Communiqué: College of Humanities, Arts & Sciences Alumni Magazine, Volume 8, Fall 2019

University of Northern Iowa. College of Humanities, Arts, and Sciences.

Follow this and additional works at: https://scholarworks.uni.edu/chascommunique

Part of the Arts and Humanities Commons, Higher Education Commons, and the Physical Sciences and Mathematics Commons

Let us know how access to this document benefits you

Recommended Citation
https://scholarworks.uni.edu/chascommunique/9

This Magazine is brought to you for free and open access by the Newsletters/Magazines at UNI ScholarWorks. It has been accepted for inclusion in Communiqué: College of Humanities, Arts & Sciences Alumni Magazine by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.
CYBER SECURITY COMPETITIONS KEEP UNI STUDENTS CURRENT

USING POETRY TO SHARE STORIES

NEW DEGREE FOR DATA SCIENTISTS

PUPPETS, STUDENTS AND A NEW WAY TO TEACH ART
IN THIS ISSUE

FEATURES

6  Cyber Defense Team
10  Christine Stewart: Poet Laureate
14  A New Data Degree for the Future
28  How Puppets Can Teach Art

STORIES

18  Prairie Dedication
20  CS Endorsement
22  Legacy of Light
25  EMBARC Program
26  Metal Casting Center
32  Periodic Table Lecturer
36  Sertoma Lab
38  Golf Internship
40  Art, Biology and Autism
47  Visiting Author

Communique is published annually by the College of Humanities, Arts and Sciences at the University of Northern Iowa.

DEAN
JOHN FRITCH

EDITOR/DESIGNER
SARAH PAULS, MARKETING MANAGER
JENNIFER MILLER, DESIGNER

WRITER/EDITOR
ANDREW CREASEY, WRITER
MAUREEN CLAYTON, ASSOCIATE DEAN

CONTRIBUTORS
CARLA WEHMEYER, UNIVERSITY RELATIONS
EVE SANCHEZ, UNIVERSITY RELATIONS
SEAN O’NEIL, UNIVERSITY RELATIONS
Clockwise from upper left: Students work on molds from the 3D sand printer at the UNI Metal Casting Center; Performers act in the spring production of “Legacy of Light”; Artwork by Kate Murray, a UNI senior double majoring in art and ecology; People gather at the Daryl Smith Prairie naming ceremony.
Today, several of the departments in the College of Humanities, Arts and Sciences hosted alumni as part of our Alumni-in-Residence program. On a beautiful (if somewhat overcast) autumn day, these alums came to campus to meet with students and faculty, and although each graduated from different departments, there were many commonalities about their visit.

The group shared the successes they have experienced in their careers and reminisced about their time at UNI. They spoke about how the physical appearance of the campus changed since they were on campus as students. They mentioned the new buildings (Gallagher Bluedorn Performing Arts Center), or recently remodeled buildings (Bartlett Hall), or buildings that no longer stand on campus (Baker Hall). The physical campus is very different, even for the more recent alums.

The alums also talked about their experiences at UNI. Each mentioned professors who challenged them and friends who helped them learn about life beyond the classroom. Each spoke about academic experiences outside the classroom—ranging from tasting trees on campus as part of a biology assignment to student teaching in the local community—that helped form their lives. Their time on campus was shaped by people and experiences that were unique to UNI. It is this part of the UNI experience that is very much the same.

In this issue of Communiqué, we are featuring several stories about current and former students and the impact that caring faculty and outstanding experiences outside the classroom are having on them. These experiences lead to fascinating opportunities and careers. There are not many universities that can claim to have a music major working at NASA, undergraduates preserving Mastodon tusks or a celebration of 50 years hosting the oldest literary review in the nation. We are proud that in each of these stories you will find students working closely with outstanding faculty on exciting projects.

I hope you will find these stories reflective of the type of experiences you had at UNI.

Sincerely,

John Fritch, Ph.D.
Dean, College of Humanities, Arts and Sciences
Dr. Becky Rose, ’74 Chemistry, was a shy 18 year old when she arrived on the UNI campus in 1970. The Waterloo native was the first in her family to go to college. A gifted science student in high school, Rose thought she would teach and found herself deciding between education majors in either mathematics or chemistry.

“Chemistry won because you can blow things up!” she laughed. In the department of chemistry, Rose found her “home on campus.”

“The entire faculty played a part in my success, but Professor Russ Wiley and Dr. Leland Wilson were especially influential,” Rose says. “Dr. Wilson was instrumental in helping me secure scholarships and summer chemistry jobs, and very early Professor Wiley saw my potential as a chemist. I was too shy to apply for a lab assistant job—Professor Wiley came up to me during Chemistry I lab and just told me I was going to work in the lab. I got to know Mrs. C, all the professors and a wonderful group of fellow lab assistants. We worked hard but had fun, too!”

Still thinking she would teach, Rose earned her PhD at Washington University in St. Louis and had a brief teaching stint at Southwest Texas State University. But teaching wasn’t her niche. She moved to what would be a long career with DuPont Chemical Company.

“I started as a bench chemist making polymers for fiber production and then moved into a series of end-use research positions in the areas of wearable fabrics and carpet fibers. I also enjoyed a position with marketing where I was able to help educate our customers—Nike, Adidas, Patagonia—on DuPont’s fiber and fabric performance.”

Rose retired in 2014 and she and her husband, Danny Joe, live in Freeport, FL. She is a community and church volunteer and very active volunteer at the E.O. Wilson Biophilia Center, a nature center geared toward upper elementary and junior high students to give them hands-on experience with Florida’s long-leaf pine ecosystem.

Rose says one of the most important aspects of her UNI education was “learning how to learn,” a vital skill for her research career. She wants to help provide that same opportunity to future chemists, so she supports UNI’s department of chemistry and biochemistry with generous annual gifts and has included a gift for the department in her estate plans.

“I support UNI chemistry because they supported me,” Rose says. “The personalized, high-quality education I received at UNI prepared me for a successful career and made me who I am today. I want to pass that same gift on to others.”
UNI team of computer science majors competes in cyber defense contests
For the past several years, teams of University of Northern Iowa computer science majors have been competing in cyber defense contests, often taking on schools several times their size to either fight off or take part in cyber attacks in a purely digital battle.

The competitions usually take place between an offensive and defensive team. The defensive team, called the blue team, is given charge of a system to protect—online bank accounts, for instance. While the offensive team, called the red team, tries to exploit weakness in the system and break in. It’s a laborious process that’s often punctuated with high-pressure situations.

“It’s usually a mix of frustration and adrenaline,” said C.J. May, a senior computer science major. “As a red team hacker, it can be frustrating to find a tiny gap in a well-defended network, and usually it’s even more frustrating to find the exact way to exploit it once you find it. It’s pretty easy to fall down a rabbit hole. But once you do get to that next level of access, it’s a pretty big feeling of triumph.”

Last year, the UNI team had several impressive showings in cyber defense competitions. The team placed second at the National Cyber Defense Competition hosted by Iowa State and placed in the top 30% of 64 schools participating in the Department of Energy’s CyberForce Competition, hosted at Argonne National Labs in Illinois. UNI also made it to the regional level of the National Collegiate Cyber Defense Competition.
The contests are filled with practical experience in real-world scenarios for computer science majors.

Typically, the blue team will have a few weeks to set up a network that has different services available. The blue team, for example, might simulate being a bank, with a website, a secure database and some kind of banking application. On the day of competition, the red team will come in and emulate the behavior of a malicious hacker and try to break into the systems set up by the blue teams. The blue teams are scored on how well they kept the red team out and how reliable their services were. The red team is scored on the level of access they were able to get on the blue teams’ systems and the detail in their documentation.

“These competitions help you learn a lot of skills that are applicable to the real world,” May said. “Blue teams learn how to securely configure servers and their services. Red teams are exposed to vulnerable systems in a safe, contained environment, which teaches both red and blue about how attackers can gain access to things they shouldn’t have.”

The students also learn both sides of cyber defense—offense and defense.

“You learn a lot by seeing new designs and implementations of systems and see how developers think and get ideas of how to attack them and how to fix them. You have to know both sides,” said Habib Ullah, a senior computer science major. “It not only helps you in cyber security, but system administration and coding. You have all of these fields in one competition, and you have to have a strategy, so management is included as well.”

And these skills will help the students find success in a booming job market for cybersecurity professionals. Andrew Berns, associate professor of computer science, said that reports have indicated an employment gap of 3 million cybersecurity jobs.

“I’ve been noticing more openings at all types of companies for security professionals, not just companies that specialize in security,” said Berns. “I think these contests give students a great way to learn more about cybersecurity through some hands-on experience, and also to network with companies looking for employees.”

In the 2019-20 academic year, the team will return to the three competitions from the previous year, and also take part in the Collegiate Penetration Testing Competition at Tennessee Tech.

The team has ambitions to eventually host their own cyber defense competition at UNI.

“It’s a pretty popular area,” said Berns. “It’s fun, it’s interesting, and it’s helpful for future careers. It’s not very hard to get students involved.”
The team works on their strategy for the next cyber defense competition.
TELLING THE STORY OF A STATE with POETRY

UNI alumna on a mission to spread enjoyment of poetry as poet laureate of South Dakota
Poetry.

It can spark a range of opinions. It’s lauded for its elegant simplicity, for its complex brevity and capacity to illuminate profound truths with metaphor, rhythm and prose.

But it’s also lambasted for its obscurity, for its academic high-mindedness and seemingly impenetrable web of vague allegory and bloated simile.

It’s a distinction University of Northern Iowa alumna Christine Stewart, ’95, knows all too well. As a published poet and award-winning writer, she’s solidly in the former camp in regards to poetry. And she’s now on the front lines of the effort to promote poetry and demystify some of its more misunderstood elements that often stop people from even attempting to read it.

In July, Stewart, who is a professor at South Dakota State University, started serving a four-year term as the poet laureate of South Dakota, where she will embark on a mission to spread and advance poetry throughout the state. “I think a lot of people aren’t as open to poetry because they haven’t found the right poem yet,” Stewart, who writes under the name Stewart-Nuñez, said. “Or, when they were taught poetry, it was like a jigsaw puzzle that got them frustrated. But there’s a poem out there for everybody.”

Granted, when your “somebody” is an entire state, finding that right poem can be a bit of challenge. So, Stewart is going to get help.

When she applied to be the state’s poet laureate, which is selected by the South Dakota State Poetry Society, she pitched a project that would be an anthology of poetry about the state written by the poets living in the state. “One of the things I’ve noticed is that when you reach out a little bit and shake the trees across the prairie, poets fall out,” Stewart said. “People are writing poetry, but they’re not telling people. So I’m hoping to emphasize what’s there and bring it out more.”

It’s not an approach all poet laureates pursue. Some focus solely on their work. But, for Stewart, it was important to bring other poets into the fold to delve into the cultural life in South Dakota, be it a critique or a celebration, and to, perhaps, find a talent hidden in the grasslands.
SPREADING A LOVE FOR POETRY AND ENCOURAGING ITS ENJOYMENT.
“It’s a very powerful thing to recognize a writer who has talent and skill, but who may not see his or her own potential clearly, and to include them in the conversations,” Stewart said. And she should know.

Going into college at UNI, Stewart was that talent. Stewart was a writer before she started college, but she didn’t know she was good at it. Then, a professor started reading her writing in front of the class. They told her she should pursue a master’s degree. Soon, other teachers started doing the same. “It was an incredibly formative time,” Stewart said. “There are so many professors at UNI that were important to my ideas as a writer, and to what I would become as a professor. I can’t speak highly enough of them.”

After graduating with a degree in English education, Stewart taught in Turkey for two years. She later wrote about that experience for her dissertation at the University of Nebraska-Lincoln. The process led to a key breakthrough in her writing style, a breakthrough that would inform the rest of her career.

“I had internalized the criticism of ‘why write about me?’ I was writing about what happened in Turkey, what I saw, but it wasn’t about me,” Stewart said. “But I realized you can’t write about a culture unless you do some reflective thinking about how you fit into that culture. That led me to think about writing as things that happen to me more personally.”

In her four published books of poetry, Stewart has mined the emotions of both success and tragedy, bringing to the page her examinations of love, loss and grief. She has written about the death of her older sister, when Stewart was 11, the onset of her oldest son’s epilepsy syndrome that took away his ability to use language, and the four miscarriages she had before the birth of her second son, Xavier. “That’s part of what I’m always doing in my work, reflecting back on my inner life and projecting it out on the world,” Stewart said.

And she said the poems have resonated with people during her readings, particularly the work about her miscarriages. “I’ve had women come to me saying it was so healing for them to hear those poems,” Stewart said.

Now, as an ambassador for poetry for an entire state, Stewart has to be mindful of the poems she chooses to highlight. “It’s about selecting poems you can read on one reading and be satisfying, but will keep being rich on the second reading,” Stewart said. “That’s the key to a successful poem.”

Stewart’s anthology will include undiscovered South Dakotan poets and share their state culture with readers.

Opposite page: Some of Stewart’s published books of poetry.

Above: Stewart chats with an attendee while signing books after her poetry reading on campus.
KEEPING UP WITH A DATA EXPLOSION

New physics courses allow formation of new major and minor to prepare students for growing job market
Fun fact: The word data is the plural of datum. And if there’s any word that most appropriately embodies the concept of plurality, it’s data.

Simply put, data is everywhere. It darts past us every day, hurtling between devices and transmitting 3.5 billion daily Google searches, or the 500 million tweets we send every day, or the 500 hours of video uploaded to YouTube every minute. It tracks our shopping patterns, web browsing habits and the number of stairs we climb.
The amount of data created each day is astounding. Every day:
- 294 billion emails are sent.
- 95 million photos and videos are shared on Instagram.
- 65 billion messages are shared on WhatsApp.
- By 2025, it’s estimated that 463 exabytes of data will be created each day—that’s the equivalent of more than 212 million DVDs.

The ubiquity of data has reached the point that it is quantified with words like “zettabyte,” which is 1 sextillion bytes (that’s a one followed by 21 zeros), a number so incomprehensively vast that it’s comparable to the number of stars in the known universe.

And that one zettabyte? It’s only going to grow. According to the World Economic Forum, by 2020, the entire digital universe is expected to reach 44 zettabytes.

This explosion of data has led to an increase in demand for employees with the skills to analyze, quantify, and present the billions upon billions of information sets we create every day. Earlier this year, Bloomberg singled out data scientist as the highest-earning entry level job in the country, with a median annual base salary of $95,000.

Companies need data scientists. And UNI is introducing a new major and developing new courses to meet this demand.

This fall, the physics department is for the first time offering a bachelor’s degree in physics with a data science emphasis, which will combine the traditional physics curriculum with courses related to data science.

“The intent of the new degree is to marry the broad-based, problem-solving abilities that are developed in physics majors with the more specific statistical training that is associated with data science,” said Paul Shand, the head of the department of physics. “The students will get introduced to sophisticated statistical methods that will enable them to analyze these large data sets and derive patterns of useful information.”

Coupled with the major is a new interdisciplinary minor that would include brand-new UNI coursework focused on the areas in data science that employers are seeking. The physics department is developing the minor with Associate Professor Eugene Wallingford, head of the computer science department, professors Doug Mupasiri and Syed Kirmani with the mathematics department, and Assistant Professor Ali Tabei with the physics department.

The minor was formulated through research into the job market for data scientists and the qualifications that were most sought after in the hiring process. The team identified three main areas that employers are looking for: computer programming, machine learning and data visualization. Shand said he hopes the minor will be available in 2020.

The major and the minor were designed so students could customize their involvement in data science. A student with ambitions to be a full-fledged data scientist can take both, while virtually any student can take the minor and learn enough to function in a world that will increasingly focus around data.

“We’re really excited about the minor because we have done the research and developed something that is both very targeted towards employment and has a low threshold to enter the program,” Shand said. “Anybody from any department and pretty much any major can take this data science minor, and that’s exciting.”
Paul Shand, the head of the department of physics.
HONORING A LEGACY, CONTINUING GROWTH

UNI prairie renamed to honor professor’s legacy of work
In the 1970s, one man looked at an empty plot of land just east of campus and saw the possibility for something special. That man was Professor Emeritus Daryl Smith, and his vision would lead to the development of what would become known as the campus Tallgrass Prairie. Now, the prairie is being renamed the Daryl Smith Prairie, to honor his legacy of work on campus. It’s a full circle moment, since Smith’s major influence on campus began with his work developing the prairie.

“One of Dr. Smith’s biggest accomplishments was beginning this system of preserves on campus, and it started with the site that we’re dedicating as the Daryl Smith Prairie,” said Laura Jackson, professor at UNI and director of the Tallgrass Prairie Center.

The “Campus Prairie,” as it’s sometimes called, is a roughly 8-acre plot of land on Jennings Drive that was established in an effort to restore tallgrass prairies in Iowa, where 99.9 percent of tallgrass prairies have been eliminated, due in part to the conversion of the land for agriculture. The original campus prairie was just the beginning of this undertaking that’s still happening today—and Smith played a key role in establishing the prairie, and in ensuring its mission would endure and expand for years to come.

Smith also helped to develop the statewide Roadside Vegetation Program, which assists counties in managing their roadsides using native plants. To support this effort, he founded the Tallgrass Prairie Center, dedicated to the preservation and restoration of prairies on roadsides, public land and farms across the state. A number of other smaller campus prairies were developed, taking Smith’s original vision far beyond that first plot of land. “We’re very lucky. Not everybody has got this and it’s something that makes UNI stand out as a unique institution, this collection of natural areas on campus,” said Jackson.

It is, indeed, unique—UNI is the only college in the nation associated with a center dedicated to prairie preservation and restoration. And the center and the campus prairies act as fantastic resources for the UNI community.

“Faculty are using these campus preserves for teaching and getting students out there to learn how to do some science,” said Jackson. “I think our biology students are some of the best trained students coming out of public universities in the Midwest because of these incredible assets they have available to them. They don’t have to do things just online or with computer models.”

And the prairies don’t just provide hands-on experience to students interested in science—the entire UNI community benefits from these natural spaces. “The preserves remain an incredible asset to the university and to the community both for teaching and also just for recreation, enjoyment and mental health,” Jackson said. “There’s very good evidence that we benefit from spending time in nature. You don’t have to be a scientist to get that benefit.”

The utilization of the prairies by the campus community is just one example of Smith’s enduring legacy. His legacy lives on, too, in the leadership UNI students and alumni exemplify—and the naming of the campus prairie aims to nurture that leadership.

“I think there’s some value in honoring people from the past because it inspires you to think big,” said Jackson. “There was just nothing here, it was just a hayfield. It took imagination and vision and a lot of grunt work to bring these things into being. And when you honor somebody for something like that, you’re showing students, ‘Wow, what opportunities are right in front of me that I could do to make a mark like this?’”

A dedication ceremony was held on September 14 to rename the prairie, commemorate Smith’s retirement from UNI and honor his 50-plus years of dedication to prairie education and preservation. Smith and his students planted the prairie in 1973.

Speakers at the event included President Mark Nook, College of Humanities, Arts and Sciences Dean John Fritch, and several of Smith’s former colleagues and students.
NEW COMPUTER SCIENCE COURSES, SAME EXCELLENCE IN TEACHING

New endorsement keeps up with changing society and student needs
The state of Iowa wants to see more computer science courses in its high schools. UNI is helping them get there.

We’re far past the point where it’s profound or insightful to claim “computers are everywhere.” In our pockets we carry a device that would qualify as a supercomputer in almost any other decade. Even our washing machines connect to the internet.

So, yes, computers are everywhere. So much so that it’s difficult to imagine a career that doesn’t, in some way, involve computers. The World Economic Forum estimates that computing and automation will create 58 million new jobs by 2025. With all that, it’s safe to say that teaching high schoolers about computer science is increasingly important.

Enter the University of Northern Iowa. This summer, UNI is taking nearly 50 in-service teachers from Iowa through a computer science course designed by faculty in the university’s computer science department. “Our goal is to give these teachers the full foundation of computer science so they have a broader background to answer students’ questions,” said Ben Schafer, an associate professor in the department.

The course was developed in response to a push by the state to add more computer science courses in high schools. Last year, the state added a computer science endorsement as a potential add-on to a teaching license. Endorsements like this serve as extra qualifications to teach a particular class. It’s not required, but it means a teacher has done extra work to better understand a subject and be better equipped to support students.

The UNI computer science department knew that change was coming, and they were ready to show their leadership in the field. Just a week after the state announced the new endorsement, the department was already prepared to submit its paperwork in order to offer the endorsement at UNI. “We wanted to make sure UNI was a part of that landscape and in the discussion when it comes to computer science,” Schafer said.

Schafer developed the course with colleagues Sarah Diesburg, assistant professor, and Phillip East, faculty emeritus, with the help of a $300,000 grant from the National Science Foundation. The course combines online learning, videos and in-person seminars, not only providing teachers with an expertise in computer science, but a network of fellow instructors to share their struggles and successes.

“The course is a really broad intro to computer science,” Schafer said. “Everything from bits and bytes to how you build a computer operating system, network or database to artificial intelligence.”

Now, the first two cohorts of in-service teachers are moving through the course, and will obtain the endorsement in 2020. From there, the teachers will take what they learned back to their schools and be able to educate hundreds of high schoolers on computer science.

Additionally, the department is also rolling-out the course as a UNI class, so current students can graduate with an endorsement in computer science already on their license, which could help them find jobs.

“My guess is that a lot of students who opt to add that endorsement will find themselves a little more marketable,” Schafer said. “Schools want to add computer science to their offerings, and it will be far easier to bring someone in that has the endorsement than sending a teacher to get the endorsement.”
BRINGING MORE

VOICES to LIGHT

Theatre students put on female-authored play celebrating female scientists
All three were brilliant scientists whose research changed our conception of the universe, but only one was faced with the challenge of being a female scientist in 18th century France.

Granted, in the pantheon of all-time-great scientists, du Châtelet is likely a notch below Einstein and Newton, but her work was heavily influential to their scientific legacies—her groundbreaking research on kinetic energy helped prove that energy is not lost when two forces collide, a fact that both contradicted Newton, who held that energy disappeared after a collision of two forces, and laid the foundation for Einstein’s seminal equation, \( E=mc^2 \).

Yet, some of her most influential work had to be published under the name of Voltaire, the famed French writer and philosopher and du Châtelet’s lover. The Académie des Sciences in Paris, where respected scientists gathered to discuss their research, was not open to women.

Du Châtelet becomes, then, another in a long line of examples of the struggles women have faced in the professional world, in the sciences and beyond. That also includes theatre, which has long been the province of men, where the most coveted jobs—director, production designer and others—were not even offered to women.

But that is starting to change, and the University of Northern Iowa is at the forefront of a trend to focus on producing plays that showcase different voices and perspectives. Last spring, the theatre department produced “Legacy of Light,” which tells the story of du Châtelet and puts women in sciences at the forefront of the narrative.

“It’s a beautiful story about family and women and legacy and what you leave behind,” said Amy S. Osatinski, an assistant professor of theatre at UNI who directed the production.
The director, assistant director, stage manager and assistant stage manager for the show were all women.

The play, written by Karen Zacharias, juxtaposes Châtelet’s story with that of a 21st-century physicist, Olivia, who is desperately trying to conceive a child. The story is complex and interwoven, stretching across two very different times—pre-revolutionary France and modern New Jersey—while showcasing the elements of humanity time has not changed—love, child birth, science and ambition.

Du Châtelet’s story focuses on the end of her life, where an unexpected pregnancy at 42 left her certain that she would not survive childbirth. She throws herself into her work in a rush to pour all of her research, thoughts and experiments on to the page before she dies. Olivia, meanwhile, wants to have a child with her husband, Peter, but a battle with ovarian cancer left her unable to conceive. Olivia and Peter find a surrogate named Millie, who ends up being a relative of du Châtelet.

“The play flips the world on its head a little bit. It was written by a women, and female characters are the strong, grounded ones, and the men exhibit more of the frantic, stereotypically female traits,” Osatinski said. “We tried to create a feminine world, with no sharp angles and a softer color palette, which is interesting because it is the men inhabiting a woman’s world rather than what you would traditionally see.”

The male dominance of the theatre stretches back at least to Shakespearian times, when women were not allowed on stage because acting was a profession akin to prostitution, Osatinski said. “Playwrights have been overwhelmingly male, and you write about what you know. There’s never before been this desire for more voices, and, finally, within these last ten years, we’re starting to see that.”

Theatre is, after all, responsible for telling the stories of humanity. “But how can you represent the voices of humanity if you’re only telling one story?” Osatinski asks. “The world is made up of people of all different genders and ethnicities. It’s not that white men shouldn’t have a place in theatre, it’s that we should have an equal representation of everybody.”

Slowly, the world of theatre is opening up and including those other perspectives. More female playwrights are starting to be produced and hired in leadership. It’s an effort emblematic of one of Newton’s most influential conclusions, one that “Legacy of Light” features heavily: Nothing will change unless a force acts upon it.
“Culturally, everything is new,” Burnidge said. “The fundamentals of everyday living as an Iowan is new to someone who has been resettled. It’s very confusing. There is immediately a language barrier. Most come from refugee camps that don’t have electricity or heaters and air conditioning.” This culture shock, combined with their struggles to escape their country, often leads to mental health issues.

“Every refugee is coping with some sort of trauma. That makes everything more difficult on top of what was already difficult. Depression is very high,” Burnidge said. “But the newcomers are survivors and have been for quite some time. So coping skills are there and resiliency skills are there in a high degree that most of us can’t comprehend. It’s so impressive.”

These skills often make an impact and yield lessons for Burnidge’s students. Their problems are put in perspective. The rigors of life in a first-world country pale in comparison to the flight from subjugation and death many of these refugees experienced. It helps the students understand the lessons of the course to a degree that simple lecture cannot attain. “When they read about the history of the civil war, it’s not just text on a page,” Burnidge said. “They’re reflecting on someone they’ve met, a real human who has lived that crisis. And that is an important learning moment that can’t be gained by me lecturing.”

These moments then translate into skills that will propel the students to successful careers. One of the core skills religion majors acquire are culture understanding and cultural translation, and they are skills that translate to any profession. “We’re able to think critically and empathize with another person,” Burnidge said. “Working with EMBARC provides our students the opportunity to realize what that looks like in the real world.”

They arrived in Iowa by the thousands, fleeing the longest-running civil war in history and a brutal military regime that burned their villages and killed their people. They fled a repressive government that has been accused of ethnic cleansing by the United Nations, often taking with them only what they could carry.

They are the minority refugees of Burma. Since 2000, they have made up the largest segment of refugees entering the United States, and about 3,000 have made Waterloo their home. And while they escape the savage conditions of their country, refugee resettlement comes with its own set of challenges. Since 2016, they have been getting help from senior religion majors from the University of Northern Iowa, who have partnered with EMBARC (Ethnic Minorities of Burma Advocacy and Resource Center) to help the refugees’ transition into the community.

The campus-community partnership developed through two required professional development courses in the department of philosophy and world religions taught by Cara Burnidge, assistant professor of religion, and Yasemin Sari, assistant professor of philosophy. “A core part of a UNI graduate’s education should be a sense of responsibility for the community we belong to,” Burnidge said. “One of the valuable things about the class is that it demonstrates to students a way to do that.”

The three-hour course involves the regular trappings of a college class—readings, lectures, assignments—but it also includes a service learning component, where students go out to the refugee community and provide assistance through a community partner—in this case, EMBARC. The goals of the service-learning projects can differ. In the first year, the students helped refugees improve their job-readiness skills by working on their resumes for their next job. It’s a vital service for a population facing multiple cultural hurdles.

“Culturally, everything is new,” Burnidge said. “The fundamentals of everyday living as an Iowan is new to someone who has been resettled. It’s very confusing. There is immediately a language barrier. Most come from refugee camps that don’t have electricity or heaters and air conditioning.” This culture shock, combined with their struggles to escape their country, often leads to mental health issues.

“Every refugee is coping with some sort of trauma. That makes everything more difficult on top of what was already difficult. Depression is very high,” Burnidge said. “But the newcomers are survivors and have been for quite some time. So coping skills are there and resiliency skills are there in a high degree that most of us can’t comprehend. It’s so impressive.”

These skills often make an impact and yield lessons for Burnidge’s students. Their problems are put in perspective. The rigors of life in a first-world country pale in comparison to the flight from subjugation and death many of these refugees experienced. It helps the students understand the lessons of the course to a degree that simple lecture cannot attain. “When they read about the history of the civil war, it’s not just text on a page,” Burnidge said. “They’re reflecting on someone they’ve met, a real human who has lived that crisis. And that is an important learning moment that can’t be gained by me lecturing.”

These moments then translate into skills that will propel the students to successful careers. One of the core skills religion majors acquire are culture understanding and cultural translation, and they are skills that translate to any profession. “We’re able to think critically and empathize with another person,” Burnidge said. “Working with EMBARC provides our students the opportunity to realize what that looks like in the real world.”
CASTING TECHNOLOGY THAT BREAKS THE MOLD

UNI Metal Casting Center celebrates 30 years of advancing the industry and students’ careers
Foundry jobs have a reputation for being dark, dirty and potentially dangerous. However, few may know that modern metal casting and foundry jobs are incredibly technical and function at the forefront of major industries that are experiencing growth.

From pouring molten metal to working with 3D modeling, the people working in the metal casting field have a knowledge base that spans a variety of technical areas. Training for all of these needed skill sets is available on the UNI campus through the department of technology and the UNI Metal Casting Center.

This spring, the UNI Metal Casting Center is celebrating its 30th year of dedication to preparing students for foundry employment. The center started in 1989 as a business outreach center for the Iowa foundry industry. The farming crisis of the 80’s had just devastated much of Iowa’s agricultural economy, and it was becoming apparent that there was a need for jobs in the metal casting industry to not only help rebuild employment in Iowa, but also to better position the metal casting industry to compete globally. Local companies recognized that the foundry workforce needed better training and skills to adapt to new technologies within the industry. Initial state funding was designated to help workers with training, assist the industry with best practices and research and aid businesses with regulations, process planning and optimization.

The center’s operations are continuous with 10-15 projects per week and are supported by a full-time staff of eight plus more than 20 graduate and undergraduate students. “The average tonnage of metal poured at the MCC is 25-50 tons annually. I can’t think of too many other universities pouring more than two tons a year,” said Scott Giese, professor in the department of technology.

Looking forward the center has plans for expanding capabilities in investment casting and foundry automation while continuing to serve the industry in legacy as well as advanced manufacturing technologies. “We’re looking at technologies such as database development of thermo-physical properties for casting process simulation, and new materials to improve workplace emissions so we can help companies be aware of their environmental impact and meet their community standards,” Giese said.

To celebrate the thirty years of impact that the UNI Metal Casting Center has made on Iowa, the nation, and, most importantly, student success, the department of technology is hosting an alumni reunion on Friday, March 27, 2020. To learn more about the Metal Casting Center, visit mcc.uni.edu.
TRYING THEIR HAND AT ART CLASS

UNI art students craft a puppet lesson plan which is implemented by local elementary schools

The puppets filled the Gallery of Art display cases in Kamerick Art Building. They had bulbous eyes made from Styrofoam and hair fashioned from yarn. They were clothed in felt and fabric of blues, greens, reds and browns and bedecked with balloons, bells, rubber bands and buttons. Some were humans; others were mythical monsters, resplendent in their craggy teeth and gaping maws, outfitted with wings, horns, tails and snouts. One looked like Bob Ross. It was a happy little puppet.

In all, there were 110 puppets on display last April, all fashioned by third- to fifth-grade students in Waterloo and Cedar Falls who followed a lesson plan designed and written by University of Northern Iowa art education students, under the instruction of Associate Professor Wendy Miller.

The class was a success, both for Miller’s students, who gained valuable experience by constructing a lesson plan taught by in-service teachers, and the elementary students, who were given a creative outlet and a learning experience different from their normal curriculum.

“We got a great response from this collaborative project,” Miller said. “My students loved it because they had to write a high-quality lesson, and they knew art teachers would be following it.”

Both lessons focused on creating characters based on chance. The Cedar Falls students picked a verb and an adjective randomly to create a puppet with recycled materials. The Waterloo students randomly selected two animals, and then created their own mythical creature by combining them together to create a new one.

And while both classes were different, they had the same goals.

“The projects were filled with problem solving and the idea of chance and figuring things out,” Miller said. “There were elements of storytelling that engaged the
students and encouraged them to use their imagination. It was filled with story and action and movement, and the kids had to collaborate together to act out the story.”

Before working on their lessons, the UNI students traveled to a puppet festival to learn from professionals and see their creations. Fourteen students went to West Liberty, IA, and gathered a deeper knowledge of the world of puppetry, which helped them in planning their lessons.

The process of designing the lesson also provided vital real-world experience for Miller’s students. They had to not only write the lesson, but order the supplies, budget their money, organize the materials and deliver them to the schools. The students attended the schools’ professional development days and presented the lesson to the teachers. “It was a professional opportunity for them,” Miller said. “It gave them a chance to be leaders and work independently.”

The lesson culminated in the art show in April, which provided another round of benefits for both Miller’s students and the elementary students. “For the elementary students, it’s very exciting to have their work displayed at the university. It can be very prestigious,” Miller said. “And my students gained an opportunity to interact with parents and community members, something that preservice teachers don’t get enough experience with while learning to be teachers.”
The art show also highlighted the importance of bringing the art department into local classrooms.

“It’s important to have a partnership between the university and public schools and the community,” Miller said. “The art department doesn’t just bring in professional artists, we also bring community art in as well. We want to engage with the public. We really value children’s art, and the puppets were amazing.”

For Miller’s students, the art show marked the end of a journey, a journey some were hesitant to take.

“I think when we started, my students were not very excited about it, like puppets were a bit babyish or belonged at story time at the library,” Miller said. “But then they saw how it engages literacy and culture and physical movement and creative problem solving, and how much students need and want to share their stories and be moving in the classroom. We walked away with a whole new understanding of the power of puppetry.”
It’s one of the most powerful icons in science, an organized representation of the structures that underpin everything we touch, smell and see. And if it’s not in every school building in the country, it probably comes close. It’s the periodic table, and this year is its 150th anniversary.

In light of this milestone, the UNI department of chemistry invited Eric Scerri, a world-regarded expert on the periodic table, to its annual Leland Wilson Lecture Series. The lecture was held on Sept. 19 in McCollum Science Hall.

Scerri is a chemist, author and leading historian and philosopher of science, specializing in the periodic table of the chemical elements. He is the author of “The Periodic Table, Its Story and Its Significance” and numerous other books on this and related topics. His research ranges across many areas including chemical education, and historical and philosophical questions such as the relationship between chemistry and quantum physics.

“His lecture gave people the opportunity to learn more about the development of the periodic table and the discovery of the elements, which affect everything in our lives,” said Laura Hoistad Strauss, head of the department of chemistry.

The periodic table arranges the elements by order of increasing atomic weight. When you arrange them sequentially, patterns of elements with similar chemical properties appear. Elements are lined up in squares, resulting in the blocky shape of the table that’s so familiar today.

And although 2019 is marked as the 150th anniversary of the periodic table, its history goes much deeper, as Scerri demonstrated as he guided the audience all the way back to Ancient Greece.

In the beginning, Greek philosophers recognized four elements: earth, water, air and fire. Some believed these elements consisted of microscopic components. These were called Platonic Solids. One of these solids was a triangle, and the Greeks believed that this was the shape that made up fire, based on the logic that triangles have sharp ends and fire is painful to touch.
This marked the beginning of the questions that would lead to the periodic table. Later, alchemists would grapple with the properties of chemicals as they endeavored to transform lead into gold. Even more centuries later, the Greeks’ list of elements was expanded to 33 simple substances outlined by Antoine Lavoisier.

The periodic table came in all shapes and formats as scientists across the centuries continued to tinker with the design. It was a circle, or a wedge; it swirled across the page; it was laid flat in a uniform block or curled around a helix in three dimensions. In all, over 700 versions of the periodic table have been discovered.

But the formulation of the modern periodic table is most often credited to Dimitri Mendeleev in 1869. But, as Scerri demonstrated, Mendeleev stood on the shoulders of many scientific breakthroughs before him, such as John Dalton’s atomic theory and the assignment of atomic weights, which was the first step in attempts to compare the elements.

One of these early periodic tables is owned by UNI and is displayed on the second floor of McCollum Science Hall. The frayed sheet is almost unrecognizable as a periodic table. The listed elements are stacked in columns. Gone are the familiar blocks that construct the modern periodic table. It likely dates to 1910, said Hoistad Strauss. All the noble gases except radon are present, as is radium, which was discovered in 1898. The table is also missing actinium or lutetium, which were first isolated but not yet reported around this time.

And the periodic table continued to be reformed long after Mendeleev and the table displayed at UNI. The advent of quantum mechanics was a massive development for chemistry, as it proved that there were even tinier subdivisions of reality than the atomic model upon which the periodic table was based. Discussions of these repercussions continue today and it is a topic Scerri frequently explores.

But, despite these shifts in the scientific landscape, the periodic table endures. As Scerri wrote in “The Periodic Table,” “it’s become a cultural icon, not just a scientific icon … a single document that captures the essence of chemistry in an elegant pattern.” ■
**Art professor named to Artist Fellowship Program**
UNI photography professor Noah Doely was selected for the prestigious 2018-19 Iowa Art’s Council Artist Fellowship Program, which was created to support Iowa artists who contribute to artistic excellence and innovation across the state. As one of five artists selected for the fellowship, Doely received a $10,000 grant to support his work, traveled across the state to discuss his art at public events and took part in career-development training. In recent years, Doely has worked with 19th-century photographic processes, pinhole cameras, digital collage and video.

**Retired professor’s paper named top submission of last 50 years**
A research paper co-authored by recently retired UNI computer science professor Philip East was selected as the top paper of the last 50 years by the Association of Computing Machinery and the Special Interest Group on Computer Science Education. The paper examined misconceptions of first-year computer science students and addressed the development of “concept inventories” that teachers could use to correct misunderstandings. East estimated that about 8,000 papers were eligible for the award. The paper, titled “Identifying students’ misconceptions of programming,” was co-authored by Lisa C. Kaczmarczyk and Elizabeth R. Petrick of the University of California, San Diego and Geoffrey L. Herman of the University of Illinois at Urbana-Champaign.

**Physics department wins Carver grant for new equipment**
In April 2019, the physics department was awarded $574,000 by the Roy J. Carver Charitable Trust (with matching funds from UNI) for a project titled “Instrumentation for Career Preparation.” The funds were used to acquire a DynaCool Physical Property Measurement System and a focused ion beam microscope. In addition to providing world-class capabilities in materials science research, the new equipment will be integrated into the physics curriculum to provide undergraduate students with opportunities to use advanced instrumentation to prepare them for careers in science and technology.

**Women’s Chorus celebrates anniversary**
2018 marked the 130th anniversary of the Women’s Chorus, the oldest ensemble on UNI’s campus. The Women’s Chorus was founded by Julia Curtiss in 1888, when the institution was called the Iowa Normal School, and the ensemble was originally named the Cecelian Glee Club. The celebration for this special anniversary began in March 2018 when the current UNI Women’s Chorus traveled to Germany on their second international tour, and culminated with an on-campus concert and celebration weekend in October. Alumni returned to campus to sing together, and to celebrate the rich tradition and heritage of the Women’s Chorus. Past members included those who graduated as far back as 1954 and as recently as last year.
Campus literary magazine celebrates 50 years and Whitman’s birthday
The North American Review (NAR) hosted a writing conference April 19-21, 2019, to celebrate the magazine’s 50 years on the UNI campus and a redesign of the magazine’s format. American author Terry Tempest Williams gave a keynote reading and writers, teachers and scholars from around the country shared their work and attended workshops led by featured writers from the magazine.

NAR is also currently celebrating American poet Walt Whitman’s 200th birthday with “Every Atom: Reflections on Walt Whitman at 200.” Two hundred prominent poets, writers, scholars, historians, artists, public figures and citizens will offer commentary on different passages of Whitman’s most famous poem, “Song of Myself.” See the tribute in progress by visiting northamericanreview.org.

Art gallery goes digital
The UNI Gallery of Art is moving forward with plans to digitize upwards of 4,000 pieces art from the UNI Permanent Art Collection, which will both bring public attention to the gallery and fill out the new searchable collections database. A temporary position to photograph and upload the artworks and the equipment to digitize the collection were funded by the newly formed Friends of the UNI Permanent Art Collection & Gallery.

Physics Club visits accelerator lab
During the spring semester of 2019, thirteen UNI Physics Club students visited the Fermi National Accelerator Laboratory (Fermilab) near Chicago. Among the highlights of the visit were the Do neutrino detector and a tour of the Tevatron facility. Scientists and other professionals provided information on past, present and future experiments, as well as insight into careers at Fermilab.

Science Ed Professional Development Conference
The University of Northern Iowa science education program hosted the Update Conference in April, which featured presentations on the latest research in a discipline and research on innovative teaching methods and materials for existing secondary science teachers and future elementary and secondary science teachers. The conference featured a keynote presentation from UNI alumna Ashley Flatebo, who was the 2018 Presidential Award Recipient for Math and Science Teaching.

Center trains teachers for instruction of math
The Center for Teaching & Learning Mathematics (CTLM) began instructing its second cohort of teachers in Mascoutah, Illinois, in January 2019, an earlier date than planned due to the success of the first cohort. They will begin with the first of eight courses in the Making Sense of Mathematics and Teaching professional development series. Completion of all eight courses can lead to a math endorsement. Additional cohorts are planned.

As an additional part of the CTLM’s outreach, the Mascoutah Math Mania summer camp took place and was filled to capacity with over 140 fourth through seventh graders from the district. The CTLM provides the camp curriculum and supports the training of Mascoutah teachers to effectively lead this popular summer math camp. All of this work is made possible due to the continuation of a Department of Defense Education Activity subaward to the CTLM for military-impacted schools.

Music professor begins creating a musical
The tale of the U.S. women’s suffrage movement has inspired Professor Nancy Cobb to start work on a musical, “The Suffragist,” an undertaking that will both showcase the excellence of UNI’s School of Music and offer its students a priceless opportunity along the way. Cobb’s musical, which is being written by playwright Cavan Hallman, tells the story of the women who fought to push the 19th amendment across the finish line between 1915 and 1920, including Alice Paul, Carrie Chapman Catt, Lucy Burns and Inez Milholland. The musical will premiere on UNI’s campus at Gallagher Bluedorn in June 2020.

Earth Science trip leads to learning in New Mexico
In early June of last year, professors Kyle Gray and Alexa Sedlacek led 12 students to northern New Mexico to explore the volcanic landscape and discuss the numerous environmental issues facing cities like Albuquerque. Besides soaking in the amazing geology of the region, the trip also included several opportunities to understand the complex environmental issues associated with living in a desert. Students visited with people who work on these problems including a geologist working to clean up the legacy contamination in Los Alamos, a geologist and tribal member working to protect his ancestral homelands, and a representative from Albuquerque’s water district who described the many ways the city has reduced its water usage.
MAKING IT EASIER to SWALLOW

Sertoma Research Lab helps patients with life and helps students with learning.

Students at the Sertoma Research Lab learn how to use the technology to help patients.
Imagine this: You’re eating a meal, and with every bite, every single bite, you’re not sure if you’ll be able to swallow your food. This worry eventually consumes you, to the point that you stop talking at the dinner table, stop doing anything that might distract you from the seemingly mundane task of swallowing. Meals become a chore, something to dread. Swallowing can be something we take for granted. We do it without thought. But for someone suffering from dysphagia, the medical term for a difficulty with swallowing, this seemingly simple task is actually an intricate dance between the nerves and muscles that coordinate eating and breathing. A misstep can be the difference between life and death.

It’s a complex condition, but research to solve an aspect of dysphagia is happening at the Sertoma Research Laboratory at UNI under the direction of Laura Pitts, an assistant professor within the department of communication sciences and disorders. Pitts has seen firsthand the toll that a swallowing disorder can have on an individual and their family. “Many individuals report they’re not sure when they might have a choking episode,” Pitts said. “They’re on high alert. It can prevent them from going out or attending family events. It affects their quality of life and can lead to depression. Our goal is to not only make swallowing safer, but to allow patients to once again enjoy eating and participate in social activities for as long as possible.”

While dysphagia can occur in any age range and can be the result of a number of factors, from brain tumors to surgery complications, Pitts’ research is focused on dysphagia in people with Parkinson’s disease, stroke survivors and people recovering from traumatic brain and/or spinal cord injuries. With the help of UNI graduate students, Pitts uses exercise therapies to strengthen patients’ swallowing ability and also uses equipment to measure the cough and breathing ability of people with Parkinson’s disease. “Many disorders can cause a weakness in the ability to swallow, but Parkinson’s disease in particular can change the timing and the strength of the swallow,” Pitts said. “We want to strengthen their swallow and also want them to cough strongly in case something wasn’t swallowed well.”

For the past three summers, UNI has offered the Intensive Swallow Program, which is a four-week program where graduate students provide swallowing therapy under Pitts’ supervision. In the research lab, students use equipment to measure the velocity of cough and the timing and movement of a swallow from x-ray videos of the throat. They guide patients through breathing exercises and tongue-strengthening routines, which are crucial to generating enough pressure to properly swallow. Pitts can also assess swallowing safety and therapy progress by inserting a small camera through the nose to observe a patient’s swallow.

Morgan Powers, a graduate student in speech-language pathology, worked with Pitts during the summer programs of 2017 and 2018. “This type of hands-on research experience as a student is extremely valuable,” Powers said. “Through this experience, I have learned how to conduct a research study with participants, as well as gained knowledge of swallowing disorders that I would not have gained outside of this study.”

Pitts’ research is in collaboration with the Shirley Ryan AbilityLab, the Mayo Clinic and the Feinberg School of Medicine at Northwestern University. Her students frequently intern at the Shirley Ryan AbilityLab, which has been the number one rehabilitation hospital in the country since 1991. While Pitts has received her share of honors—she received a McElroy Fellowship in 2008 and was recognized as the 2013 New Investigator of the Year by the international Dysphagia Research Society—she said the most enjoyable aspect of her work is giving people back the ability to eat the foods they love, a simple gift with a beauty that’s only illuminated once it’s taken away. “It is a continual inspiration to celebrate successes with my patients,” Pitts said. “I had the opportunity to work with a young woman with dysphagia who wanted cake on her 21st birthday. We worked toward that, and her family and I got to share that sweet moment with her on her birthday.”
For Dobernecker, it was not an easy decision. Accepting the internship meant taking a semester off from school, and he had to arrange his own living accommodations in San Antonio. But, in the end, it was an opportunity he couldn’t miss.

“The amount of detail that is put into a one-week, PGA Tour stop is insane and very rewarding,” Dobernecker said. “I learned how to speak to high-level executives and how to give an effective sales pitch. I also learned about the importance of networking and how to do it effectively.”

There were other perks as well. During the week-long tournament, Dobernecker stayed in the luxurious JW Marriott hotel and ate gourmet meals in player dining, sitting next to pro golfers such as Jordan Spieth. He also assisted in raising a record-breaking $6.35 million for Birdies for Charity, which was distributed to more than 230 local charities in the San Antonio area. Dobernecker also created all player graphics for player commitments, helped run social media and created print and digital advertisements.

Beyond that, he made valuable connections at Wasserman, a sports marketing and talent management company with headquarters across the world that represents high-profile athletes such as Javier Baez, Russell Westbrook and Klay Thompson.

In short, it was an opportunity that will impact the rest of his life. And it was one he was prepared for.

“It’s a great job preparing students to tackle the real world.”

It was the night before the event that had been the main focus of his internship at the Valero Texas Open, and University of Northern Iowa student Chris Dobernecker wanted it to be perfect.

For months, he had been organizing the Dash to the VTO, a 5K and one-mile race that kicked off the Valero Texas Open Week, which was being held in a coveted spot on the PGA tournament schedule—one week before the Masters, the biggest tournament in professional golf.

The entire event was his responsibility. That meant handling registration, T-shirts and medals. It meant cold calling food and beverage vendors for the post-race party and running a staff of more than 25 people.

So, on that night before the race, Dobernecker stayed up until 2:30 a.m. with his supervisors, working out the last-minute details. He checked into the hotel on site at 2:45 a.m. and was back down preparing for the race at 4:30 a.m.

It’s difficult to do much of anything on less than two hours of sleep, let alone run an event for a major professional sports tournament. But Dobernecker pulled it off. Almost 900 runners raced in the Dash to the VTO—a record-breaking number—and the 32 vendors at the post-race party were a massive improvement on the eight vendors from 2018.

It was an experience that solidifies the importance of internships in an education, offering the type of real-world training that is challenging to simulate in a classroom. It’s why UNI’s communication department makes an internship a requirement for its public relations, political communication and digital media majors.

“We consider it their first job search in their field, so we want them to have that experience,” said Nichole Zumbach Harken, director of internships for the communication department.

For Dobernecker, it was not a night to worry about the small things. He was ready to go. The race started on time, and the event was a success. It was an experience that will impact the rest of his life.
Above: The workers behind pulling off a successful Valero Texas Open pose with 2019 winner Corey Conners.

Right: Chris Dobernecker gaining valuable work experience at his internship with the Valero Texas Open.
ART, SCIENCE and ADHD

Kate Murray’s double major helps her deal with disability
While she sits in her University of Northern Iowa classes, Kate Murray’s pen rarely stops moving. It toggles, back and forth, between two notebooks—one for lecture notes and one for sketching. Every free moment in class is filled with drawing. Murray will leave the lecture hall with two to three pages in her sketchbook covered with whimsical illustrations of mythical creatures and landscapes. By the end of the year, she’s usually gone through four sketchbooks. These sketchbooks are emblematic of two driving factors in her life: a love of art and the challenges that stem from living with ADHD and autism.

While some may equate sketching in class with inattentiveness, for Murray, a UNI senior double majoring in art and ecology, if she doesn’t draw, she can’t focus on the lecture. It’s all part of keeping her brain properly stimulated. “You’re trying to find that optimal level of stimulation,” Murray said. “If I’m under stimulated and my other senses aren’t being occupied, then everything falls out of whack. It’s definitely an issue. There are still times when I get too caught up in a drawing or a daydream and lose part of my time.”

And though her need to sketch to maintain focus comes with its challenges, it also has its benefits. Namely, Murray gets a lot of practice doing what she loves. “I have a natural advantage because I just constantly draw,” Murray said. “I’m ADHD, so I always have to be doing something or I won’t understand what’s being said (in lectures).”

And her practice is paying off. She recently won the UNI department of educational psychology and foundations purchase award for her watercolor and ink piece “Mushrats.” She also completed an animation project with a local band that was shown at the Toronto ReelHeART International Film Festival in July.

Murray’s work tends to focus on themes of whimsy, curiosity and exploration and examines topics of sexuality, gender, disability, the environment and biology. She often tries to imagine the biological and ecological intricacies of how it would work for unicorns or mermaids, for example, to exist in the world. She’ll draw a griffin skull or try to relate monsters and ghost stories with biology.

She works in many mediums, but she specializes in what she calls, “whatever is nearest to my hand at this exact moment.” She will work with markers, pens, digital drawing programs, watercolor, oil pastel and embroidery. Her creations can adorn canvas or cardboard. And through it all, she weaves in her experience with ADHD and autism. “When you’re living with those disabilities, it’s a way of viewing the world, and it’s not something that you can separate,” Murray said. “And since art is how you view the world, all of my art will be shaped by this in some way.”

One of her larger works is called Rogue Troops. It is a nine-foot by four-foot collage of comics centered around a Girl-Scouts-esque troop and their adventures and ghost stories. One of the ghost stories is based on a monster called simply Deadline, which is terrifying in that there’s very little explanation of what it is or how to find it.

It was a product of living with ADHD. “ADHD people have a hard time processing the concept of time,” Murray said. “There are two times in the world: There is right this moment, and there is never. Trying to stick to deadlines and recognizing when they’re coming up is very difficult. So, I have this monster that other people can understand when its coming and avoid it, but the character can’t, and that’s where the fear comes from.”

With graduation on the horizon, Murray says she can imagine doing a number of things once her education is complete and is still weighing her options. But wherever she goes, that sketchbook will likely go with her.
Scott Bredman has been named an instructor in the department of communication studies for interactive digital studies. He received his bachelor’s and master’s degrees from UNI.

Hilal Ergul, Ph.D., has been named an assistant professor of TESOL and applied linguistics in the department of languages & literatures. She received her doctorate from Texas A&M and has taught at several colleges.

Lee Geisinger, Ph.D., has started a new tenure track position as an assistant professor of graphic technology in the department of technology. He’s been at UNI for eight years.

Samantha Goss, Ph.D., is now an assistant professor of art education. Prior to joining UNI, she was an instructor at Northern Illinois University, where she received her doctorate.

Michael Graziano, Ph.D., has been named an assistant professor of religion in the department of philosophy and world religions. He’s been an instructor with the department for four years.

Josh Hamzehee is an instructor of performance studies in the department of communication studies. He has a master’s degree from California State University and has been successful coaching the UNI speech team.

Suzanne Hendrix-Case, D.M.A., is an assistant professor of voice in the School of Music and an active opera performer. She completed her bachelor’s and master’s degrees at UNI and has a doctorate from the University of Missouri.

Jerreme Jackson, Ph.D., was named an assistant professor in the department of biology. He comes to UNI from Oklahoma State University and received his doctorate from the University of Tennessee-Knoxville.
Andrea Johnson joins the School of Music as an assistant professor of piano pedagogy. She is a candidate for a Doctor of Musical Arts degree at the University of Oklahoma and was previously on the faculty there.

Steve Sang Kyun Koh, D.M.A., has been named an assistant professor of violin in the School of Music. He taught previously at the University of Toronto, where he received his Doctor of Musical Arts degree.

Kramer Milan has joined the School of Music as an instructor of percussion. He is currently a D.M.A. candidate at Michigan State University. He previously held a section percussion position in the Midland Symphony Orchestra.

Hannah Porter-Ocena, D.M.A., has joined the School of Music as an assistant professor of flute. She is Principal Flutist of the Topeka Symphony Orchestra and earned her doctorate at Stony Brook University.

Daniel Swilley, D.M.A., is a new assistant professor of music specializing in composition, theory and music technology. He received his D.M.A. at University of Illinois Urbana-Champaign and is a composer of acoustic and electroacoustic music.

Ai Wen, Ph.D., has joined the department of biology as an assistant professor. She completed her doctorate in ecology and evolution at Rutgers University and has post-doctoral training from the University of Michigan.

Stephanie Ycaza, D.M.A., is a new tuba instructor in the School of Music and the conductor of the UNITUBA ensemble. She holds a Doctor of Musical Arts degree from Shenandoah University and is an active orchestral and band performer.

Erika Bass, Ph.D., is an assistant professor of English education. She received her doctorate from Virginia Polytechnic Institute and State University and was previously an instructor at Radford University.

Aliza Fones, Ph.D., joins the department of languages & literatures as an assistant professor of TESOL. She received her doctorate from the University of Washington and was formerly faculty at the University of Iowa.
Alumni updates from across the nation

1970s

‘74 Robert Good, BA, Charleston, IL, received the 2018 award designation of Master Fellow by the American College of Osteopathic Internists.


1980s

‘80 Pat (Cahoy) Cunningham, BM, Auburn, NH, performed Copland “Clarinet Concerto” with the New Hampshire Philharmonic Orchestra. She has been the principal clarinetist with the Philharmonic since 1985 and recently completed 38 years of teaching with 33 in the Merrimack School District.

‘81 Scott Bertelsen, BA, Forest City, was inducted into the Iowa High School Speech Association’s Hall of Fame on Oct. 5, 2018. He is also retiring at the end of the year after 39 years of teaching.

‘85 Lisa (Andersen) Chizek, BA, MA ’12, Toledo, was named a science finalist for the 2019 Iowa Presidential Awards for Excellence in Mathematics and Science Teaching.

‘86 Dwight Pittman, MM, Ballwin, MO, is a retired professional musician and semi-retired college instructor.

‘87 Gary Wolter, BA, Mesa, AZ, is a certified residential specialist and realtor with EXP Realty.

‘89 John Kotz, BA, Adel, received the Class 4A Boys’ Golf Coach of the Year Award from the Iowa High School Golf Coaches Association and the Iowa Boys’ Gold Coach of the Year Award from the National Federation of High Schools Iowa.

1990s


‘90 Stacey Snyder, MA, ASC ’13, Tripoli, received the 2019 Black Hawk County Gold Star Award for Outstanding Teaching.


‘92 Brad Buck, BA, Cedar Rapids, was named superintendent of Waukee Community Schools.

‘94 Jason Kilborn, BA, Forest Park, IL, was appointed as an advisory commissioner to the new Seoul Bankruptcy Court in South Korea. He is the first foreigner to be appointed.

‘94 JC Sanford, BA, Northfield, MN, is the artistic director of JazzMN.

‘95 Grant Brodrecht, BA, Winter Park, FL, earned a master’s degree in history from Gordon-Conwell Theological Seminary and a master’s degree and Ph.D. in American history from the University of Notre Dame. He published a book titled “Our Country: Northern Evangelicals and the Union during the Civil War Era.”

‘95 Jennifer (Wilkinson) Klocke, BA, Libertyville, opened The Law Office of Jennifer L. Klocke, PLLC.

‘95 Daniel Mahraun, MM, MM ’96, Everson, WA, was named artistic director of the Seattle Bach Choir in fall 2019.
’95 Christine Stewart, BA, Brookings, SD, was named South Dakota poet laureate beginning July 1, 2019, and lasting for four years. She is currently a professor at South Dakota State University.

’96 Robert Hilbert, BA, Urbandale, received the 2019 C. Scott Elliott Development Professional of the Year Award by PBS.

’96 Aileen (Mahood) Sullivan, BA, Ames, was named to the first Iowa Governor’s Teachers Cabinet in Dec. 2018.

’96 Krista (Ward) Tanner, BA, Clive, was promoted to senior vice president and chief business unit officer for ITC Holdings Corp.

’99 Angela Brommel, BA, MA ’01, Henderson, NV, was promoted to executive director of the Office of Arts and Culture at Nevada State College.

2000s

’01 Kelly (Pearson) Bennett, BA, Bedford, TX, was promoted to product director at defi SOLUTIONS.

’01 Andy Fuchtman, BA, Cedar Falls, was named one of the Cedar Valley’s 20 under 40 by the Waterloo/Cedar Falls Courier for 2018. He is currently co-owner of Sidecar Coffee.

’02 Scott Hagarty, BM, Cookeville, TN, is the assistant professor of trumpet at Tennessee Tech University. In addition to teaching students in the trumpet studio and directing the Tennessee Tech Trumpet Ensemble, he will join the Bryan Symphony Orchestra as principal trumpet and the Brass Arts Quintet.

’02 Casey Hansen, BS, Cedar Rapids, was named one of the Cedar Rapids/Iowa City area’s 40 under 40 by the Corridor Business Journal for 2018. He is currently vice president and general manager of the eastern Iowa division of Graham Construction Company.

’02 Grant Menke, BA, Ankeny, was appointed as the state director for the US Department of Agriculture Rural Development in Iowa.

’02 Brad Nieland, BA, South Windsor, CT, was named president of Berkley Accident and Health.

’03 Teresa (Kulow) Roof, BA, Norwalk, was named by the Des Moines Business Record as one of the 2019 40 Under 40 honorees. She is currently a public relations manager with Wellmark Blue Cross and Blue Shield.

’04 Boe Hodnefield, BM, MM ’06, Sioux City, is in his 13th year at Sioux City West High and currently has six ensembles under his and his associate’s direction. They include chamber, concert bass, varsity treble, chorale bass/treble and the vocal jazz ensemble Vocal Spectrum.

’04 Tim Jones, BM, Waukee, was promoted to risk consultant at Wells Fargo. He also subs in local community bands and regularly plays with the Lutheran Church of Hope Jazz Band.

’05 Chris Lockwood, BM, Armstrong, is the 6th-12th grade band director for North Union School District.

’05 Tyler Wyngarden, BA, Des Moines, was named by the Des Moines Business Record as one of the 2019 40 Under 40 honorees. He is currently the vice president of development for the Technology Association of Iowa.

’06 Adam Moore, BA, Cedar Rapids, was named one of the Cedar Rapids/Iowa City area’s 40 under 40 by the Corridor Business Journal for 2018. He is currently the editor of the Corridor Business Journal.

’07 Emilie Stigliani, BA, Burlington, VT, was named executive editor of the Burlington Free Press. She is the second female to hold the position.

’08 Chelsea Haaland, BA, Waukee, was a recipient of the 2018 Dr. Robert and Phyllis M. Yager Exemplary Teaching Award. She is currently a speech teacher and drama director with Waukee Community Schools.

’08 Benjamin Hoover, BA, Cedar Rapids, was named one of the Cedar Rapids/Iowa City area’s 40 under 40 by the Corridor Business Journal for 2018. He is currently an account executive with Holmes Murphy.

’08 Ellen Johnston, BA MA ’11, Rippey, moved to Turkey to become an ELL coordinator and instructional coach.

’09 Katie (Smith) Baker, BA, Jesup, earned a DO degree from Des Moines University in 2014 and completed an emergency medicine residency in Cleveland, OH in 2019.

’09 Bethany (Schwichtenberg) Krutzfeldt, BA, Minneapolis, MN, was promoted to account director at Periscope advertising agency.

’09 Josh Mahoney, BA, Denver, CO, is an associate on the business litigation team with Faegre Baker Daniels.
2010s

‘10 Bonnie Alger, MM, New Milford, CT, earned a D.M.A. in orchestral conducting from the University of Maryland-College Park. In 2018, she served as cover conductor for the National Symphony Orchestra for two pop concerts, one featuring Melissa Etheridge and the other as an assistant to Maestra JoAnn Falletta. In May 2017, she was selected as conductor/officer with the US Army music program and entered basic training in Oct. 2018.

‘10 Laura (Bohike) Connor, BA, MBA ’16, Cedar Falls, was promoted to supply management supervisor at John Deere Waterloo.

‘10 Sean Newlin, BS, Berkeley, CA, earned his master’s degree in public policy from the University of California-Berkeley. He works for the Bay Area Air Quality Management District and administers grants through the Strategic Incentives Division. The goal is to reduce emissions by replacing older equipment with zero-emissions equipment and promoting public transportation and ride sharing.

‘11 Kevin Shannon, BA, Des Moines, was promoted to senior IT application analyst at Principal.

‘12 Therese (Kuster) Stevens, BA, Cedar Falls, was named one of the Cedar Valley’s 20 under 40 by the Waterloo/Cedar Falls Courier for 2018. She is currently the COO of BraceAbility.com.

‘14 Alison (Meyer) Folken, BA, MA ‘16, Colorado Springs, CO, is a speech language pathologist with UCHealth Memorial Hospital.

‘15 Rafael Benitez, BA, Cedar Falls, received the 2019 Black Hawk County Gold Star Award for Outstanding Teaching.

‘15 Derrick Bertram, BA, Davenport, is a member of the performing waitstaff, the Bootleggers, at Circa 21 Dinner Playhouse in Rock Island, IL. He recently performed in “Newsies” and “Junie B. Jones Is Not A Crook.”

‘15 Vanessa Espinoza, BA, Ames, received the Latinx Youth Leadership Award from the Iowa Latino Hall of Fame on Oct. 20, 2018.

‘15 Russel Karim, BS, Cedar Falls, was named one of the Cedar Valley’s 20 under 40 by the Waterloo/Cedar Falls Courier for 2018. He is currently a programmer/analyst at UNI and is also co-founder of Cedar Valley Food Runner.

‘16 Alyssa Adamec, BM, Coralville, performed with the Nueva Orchestra Transylvania in Cluj-Napoca, Romania, in May 2018.

‘16 Allison Twedt, BA, Dunedin, FL, is a dolphin trainer at Clearwater Marine Aquarium working with the animals from the movie “Dolphin Tale.”

‘18 Rachel Bearinger, BM, Minneapolis, MN, is associate digital producer with Minnesota Public Radio and will be releasing an album of original music in Sept. 2019.

‘18 Grace McNamara, BA, Glidden, is a marketing manager with the Iowa Association of Realtors.

‘18 Milica Njezic, MA, Saint Louis, MO, is an e-commerce specialist with Famous Footwear.

‘18 Haley Springer, BA, Costa Mesa, CA, is an assistant account manager with HKA Marketing Communications and directly assists in managing PR work for the Susan G. Komen Foundation.

‘19 Kaitlyn Bown, BA, Cedar Falls, is a visual designer with Visual Logic.

Passings

‘50 Robert Yager, BA, died Aug. 6, 2019, in Coralville, Iowa.

‘57 George Whaley, BA, died Dec. 19, 2017, in Sioux Falls, SD.

‘58 Dean Funk, BA, died Mar. 31, 2019, in Rochester, MN.
Alumna’s gift provides literary opportunities for a variety of students through a NEW VISITING AUTHOR PROGRAM

Jo Knowles, author of several books for children and teens, visited the Cedar Valley in September in a collaborative effort between several organizations. Knowles presented in classes at the University of Northern Iowa and spent several days working with students at Bunger Middle School in Waterloo. She was also the featured author at the Final Thursday Reading Series held at the Hearst Center.

Knowles is the first Ila Hemm Visiting Author, a program funded through the generosity of Ila M. Hemm, ’62 UNI alumna. Hemm earned her undergraduate degree in Middle and Junior High School Education and went on to earn her masters in teaching at the University of Iowa. Hemm lives in Newcastle, Washington, a suburb of Seattle. She established this program with the intent that it provide hands-on learning opportunities for middle school students with the hope that it might encourage or inspire some to continue to read and write. She also envisioned this program to be collaborative and beneficial to UNI students interested in teaching middle school English or reading as well as providing faculty with the opportunity to engage with authors whose work relates to this particular age group.

“This partnership between UNI and Bunger Middle School fits in so well with one of our school district’s big rocks of improving writing and overall literacy throughout our district. To have an author that our students love and have studied provide hands-on workshops with our students in their classes was an authentic, once in a lifetime opportunity,” said Britt Jungck, 6th grade literacy teacher.

Knowles has published several popular titles including “See You at Harry’s,” “Still A Work in Progress” and “Where The Heart Is.” Knowles has received awards such as the New York Times Editor’s Choice and Notable Book, the PEN New England Children’s Book Discovery Award, American Library Association Notables, Bank Street College’s Best Books for Children and YALSA’s Best Fiction for Young Adults. Knowles has a master’s degree in children’s literature and teaches writing at the Mountainview Low-Residency MFA program through Southern New Hampshire University.
JOIN US AT ONE OF OUR UPCOMING EVENTS

Gallery of Art
Fall Exhibitions
Various Shows Running through Dec. 19
Kamerick Art Building
Hours: 10 a.m.-7 p.m. Monday-Thursday
12-5 p.m. Friday and Saturday

Theatre UNI presents:
Cabaret
Nov. 20–22 & Dec. 4-7, 7:30 p.m.
Dec. 8, 2 p.m.
Strayer-Wood Theatre

UNI Holiday Concert
Dec. 10, 7:30 p.m.
Great Hall, Gallagher Bluedorn

The Office!
A Musical Parody
Jan. 29, 7 p.m.
Great Hall, Gallagher Bluedorn

UNI Interpreters Theatre:
Burnt City
Mar. 5–7, 7:30 p.m.
Lang Hall, 040

Philosophy and World Religions 50th Anniversary Lecture Series:
Tracy Bonfitto
Mar. 6, 4 p.m.
Seerly 115

Hearst Lecture Series:
Aron Aji
Mar. 9, 7 p.m.
Commons Ballroom

Theatre UNI presents:
You Can’t Take It With You
Mar. 11–13, 25-28, 7:30 p.m.
Mar. 29, 2 p.m.
Strayer-Wood Theatre

Hearst Lecture Series:
Lluís María Todó
Mar. 23, 7 p.m.
Commons Ballroom

STOMP
May 1, 7 p.m.
May 2, 2 & 7:30 p.m.
Great Hall, Gallagher Bluedorn

CONNECT with CHAS

Check out what’s going on with CHAS by following these media sources:
www.uni.edu/chas
www.facebook.com/unichas
Twitter: @uni_CHAS
Instagram: @uni_CHAS
Questions: chas-info@uni.edu
Updates: chas-alumni@uni.edu