14th Edition | Volume XIV | 2022

New Frontiers

RESEARCH AND CREATIVE ACTIVITY AT THE UNIVERSITY OF NEBRASKA AT KEARNEY

Improving Patient Outcomes

AUSTIN NUXOLL

WELCOME TO NEW FRONTIERS

Shortly after becoming Dean of Graduate Studies and Research, Dr. Kenya Taylor conceptualized a magazine that would showcase UNK faculty research and creative activities. That dream became New Frontiers, and annually since 2008 we have shared with the world the important scholarship of the UNK community.

In its lifespan, New Frontiers has highlighted the scholarly contributions of more than 100 UNK faculty from almost every department on campus. In this issue we profile 10 UNK citizens who are making or have made significant contributions to scholarship as members of the UNK community. These include profiles of long-time professors such as Doug Biggs, an internationally recognized scholar of Medieval England, and newly-minted assistant professor Basheer Quolomany, who is conducting ground-breaking interdisciplinary research on artificial intelligence.

The stories inside this magazine demonstrate that research and creative activities at UNK are alive, thriving and bringing notoriety to our campus. At UNK, we are a community of research-focused faculty who produce impactful scholarship that advances knowledge and makes the world we live in a better place.

Several scholars featured in this volume work on issues related to public health.

Mahesh Pattabiraman's research on drug discovery seeks to address the opioid crisis in the nation by finding safer non-opioid drugs for pain management. Austin Nuxoll's research on antibiotic tolerance strives to protect patients from deadly staph infections. Basheer Qolomany utilizes artificial intelligence and big data to address public health issues related to the Covid epidemic and peripheral heart disease.

All the faculty in New Frontiers have a propensity for including students in their research, but several stand out for classroom-based research with their students.

Brooke Envick uses board game design in her courses to build student confidence and teamwork skills. Phu Vu integrates teaching and research by utilizing digital and game-based learning to better understand and improve his teaching. Noelle Bohaty uses her dance studio as a community-centered creative and learning space that empowers her students. Amy Nebesniak provides experiential learning opportunities to elementary children through PAWS University.

In this issue, we continue the recent inclusion of graduate student research with a sketch of Brian Mason, winner of the 2021 UNK Best Thesis Award. Working under Biology professor Melissa Wuellner, Mason conducted natural resource research at the Harlan County Reservoir where he focused on sediment berms and the relationship to water quality and aquatic animal habitats.

We are honored to present a tribute to Dr. Charlie Bicak as he enters retirement after serving 13 years as the Senior Vice Chancellor for Academic Affairs. Under Dr. Bicak's leadership, research at UNK has become a hallmark of who we are as a university.

Over the last seven years, faculty research awards increased by 572%. Dr. Bicak's background as a scholar-teacher allowed him to understand the importance of including students in faculty research. Consequently, undergraduate research

continues to prosper at UNK. During the 2021-22 academic year, 131 undergraduate students worked with faculty mentors in the Undergraduate Research Fellows program, and in Summer 2022, 11 students participated in the competitive Summer Student Research Program. Undergraduate and graduate students publish with their faculty mentors in academic journals, and their individual work appears in the UNK Undergraduate Research Journal and in the recently launched Graduate Review.

In this year's edition of New Frontiers, you'll notice some subtle changes in how stories are presented. From photo spreads to Q&A features and shorter reads, we've worked with UNK Communications and Marketing to offer a variety of layouts and story packages that engage, inform, entertain and provide value to readers from all walks of life. We've created a magazine that again feeds the appetites of UNK faculty and staff, but also connects with the casual reader and those who have a general interest in research and scholarly activity at the University. One thing that continues to hold true is stories that demonstrate the passion, dedication and focus of the faculty and students featured.

I hope you enjoy this edition of New Frontiers!

Mark Ellis
Dean Graduate Studies

NEW FRONTIERS 2022

RESEARCH AND CREATIVE ACTIVITY AT THE UNIVERSITY OF NEBRASKA AT KEARNEY
VOLUME XIV

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GRADUATE STUDIES AND ACADEMIC OUTREACH
Mark Ellis, Dean Graduate Studies

MANAGING EDITOR
Todd Gottula

EDITOR
Tyler Ellyson

DIRECTOR OF MARKETING
Kyle Means

ASSOCIATE GRAPHIC DESIGNER
Kim Walter

PHOTOGRAPHY CREDITS
Erika Pritchard, UNK Communications
Todd Rundstrom Photography
Kim Fetrow Photography
Amy Vinchattle Photography

Postmaster:
Please send address changes to:
New Frontiers Magazine
1910 University Drive
CMCT 34
University of Nebraska at Kearney
Kearney, Nebraska 68849
Or you may call: 308.865.8454
gottulatm@unk.edu
unk.edu

FROM THE CHANCELLOR

Some 20 years ago I participated in a market research project to "rebrand" the University of Nebraska. The conversations revolved around the university's identity, and the result was a tagline: "We've always been pioneers. It's the frontiers that have changed." This was an on-point historic connection to Nebraska's pioneering spirit that continues today. We at UNK appreciated that "pioneer" archetype so much that the New Frontiers title was chosen for this magazine.

Our faculty are indeed pioneers. As you will read in the stories here, faculty strive to discover – whether that is in cybersecurity, early childhood education, or on stage with the jazz band. These explorers are the people who teach classes at UNK. The 10 scholars featured in this 14th annual magazine are a sampling of UNK's best stories of research and creative activity that demonstrate many new frontiers.

Entering this fall semester after surviving a global pandemic and a challenging economy, UNK remains remarkably optimistic – this comes from that pioneer spirit – but also because of our focus on this mission and service to our region and beyond. There is so much to be excited about. Campus continues to evolve and grow. A new Regional Engagement Center emerging at University Village and the pre-construction activity at a second partnership with the University of Nebraska Medical Center – the Rural Health Education Building – signal our continued advancement toward this mission. A new antelope sculpture by artist Mark Lundeen now graces the northwest entry to campus, just outside of where the Otto Olsen building previously stood. What a fitting symbol for the frontier spirit. I hope you will come to campus soon to appreciate all this activity.

As you read the stories that follow, I hope you will be inspired to reflect on how we as an institution are able to guide and influence so many, and how this pioneer spirit is evident in our work both as scholars and teachers. Stories can inspire and move others to embark on their own new frontiers. Venture boldly.

Douglas A. Kristensen, J.D., *Chancellor*

CONTENTS

TEACHING. RESEARCH. SERVICE.

Nebesniak creates growth mindset, student-centered learning spaces

By JAN TREFFER THOMPSON

Amy Nebesniak's math career started with one "amazing" eighth-grade teacher.

"Looking back, it wasn't the math I was drawn to, it was the way she made me feel. She made you want to be in class. She made you feel you could do this, no matter what," Nebesniak said. "I knew 'This is what I want to do. I want to be like her.' My heart was pulled to teaching right then."

Now an associate professor of mathematics, Nebesniak doesn't just teach math. She creates spaces where learning can happen.

Since coming to the University of Nebraska at Kearney in 2013, Nebesniak has promoted a student-centered approach in her research, her classrooms and as a consultant for area schools. She leads a summer enrichment camp for elementary students and helped re-vision the honors program as its associate director.

"When I see that we're missing a group who could be learning or missing an opportunity for someone to improve themselves by learning, my mind immediately goes 'How can we fix that? What can we do?'" she said.

PAWS UNIVERSITY

Each summer, hundreds of elementary students explore their interests on the UNK campus through workshops about everything from Pokémon to performing arts. PAWS University helps students avoid a "summer slide" in academics and introduces them to the university.

Nebesniak has directed the camp since it came to UNK from Kearney Public Schools in 2019. She oversees everything, from securing grants to reviewing workshop proposals and lesson plans.

While PAWS classes have always been engaging and hands-on, she said the move to UNK brought a "campus connection" to every workshop. Faculty meet with students,

give presentations and tours of their research space.

Nebesniak recalled talking to one student after a professor described researching owls.

"That kid was like, 'You can spend your whole life on owl wings?' They don't even know these possibilities are out there," Nebesniak said. "They can't dream about something they don't know about."

This year's camp averaged 300 children per day, up 25 percent from last year.

"In the first three hours (registration) was open, we had more students register than we had attend our first summer of camp," she said. "We had some parents post online that 'I felt like I was waiting to get tickets to a concert.' "

Nebesniak has plenty of ideas for expanding PAWS but knows she can only take the program so far.

"There's a lot of struggles with 'How do I still do this well without giving up my actual true love of teaching teachers?'" she said.

In her classes, Nebesniak models the collaborative, problem-solving atmosphere she hopes her students will create in their own classrooms. She asks questions rather than lecture and welcomes student input and new ways to present information.

"You can teach all the math you want, but if the kids don't remember it, what's the point?" she tells the future teachers, explaining that it's more important for students to understand why a math problem gets solved, rather than remembering the "right way" to solve it.

> "You can teach all the math you want, but if the kids don't remember it, what's the point?"

MISS BONKERS

One of Nebesniak's teaching aids is the book "Hurray for Diffendoofer Day." In it a teacher, Miss Bonkers, has unconventional methods that leave students worried about an end-of-the-year standardized test. Miss Bonkers tells them they'll do fine, because even though they weren't doing exercises from a textbook, they were learning to think.

"That's what I'm trying to do. Teach them how to think. And as preservice teachers, it's not just their thinking but … how to help their students think; how to pass that on and not be rote little machines, because our world does not need rote machines."

Nebesniak has also impacted UNK's honors students. She and director Angela Hollman have revised the program and the key change, Nebesniak said, was replacing a research requirement with a sophomore-year pathway project students can tailor to their own interests.

"It's about intellectual curiosity, going above and beyond, and that looks different for every person," she said. "They've never had that space before."

Space. Opportunity. Freedom to think and learn in ways that make sense. Nebesniak wants as many students as possible to experience that.

"I know this is cliché. I really believe education is the cornerstone of everything. It is how we progress as a society. It is how we progress personally, learning and growing, and to know some kids don't have that path already placed in front of them. ... I want them to see that path."

> "I really believe education is the cornerstone of everything. It is how we progress as a society."

AMY NEBESNIAK

Title: Associate Professor of Mathematics and Statistics, Associate Director of Honors Program, Director of PAWS University

College: College of Arts & Sciences

Education: Ed.D. in teaching, learning and teacher education, University of Nebraska-Lincoln, 2012; Master of Arts in teaching, learning and teacher education with mathematics minor, University of Nebraska-Lincoln, 2007; Bachelor of Science in education, University of Nebraska at Kearney, 2002.

Years at UNK: Nine

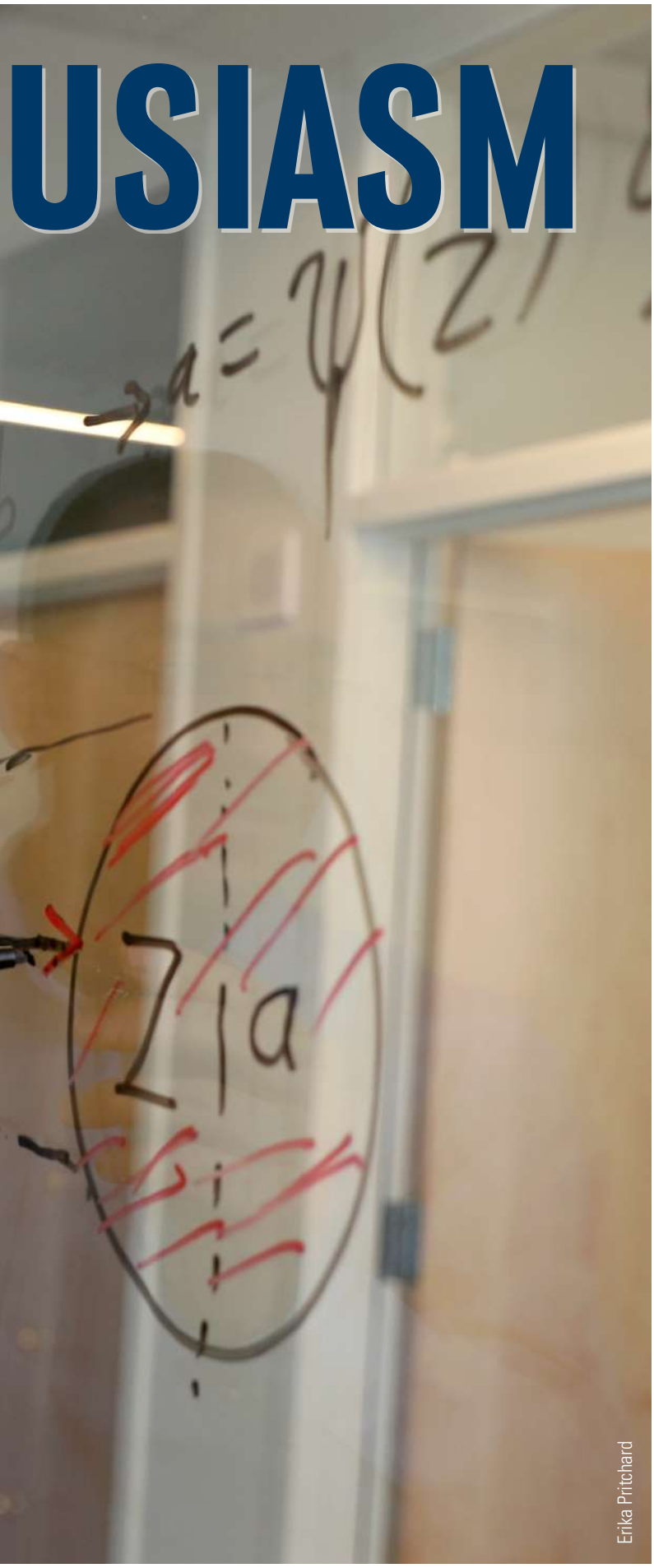
Areas of research/specialization: Teaching Mathematics with Reasoning and Sense Making; Professional Development of Mathematics Teachers (In-Service and Pre-service), Instructional Coaching; Growth Mindset; Collaboration Efforts Between Universities and K-12 School District Partners

Courses Taught: Math for Elementary Teachers I, Math for Elementary Teachers II, Middle School Mathematics, Methods in Middle and High School Mathematics Teaching, College Algebra, Intermediate Algebra, Best Practices in Mathematics Teaching: UNK/KPS Mathematics Implementation Collaboration, Current Research in Mathematics Education, Using Mathematics to Understand Our World.

Recent Publications: "Positive College Perception: The Impact of a Curriculum-Based Summer Camp's Transition," Journal for Leadership and Instruction, In Press; "District-University Collaborations to Support Reform-Based Mathematics Curriculum," Journal of Mathematics Education at Teachers College, 2019.

Publications in Progress: "Growth Mindsets and Achievement of Academically At-Risk Students and Preservice Teachers," "Influence of Curriculum-Based Camps During COVID-19," "The Impact of Professional Development Partnerships on Elementary Math Teacher Beliefs and Practices During Curriculum Change."

EXTRA ENTH



Erika Pritchard

Qolomany uses artificial intelligence, big data to advance health care

By KIM HACHIYA

The first thing you notice about Basheer Qolomany is his enthusiasm. And his range of interests. And that he talks really fast, which may be a function of his enthusiasm and range of interests.

Qolomany (pronounced Ko-lo-MAN-ee) wasted no time when he arrived at the University of Nebraska at Kearney in August 2019. An assistant professor in the Department of Cyber Systems, he quickly cast about looking for projects and teams in which his skills in artificial intelligence systems and deep learning could be useful. Qolomany's research work is interdisciplinary, and it lies at the intersection of complex systems, metaheuristic, artificial intelligence, machine and deep learning, and their applications in support of population health and smart services.

Soon, he was part of teams composed of researchers from all four University of Nebraska campuses, leveraging his knowledge in how to collect and analyze massive amounts of data to solve contemporary problems in the health care arena.

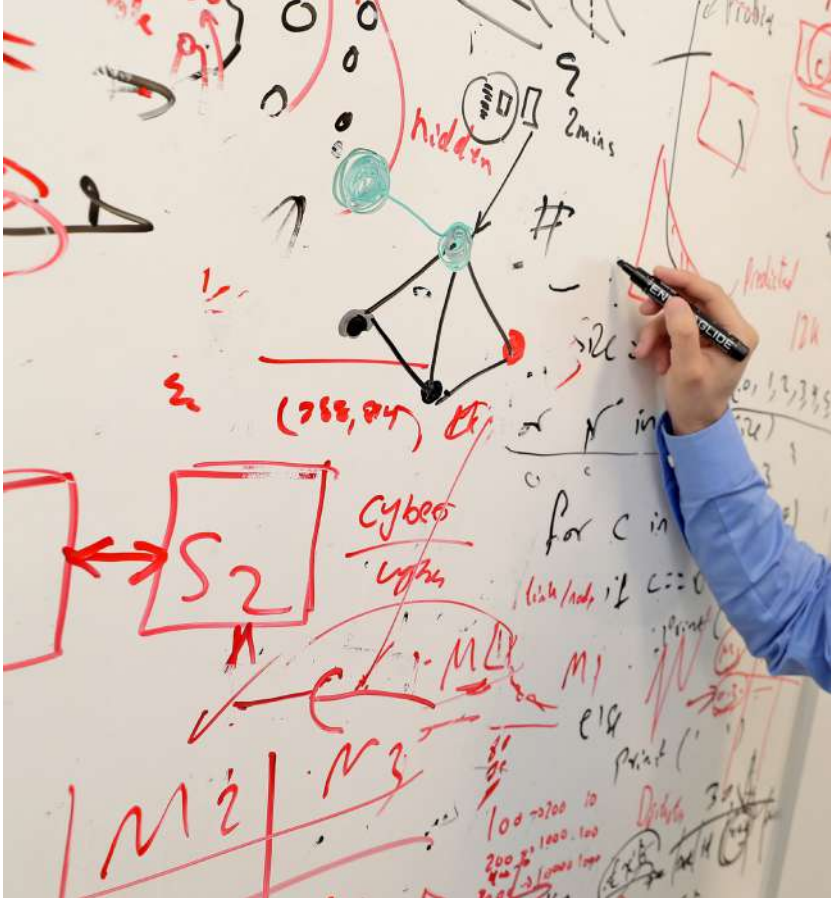
> "Artificial intelligence can do the boring tasks, but it will not replace the human mind."

SARS COVID 2 PATTERNS

One project involved thinking about the SARS Covid 2 pandemic as a complex system – difficult to predict due to the interactions of many independent yet interconnected components. The team proposed to develop a system that combined information from social media posts, public health data, information harvested from devices such as smart phones, and health data apps. This giant data set could yield information about who and what are the most important influencers and disseminators of information, which then could be used by public health officials and others to develop policies and guidelines.

The team's proposal was one of eight internationally to earn an honorable mention in the $500,000 Pandemic Response Challenge run by the XPRIZE Foundation, which designs and operates incentive competitions to solve the world's grand challenges. Nearly 500 teams worldwide entered the competition.

While their work focused on Nebraska, their model could be scaled up regionally or globally. Their data-driven model offered rationales for efforts such as school or business closures used to halt the pandemic.



One notable part of the project was how quickly the team came together, developing the proposal in just two weeks to meet the first November 2020 deadline. Of 500 entries, 48 were asked to submit for a second round in February 2021. The Nebraska proposal ended up in the top 10.

Although ultimately unsuccessful in getting funded, Qolomany said the project was notable in that it showed how quickly the Nebraska team came together for the common purpose. While the amount of data collected for the demonstration project was small, it was surprisingly accurate, he said.

The project proposed using machine learning and artificial intelligence (AI) to collect and analyze the data that would support action plans to minimize case numbers and costs. While AI will not replace the final human analysis, he said, AI can be used to sort through the data, identify patterns and anomalies, and help scientists predict what interventions could help or hinder.

PERIPHERAL ARTERY DISEASE

Qolomany also is part of a cross-university team working to help patients with peripheral artery disease (PAD), a common cardiovascular disease that causes pain in the lower legs and can be debilitating.

Qolomany's team, working with a two-year $149,405 University of Nebraska Collaboration Grant, hopes to develop a wearable device that would analyze real-time changes in a patient's gait that could be indicative of the disease's progression. Currently, gait changes are assessed only in the clinical setting – at the patient's doctor's offices and only periodically. By collecting real-time data, a doctor could note whether the disease is getting worse, or whether treatments are successful.

The disease afflicts about 10 percent of Americans older than 40 and is particularly common among veterans, Qolomany said. It is difficult to detect, often misdiagnosed as arthritis or ascribing to "aging," but PAD can cause significant debilitation and advance to amputations. Being able to detect, monitor and manage the disease is important, he said.

Changes in gait are symptoms of many diseases, such as Parkinson's disease.

Developing an approach using wearable sensor technology and machine learning to extract multiple gait characteristics such as swing time and step time variability from the collected data could be helpful in diagnosing and monitoring the progression of chronic diseases affecting human movement, he said.

The team has recruited patients from the University of Nebraska Medical Center and Omaha Veterans Administration Medical Center.

Qolomany noted that many folks already, sometimes unknowingly, are collecting health data through apps on their smart phones. And this could be amassed into huge data sets and analyzed by artificial intelligence.

Some worry about the privacy implications of all that data, who is using it, and how they are using it. Qolomany doubts that artificial intelligence will advance to the stages where it will replace humans in the near feature due to existing challenges, but that doesn't mean it will always be impossible.

"AI can do the boring tasks, but it will not replace the human mind," he said. "I am not sure in the near future it will reach the level of whether the robot can reach into and replicate human emotions because modeling human behaviors is extremely challenging due to the complex physiological, psychological and behavioral aspects of human

beings. Some tasks don't need to be done perfectly, and those automation tasks are what AI does best."

He described these as "Artificial Narrow Intelligence," where any AI can outperform a human in a narrowly defined and structured task. It is designed to perform a single function such as an internet search, face recognition or speech detection under various constraints and limitations.

He also notes that humans design the problems that AI is asked to work on, so it's critical that the parameters and rules in which the computer is working are well designed.

Qolomany said this type of work, solving problems for real people, has much appeal for him. He earned his undergraduate degree in computer science in his native Iraq and came to the United States in 2014 for graduate school. His Ph.D. adviser at Western Michigan University, Dr. Ala Al-Fuqaha, encouraged him to choose quality research over quantity of research, and to search for projects that have deep impact on people vs. solving arcane or trivial computer science problems.

And he says his department chair at UNK, Dr. Liaquat Hossain, has been an excellent mentor in helping him look for holistic, complex approaches to problems.

He believes analyzing huge real-time data streams will eventually allow doctors and others to predict, diagnose, intervene and treat all sorts of health issues, and being part of that solution is deeply rewarding.

BASHEER QOLOMANY

Title: Assistant Professor of Cyber Systems

College: College of Business and Technology

Education: Ph.D. and Master of Science in computer science, Western Michigan University, 2018; Master of Science in computer science, University of Mosul, 2011; Bachelor of Science in computer science, University of Mosul, 2008.

Years at UNK: Three

Areas of research/specialization: Intersection of complex systems/networks, metaheuristic, artificial intelligence, machine and deep learning, and its application in support of population health and smart services.

Courses Taught: Cloud Computing, Computer Networking, Programming Languages, Object-Oriented Programming, Interactive Web App. Development, Computer Security, Machine Learning, Cyber Systems Capstone.

Recent Published Articles: "Global User-Level Perception of COVID-19 Contact Tracing Applications: A Data-Driven Approach Using Natural Language Processing," accepted in JMIR Formative Research, March 2022; "Intelligent Building Control Systems for Thermal Comfort and Energy-Efficiency: A Systematic Review of Artificial Intelligence-Assisted Techniques," Renewable and Sustainable Energy Reviews, 2021; "Trust-Based Cloud Machine Learning Model Selection for Industrial IoT and Smart City Services," IEEE Internet of Things Journal, 2021.

BEST THESIS AWARD

Mason's passion for natural resources, fisheries work continues to grow


Kim Fetrow Photography

By TODD GOTTULA

What are the qualities of a good student researcher?

Multiple things, says Brian Mason.

"Having a passion for the work you do is a key component to succeeding. While in graduate school, your project often becomes a dominating element of your life. If you have little interest in the topic, your research will likely get neglected.

"Students who are passionate - dare I say obsessive - about the topics they are studying will have a better time maintaining momentum throughout their graduate career," Mason says.

Being comfortable asking questions is also a good attribute for student researchers, he says.

"Projects and procedures in the lab are likely new to many students conducting research. Asking questions - and getting straightforward guidance from advisers - can be a cornerstone for a successful project."

Mason, who graduated from UNK in May 2021 with a master's degree in biology, is the winner of the university's 2021 Best Thesis Award.

Working under Biology professor Melissa Wuellner, his research focused on sediment berms that developed in the mouths of several coves at Harlan County Reservoir near Alma. The berms can isolate coves from the main reservoir if the berm height is greater than the reservoir's water elevation. As a result, the disconnection of coves may impact water quality, zooplankton and fish within the isolated reservoir habitats.

Mason's study examined differences in water quality parameters, zooplankton communities and fish assemblages between disconnected coves, connected coves and the main reservoir.

"Disconnected coves overall had reduced water quality (lower dissolved oxygen, higher temperatures, and reduced water clarity) compared to connected coves and the main reservoir, and their biological communities had higher densities of zooplankton taxa and fish species tolerant of those conditions," he said. "Keep in mind that these habitats all originate from a single source, the main reservoir, showing that these habitats are highly complex and incredibly dynamic."

After graduating from UNK, Mason worked several seasonal jobs as a creel clerk, stream fisheries technician and post spawn salmon carcass surveyor. This spring, he joined the Pacific Northwest National Laboratory in Richland, Washington, where he works as a post masters research associate in the lab's waterpower science systems engineering division.

"I have been involved with several acoustic telemetry and radio telemetry studies being conducted in the region, tracking various fish species as they migrate throughout river systems and examining their passage through dams, hydropower facilities, fish passage structures," he said.

How did you make the decision to enter this profession?

I was always drawn to natural resources, but the biggest influence that made me really desire to pursue a profession in fisheries was a summer internship I had with the Minnesota Department of Natural Resources. Aside from giving me lots of valuable experience in boat operations, sampling techniques and data management, it showed me how enjoyable and rewarding this work could be.

Talk about your upbringing? Did anything in your childhood lead you down this career path?

I am originally from the northern Minnesota town of Bemidji, where I grew up on my family's small cattle farm. I was surrounded by numerous lakes and rivers and exposed to water resources since birth. During my undergraduate career, I was uncertain what major to take up. However, I was always drawn to the natural resource classes. After switching majors several times, yet having enough credits to minor in wildlife biology, it became clear that natural resources was the path to go down. My hometown and undergraduate university, Bemidji State, was also amazing for starting a career in natural resources – being on the shoreline of beautiful Lake Bemidji and the Mississippi River and surrounded by abundant natural areas.

Describe a perfect day in the field researching?

Every day in the field is a win for me! One of the best aspects of working in natural resources is the ability to work outdoors in the field and be able to handle and observe living things in their natural habitats. Field work definitely comes with its challenges at times, and some days are certainly better than others, but the feeling you get when hauling in a full seine of fish, seeing a new species for the first time or simply just being on the water can be euphoric. Additionally, coworkers and technicians in this field are great company as they often share a similar mindset themselves. They make working in a team setting extremely enjoyable and downright fun.

How do you measure success as a researcher?

The number of publications and prestige of a journal are often noted as the ultimate benchmarks of success in the scientific community. However, I think these variables can be a bit overhyped. Although publishing data and building on the community of knowledge is very important, much of the research conducted within the scientific community and world of fisheries management only gets published in a limited capacity as agency reports, master's or doctoral theses and journal notes, or it simply does not get published at all. … If the work that is being conducted is done so with integrity, brings engagement to the research topic, and is used to better the field, then I consider it successful.

Why were you attracted to this research topic? What motivated you?

Before I started my graduate career at UNK, I took a year off and was working temporary natural resources jobs wherever I could find them. This was a wonderful opportunity to learn about natural resource management firsthand and gain experience in the field. During this time, however, I observed many people without a higher degree were very limited in the jobs and advancements they could realistically achieve. Because my passion for natural resources and fisheries work had only grown while being a temporary worker in the field, I knew graduate school would likely be necessary to continue in the career path. The position at UNK on Harlan County Reservoir was also a great

fit. It offered a challenging project focusing on field work I was familiar with from my previous work experience, but in a new area with habitats and fish species novel to me.

What stands out about UNK's research programs and/or your experience in Kearney?

Kearney's atmosphere is definitely a major factor in my success as a graduate student at UNK. Although Kearney is a moderate size, the community is very close-nit and charming. There is a diverse array of activities such as the Archway Monument, an active downtown and public land nearby for hunting and fishing. The Great Plains are an intriguing and unique part of the country to work and live in, and they hold some incredible natural resources often overlooked.

In addition, the research facilities and equipment provided at UNK, and partnering agencies such as Nebraska Game and Parks Commission, was great. That was a huge help to the research me and other grad students were conducting. Furthermore, my graduate program did a fantastic job at providing networking opportunities via the many state and federal agencies I was working with and offering numerous conferences where I presented my research.

What is your advice for future or current graduate students?

Going to grad school is a big decision that has potential to impact your life in huge ways. Although it will likely be difficult, it does have its upsides and can potentially help you further your career in huge ways. Be an advocate for yourself. Open and honest communication between you and your advisers and department staff is key for succeeding in your graduate career. Not only does this allow you to increase camaraderie, but it allows you to bring up problems or challenges you may have. This is extremely important. If your problems are unheard, they are likely to go unresolved.

BRIAN MASON

Hometown: Bemidji, Minnesota; Graduated from Bemidji High School, 2013.

Education: Bachelor of Science in wildlife biology with minors in geographic information system and wetland ecology, Bemidji State University, 2017; Master of Science in biology, University of Nebraska at Kearney, 2021.

Hobbies and Interests: Hiking, skiing and snowboarding, canoeing, mountain biking, camping, traveling, fishing, hunting and reading.

Current Employment: Post Masters Research Associate, Pacific Northwest National Laboratory, Waterpower Science Systems Engineering Department in Richland, Washington.

Recognition: Winner of UNK's 2021 Best Thesis Award

Thesis Title: "Comparison of Abiotic and Biotic Factors Between Coves of Varying Connection to Harlan County Reservoir, Nebraska."

Area of research / specialization: Sediment berms of various heights have developed in the mouths of several coves within Harlan County Reservoir due to a combination of sediment deposition and lateral drift of eroded sediments. These berms can isolate coves from the main reservoir if the berm height is greater than the water elevation of the reservoir. Disconnection of coves may impact water quality, zooplankton and fish within the isolated reservoir habitats. Mason's study examines differences in water quality parameters, zooplankton communities, and fish assemblages between disconnected coves, connected coves and the main reservoir.

PASSION FOR THE PAST

Biggs shares love of history through teaching, research

By TYLER ELLYSON

There's a specific moment when Doug Biggs' parents realized their child was destined to be a historian.

He was just 5 years old, sitting cross-legged on the floor at their Ames, Iowa, home, his eyes glued to the small, black-and-white television in the family's living room. The young boy was captivated by, of all things, the 1960 British war film "Sink the Bismarck!"

"Ever since I can remember, I wanted to be a historian," Biggs said. "I just thought that was the best thing. I love history. I love the process of history. I love to read about it. I really like to write it. And I like to talk to students about it and get people excited about it."

A University of Nebraska at Kearney faculty member since 2008, Biggs uses this passion for the past to make history "come alive." He doesn't expect his students to memorize every random date and fact. Instead, he "teaches by story," allowing them to see how different events interconnect.

"You should love history, because history is about people," he tells his students. "And people are inherently interesting. We talk about people every single day, whether we're sitting at dinner, having coffee or hanging out with our friends. We're always talking about other people.

"History is all about people to me, and it's all about telling stories that matter."

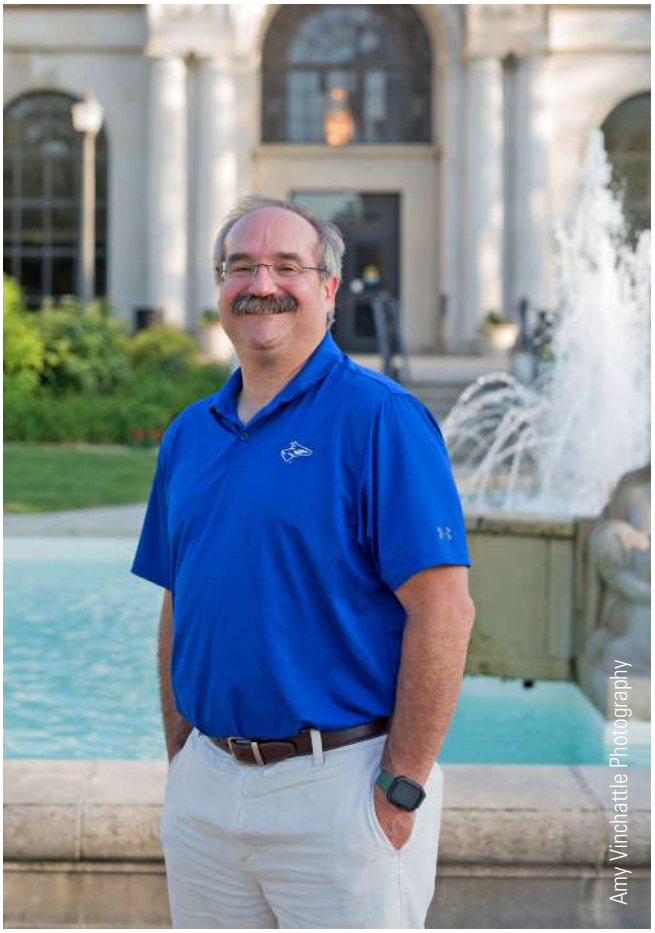
MEDIEVAL ENGLAND EXPERT

The author of countless academic articles and several books, the bulk of Biggs' research focuses on late medieval England, specifically the reigns of Richard II, Henry IV and Henry V.

This period, from the 1370s to the 1420s, has been an interest area since Biggs attended Iowa State University.

"When I got to Iowa State as a student, their medievalist was by far the most inspiring instructor in the entire department," he said, referencing his former adviser Ken Madison. "I just gravitated into his orbit."

Biggs earned bachelor's and master's degrees in history from Iowa State – where his father taught geology – and was influenced by Barbara Hanawalt, a renowned historian of medieval England, while earning his doctorate at the University of Minnesota.



Amy Vinchattle Photography

"During my time at Minnesota I met some of the most important and successful scholars working on late medieval England. They liked my work and asked me to submit articles to journals and book proposals to presses for publication. The unwavering support and kindness of my friends in American and British universities greatly enhanced my career," said Biggs, who worked at Des Moines Area Community College, Iowa State University and Waldorf College before joining UNK.

He considers the late 14th century and early 15th century to be an "incredibly fascinating" period of parliamentary growth and maturity – a time when England underwent

drastic transformations politically, socially and economically.

"That great transition is also accompanied by the great plagues," Biggs noted. "You get a really good chance to see the political machinery of the kingdom at work."

A former visiting professor at the University of York and fellow at the Borthwick Institute for Archives, Biggs has been visiting England since the late 1980s to conduct his research. His iPhone contains thousands of images collected from The National Archives in London.

"That's why I have like a terabyte of storage on Dropbox," he said with a smile. "I have these huge files of documents."

Biggs has presented his research at international conferences on both sides of the Atlantic, and he serves as the managing series editor for Late Medieval Europe, a monograph series from Brill Academic Publishers in the Netherlands.

Among his most influential publications, Biggs has frequently written about Edmund of Langley, first duke of York, a man he "rehabilitated from the scrapheap of history."

"He was seen by professional historians since the 18th century as being a complete wastrel and loser because he was left in charge of England as guardian of the realm in 1399 when Richard II went to campaign in Ireland," Biggs explained.

That's the year Henry of Lancaster, once exiled from England by his first cousin, King Richard II, returned to the country and took over the throne as King Henry IV. Historians viewed Edmund of Langley unfavorably because he failed to prevent the coup while Richard II and the English army were in Ireland.

Based on his research, Biggs presented a counterargument. Edmund of Langley, the uncle of both Richard II and Henry of Lancaster, wasn't weak or easily controlled. "He just simply supported Henry of Lancaster against Richard II."

"He was a politician, not some weak loser who just watched from the sidelines. He was very involved in the governance of the realm, both before 1399 and after," said Biggs, who writes about Edmund of Langley in "People,

Power and Identity in the Later Middle Ages: Essays in Memory of W. Mark Ormrod," published by Routledge in 2021.

Eventually, Biggs plans to author his own book on the first duke of York.

He's also written extensively on King Henry IV, who ruled from 1399 to 1413 and faced repeated uprisings led by powerful nobles.

Scholars believed Parliament seized power from Henry IV because he was an ineffective leader. "This was seen as kind of a revolution in government," Biggs said.

However, his research showed the king suffered a serious ailment in 1406 that left him incapacitated, forcing Parliament to make decisions in his place.

> "I love the process of history. I love to read about it. I really like to write it. And I like to talk to students about it and get people excited about it."

"I think that's an incredibly significant thing because there's no other medieval English monarch who does not rule for half his reign and still dies peacefully in his own bed," said Biggs, whose work has appeared in the Journal of Medieval History, Journal of Historical Review, Journal of Medieval Military History, Czech and Slovak Journal of Humanities and other academic publications.

TEACHING ABROAD

A recipient of the prestigious Pratt-Heins Faculty Award for Scholarship and Research and other UNK honors, Biggs teaches courses on American history, European history, western civilization and historical methods, reaching every level of student from freshmen through graduate school.

But there's only so much space inside a classroom.

"Through writing and research, I'm able to reach a broader audience, not only in my own career and my own lifetime, but beyond," Biggs said. "It's a way to touch the future and it's a way to educate people who I'll never meet."

He uses travel as another educational tool.

"Actually seeing a cathedral, visiting a battlefield or living in a city in a foreign country for an extended period are the best education of all," he said.

The UNK professor led students on a 10-day Holocaust tour through Eastern and Central Europe with EF Educational Tours in 2016 and took students on a 10-day tour commemorating the 75th anniversary of the D-Day landings in Normandy in 2019. He also led students on 12-week study abroad experiences through UNK's partnership with Palacky University in Olomouc, Czech Republic, in 2018 and 2019. In the fall 2021 semester, he was appointed as a J. William Fulbright Distinguished Professor in the history department at Palacky University.

HOMETOWN HISTORY

Although Biggs doesn't teach Iowa history at UNK, that's become another area of expertise over the past 13 years.

He and his wife Gloria Betcher, an Ames City Council member and Iowa State University English professor, still live in the community, allowing him to develop a deeper connection with his hometown.

"It's been a really neat little sojourn away from the 14th and 15th centuries," Biggs said. "I've had a lot of fun looking into the history of my hometown and the history of my alma mater."

This interest blossomed in 2009, when Betcher was chairwoman of the Ames Historic Preservation Commission.

Union Pacific owned an old, derelict bridge spanning the

Ioway Creek – about 50 yards from railroad's main line – that the company wanted to get rid of.

"The railroad was terrified about liability," said Biggs, noting the lack of guardrails and abundance of unauthorized pedestrian traffic.

UP offered to give the bridge to the city of Ames, which asked the preservation commission to determine whether the property had any historical value. Biggs and his wife explored the area on Thanksgiving weekend, then researched its history.

The bridge definitely wasn't worth saving, but that work led to a far more interesting discovery.

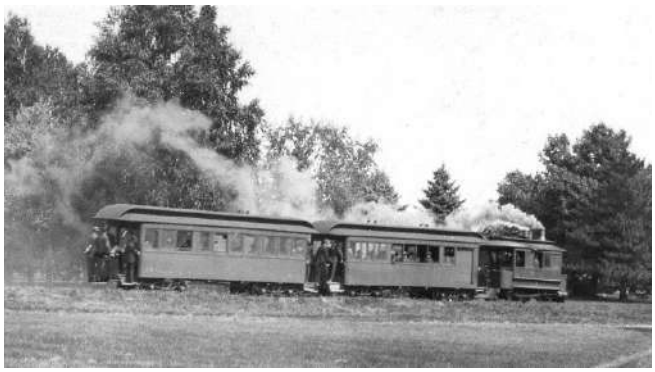
From 1891 to 1907, the Ames & College Railway provided transportation between the city of Ames and Iowa State University, known then as Iowa Agricultural College. Created by a group of local investors and nicknamed the "Dinkey" because of its small size, the railway spanned just 2 miles and operated with two steam locomotives, three passenger cars and a flat car. But it was an important connection between campus and the Chicago and North Western Depot downtown.

"That little thing carried more than 2.1 million passengers over the 16 years of its existence," Biggs said. "It carried students to the city, the city to the college, the college to the world and the world to the college. It helped make Iowa State an institution of regional and national significance."

Biggs has written about the Dinkey for Iowa State University, and two of his articles were featured in The Annals of Iowa, a history journal published by the State Historical Society of Iowa. His newest book, "The Dinkey and Community Memory: Ames, Iowa Agricultural College and the Ames & College Railway," will be released in November 2022.

Biggs and Betcher also co-authored "Images of America: Ames," which tells the city's story through photographs. He's presented public lectures on a variety of historical topics related to the city and university, including 1890s football, Iowa State during World War I and II, Ames' attempt to steal the county seat in the 1870s and, most recently, Ames Public Schools in the 1880s and 1890s.

"I want to write things that people use and people find valuable," Biggs said. "That, to me, is the best part of doing research – being able to look at the past in a different way than we have before and make a convincing argument that moves the historiographic discussion forward. If your work is able to do that, then I think you're a success as a scholar."



DOUG BIGGS

Title: Professor of History

College: College of Arts and Sciences

Education: Ph.D. in history, University of Minnesota, 1996; Master of Arts in history, Iowa State University, 1986; Bachelor of Arts in history, Iowa State University, 1982.

Years at UNK: 14

Areas of research/specialization: Late Medieval England, specifically the reigns of Richard II (1377-99) and Henry IV (1399-1413); Iowa History (late 19th century) and Educational History.

Courses Taught: Western Civilization, Origins to 1648; American History, Origins to 1877; Special Topics – World War I; Historical Methods; Special Topics in European History – Middle Ages; Medieval England; Special Topics in European History – 19th Century Britain

Recent Published Articles: "'During Our Absence or Until Further Order:' Edmund of Langley, Duke of York and the Custodianship of the Realm, October 1394 – May 1395," People, Power and Identity in the Later Middle Ages: Essays in Memory of W. Mark Ormrod, 2021; "The Commission to Ensure Good Governance of 11 May 1402: A Case-Study of Lancastrian Counter-Propaganda," Fifteenth Century England: XVIII - Rulers, Regions and Retinues. Essays Presented to Prof. Tony Pollard, 2020; "Royal Charter Witness Lists for the Reigns of Henry IV and Henry V, 1399-1417," List and Index Society, The National Archives, London (2017); "Forging a Community with Rails: Ames, Iowa, Agricultural College and the Ames & College Railway, 1890-1896," The Annals of Iowa, 2012.

MASTER OF MOVEMENT

Bohaty empowers students through dance

By TYLER ELLYSON

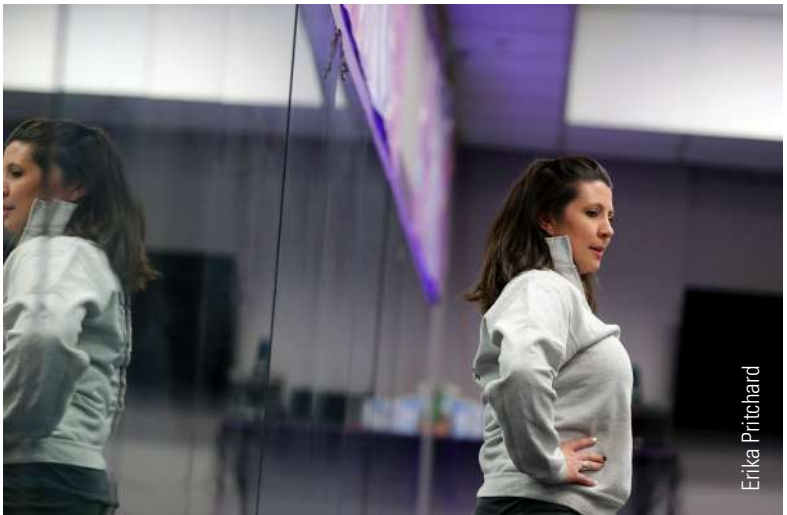
Students are the heart of Noelle Bohaty's work at the University of Nebraska at Kearney.

"They are the vessels and collaborators that bring movement to life," she says.

As director of the UNK Dance Program, Bohaty fosters an environment of connection, communication, creativity and empowerment.

Her studio is far more than a rehearsal space. It's a home for movers, dreamers, explorers and adventurers – a place that pulses with rhythm and energy as students experience the exhilaration of the creative process.

"My classroom is a safe space for students to take risks, because we operate as a community where peer learning is encouraged through partnering, discussion and open dialogue. We know each other's names. We work together to create a student-centered atmosphere that does not sacrifice artistry or skill building for the sake of comfort. Rather, I reward hard work and effort with patience and encouragement. I aim for each course to be a conversation, a guided investigation between teacher and students."


Erika Pritchard

NOELLE BOHATY

Title: Associate Professor of Music, Theatre and Dance; Director of Dance

College: College of Arts and Sciences

Education: Master of Fine Arts in dance with performance/choreography emphasis and graduate minor in theatre, Ohio State University, 2016. Bachelor of Arts in philosophy-neuroscience-psychology & dance with minors in children's studies and acting, Washington University in St. Louis, 2008.

Years at UNK: Six

Areas of research/specialization: Choreography and Performance, Dance Theatre, Dance Film and Dance Pedagogy

Courses Taught: Dance Appreciation, Modern Dance, Jazz Dance, Tap Dance, Ballet, Dance Composition and Improvisation.

Recent Published Articles: "In These Walls: A Site-Specific Explorations of Dance and the Audience Experience," 52 Washington University Undergraduate Research Digest, 2008

Selected Choreographic/Directorial Work: "And the World Goes 'Round," Miriam Drake Theatre, Kearney, 2022; "Reset," Miriam Drake Theatre, Kearney, 2021; "undercurrent," Dance Across Nebraska, Museum of Nebraska Art, Kearney, 2021; "Eurydice," Kennedy Center American College Theatre Festival 51, 2019. "re. solution," Regional Dance America, 2019; "Rubatosis," Nebraska in Motion, Orpheum Theatre – Omaha Performing Arts, Omaha, 2017;

Selected Performance Work: "Horizon Time," Ohio State University Department of Dance, Columbus, Ohio, 2014: "neither: here nor there," Miriam Drake Theatre, Kearney, 2018; "Sea of Red," Lied Center for Performing Arts, Lincoln, 2019.

How do you approach dance instruction/research?

From a choreographer's standpoint, I approach dance from both within the piece as a performer and outside the piece as a viewer. Both process and product are equally important to me, as an educator and an artist.

Dance is a language that can be intimidating to understand, though it speaks with a lexicon to which we can all relate: the human body. There is an incredible beauty to movement as research because of this common ground. In fact, there is a section of our brains (mirror neurons) designed to have a kinesthetic response to watching other people move. That innate, kinesthetic empathy is a response that transcends all other art forms. Mirror neurons communicate with the motor cortex for our visual system to experience watching movement as movement.

I teach in order to connect: people, ideas, projects, bodies. I strive to build this connection for my students through rigorous studio practice, as well as verbal and physical articulation. Using these methodologies, I empower students to translate introspection and imagery into motion; coupling the imagination of artists to people and projects, and all these to the stage. As an enthusiastic explorer of movement, space and time – of ideas and beliefs and the in-betweens – I am an artist by nature, a choreographer by craft and an educator at heart. I believe in the value of personal, artistic voice.

How do you involve students in your work?

UNK Dance students have a dual opportunity to work with and create from this place of connect. I bring an arsenal of repertory work from my company at the regional and national levels. I craft new works using UNK students as medium and originators. Students have an opportunity to learn and perform repertory that was first staged at national companies such as BalletMET and regional preprofessional programs, as well as on East Coast MFA and BFA dancers.

Additionally, UNK students had the advantage of being the originators of nine premiere works, including an evening-length culmination of years of research, "at what stakes; the devil you know." Based on the text compiled from Nancy Goldstone's "The Maid and The Queen: The Secret History of Joan of Arc," Madeleine L'Engle and transcripts from the Brock Turner/Stanford and Cory Batey/Vanderbilt assault trials, "at what stakes" examines the life and death of Joan of Arc while troubling contemporary parallels of the spoils of war and the #MeToo movement. Students were involved in the process from the ground up, generating movement material, translating text to and from French, performing as voice-over artists and teaching their peers sections of dance phrases they crafted. They were a pivotal and integrated part of all these processes, and their names will appear in programs at future restagings of this work.

When did you know this would be your profession?

My educational journey reflects my varied interests; I hold degrees in philosophy, neuroscience, psychology, acting, education, directing and dance. I knew I wanted to be involved in the arts before I knew I wanted to be in higher education. The journey to higher ed was almost happenstance. While working as a freelance choreographer and instructor at varying theaters and dance studios, I was invited to apply for a position at the University of Nebraska-Lincoln. After three years of working with the students under the tutelage of my mentor, Susan Levine Ourada, I was inspired to continue my studies and applied to Ohio State University for an MFA in dance with a choreography and performance emphasis. While there, I found a way to continue my studies in theater – directing specifically – and was able to take classes with the MFA acting cohort, eventually earning a graduate minor in directing.

Why were you attracted to this area?

I was first drawn to dance because it was where I was least comfortable. My early training in dance was limited, so it was both fascinating and terrifying to me. That combination kept me coming back as a young artist. I thrived on the challenge. I started taking dance classes to supplement my training in theater and music at the age of 14 – which in the dance field is incredibly late! There are some intensive programs, especially in ballet, where students make professional debuts at that age. Instead of deterring my desire, it only made me work harder with laser focus. It also gave me opportunities to start my choreographic journey at a young age in the dance studio and community theater. Though I didn't know it at the time, it jump-started my teaching career.

Initially, I worked as an assistant for younger students until getting my own classes to teach. During this time, my first teachers and choreographers had an incredible impact on me: never once was I treated differently because I started later than most. Every single one of them – Stephanie and Bob Chase, Melissa Rosenberger, Jenny Farber, Erynn Nicholson Butzke – always had the attitude that the most important things to my success were grit, willingness to fail and try again, and most importantly putting in the work. There is no substitute for cumulative time in the studio.

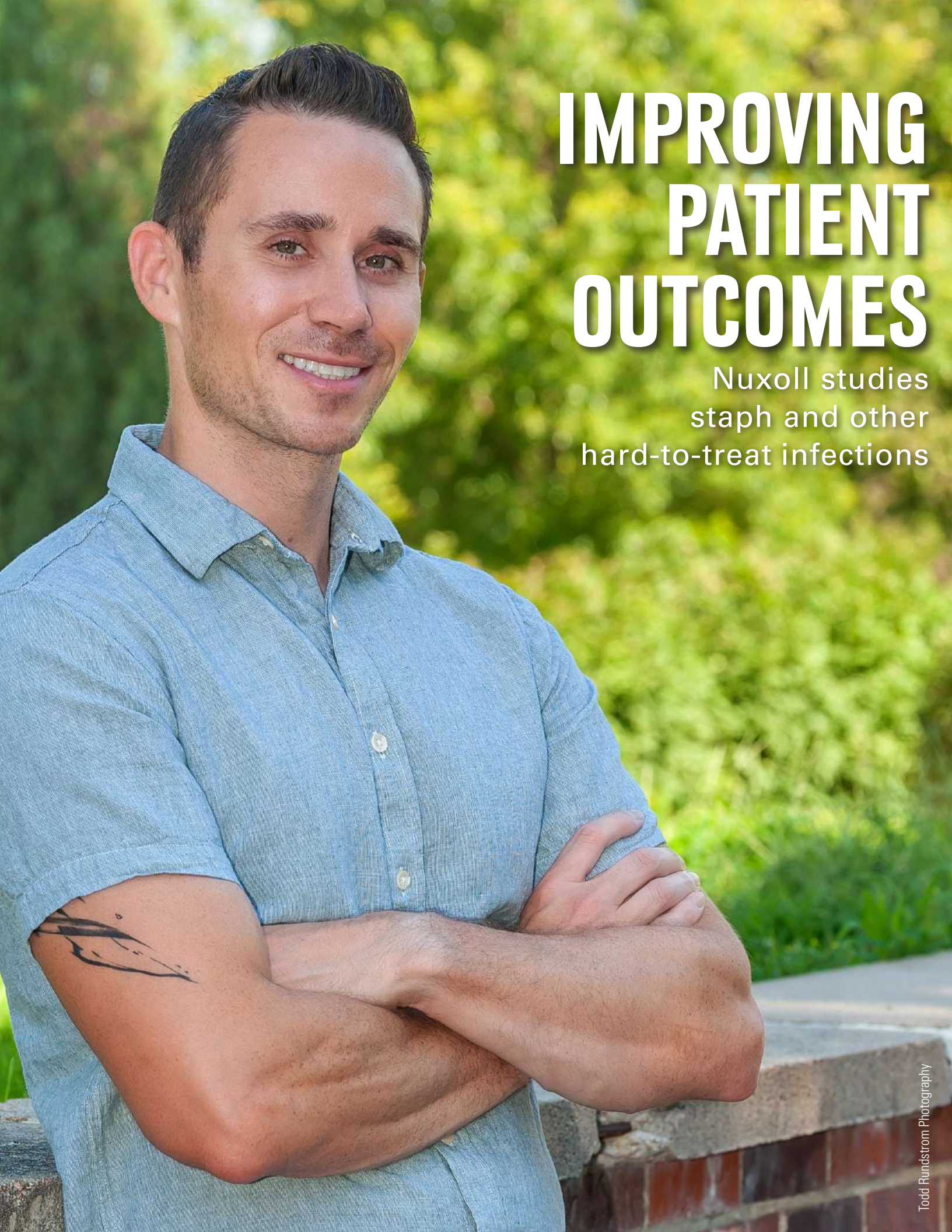
When I entered my undergraduate studies at Washington University in St. Louis, I was fortunate to be in a program that welcomed artists from every background and relished in viewing dance from many lenses: neuroscience, architecture, psychology, kinesiology. This program truly gave me wings to pursue dance as a career because it encouraged thinking holistically about movement. Once that confidence set in, knowing that my personal lens of the field and what I bring to it is important and valuable, I was able to fully explore the field, leading to the realization that I wanted to bring this same physical confidence to my students.

How do you measure success?

Success in the arts is more difficult to measure than in other fields. In dance, there is no script: we start with a blank slate and eloquent, moving, articulate bodies. The choreographic journey is exhilarating in that it is the process of crafting something completely original every single time. What is seen as the product is the result of incalculable hours of training, planning and technical execution. What is felt in the process, however, is love of the work. Love of the challenge of crafting stage pictures and generating movement phrases; love of close collaboration with peers and faculty; love of the bumps, scrapes, bruises, blisters, torn skin and tattered toenails; love for the gift of a moving body; love for the privilege of walking into the studio day after day and being met with enthusiasm and possibility; love of the work of it.

As a movement researcher and arts educator, this is the key aspect of the work that I hope to pass on to the viewer and performer. I always invite the audience to savor the luscious work, but more importantly I invite them to revel in the love. Success is a viewer who doesn't feel the pressure to have a knowledge of dance training and history or a command of the technical language to experience the sheer joy of the performers sharing their personal preparation, hard work and exceeding amount of love.

I am privileged to witness the resilient lives of my students daily, both in and out of the dance studio. I see it in the way they plie in and plie out of the floor; the way they dance the transitions and honor the moment. I experience it when they follow their dreams and encourage each other when the road seems tough. They overcome, show up and try again and again. Dance training is not an easy road, but they welcome the rigor and hold each other accountable to be the best version of themselves. They hold each other up when life throws them lemons and teach each other what true growth means. They create awe-inspiring, mature choreographic works, and offer themselves as medium to their colleagues, so those works can come into existence – ephemeral though it may be.



IMPROVING PATIENT OUTCOMES

Nuxoll studies staph and other hard-to-treat infections

Todd Rundstrom Photography

By TYLER ELLYSON

The failure of antibiotic treatments is one of the biggest threats to global health.

Antibiotic-resistant bacterial infections killed more than 1.2 million people and were indirectly associated with nearly 5 million deaths in 2019, according to the Centers for Disease Control and Prevention. More than 2.8 million antibiotic-resistant infections occur each year in the U.S. alone, causing over 35,000 deaths.

"A lot of people have heard of antibiotic resistance. We've seen this in the news with different bacteria becoming antibiotic-resistant, and we're running out of antibiotics to treat them. That's very important," said Austin Nuxoll, an associate professor in the University of Nebraska at Kearney Department of Biology.

"But what's often overlooked are all the infections caused by drug-susceptible pathogens. We have a lot of infections being caused by bacteria that aren't resistant to antibiotics, but antibiotic therapy still fails."

Antibiotic resistance happens when bacteria and other infection-causing microbes evolve and develop the ability to defeat the drugs designed to kill them. As medicines become less effective, these infections are harder to treat, leading to longer hospital stays, higher medical costs and increased mortality.

Nuxoll studies a similar, but separate, issue known as antibiotic tolerance. These microorganisms aren't antibiotic-resistant, yet they still manage to survive treatments, continue growing within the host and cause persistent problems.

"It's very much overlooked compared to antibiotic resistance, but it's very important clinically," Nuxoll said. "The hospital stay and the costs associated with that hospital stay aren't that different in some cases between patients infected with antibiotic-resistant organisms and antibiotic-susceptible organisms.

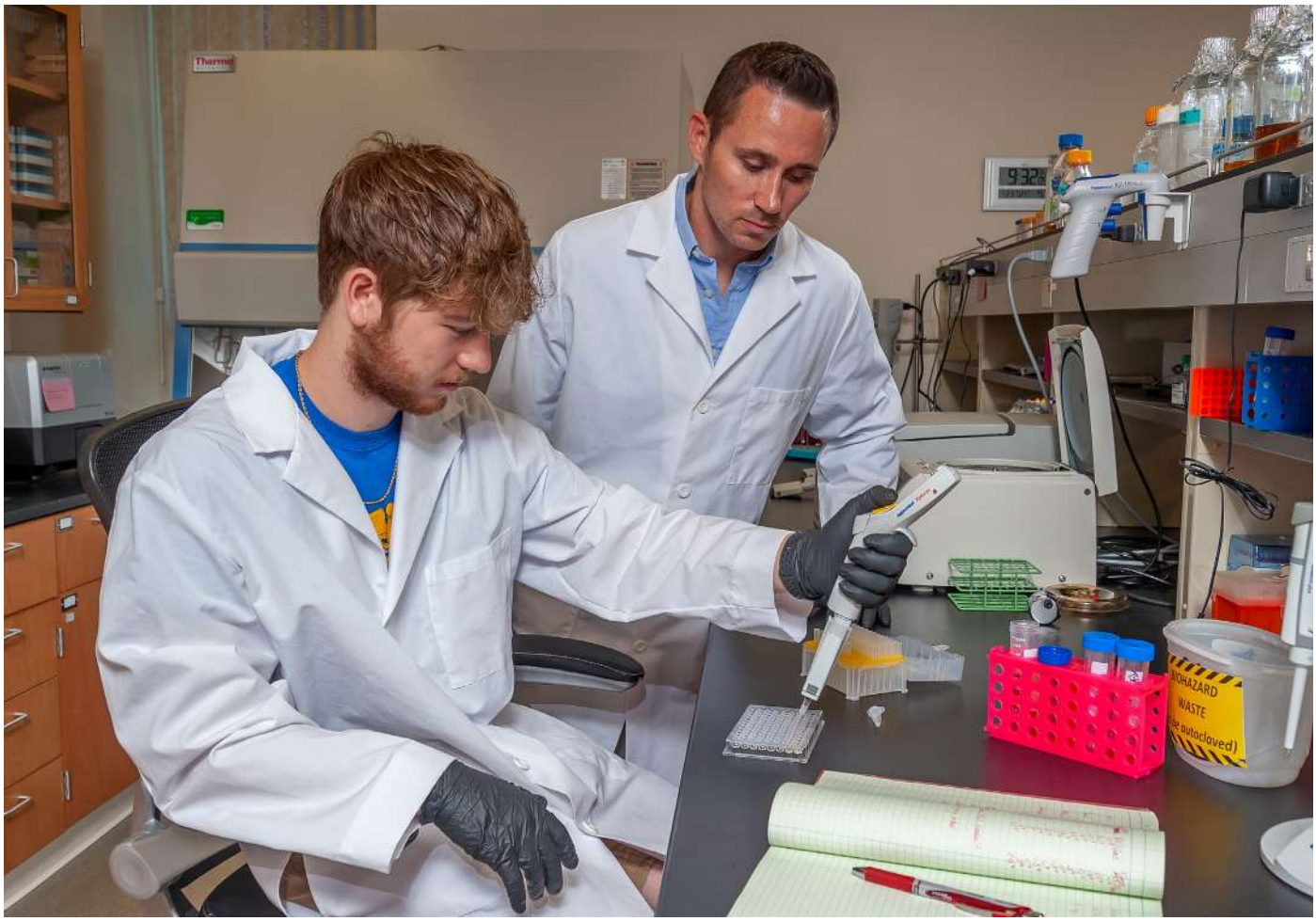
"We have a lot of patients who aren't surviving these treatments when they should."

Nuxoll has been researching antibiotic tolerance since 2010, when he was a doctoral student at the University of Nebraska Medical Center. His work focuses on Staphylococcus aureus (staph), a type of bacteria commonly found on the human body.

Staph bacteria are usually harmless, but they can cause life-threatening infections if they enter the bloodstream or internal tissue.

"They oftentimes will cause those skin and soft-tissue infections," Nuxoll noted, "but they cause more serious infections when they get into the bloodstream."

Staph infections are notoriously difficult to treat because



> "When a patient gets an infection and they're treated with antibiotics, they have up to a 20% chance of developing relapsing infections."

of antibiotic resistance – that's the case with MRSA – and antibiotic tolerance. They can spread in both community and health care settings.

"A lot of times these infections are associated with prosthetic devices like joint implants or catheters," Nuxoll said.

That's because staph infections are mediated by biofilms, a community of bacteria that adhere to each other and a surface, such as a prosthetic device.

"Those biofilms are pretty hard to treat once they form within a host. When a patient gets an infection and they're treated with antibiotics, they have up to a 20% chance of developing relapsing infections," said Nuxoll, who believes persister cells could be to blame.

Persister cells don't respond to antibiotics, allowing bacteria to remain in a dormant-like state during treatment. "Once that antibiotic therapy is removed, they start repopulating the environment and start growing again, causing these chronic and relapsing infections," Nuxoll said.

Nuxoll and his collaborators published a study in 2019 showing polymicrobial infections – those caused by biofilms with more than one type of bacteria – also include an increased number of persister cells. A follow-up study published last year shows persister cells can better survive the immune system.

"That could explain why those infections are worse for patients and why they have a worse prognosis," Nuxoll said.

Moving forward, Nuxoll hopes to take his research from the lab to a clinical setting, with the goal of developing more effective treatments for staph and other antibiotic-tolerant infections.

"That link to clinical manifestation needs to be made at some point," he said. "That's where we would like to get to."

MENTORING STUDENTS

In addition to advancing the medical field, Nuxoll enjoys research because it allows him to work one-on-one with students in a lab setting.

He mentors six undergraduate researchers throughout the school year and three during the summer.

"It's a really huge benefit to the student to get involved in undergraduate research," he said. "They learn critical reasoning and other skills while applying the concepts they're

learning in class to a problem facing the medical community. A lot of my students are pre-med, so they want to be doctors someday, and staph infections are something they're going to encounter in most specialties they go into."

The Comstock native knows firsthand how valuable this experience can be. He studied biology at UNK and got involved in undergraduate research through INBRE, a National Institutes of Health-funded program that promotes and supports biomedical research.

After a summer at the University of Nebraska-Lincoln, Nuxoll worked alongside UNK biology professor Paul Twigg, which sparked his interest in research.

"I fell in love with it," he said. "I knew I wanted to go into research."

Nuxoll earned his doctorate in pathology and microbiology from UNMC in 2014 and spent two years as a postdoctoral associate at Northeastern University in Boston before returning to UNK as a faculty member in 2016.

"I have worked with an amazing group of undergraduate students since joining UNK," he said. "My research achievements are a direct result of their hard work. Working with and mentoring undergraduate research students is a passion I have been fortunate enough to pursue during my time here."

His students have presented their research at numerous regional and national events, including American Society for Microbiology conferences in New Orleans, San Francisco and Washington, D.C.

"It can be painful to watch sometimes when they're struggling, and it just isn't working for them. But then when it all clicks, that's pretty rewarding to watch them figure it all out and feel a sense of accomplishment for what they've contributed."

AUSTIN NUXOLL

Title: Associate Professor of Biology

College: College of Arts and Sciences

Education: Bachelor of Science, University of Nebraska at Kearney, 2009; PH.D., University of Nebraska Medical Center, 2014.

Years at UNK: Six

Courses Taught: Infectious Diseases, Virology, General Microbiology, Current Issues in Biology and Bioethics

Research in My Words: We study how Staphylococcus aureus can cause persistent infections. S. aureus is notorious for causing difficult to treat, relapsing infections mediated by biofilms - a community of bacteria that are adhered to each other and to a surface. In a medical setting, these bacteria form biofilms on prosthetic devices such as catheters or joint implants. One hypothesis for why these infections are relapsing is the presence of persister cells, which are defined as a subpopulation that doesn't respond to antibiotic treatment. We are investigating how these persisters interact with the host immune system.

Recent Published Articles: "Interruption of the Tricarboxylic Acid Cycle in *Staphylococcus Aureus* Leads to Increased Tolerance to Innate Immunity," AIMS Microbiol, 2021; "Candida Albicans Induces Multidrug Tolerance in *Staphylococcus Aureus* Through Energy Depletion," Front Microbiol, 2019; "Stochastic Variation in Expression of the TCA Cycle Produces Persister Cells," mBio, 2019.


UNK

GAME TIME

Envick sparks student creativity with board - not bored - games

By KIM HACHIYA

Think about your favorite board game.

From Monopoly to Clue to Candy Land, these venerable games remain popular even as games such as Catan or Azul emerge. Each year, new games appear. And perhaps one day, the latest craze will be invented by students in an entrepreneurship class at the University of Nebraska at Kearney.

Management professor Brooke Envick uses board game design in her MGT 405: Creativity and Innovation course to give her students an experiential learning opportunity that sparks creativity, teaches teamwork and builds confidence.

Many employers report "creativity" is a prized and desirable asset. Job applicants are asked about their creativity and to describe a situation that demonstrates a creative solution. This can flummox applicants who may lack job experience in which their personal creativity was welcomed. College students may not recognize their own creativity, but, Envick notes, each of us is creative.

She describes creativity as those innate talents and personality traits that help you see the world in your own unique way. Personal experiences shape a person's creativity; often those who have struggled are the most creative in finding solutions to barriers.

"These (creative traits) are almost as unique as a fingerprint," Envick said. "And how people become confident is by using their skills."

In thinking about how to teach creativity, she found a company that produces one-off game sets for as little as $35-$75, making it feasible for group projects.

"We can discuss case studies, but that doesn't give them hands-on skills. This gives them an example of how they are creative. Gives them something to offer when asked 'how are you creative?' and affords the opportunity to engage in a multifaceted, fun and meaningful project."

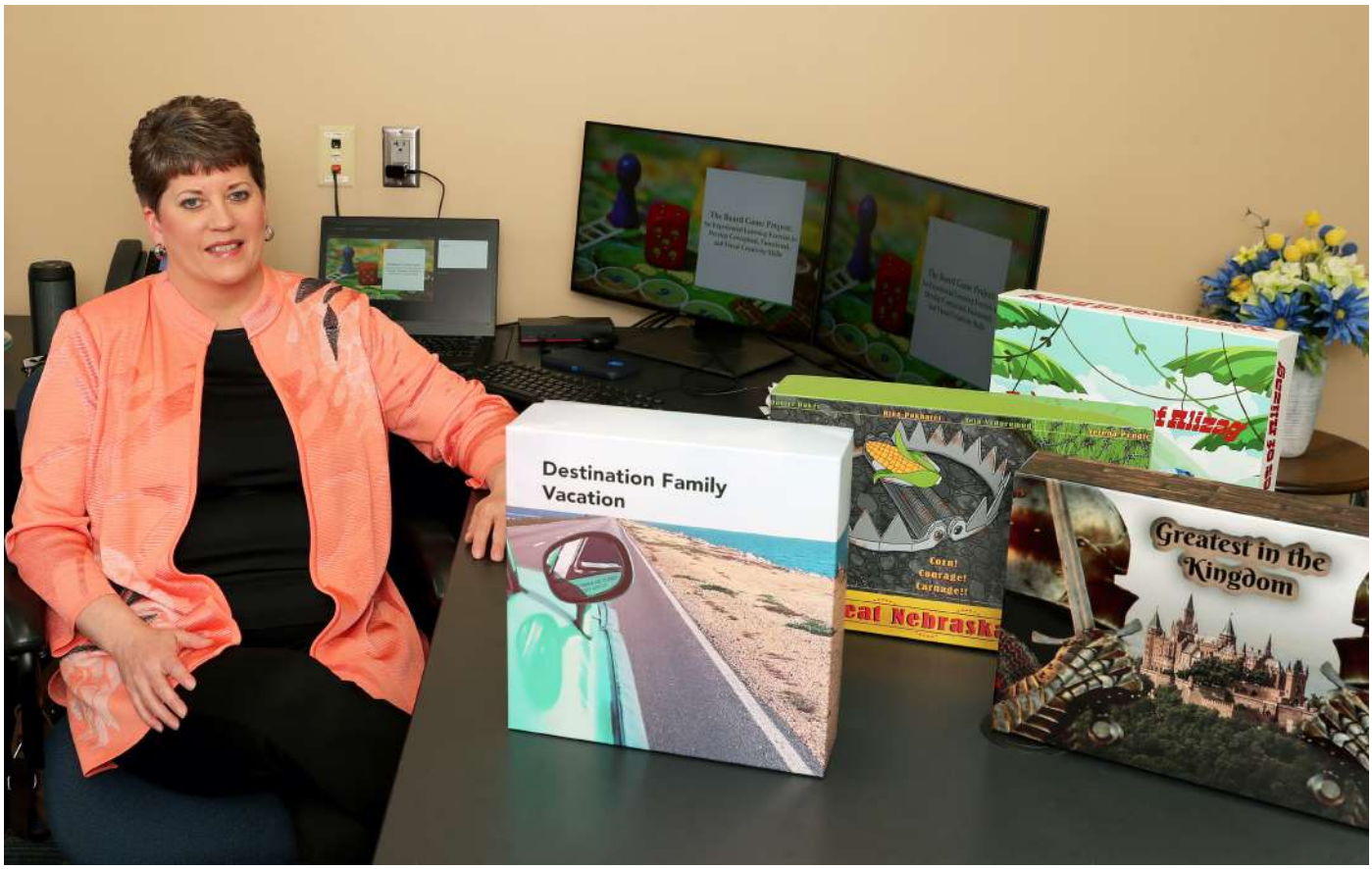
> "With creativity, a big piece of it is confidence. Somehow as we get older, we tend to lose self-confidence in offering novel ideas."

NO SLACKERS

Game development teaches three aspects of creativity, Envick said. Conceptual creativity forces students to come up with a new idea that doesn't infringe others' intellectual property. Functional creativity involves writing rules, testing and revising based on user feedback. And visual creativity develops a look and feel that reinforces the concept and engages participants. That latter aspect can be challenging for business students more accustomed to using an Excel spreadsheet rather than InDesign.

Envick's semester-long undertaking – called The Board Game Project – is divided into weekly assignments that hit

Erika Pritchard



those three creative aspects while keeping students on track. The first week, students take the Kaufman Domains of Creativity scale assessment that measures their self-reported skills in the domains of self/everyday, scholarly, performance, mechanical/scientific and artistic creativity. Envick uses these to assign students to balance teams so that no one skill set is overweighted.

Students move through the semester identifying game type, themes, target audiences and a game name. They create the games' rules and strategies. They exercise their functional creativity by designing the games' layouts, playing pieces, cards and the mechanics of how the product fits in a box. Here they need to look at pricing of their items such as playing tokens, dice, play money, etc. to stay within their budget.

Each team develops a prototype that is tested with their intended audience. Feedback from this phase fuels revisions – most often on rules clarifications, levels of interactivity and even visual design.

Once this phase is completed, games are ordered. When they arrive, each team is the first to play their games, and then games are played by others and evaluated. This, Envick notes, is one of the most fun and exciting parts of the process for the students.

"I've never had a problem with slackers in this class," she said. "The project is fun, everyone has a role and they understand how that role is important and contributes to the project. And because their peers are evaluating the final product, they want it to be good. This emulates the real workplace where your work product is seen by your colleagues, not just your boss or the professor."

Each student writes an essay describing their experiences and contributions, reflecting on what was personally meaningful, identifying new-to-them knowledge, and describing what they learned and how it might be applicable in the future.

This part is the most rewarding to Envick. Because she has the students' Creative PsyCap self-evaluations from week one, she can see how each has grown during the semester. Usually, she notes, those scores shoot up in hope, efficacy, resilience and optimism.

"With creativity, a big piece of it is confidence. Somehow as we get older, we tend to lose self-confidence in offering novel ideas," she said.

UNK FAMILY HISTORY

Many of Envick's students intend to return to their hometowns to take over a family business or farming operation. Students need to develop insights and critical thinking that will help them navigate the future. She noted that many of the businesses that have survived the pandemic have done so due to "out of the box" thinking and strategies.

"Part of the reward is seeing them go back to their hometowns because it keeps those towns going."

In a way, Envick has returned to her "hometown," although she spent 40 years away. She is the third generation of her family to teach at UNK. Her grandfather, Maynard Envick, taught industrial arts from 1956-1976 at what was then Kearney State College. While she grew up in Texas, where her father was a college professor, the family returned to Nebraska often to visit relatives in Kearney and North Platte. She remembers playing on the KSC campus.

Her father, Don Envick, returned to UNK when her grandfather needed assistance. Don founded the industrial distribution program and taught at KSC/UNK from 1987 to 2009. Brooke Envick was in UNK's first graduating class, 1991, after it joined the University of Nebraska system. She earned her undergraduate and master's degrees from UNK, then earned her doctorate at the University of Nebraska-Lincoln. There, her mentor was Fred Luthans, a legendary professor of management. His son, Kyle Luthans, professor and chair of the UNK management department, is now Envick's colleague. Kyle Luthans says he viewed Don as a role model for success and a respected colleague.

Envick taught at St. Mary's University in San Antonio, Texas, for 18 years before returning to UNK in 2017.

Now a full professor and associate dean of Faculty and Strategic Initiatives in the College of Business and Technology, Envick feels at home in Kearney.

"There are people here who knew my father and grandfather, and there are still professors teaching who I had when I was here. So it's very cool to be a third generation member."

BROOKE ENVICK

Title: Professor of Management; Associate Dean of Faculty and Strategic Initiatives

College: College of Business and Technology

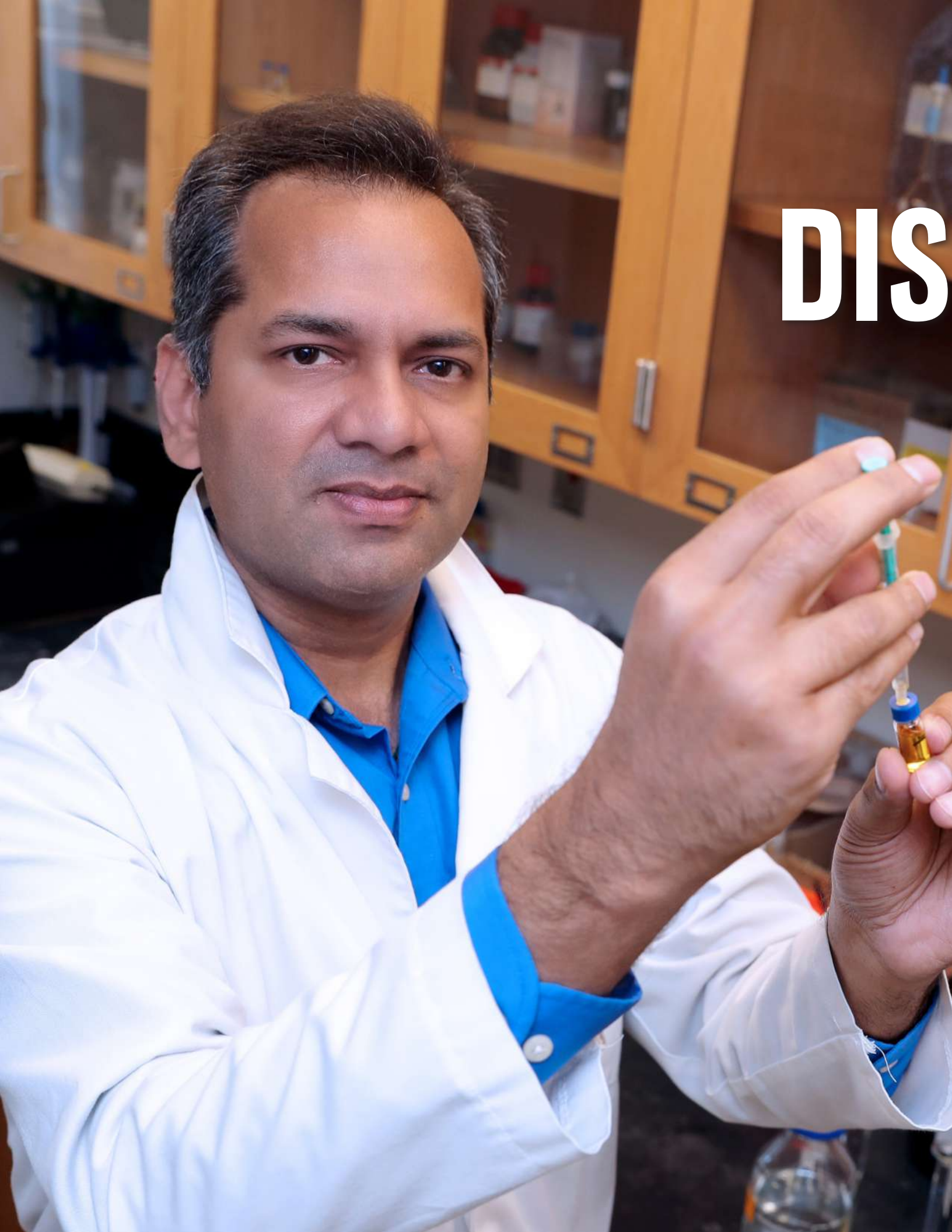
Education: Bachelor of Science in management, University of Nebraska at Kearney, 1991; Master of Business Administration, UNK, 1993; Ph.D., University of Nebraska-Lincoln, 1996.

Years at UNK: Five

Areas of research/specialization: Behaviors, Traits and Competencies of Entrepreneurs, 1995-2014; The Scholarship of Teaching and Learning Entrepreneurship, 1995-2014; A Cross-Disciplinary Study of Entrepreneurship, 2002-15; Understanding and Strengthening the Link Between the Creative Person and Creative Performance through Design Thinking and Creative PsyCap, 2018 to Present.

Courses Taught: Organizational Behavior, Principles of Management, Compensation Management, Creativity & Innovation, Small Business Management, Acquiring Professional Skills

Recent Published Articles: "The Small Business Continuity Template: A Strategic Design Tool to Sustain Recurring Revenue During Times of Crisis," Global Journal of Entrepreneurship, 2021. "Put on Your Thinking Hats: An Experiential Exercise to Find Solutions to the Most Common Unethical Behaviors in the Workplace," Journal of the Academy of Business Education, 2020.


DIS

DRUG COVERY

Pattabiraman's research targets opioid crisis

Erika Pritchard

By TYLER ELLYSON

Nearly 75% of all drug overdose deaths in the United States involve opioids, which killed 68,630 Americans in 2020.

About one-fourth of those deaths were caused by pain medications legally prescribed to patients, according to the Centers for Disease Control and Prevention, which tracks the country's growing opioid epidemic.

Overdose deaths involving opioids have increased eightfold since 1999, driven in recent years by a significant uptick in the illegal sale of fentanyl, a synthetic opioid 50 to 100 times more potent than morphine.

However, prescription opioid addiction and abuse remains a significant concern. More than 16,000 Americans died from overdoses involving prescription opioids in 2020 – a 16% jump from the prior year.

"The opioid crisis began in the 1990s and it continues to be a major cause for addiction in the U.S., which is fueled by prescription drug abuse. If we can find non-opioid alternatives for pain management that are as good as opioids, that would save numerous lives," said Mahesh Pattabiraman, a chemistry professor at the University of Nebraska at Kearney.

A class of legal and illegal drugs found naturally in the opium poppy plant, opioids contain chemicals that relax the body and relieve pain. Prescription opioids – some made directly from the plant and others produced by scientists using the same chemical structure – are most often used to treat moderate to severe pain.

> "The fact that I have made only a small amount of progress in a sea of vast potential discoveries motivates me, because there is a lot more to know."

These powerful painkillers are effective, but they're also highly addictive.

Nearly 10 million Americans reported misusing prescription opioids in 2018, according to figures from the CDC, which puts the annual economic burden of opioid use disorder and fatal overdoses at more than $1 trillion.

Through his research, Pattabiraman is working on a potential solution to this national problem. Trained originally as an organic photochemist, Pattabiraman is now using his expertise in the field for drug discovery.

"My approach to discovering new compounds with antipain effects is to pursue phytochemicals (from plants) with known medicinal effects as lead compounds and improvising on them to arrive at novel compounds with higher efficacy," he explained. "This involves the use of light-activated reactions (photochemistry) and directing their reactivity using intermolecular interactions (supramolecular chemistry)."

Pattabiraman's recent research has homed in on incarvillateine (INCA), a compound derived from the Chinese herb Incarvillea sinensis.

Opioids are effective painkillers because they bind to and activate opioid receptors in the brain, spinal cord and other

organs, blocking pain signals sent from the brain to the body and releasing large amounts of dopamine.

INCA has been widely used in traditional medicine to treat rheumatism and pain, according to Pattabiraman, but it doesn't work through the opioid pathway. Instead of binding to opioid receptors, which can lead to addiction, Pattabiraman and his collaborators are trying to develop synthetic analogs of the natural INCA compound that favor adenosine receptors.

A drug working through the adenosine pathway has the potential to also be used in cancer treatments.

What are your biggest discoveries?

I have studied one photochemical reaction quite extensively: the 2+2 photocycloaddition. To my knowledge, I would be the first chemist to use this reaction to produce biologically relevant compounds. I, with the help of my collaborators, was able to discover that these compounds possess anticancer properties. I have also been able to use supramolecular chemistry to synthesize products with different spatial orientations and shapes (isomers) than what has been previously possible for photochemists.

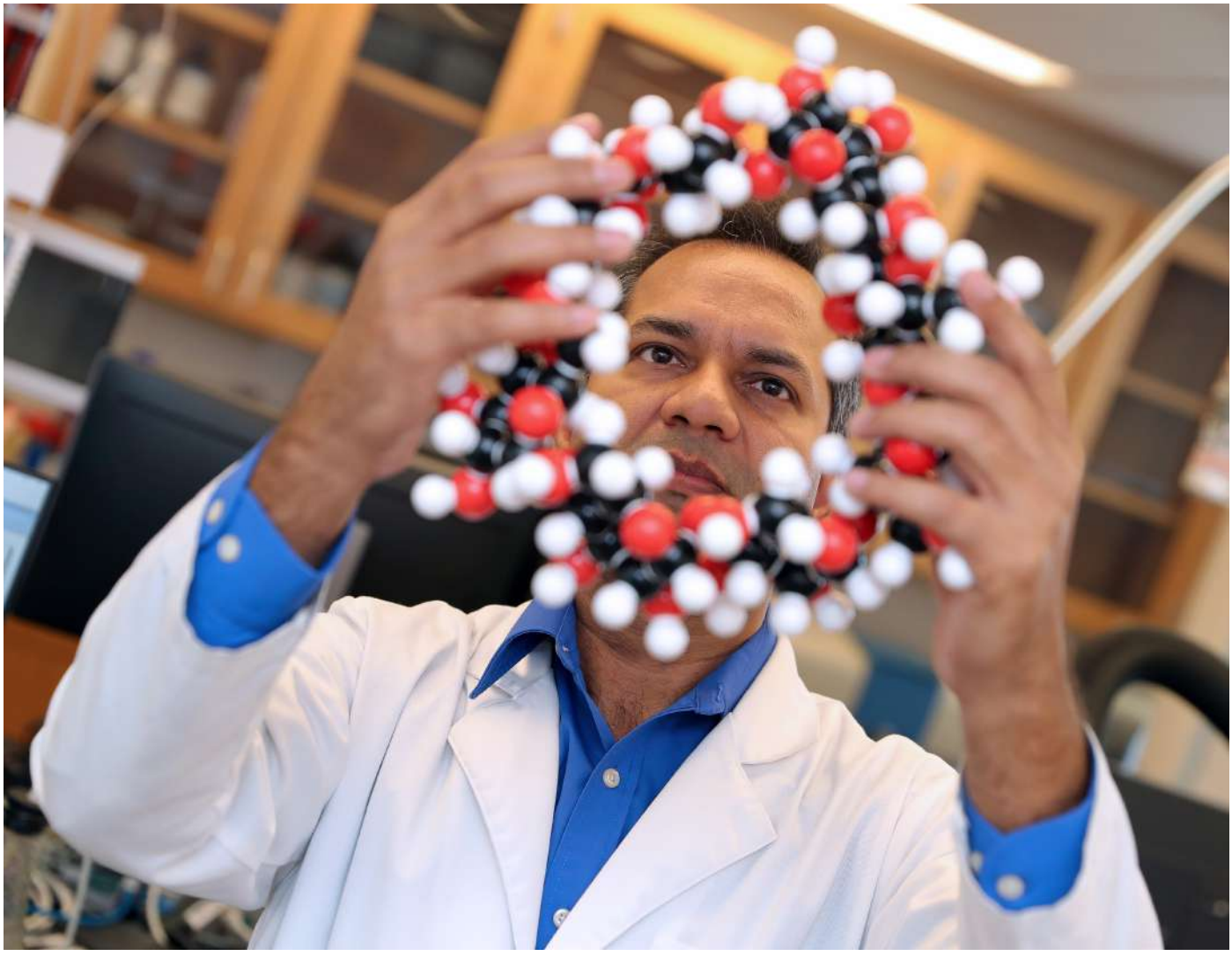
How do you measure success as a researcher? What motivates you?

Science is all about unraveling reality. In this pursuit of physical reality, scientists generate new knowledge. Because reality is contextual, success in the scientific process could be measured through the amount of new knowledge one has generated.

Based on that metric, I have only seen limited success because most of my research has progressed through incremental developments. The fact that I have made only a small amount of progress in a sea of vast potential discoveries motivates me, because there is a lot more to know.

Why were you attracted to this field?

As a master's student in the Indian Institute of Technology at Bombay, I remember picking up a book on photochemistry in the library. The author's mention of photochemistry as the "science that studies the interplay between two most fundamental aspects of nature: light and matter" made me stop and think. That statement enamored me by how complete it was and its encapsulation of our effort to understand the universe. Photochemistry is a fundamental science, and I had to find a use



for it: thus my project in drug discovery emerged wherein I use photochemical reactions to produce compounds of biomedical significance.

What's the most enjoyable part of research?

Doing research is like solving a crime – I am being dramatic here – perhaps it is like solving a puzzle. Nature is out there in its being, and as a chemist I try to understand it by poking and prodding at it. Anything and everything you get from this process will lead to discovering something new and solving a part of the puzzle (or a crime). That is really fun.

It is most fun when one experiment challenges the status quo of our understanding, which in due course leads to a completely different way of thinking that actually makes more sense. It is akin to a puzzle that seems to have been almost solved with just one piece that won't fit, and when you re-solve the whole puzzle from a different starting point, the entire picture changes.

Thinking about research materialistically, it is very exciting when you publish papers and receive major grants. That is important, too.

What are the qualities of a good faculty researcher?

A good faculty researcher is a scientist and a teacher. As a scientist, the faculty researcher pursues reality without bias. As a teacher, the faculty researcher passionately propagates the science through education.

How do you involve students in your research? Why is that important?

Students help me meet both the faculty researcher goals. They help perform experiments, but more importantly they learn the science and help in its propagation. It is also great interacting with students who are interested in research because often they tend to be patriotic about the research they do. This is essential for a positive atmosphere in the workplace.

Research is where students test their classroom knowledge in the real world. While teaching labs are a good first step, the experiments are choreographed to lead to a specific outcome to emphasize a specific point. Research is open-ended and presents a realistic feel for the knowledge they have acquired in the classroom.

How do you balance research and teaching? Do they benefit each other?

It is definitely a challenge to balance research and teaching, especially in the hard sciences where research is expensive. To acquire research money, one must engage in grant-seeking, which is a highly competitive and crowded field. To stand out in the field one needs a strong publication record and bold research activity. This requires time and resource investment, which occasionally conflicts with teaching. I personally manage this by simply working more hours. I am also very appreciative of the research release we have at UNK and our students who are very understanding when you must miss a class or two for conference travel. The support for research and infrastructure we receive from central administration is also of immense help.

Teaching and research definitely go hand in hand, and we cannot get one without the other. Even though we teach our students only the most basic concepts in any given field, an instructor with active research expertise presents it with much greater depth. Research also helps us stay current with the developments in our field.

What stands out about UNK's research programs?

I have seen many primarily undergraduate institutions, as I have many friends and colleagues who I regularly interact with. UNK is perhaps the only institution I have seen where the research/teaching balance has been truly struck. The amount of support we get from the NU Foundation is truly admirable.

MAHESH PATTABIRAMAN

Title: Professor of chemistry

College: College of Arts and Sciences

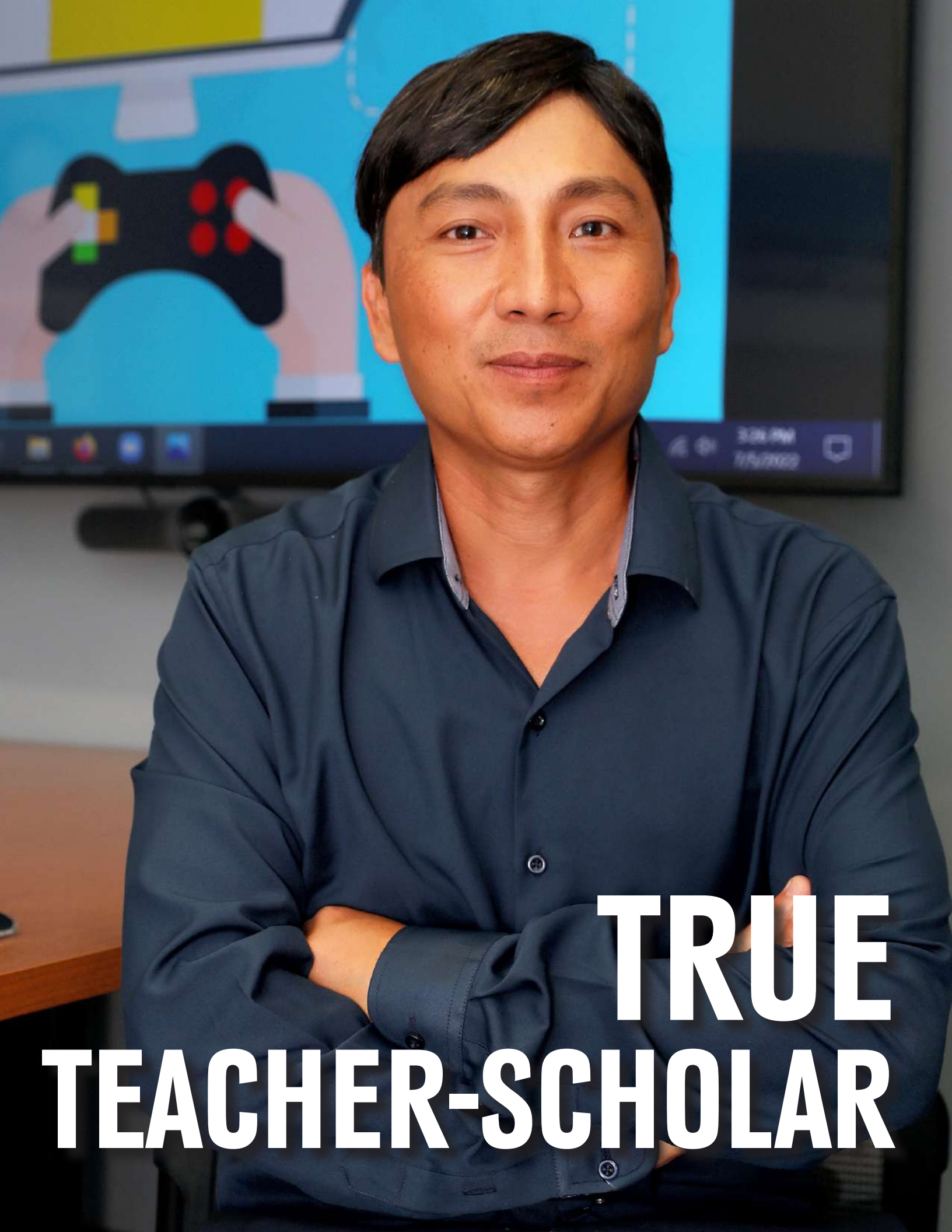
Education: Postdoctoral Fellow, Florida International University, 2009; Ph.D. in organic chemistry, University of Miami, 2006; Master of Science in inorganic chemistry, Indian Institute of Technology (Mumbai, India), 2001; Bachelor of Science in chemistry, University of Madras (Chennai, India), 1999.

Years at UNK: 10

Areas of research/specialization: Supramolecular photochemistry, biomolecular chemistry

Courses Taught: General Chemistry, Organic Chemistry And Corresponding Labs; Chemistry Seminar Courses

Recent Published Articles: "Unravelling Supramolecular Photocycloaddition: Cavitand-Mediated Reactivity of 3-(Aryl) Acrylic Acids," Journal Photochemistry and Photobiology A: Chemistry, 2022; "Supramolecular Control of Singlet Oxygen Generation," Molecules, 2021; "Novel Curcumin Analog (cis-trans curcumin) as Ligand to Adenosine Receptors A2A and A2B: Potential for Therapeutics," Pharmacological Research, 2021.


TRUE
TEACHER-SCHOLAR

Phu Vu uses research to improve instruction

By TYLER ELLYSON

For Phu Vu, teaching and research go hand in hand.

The University of Nebraska at Kearney faculty member truly enjoys both aspects of his job.

"Teaching sparks my interest in research, and thanks to research and what I have learned from that process, my teaching performance has improved," said Vu, an associate professor in the Department of Teacher Education. "I conduct research to understand and improve my teaching while I teach and test my research ideas."

Tell me about your research:

My research interest centers around educational technology, more specifically digital learning and game-based learning. However, the more I am involved in the teacher education program and interact with colleagues and students in our program, the broader and more interdisciplinary my research agenda becomes.

> "I am a curious educator who always tries my best to improve my teaching performance and ultimately help my students learn better."

Why were you attracted to this area?

I am a curious educator who always tries my best to improve my teaching performance and ultimately help my students learn better. Because of that, I always observe what happens in my class, keep track of my students' performances and ask myself what I can do differently so my students can do better in my classes. Most of my research projects have derived from that process. I do research to better understand and improve my teaching.

How do you involve students?

As I mentioned before, most of my research ideas and projects come from my classroom while I interact with my students, so getting students involved in my research is quite a natural process. I am fortunate to have most of my students being in-service classroom teachers so we can discuss what is going on in their own classrooms. From that, we work together to implement interventions in their classrooms. My students also enjoy doing this kind of action research because they find it useful and relevant.

What are your biggest discoveries?

One of the most important characteristics of great teachers that students appreciate is "caring." Last year, we conducted a study examining the factors contributing to excellent teaching and found that the top five characteristics that are important to students include being caring, respectful and inspirational, as

Erika Pritchard

well as giving good feedback and delivering "amazing" lectures. The findings of this study probably have the most impact on my teaching.

Tell me about your upbringing. What role did education/ teachers play in leading you down this career path?

I came from a poor family in Vietnam, and none of my parents or relatives finished high school. Fortunately, my parents recognized the importance of education, so they were determined to pay quite a lot for me to take private tutoring services after school because I did so badly in school. I was the only one in my whole village who took this expensive tutoring service – almost equivalent to one week's income for our family – at that time. This is quite a turning point for me. I started enjoying learning and performing better. That early seed inspired me to become a teacher and eventually a teacher of teachers. Without my parents' support, I would probably be a farmer or fisherman in Vietnam now.

Who has helped you the most in your career?

While my family inspires me, my students have helped me with new ideas, and their personal stories always impress me.

How do you measure success as a researcher?

Recognition from colleagues and the scholar community, but most importantly finding the answer to the questions in my class to help improve my teaching and help my students learn better.

What stands out about UNK's research programs?

I think they are collaborative and interdisciplinary. I don't see any competition among us to be the best. There's a culture of professionally helping and lifting each other.

PHU VU

Title: Associate Professor of Teacher Education

College: College of Education

Education: Ph.D., Southern Illinois University, 2013; Master of Arts, Southern Illinois University, 2010; Bachelor of Arts, Quy Nhon University, 2001.

Years at UNK: Nine

Areas of research/specialization: Educational technology- enhanced learning, digital/online learning, Collaborative/interdisciplinary research (ESL, STEM, Gifted Education).

Courses Taught: Variety of graduate level courses in instructional technology

Recent Published Articles: "Adopting Speech Recognition in EFL/ESL Contexts: Are We There Yet?" Journal of Foreign Language Education and Technology, 2021; "Does Virtual Field Experience Deliver? An Examination into Virtual Field Experience During the Pandemic and Its Implications for Teacher Education Programs," Open Praxis, 2021; "An Evaluation of Quality of Life for Former Gifted Program Participants in Vietnam," Gifted and Talented International, 2022.

CHARLIE BICAK LEAVES LASTING IMPACT ON UNK, HIGHER EDUCATION

By TYLER ELLYSON

Chancellor Doug Kristensen calls Charlie Bicak "one of the pillars who helped build the modern-day UNK."

"I think there are days when it's hard to calculate how important Charlie has been to the University of Nebraska at Kearney, because he's impacted it in so many different ways," Kristensen said. "Over the last 13 years, clearly he's had a big impact on the academic direction of the campus, but I think he provides a calming influence toward most campus issues."

As senior vice chancellor for academic and student affairs, Bicak oversaw a number of collaborative and multidisciplinary projects – most notably the successful partnership with the University of Nebraska Medical Center. He played a key role in the planning process when UNK and UNMC joined forces to expand health care education in rural Nebraska.

The institutions opened a $19 million Health Science Education Complex on UNK's west campus in 2015, and that facility quickly filled to capacity. More than 300 students are currently pursuing degrees there in over a dozen professional programs.

The Nebraska Legislature approved funding earlier this year for the second phase of that plan, a new Rural Health Education Building to be located directly north of the Health Science Education Complex. That building will expand the existing UNMC programs offered in Kearney and bring new options to the UNK campus.

"Charlie's ability to work seamlessly with the medical center has been an unbelievable asset for the campus as we've developed the Health Science Education Complex and now the Rural Health Education Building," said Kristensen, referring to the partnership as a "shining accomplishment."

"But there are so many other things Charlie has done that I think are just as important to campus, but maybe not as visible," he added.

Among them:

- Developing new general studies curriculum that reduces credit hour requirements, eases transferring and gives students greater flexibility in earning their degree.
- Partnering with the University of Nebraska at Omaha to bring a Master of Social Work program to UNK.
- Growing the Kearney Health Opportunities Program, another UNMC partnership that promotes rural health education, and launching the Kearney Law Opportunities Program, a collaboration with the University of Nebraska College of Law that recruits and trains students to become lawyers in rural communities.
- Merging the College of Fine Arts and Humanities and College of Natural and Social Sciences to form the College of Arts and Sciences, the most significant change in UNK's academic structure since the school joined the NU System in 1991.

Bicak helped launch various other research initiatives and academic programs, including molecular biology, athletic training and early childhood education.

Mark Ellis, dean of graduate studies and academic outreach, called him a "strong supporter" of faculty and student research.

"Dr. Bicak's advocacy has made research and creative activities a hallmark of the UNK community," Ellis said. "During his tenure, UNK witnessed a dramatic increase in faculty publications and grant awards, as well as increased research opportunities for undergraduate students through the Undergraduate Research Fellows program, Summer Student Research Program and Student Research Day."

> "There's a strong sense of community here. We're large enough that we have the breadth and depth of programs, but we're also small enough that you get to know students and they get to know you."

CAMPUS CONNECTION

A Kearney Catholic High School graduate, Bicak's connection to UNK goes back six decades.

His late father Laddie was a faculty member here from 1962-89, teaching in the department of biology and serving as the graduate dean for nine years. His mother Iris was a music teacher and vocalist, making a career in education a bit of a no-brainer.

"I suspect that I always thought I would be a teacher, but mine was a little bit of a meandering path," Bicak said with a smile.

After working two summers on the grounds crew on campus, Bicak enrolled at UNK, known then as Kearney State College, in 1970. He saw the same opportunities students continue to receive today.

"Fifty years ago, I was involved in undergraduate research," said Bicak, who studied water pollution in the Little and Big Blue rivers with faculty members and fellow students.

He also played football for the Lopers for two years before graduating in 1974 with a bachelor's degree in biology education.

Bicak taught junior high physical science and biology at Westside Community Schools in Omaha for a year, but he really wanted to pursue research. So he left his teaching position, got married, and started a master's program in plant science at the University of British Columbia in Vancouver, Canada. That decision led to a doctorate in range science from Colorado State University and, after a brief stint researching herbicides for Eli Lilly and Company, his first job in academia.

Although he spent nine years at California State University, Bakersfield, advancing to professor and biology department chair, the relationships he developed at UNK never faded.

"There's a strong sense of community here," Bicak said. "We're large enough that we have the breadth and depth of programs, but we're also small enough that you get to know students and they get to know you."

The desire to work in that type of close-knit environment brought him back to Kearney in 1992. Bicak taught in the UNK Department of Biology for the next 13 years, serving as department chair for seven years and as an assistant to the dean for two years.

He received the Teaching Excellence Award from the Kearney Area Chamber of Commerce in 1997 and was the second person ever recognized with the Leland Holdt/ Security Mutual Life Distinguished Faculty Award, presented annually to an outstanding UNK teacher-scholar for their achievements in education, research and service.

Bicak was dean of the School of Natural Sciences at St. Edward's University in Austin, Texas, from 2005-09 before returning to UNK for good. He served as senior vice chancellor for academic and student affairs for the final 13 years of his four-decade career in education.

"There comes a time for all things to end," said Bicak, who retired June 30 but will remain involved in the Rural Health Education Building development.

He and his wife Marylin plan to travel more and spend additional time with family. Their son Nate and grandchildren Parker and Foster live in west Omaha, and daughter Libby lives in Lincoln.

You'll still see him around the UNK campus, too – at theater productions, music concerts, athletic contests and other events where he can catch up with faculty, administrators, former students and other friends he's made along the way.

"This is home," Bicak said.

And it always will be.

New Frontiers Through The Years

2009

KATHRYN N. BENZEL
Professor, English

KURT BORCHARD
Professor, Sociology

GREGORY BROWN
Assistant Professor, HPERL

KIM CARLSON
Assistant Professor, Biology

VICTORIA GORO-RAPOPORT
Associate Professor, Art

SUSAN JENSEN
Associate Professor, Marketing

JEANNE STOLZER
Assistant Professor, Family Studies

2010

WILLIAM AVILÉS
Associate Professor, Political Science

JOSEPH CARLSON
Professor, Criminal Justice and Social Work

LINDA CROWE
Chair/Professor, Communications Disorders

DARLEEN COWLES MITCHELL
Professor, Music and Performing Arts

KYLE LUTHANS
Chair/Professor, Management

DAWN MOLLENKOPF
Associate Professor, Teacher Education

MARGUERITE TASSI
Professor, English

FRANK TENKORANG
Chair/Assistant Professor, Economics

2011

TEARA ARCHWAMETY
Education Research Consultant

SYLVIA ASAY
Chair/Professor, Family Studies and Interior Design

HERBERT CRAIG
Chair/Associate Professor, Modern Languages

MARK ELLIS
Chair/Professor, History

CHAD FONFARA
Associate Professor, Art and Art History

KEITH GELUSO
Associate Professor, Biology

MAX MCFARLAND
Professor, Counseling and School Psychology

2012

TING-LAN CHEN
Associate Professor, Music and Performing Arts

BRENDA ESCHENBRENNER
Assistant Professor, Accounting/Finance

SATOSHI MACHIDA
Associate Professor, Political Science

JAKE MESSERSMITH
Associate Professor, Management

DAWN SIMON
Associate Professor, Biology

JOHN STANKO
Associate Professor, Art and Art History

JANE STRAWHECKER
Professor, Teacher Education

2013

NATHAN BUCKNER
Professor, Music and Performing Arts

DAVID HOF
Professor, Counseling and School Psychology

SUSAN HONEYMAN
Professor, English

PETER LONGO
Professor, Political Science

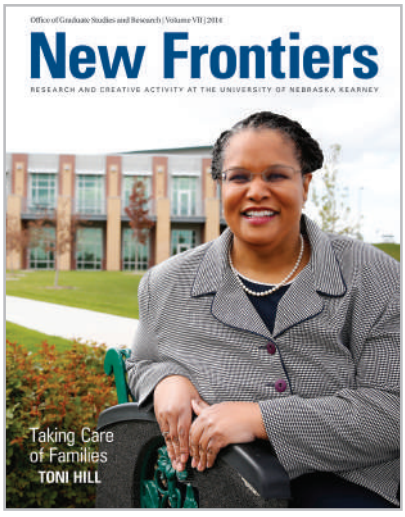
DENNIS POTTHOFF
Professor, Teacher Education

HEATHER SCHULZ
Assistant Professor, Marketing

JULIE SHAFFER
Professor, Biology

KATHRYN ZUCKWEILER
Associate Professor, Management

2014



SHERRY CROW
Associate Professor, School Library Science

TONI HILL
Assistant Professor, Family Studies

CAROL LILLY
Professor, History

MIECHELLE MCKELVEY
Associate Professor, Communication Disorders

PAUL TWIGG
Professor, Biology

SAM UMLAND
Professor, English

DOUG WATERFIELD
Professor, Art

New Frontiers Through The Years

2015

CHARLES "CHUCK" ROWLING
Assistant Professor, Political Science

MALLORY WETHERELL
Assistant Professor, Ceramics

PHU VU
Assistant Professor, Teacher Education

ADAM JENSEN
Assistant Professor, Physics and Physical Science

NOEL F. PALMER
Assistant Professor, Management

BREE DORITY
Assistant Professor, Economics

MATTHEW R. BICE
Assistant Professor, Kinesiology and Sport Sciences

2016

KAZUMA AKEHI
Assistant Professor, Kinesiology and Sport Sciences

HAISHI CAO
Associate Professor, Chemistry

CHRISTINE CHASEK,
Assistant Professor, Counseling and School Psychology

ANTHONY DONOFRIO
Assistant Professor, Composition and Theory

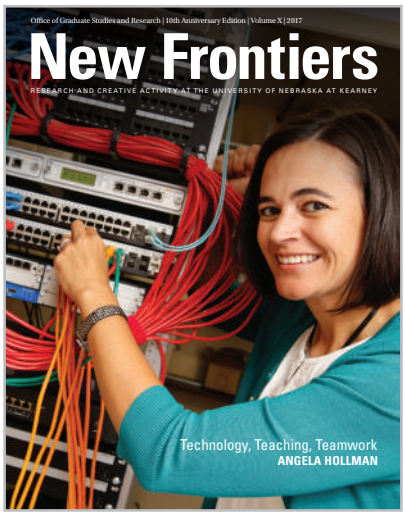
KAY HODGE
Professor, Management

TIMBRE WULF-LUDDEN
Assistant Professor, Criminal Justice

DAVID PALMER
Professor, Management

REBECCA UMLAND
Professor, English

2017



DICK MEYER
Associate Professor and Chair, Educational Administration

CHRISTOPHER EXSTROM
Ron and Carol Cope Professor, Chemistry

DENYS VAN RENEN
Associate Professor, English

VICTORIA GORO-RAPOPORT
Professor, Drawing and Printmaking

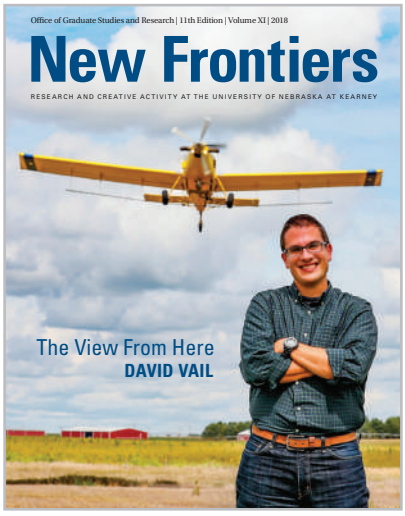
ANGELA HOLLMAN
Assistant Professor, Industrial Technology, Information Networking & Telecommunications

FRANK TENKORANG
Professor and Chair, Economics

GREG BROWN
Professor, Kinesiology and Sport Sciences

BRYAN DREW
Assistant Professor, Biology

2018



ALLEN THOMAS
Associate Professor, Chemistry

MICHELLE WARREN
Assistant Professor, Spanish

JIA HUANG
Associate Professor, Math and Statistics

DAVID VAIL
Assistant Professor, History

SHARON OBASI
Assistant Professor, Family Studies

TODD BARTEE
Professor, Exercise Science

MEGAN HARTMAN
Associate Professor, English

GREG BROEKEMIER
Professor and Chair, Department of Marketing, Agribusiness and Supply Chain Management

2020

KIM CARLSON
Professor, Biology

SURABHI CHANDRA
Associate Professor, Biology

MARY HARNER
Associate Professor, Communication and Biology

KATE HEELAN
Professor, Kinesiology and Sport Sciences

JACOB HILLESHEIM
Graduate Student, History

PHILIP LAI
Assistant Professor, Communication Disorders

ANNETTE MOSER
Professor, Chemistry

JACOB ROSDAIL
Associate Professor, Communication

KRISTY KOUNOVSKY-SHAFER
Associate Professor, Chemistry

MAHMOUD SHAKOURI
Assistant Professor, Industrial Technology

2021

MEGAN ADKINS
Associate Professor, Kinesiology and Sport Sciences

GAIL SHAFFER BLANKENAU
Graduate Student, History

JESSICA HOLLANDER
Associate Professor, English

ANGELA HOLLMAN
Associate Professor, Cyber Systems

LIAQUAT HOSSAIN
Professor, Cyber Systems

TIM OBERMIER
Professor, Industrial Technology & Cyber Systems

LADAN GHAZI SAIDI
Assistant Professor, Communication Disorders

MELISSA WUELLNER
Associate Professor, Biology

University of Nebraska at Kearney

2504 9th Avenue
1000 Warner Hall
Kearney, Nebraska 68849
unk.edu

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