pressure is greater than ever for defendants to plead guilty, even when they are innocent, rather than risk a conviction at trial, Wilford says.

The NSF grant builds on Wilford’s previous research, including her collaboration with Asst. Prof. Misha Rabinovich in the Art and Design Department and several students to create an online, animated plea-deal simulation. Wilford and Rabinovich are now developing a more advanced version of the simulation.

Wilford will administer the simulation either online or in person to different groups of people and will test variables that change the likelihood of a guilty plea, including the defendant’s age and the difference between the plea offer and the penalty for a conviction at trial.

She is joined on the grant by Asst. Prof. of Psychology Joseph Gonzales, Education Prof. Jill Lohmeier and Kelly Sutherland, a first-year Ph.D. student in applied psychology and prevention science.

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Money Management Mentors Offer Their Two Cents

New Program Aims to Boost Students’ Financial Literacy

Luis Diaz knows how challenging it can be to pay for college. After a year and a half at UMass Lowell, he had to take a semester off for financial reasons. Diaz worked, saved and secured several scholarships, and he was able to return to school.

“I was very lucky,” says Diaz, who is earning a bachelor’s degree in music business from the College of Fine Arts, Humanities and Social Sciences.

Drawing on his personal experience, Diaz has found a way to help fellow River Hawks who may be facing a similar situation—or who may simply need advice about budgeting and saving.

As part of the university’s new Money Management Mentors program, Diaz heads up a small team of students trained to answer questions and provide financial literacy resources to peers, either in confidential, one-on-one appointments or to student groups. Mentors are hired as work-study students or contract employees and represent a variety of majors.

“Research continues to show that peer-to-peer conversations around finances are most effective,” says Amy Liss, associate director of Student Activities and Leadership.

The mentors are part of a broader university initiative, the Money Management Center, to improve students’ overall financial literacy and wellness. The center provides a variety of financial planning programs and resources to students. Its website has tips on budgeting and borrowing, along with an online cost planner where students can get a personalized snapshot of their college expenses based on their specific financial aid, housing and employment situations.

Researchers Win $1M Grant to Improve Cybersecurity of Medical Data

Technology Will Protect Patient Information Privacy

A team of researchers is developing a secure cyberinfrastructure to protect medical information from security breaches under a $1 million grant from the National Science Foundation (NSF).

The project, led by Prof. Yan Luo of the Department of Electrical and Computer Engineering, will create a secure cyberinfrastructure for researchers to quickly access and share vast amounts of biomedical data with external collaborators and industry partners.

According to Luo, clinical researchers rely heavily on cyberinfrastructure to understand trends, derive correlations and identify anomalies, all of which are instrumental to the accurate diagnosis and effective treatment of diseases as well as the discovery of drugs that target specific illnesses.

“Our project will explore and with HIPAA,” he says. HIPAA, the Health Insurance Portability and Accountability Act of 1996, is a U.S. law that mandates data privacy and security provisions for safeguarding medical information.

“This will enable new efficient ways of collaboration among patients, medical researchers and practitioners, potentially benefitting global digital health care and personalized medicine,” says Luo, who is the director of the university’s Advanced Computing and Networking Systems Laboratory.

Luo’s co-principal investigators for the project include UML computer science Assoc. Prof. Yu Cao, Elizabethtown College Asst. Prof. Peilong Li, UMass Medical School Prof. Silvia Corvera and Jomol Mathew, Ph.D.

Money Management Mentors, from left, Luis Diaz, Jordan Jones and Steevens Pierre Toussaint, are helping other students to better understand personal finances.

UML Kicks Off Third Annual Days of Giving April 9-10

The Goal: Rally 2,800 Donors in 48 Hours

UMass Lowell’s annual Days of Giving last just 48 hours, but for many of the more than 2,500 donors who participated last year, the giving goes on all year.

Take Patrick Kiley ’18. As a public health student, Kiley rose through the ranks to become assistant manager of UML’s nationally recognized Emergency Medical Services program.

He credits EMS with giving him the leadership experience he needed to land a job as an assistant safety officer at Lahey Hospital in Burlington. “I want to do anything I can to give back to EMS,” Kiley says, and that includes creating a $1,250 matching gift challenge as part of this year’s Days of Giving.

“Days of Giving is a terrific opportunity for members of the UML community to support the programs they care about most,” says Deirdra Miles, director of annual giving, who hopes to rally 2,800 donors on April 9-10.

Giving back is also second nature for Linda Barrington ‘04, ’16, service learning coordinator for the Francis College of Engineering. Not only does she connect engineering students with service learning opportunities at community nonprofits, but she has also endowed a scholarship that has already sent six students on international service learning projects.

A proud Days of Giving supporter, Barrington would like to see 100 percent participation by UML faculty and staff: “Even though we already give students our time and expertise, that doesn’t help them pay their bills. Days of Giving sends a message to our students that this is a caring community.”

To make your gift on April 9-10, go to uml.givecampus.com.

Last year, more than 2,500 donors—including Chancellor Jacqueline Moloney—took part in the two-day giving challenge, raising more than $314,000.

Electrical and computer engineering Prof. Yan Luo (right) says a secure cyberinfrastructure will lead to more efficient and secure collaboration among researchers.
River Hawk Couple Find They Are a Perfect Match

Craig Nuttall ‘96 Has Successful Kidney Transplant, with Wife Darcie ’95 as Donor

When they first met as students at UMass Lowell, Craig ’96 and Darcie (Sicotte) ’95 Nuttall had a hunch they would be a good match.

Twenty years of marriage, two children and one life-changing event later, they discovered they’re not just a good match, but a perfect one.

In 2006, Craig, a software engineer, was diagnosed with end-stage kidney disease at age 35. “Like most young people, I’d put off my annual physical, so the news came out of nowhere,” he recalls. Darcie, a mental health counselor, was equally stunned. “Craig has always been so active and full of life, it was hard to believe he was sick,” she says.

For the next decade, Craig managed his illness with a combination of medication, diet and exercise. But by 2017, his kidney function had plummeted to less than 20 percent, and it was clear he needed a transplant. What wasn’t clear was when or how that would happen. Long waits are the rule when it comes to finding suitable kidney donors; in Craig’s case, so were long odds, because of his rare B-positive blood type.

And so, last July at Boston’s Tufts Medical Center, the Nuttalls shared something very few couples ever experience: back-to-back kidney surgeries. Not only were the operations successful, but the effects were immediate. “Right away, I felt like I got my husband back,” says Darcie. “It was kind of like going through childbirth, because we were both exhausted and in pain, but there was so much joy.”

Joy continues to suffuse the Nuttall household today, along with gratitude for their skilled surgeons and the large network of friends, some stretching back to their UML days, who cared for them during their convalescence and watched over sons Stephen and Jacob. Both Nuttalls have returned to work full time—Craig as a senior software engineer at Phillips and Darcie to her therapy practice and an at-home business making custom embroidered pillows. Best of all, Craig’s long-term prognosis is excellent. “And,” he adds, “I’ll always have a piece of Darcie with me.”