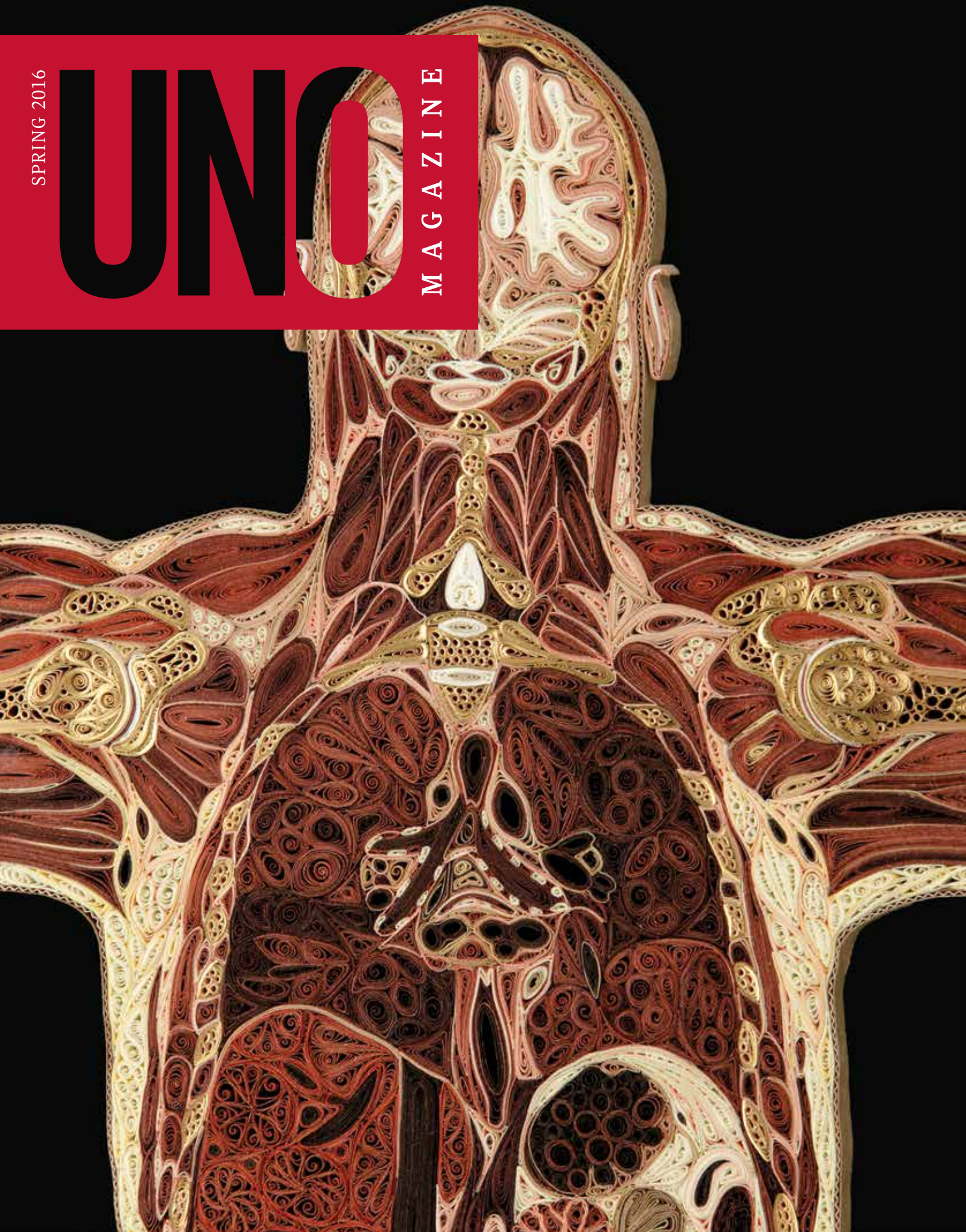


SPRING 2016

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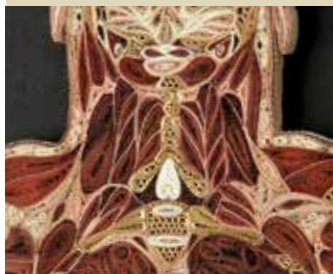
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Views expressed within this magazine do not necessarily reflect the opinions of the University of Nebraska Omaha, the UNO Alumni Association or the NU Foundation.

ON THE COVER



Quilling, or paper filigree, is an art form dating back to the Renaissance. It involves the use of strips of paper that are rolled, looped, curled, twisted and manipulated to create decorative designs.

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F P
T O Z
L P E D**

The Eyes Have It



Baby Steps to a Healthier Weight



The Biology of Aging

VR and Robotics Help Stroke Patients Recover

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Coding Cancer

UNO alum Jorge Zuniga uses a 3D printer to develop low-cost prosthetic limbs for children.

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Beast Mode



From rock concerts to marathons, UNO students and organizations hosted a flurry of events to raise awareness for a variety of medical needs — from head to toe.

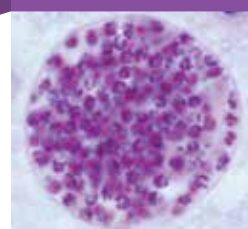
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Dear Alumni and Friends:

IT IS SAID THAT “if you have your health, you have everything.”

I believe that is true, and I am extraordinarily proud of the work and research being done at the University of Nebraska at Omaha to address the special needs of those with specific health issues, such as stroke, amputation, cancer, aging, obesity and other physical/health ailments.

In this issue of *UNO Magazine*, you can learn more about how UNO researchers are on the front lines of important research and cutting-edge technologies to improve the lives of those with some common — and some not-so-common — health maladies.

It’s a thought-provoking look at how the human body works, and when it doesn’t, how UNO is there to help solve the problem.

You might have thought that this kind of research and groundbreaking work was only being done at specialized medical universities and federally funded research facilities.

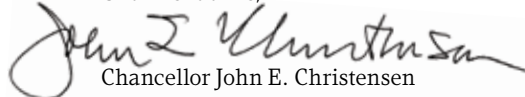
The truth is, UNO faculty and researchers work with their colleagues at medical institutions across the nation, including Omaha’s own University of Nebraska Medical Center, and they receive federal funding to participate in research being conducted by laboratories throughout America.

Our expertise in biomechanics, gerontology and motor development, not to mention our students’ efforts to fight hunger in our community, enrich the academic environment at UNO. This allows us to partner with organizations in our community and, hopefully, make meaningful progress in health issues we are dealing with today\ and on the horizon.

Though spring is just around the corner by the time you receive this issue, for deadline purposes I’m writing as the holidays approach. Let me take this moment to thank you for not only reading the magazine, but also for your support of UNO throughout the year.

I hope that 2016 will be a year of happiness, hope and health for you and yours.

Until next time,


 Chancellor John E. Christensen



LETTERS TO THE EDITOR

UNO Magazine wants to know what its readers are thinking. Write us about the magazine or university. Letters must include writer’s first and last names, address and phone number and may be edited for taste, accuracy, clarity and length. Submit a letter at unoalumni.org/unomag-led or write to the address on page 3.

On Fall 2015

5 STARS

Greetings and congratulations on the Fall 2015 edition of *UNO Magazine*! Wow! It was a fantastic reading experience. The magazine was well set up with interesting and informative articles that reflect the incredible growth, relevance and vibrancy of our university. The issue receives my 5 of 5 rating (5 being the highest). Made one proud to be a UNO graduate.

Vincent J. Leinen, 1979
Reseda, Calif.

COVERS & GOALIES

Fabulous cover — and what a surprise to see the magazine opened out for the full Maverick. Kudos to artist Charis Tsevis — the illustration would make a great poster. Enjoyed the story about the hockey goalie, too.

Margery Radek Pope, 1957
Sherman Oaks, Calif.

GREAT CALL IN LETTER FROM EDITOR

Great column this month! And I'm not just saying that as someone (barely) older than 30 who still has a slider phone because I'm just too cheap to pay that data charge... Well, maybe I am. Be that as it may, congratulations on not falling for the cell phone craziness — that's an impressive feat in this day and age. I'm jealous; stay strong!

Sue Bollich, Business Manager
UNO College of Business Administration Dean's Office

CORRECTIONS

We regret the following errors ...

MASS MISTAKE

Alert reader and 1973 UNO graduate John Vogt Masengarb noticed an editing error in the answer for the following "For Fun" Wordplay question:

The following is a well-known saying expressed in an unusual way. See how long it takes you to decipher this well-known phrase. "It is a fact of Newtonian physics that a conglomerate with mass M, sometimes with a constant velocity but most often accelerating, will not have the capacity at any point T in time, to attach itself to any bryophyte."

The correct answer should have read, "A rolling stone gathers no moss" (not mass as was published).

Masengarb, of West Saint Paul, Minn., credited his UNO education for catching the error — and knowing the answer.

"As I learned in my UNO physics course, that most certainly is true," Masengarb wrote about a bryophyte gathering no mass. "But as I also learned in my UNO Botany course, a bryophyte can be a moss."

NOT SHOWING THE O

Jackie Lynch, research support staff in UNO's College of Business Administration, was incorrectly identified as "Showing the O" in front of the Eiffel Tower. The person in the photo was Marcia Bennett of Bellevue, Neb. Lynch also visited Paris and Showed the O. She's pictured here, correctly identified this time.



two Omaha icons

one strong partnership

METHODIST

The meaning of care.*

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FOR THE FIRST TIME in 23 years, my 9-to-5, Monday-to-Friday body has to get used to a new routine.

As you can read on Page 7 (opposite), the UNO Alumni Association has initiated the most significant self-change since its founding in 1913. Effective Jan. 1, the association and University of Nebraska Foundation are integrated, a move that will better serve the university, its students, faculty, staff and alumni.

The integration precipitated a physical change — on Feb. 1, I moved with other association staff from the Thompson Alumni Center to NU Foundation offices at Aksarben Village, just north of UNO's Center Campus.

It's my first new office building since April 1993 — nearly a quarter-century in one spot.

My body has seen a few changes since then. I've lost some weight, but also some hair. And what remains is gray going for white.

The changes in my job have been more impressive.

Email was new in 1993 and we didn't have a website yet. The magazine — then known as the UNO Alum — was only two colors on half its pages, black on the rest, and it was printed on newspaper stock. Our stories stuck with readers only because the ink rubbed onto their fingers.

The magazine was renamed and given a new look (with ink that stays put). This is the 82nd magazine I've edited.

We've also added social media channels and now communicate with alumni on a daily basis.

The Thompson Center changed, too. I've endured two additions and, just recently, a second renovation.

I've spent more time in the Thompson Center than in any other building in my life. It's where I held my stag and got married. Where I celebrated my 10th high school reunion and a son's eighth-grade graduation. Where we held a reception for family and friends after my father-in-law's funeral.

It's also where I was accidentally drugged on Tylenol PMs (thought they were regulars) and passed out asleep at my desk.

It's been as much a home as a workplace.

But I'm eager to see what we can accomplish for UNO under this new plan of collaboration. Our coworkers are outstanding and I'm sure bigger and better things are in store.

The new digs are great, too, inside and out. We're right above Voodoo Taco, Aksarben Cinema is across the street and I can still ride my bike to work.

I'm looking forward to making this home.

Anthony Flott

Anthony Flott
Managing Editor



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UNO Announces Alumni, Foundation Integration

UNO announced Dec. 23 that the UNO Alumni Association and University of Nebraska Foundation agreed to a strategic integration of the two organizations. The agreement provides for coordinated alumni advancement programming and communications for the purpose of creating stronger alumni engagement and increasing private financial support for UNO.

The agreement went into effect Jan. 1 and has a term of five years. Initiated by UNO Chancellor John Christensen, the integration culminates two years of research and discussions.

"Bringing these two teams together will take our alumni engagement efforts to the next level," Christensen said. "This integration reflects a shared commitment to exploring new, innovative strategies to drive engagement and continue to foster the support that will help us meet our university's vision and goals.

"I'm grateful for the work of everyone involved in this transition and excited for what this collaboration will help achieve."

The executive committee of the University of Nebraska Foundation's board of directors voted in favor of the integration agreement on Dec. 22. The UNO Alumni Association board of directors voted unanimously for integration at its quarterly meeting on Dec. 1.

Key components of the integration:

- The UNO Alumni Association remains a separate nonprofit organization that owns and manages financial assets and the Thompson Alumni Center on the UNO campus. Its board of directors will provide counsel and funding for advancement strategies, programs and communications in support of UNO and UNO alumni.
- The University of Nebraska Foundation will continue to have responsibility for coordinating all development programs and staff in support of fundraising for UNO.
- Effective Jan. 1, four UNO Alumni Association employees become University of Nebraska Foundation employees and will comprise the foundation's Omaha alumni engagement unit.
- Lee Denker, president and CEO of the UNO Alumni Association, will continue in that role while also becoming executive director of UNO alumni engagement for the NU Foundation. He will report to the president and CEO of the University of Nebraska Foundation. Other alumni association employees joining the foundation are Anthony Flott, alumni communications; Meri Kennedy, administrative assistant; and Elizabeth Kraemer, alumni programming. The association's business manager, facilities director, Thompson Center receptionist and other staff will continue as association employees and will maintain offices in the Thompson Center.

- Alumni association employees who become foundation staff will relocate to the University of Nebraska Foundation's Omaha offices at Aksarben Village beginning in February.
- The foundation, alumni association and UNO will agree to a financing model in which each organization supports alumni engagement. The three organizations also will collaborate on a comprehensive giving strategy in support of UNO and alumni engagement.

Sarah Waldman, 2015-16 chairman of the UNO Alumni Association board of directors, said she was looking forward to putting this well-developed plan into action for UNO following two years of consideration.

"After researching best practices in alumni engagement nationally and planning strategically with UNO and foundation leaders, our board believes that an integrated approach is the right step in helping UNO becoming one of the nation's top metropolitan universities," Waldman said. "We enter this new era with tremendous pride in and respect for our association's first 100 years, and a great amount of confidence that this is the beginning of something very special at UNO."

Since 1995 the UNO Alumni Association and University of Nebraska Foundation had operated under a series of agreements that defined specific roles and responsibilities for each organization related to UNO advancement, fundraising, record keeping and scholarships. The last such agreement was signed in 2012 and had been extended twice as the organizations worked toward a new integration agreement.

"This integration plan represents an exciting collaboration that puts a dedicated and experienced team in place with a shared vision of advancing the University of Nebraska at Omaha," said Brian Hastings, president and CEO of the NU Foundation. "Working more closely than ever, we'll continue efforts to create more awareness of the university among its constituents, increase engagement with those who care about the university and grow the financial resources available to support the university's priorities."

The University of Nebraska at Kearney Alumni Association and the University of Nebraska Foundation combined their operations in Kearney in 2010 to fully integrate alumni relations activities and encourage even greater alumni engagement and philanthropic support of the university.

PARTNERSHIPS

Insurance

Are you in need of home, life, auto, health or life insurance? The UNO Alumni Association offers graduates insurance for these and other needs at discounted rates. See all the coverage available at www.unoalumni.org/insurance.

Travel

The UNO Alumni Association is pleased to offer alumni discounted travel opportunities through a partnership with travel provider Go Next! Join fellow graduates on one of these upcoming Oceania Cruises:

- **June 13-24, 2016** — Regal Routes
- **Sept. 17-25, 2016** — Great Pacific Northwest

For more information, including detailed brochures for each trip, visit www.unoalumni.org/travel. Additional cruises are added periodically, so check the site frequently. To receive a brochure for any of our trips by mail, call the association toll-free at **UNO-MAV-ALUM (866-628-2586)**.





Denker with Kopecky Plambeck and Chancellor John Christensen (far right).

Association Honors Montessori Educator with Achievement Award

THE UNO ALUMNI ASSOCIATION bestowed its Citation for Alumni Achievement award upon UNO graduate LaVonne Kopecky Plambeck during the university's first-ever commencement ceremony held at Baxter Arena on Dec. 18.

Inaugurated in 1949, the citation is the association's highest honor. It encompasses career achievement, community service, involvement in business and professional associations and fidelity to UNO. Plambeck, founder of Montessori Educational Centers in Nebraska, is the 169th UNO graduate to receive the award.

"Dr. Plambeck has been a fierce advocate for early childhood education for nearly 50 years," UNO Alumni Association President Lee Denker said. "We are proud to count her as a member of the UNO alumni network now numbering more than 105,000 living graduates worldwide."

Plambeck in 1968 opened Omaha's first Montessori Educational Center. Six years later she launched the Mid-America Montessori Teacher Training Institute to provide professionals with training and certification in the Montessori method.

Today the Montessori Educational Center includes seven locations, including Kopecky Elementary School for grades 1-6. The licensed, private education system serves more than 1,000 children age 6 weeks to 12 years and is affiliated with the American Montessori Society, the foremost advocate for quality Montessori education in the nation.

"Dr. Plambeck has been a true visionary in early childhood education," said Nancy Edick, dean of UNO's College of Education. "While fairly recent research has helped the broader community understand the value of investing in high-quality experiences for babies and young children, LaVonne has known and acted upon this belief for decades. The youngest citizens of our community have opportunities that would not exist without LaVonne. She is an education legend who is admired and respected for her many accomplishments."

Plambeck earned a bachelor of fine arts degree from UNO in 1954 with an emphasis in music education. She later earned a master's degree (1972) and doctorate (1980) in education from the University of Nebraska-Lincoln.

Read more about Plambeck at unoalumni.org/citation-winter15



Thompson Center Named "Best Reception Venue" for Second Consecutive Year

THE THOMPSON CENTER AT UNO in October was voted Best Reception Venue in Omaha Magazine's Best of Omaha 2016 contest, its second consecutive such honor.

"Thank you to all of our guests for again voting the Thompson Center as Omaha's best reception venue," said Director Steven Summers. "It is a credit to our wonderful staff and fantastic venue that we were recognized for this honor."

"We're spending the first quarter of 2016 renovating the Thompson Center and implementing a dramatic and beautiful update to decor throughout the facility, audio-visual and lighting upgrades and a new conference room. We believe the best is yet to come!"

The Thompson Center is Omaha's premiere location for outdoor weddings and indoor receptions, offering a great midtown location, delicious fare by Catering Creations, extensive amenities, ample and free parking and all-inclusive pricing. Since the facility opened in 1980, more than 1,000 couples have celebrated their wedding at the Thompson Center.

Numerous Omaha companies, organizations and individuals also have used the Thompson Center to host meetings, seminars, conferences, dinners, parties and other events. The versatile facility offers numerous room options, A/V capabilities and free WiFi.

See more at thethompsoncenter.org

Annual Board Meeting to be held May 24

The UNO Alumni Association Board of Directors will hold its annual meeting Tuesday, May 24, at 4:30 p.m. in the Thompson Alumni Center. New board members and officers will be elected. A slate of proposed directors and officers will be posted by the nominating committee on the UNO Alumni Association website at unoalumni.org/board.

For more information contact Meri Kennedy (402)-554-4887 or mkennedy@unoalumni.org.



UNO Alumni Night of Honor



Spring 2015 UNO Magazine Map



Ryan Henriksen's photograph of the Arts & Sciences Hall

Association Enjoys Award-winning Winter for Programs, Events, Communications

It was an award-winning winter for UNO Alumni Association programs, events and communications.

From November to January, Association initiatives won 15 awards from three different organizations. That includes 13 awards during the Council for Advancement and Support of Education (CASE) District VI annual conference in Kansas City in January.

CASE VI, one of eight districts, is comprised of nearly 200 institutions from eight Midwest states. Nearly 400 entries were submitted to its peer-judged awards program.

The inaugural UNO Alumni Night of Honor received five awards in various categories — one platinum and four golds. The event, held in November 2014, honored UNO Athletic Hall of Fame inductees and those receiving the UNO Alumni Outstanding Service and Young Alumni awards. Previous Hall of Fame inductees and alumni award recipients also were invited to and recognized at the event, sponsored by First Data.

The Association's Maverick Monument project and the Golden Circle and Alumni Night on the Ice programs also won awards. Programs Director Elizabeth Kraemer has managed association programs and events since 2009.

UNO Magazine received three CASE awards, including a silver for illustrations. That was for the spring 2015 issue which included a poster-sized pullout map of Omaha with points plotted to show the many ways UNO is engaged throughout the city.

Since 2010, the UNO Alumni Association has received 53 CASE awards.

UNO's University Communications received seven CASE awards, including a gold for its UNO Advantage Book and a gold for Ryan Henriksen's photograph of Arts & Sciences Hall.

The University of Nebraska Foundation won two CASE Awards, including a gold for its special campaign edition of *Pride of Place* magazine, designed by Mitch Jonson.

There were more awards beyond CASE.

UNO Magazine in November won a Gold award at AIGA (the professional association for design) Nebraska's SHOW 2015 Exhibition for its Spring 2015 *UNO Magazine* Map. The exhibition is Nebraska's most prestigious juried competition, honoring and showcasing the best design by members over the past year. There were more than 350 entries but only 13 were issued gold awards. Those were on display through November at the Kaneko gallery in downtown Omaha.

Omaha illustrator Greg Paprocki provided graphics for the *UNO Magazine* map with overall design and direction by Emspace Group.

The magazine also received an Award of Merit in the 2015 PRSA (Public Relations Society of America) Nebraska Paper Anvil Awards. That was in the Newsletters/Magazines (Print) category.

University Communications received a PRSA Award of Excellence for the President's Community Service Honor Roll announcement and an Award of Merit for the Baxter Arena news conference and naming campaign.

THE UNO ALUMNI CARD Good for Body, Mind and Soul



THE UNO ALUMNI ASSOCIATION works every day to maintain a healthy body — the 105,000-strong UNO Alumni network.

To thank donors for their engagement and support of UNO, the Alumni Association offers perks through the UNO Alumni Card that can have various benefits for all aspects of health.

Body

- The opportunity to purchase a HPER membership (Health, Physical Education, Recreation Building; for graduate donors only).
- Faculty/staff rate at UNO Outdoor Venture Center (with HPER pass).

- 10 percent off purchases at the UNO Bookstore on regularly-priced UNO-branded clothing and memorabilia.

Mind

- Access to Criss Library, including checkout and use of interlibrary loan services.
- Discounts on instructed flight simulation through UNO Aviation Institute.

Soul

- \$4 tickets for select music performances in Strauss
- \$5 tickets at the box office on most theater performances in WFAB
- Buy-one-get-one-free tickets to select UNO home athletic events.

In addition, UNO Alumni Card holders receive a discount of 10 percent on rental fees for personal events at the Thompson Alumni Center, as well as part- and full-time enrollment for children 18 months to 12 years at the UNO Child Care Center.

With so much happening on campus throughout the year, the Alumni Card practically pays for itself. Plus, by making a gift to the UNO Annual Fund, you will support the Alumni Association in its efforts to build a better UNO for students through programming, events, scholarships, this magazine and much more.

Get a UNO Alumni Card today by making a gift of \$25 or more at unoalumni.org/give.

For questions regarding the Annual Fund, contact Joel Gehringer at 402-502-4924 or email jgehringer@nufoundation.org. Or call toll-free at UNO-MAV-ALUM (866-628-2586).

December Senior Send-Off

THE UNO ALUMNI ASSOCIATION celebrated commencement with graduating students during the 2015 Senior Send-Off Dec. 16-17. Seniors were given free UNO Alumni Cards and UNO Alumni pins and had their pictures taken in front of a UNO Alumni banner. Photos were posted on the association's Facebook page and emailed to each participant.

With the addition of this graduating class there now are more than 105,000 living UNO alumni worldwide.



Pictured, from left, Jenni Upenieks, Andy Rikli, Tom Gouttierre, Leslie Fischer, Kenny McMorris and J.D. Naig.

2016 Swing Returns to Indian Creek 36th Scholarship Swing set for Aug. 29



THE UNO ALUMNI ASSOCIATION will host the 35th annual UNO Alumni Scholarship Swing Monday, Aug. 29, at Indian Creek Golf Course.

The association's largest annual fundraiser, the Swing last year netted \$40,000, boosting the total raised to more than \$865,000 since UNOAA began hosting the swing in 1995.

More than 120 golfers and 55 sponsors participated in the tournament last year.

The money raised supports various association-sponsored student scholarships. Among them are UNO Alumni Association Scholarships, \$2,500/year grants to graduating high school seniors who have demonstrated leadership and involvement during high school. The scholarships are renewable for up to four years and a new class of scholars is introduced each year.

Sponsors are being sought for the 2016 tournament.

To participate, contact Elizabeth Kraemer at 402-554-4802 or ekramer@unoalumni.org.

Alumni Night of Honor

THE UNO ALUMNI ASSOCIATION hosted the second Alumni Night of Honor Wednesday, Nov. 4., at the Thompson Alumni Center.

Sponsored by First Data Resources, Alumni Night of Honor highlighted achievements by members of the worldwide UNO alumni network. Among the individuals honored were 2015 UNO Athletics Hall of Fame inductees J.D. Naig (wrestling), Pinar Saka (track & field) and Jenni Upenieks (softball). Saka, who lives in Turkey, was unable to attend the induction ceremony.

Also at the event, Kenny McMorris and Leslie Fischer received Young Alumni Achievement Awards while Andrew Rikli and Thomas Gouttierre received Outstanding Service Awards.

See more information about the recipients at unoalumni.org/nightofhonor.

Showing the O ... in the O

THERE WAS A TIME when UNO — then Omaha University — was on Omaha's westernmost fringe. Now, 78 years since it moved to 60th & Dodge — UNO is close to being in the exact center of the city.

That's according to UNO Professor Paul Hunt, coordinator of the university's Cartography and Geographic Information System Lab.

Using the latest city limits available online and 2-foot contours taken from a 2010 Light Detection and Ranging flight, Hunt determined Omaha's geographic center, plus its high and low points.

Omaha's Geographic Center: About 86th and Cass Streets

Omaha's lowest point of elevation: Where the land meets the Missouri River east of Mandan Park — 964 ft above sea level.

Omaha's highest point of elevation: 210th St. & Dodge Rd., 1,306 feet above sea level.

UNO Alumni Communications Intern Kelly Bast grabbed three fellow UNO students to Show the O as close to each point as possible. Thanks to: Megan Svatos (high), Jared Kennedy (center) and Jessica Teaford (low).

Show the O was instituted in 2013 to celebrate the association's 100th anniversary and to emphasize the spread and stature of the worldwide UNO alumni network — now numbering more than 105,000 living graduates. The campaign provides alumni, students and friends with "O" flags to display in photographs where they live or travel. Photographs are displayed on an interactive world map at showtheo.com.

Request a flag at showtheo.com — we'll send you one for free and pay for its way home.





Not Your Average Joe

A special grant helps him achieve his dreams.

By Colleen Kenney Fleischer,
University of Nebraska Foundation

PUBLIC HEALTH IS HIS PASSION.

That's why, as UNO was trying to see if the campus could go smoke-free last year, student Joe McGuire was studying the process.

Many different types of people were involved: the chancellor; faculty and staff; students. What went well? What didn't? Any lessons learned?

Joe knew UNO's experience could help other campuses down the road. So this past spring, he and a partner, grad student Corey Kinnan, wrote an abstract of their findings and submitted it to the American Public Health Association for consideration at its annual conference — one of the most prestigious public health conferences in the world.

The conference draws thousands of people from around the world. It's so selective that few undergrads ever are asked to present their work. Joe knew it was a long shot.

But their project was picked.

And he was the only undergraduate on the list of presenters.

Very quickly, Joe realized he couldn't go, without help. He was "freaking out," he says, about how he'd be able to afford it.

That's when someone in the College of Public Affairs and Community Service told him about a special grant for students like him.

One created by a special woman — Mrs. Elaine Spire. Joe quickly penned her a letter:

I write to you today with much gratitude for the funding provided to me by the grant you've established in your husband's name. Without this assistance, I would be unable to accept the invitation ...

Public health is Joe's passion because he hasn't always had great health.

He's fine now, but he's had two kidney transplants. He took a few years off after high school to recover and to think about where he wanted to go in his life.

While dealing with his medical issues, he realized he was fortunate to have access to

good health care. He saw others who didn't. He decided he wanted to help improve the health of all people. That's why he chose a career in public health.

... I take great pride not only in my accomplishments as a student, but the opportunity to be, in some small way, linked to Robert's legacy of public service. ...

When applying for the Spire grant this past spring, Joe studied the history of the man. He learned that Robert Spire was a prominent Omaha attorney, one known for his honesty and

integrity and commitment to social justice. Joe learned that Spire, who eventually became the state's attorney general and then chief of staff to U.S. Sen. Bob Kerrey, also gave back to Nebraska.

“We need more people to...stand up and be counted on as agents of change.”

And to UNO.

He learned that Spire actually helped develop the framework for what became the College of Public Affairs and Community Service. He let his wife know how his legacy and the couple's generosity helped him:

...With so many of my peers planning on leaving the state, I intend to do just the opposite. We need more people to follow in Robert's footsteps; to stand up, and be counted on as agents of change and to fight for those who may not always have the loudest of voices. ...

After he graduates from UNO next May, Joe wants to go to University of Nebraska Medical Center to earn a master's in public health. He wants to help create and implement public health policies that will improve the health of all Nebraskans.

He wants to give back to Nebraska, just like Robert Spire.

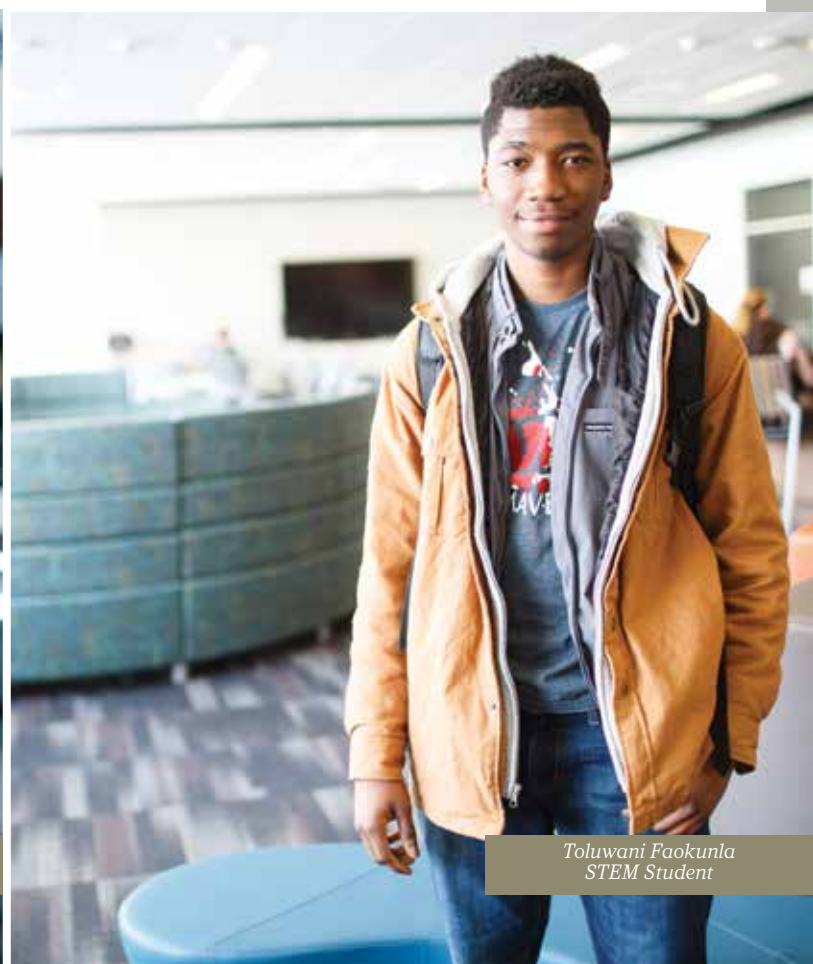
And he wants Mrs. Elaine Spire to know how much her late husband will inspire him for the rest of his life.

... I plan to do all I can to live up to the standard Robert set, and continue with his mission of service.

*With much appreciation,
Joseph McGuire*



Nicole Higgins
MBA Student and U.S. Army Veteran



Toluwani Faokunla
STEM Student



Shane Cavlovic
medieval history and archaeology major



Ian Peterson
secondary education major

Looking to Students Looking to the Future

University of Nebraska, N.U. Foundation launch new student fundraising initiative

RECENT UNO GRADUATE MARK Smith couldn't have been more grateful when he received a scholarship as an undergraduate student.

"Thank you from the bottom of my heart," he said when speaking about the donor who established the scholarship. "You've made a difference in my life, in my mother's life and the lives of others."

"Your money is not wasted. It's going toward something very noble."

Smith, who graduated last May, said the scholarship not only helped him achieve his goal of becoming a social worker. It also supported his passion to make a difference in the world by helping individuals and families in need.

It's students like Smith that the University of Nebraska and University of Nebraska Foundation are hoping to help in a greater way through a new two-year, \$200 million fundraising initiative announced last fall.



**Our students are
truly the future.**

The *Our Students, Our Future* initiative, which concludes at the end of 2017, will provide support for university students through scholarships that will make their college education more affordable; support for programs that improve student outcomes, particularly among traditionally underrepresented students; improvements to facilities that will enhance the learning experience; and other student-focused priorities.

"This fall UNO welcomed its largest and most diverse incoming freshman class ever," said UNO Chancellor John Christensen. "Positive changes in our

programs and facilities have not only helped us to increase our enrollment but have also contributed to our students' success.

"Our students truly are the future of our community, our state and the world beyond. Through this initiative we want to ensure students affordable access to an excellent university education and to success, especially for those who are first-generation college students, students with financial need, transfer students, active military and veterans and any student in underrepresented populations."

Today, underrepresented students make up 25 percent of UNO's entire undergraduate class.

Because of support from the state, the University of Nebraska has been able to keep tuition and fees across its campuses at least 25 percent below the peer averages. More than half of all NU undergraduates receive financial aid, yet most students — including 72 percent of UNO's undergraduates — apply for need-based financial aid, demonstrating that need remains high.

For UNO *Our Students, Our Future* means encouraging private gifts that support:

- UNO's learning communities. These communities connect students through common courses, academic workshops, mentors and relationships with faculty and have demonstrated they not only get students into university classrooms, but help students succeed and earn their degrees.
- Growth of bridge programs like UNO's Summer Scholars program, which is targeted at high school juniors. Bridge programs provide support and learning opportunities to help students successfully transition from high school to becoming a UNO student.
- Students with unmet financial need, particularly the 40 percent of UNO students who are transfer students and typically have little access to financial aid.
- Active military and veterans. UNO would like to grow its support for these students, our nation's heroes, including expansion of campus services that focus on wellness, achieving educational goals and career services and assistance.
- Crisis funding for students who find themselves or their immediate family members in a crisis situation. For students facing these obstacles a small grant can make the difference between finishing their degrees or dropping out of school.
- Redevelopment of UNO's Strauss Performing Arts Center which originally was built to meet the needs of 40 music majors and today houses more than 200 students. The center also hosts more than 150 concerts, speakers and master classes every year.

To learn more about the *Our Students, Our Future* initiative, contact the University of Nebraska Foundation's Mike Bird at 800-432-3216 or mike.bird@nufoundation.org or go to nufoundation.org/ourstudentsourfuture.



POTUS Ford at UNO

President Obama was not the first president to visit UNO — only the first to do so while still in office. Native son Gerald Ford did so on Sept. 21, 1977, eight months after leaving office. He also visited in October 1961 while a U.S. Congressman.

It might be the most popular “Go Mavericks!” exclaimed in UNO history.

On Wednesday, Jan. 13, President Barack Obama became the first sitting president to visit the UNO campus, doing so the day after his final State of the Union address.

He arrived at Offutt Air Force Base at 2 p.m. His first stop was to visit Papillion-La Vista High School English teacher Lisa Martin, who had written him about environmental concerns. He met with Martin and her family in her Papillion house.



Photos: Ryan Henriksen, University Communications

From there his presidential motorcade cruised to UNO's new Baxter Arena where a crowd of more than 11,000 people had been anxiously awaiting his arrival — some outside in the cold for more than four hours. It included thousands of UNO students plus numerous faculty and staff and members of the general public.

His first words after thanking the enthusiastic crowd — “Go Mavericks” — drew thunderous applause.

“This is quite a place you’ve got here,” President Obama said to more applause. “It’s still got the new-arena smell. A perfect spot for your hockey team to stage another run to the Frozen Four.”

The president spoke for nearly 43 minutes, his appearance broadcast live by local television and radio stations.

After the speech ended, Obama made his way to Chancellor John Christensen and to University of Nebraska President Hank Bounds. He shook

numerous hands and posted for photographs then left. The crowd soaked in the atmosphere as history was made at UNO.

That included UNO students Mitchell Laferla and Cody Solma, who said they were thrilled with the chance to see someone who has had a major impact on their formative years in high school and college.

“You’re so used to watching him on TV for the past years, so the opportunity to see him in the flesh at UNO is something I couldn’t pass up,” Laferla said.

Added Solma: “Especially being our age, we have only really seen two different active presidents. We grew up with him in the office.”

It was Obama’s first official speech in the State of Nebraska — and it made national news. There were more than 550 news stories across the country referencing UNO during reports on the president’s speech.

Many others took to social media, so many that posts about the visit were trending on Twitter in Omaha with the hashtag #POTUSatUNO.

“I don’t care for politics and I’m not really patriotic,” @big_ben_m9 posted on Instagram, “but I’m thrilled for my community to welcome the President of the United States today. It’s surreal knowing President Obama will be in my city, in my neighborhood, on my campus, at my place of employment. Welcome to Omaha, Mr. President.”

“Thousands of people have come together to see the President of the US speak at our campus! I am in!” posted Pooja Singh. “This is an electric crowd! Proud moment for the University of Nebraska at Omaha.

For more reporting on the president’s visit, including a transcript and video of his speech and photos, go to www.unomaha.edu/potus.



Body Talk

UNO student brings practice of Nia to campus

MANY OF US ASSOCIATE exercise with guilt — a compensation for overeating or torturous preparation for showing skin in the summertime. Grace Kolbo, a junior in the UNO School of Music, is out to change that perception.

Kolbo, 20, received a Fund for Undergraduate Scholarly Experiences (FUSE) grant in spring 2015 to pursue training in the art of Nia, a fitness practice incorporating dance, martial arts and healing arts into a one-hour, cardio-dance workout routine.

Kolbo received her Nia teaching certificate in early August. She then launched Nia for Singers through

UNO's Campus Recreation office, a class designed to benefit voice majors.

Kolbo explains Nia's appeal as both fun and functional — a feel-good activity encouraging body positivity.

"It's all about listening to your body, becoming friends with your body and self-love," she says. "The more aware you can be of your body, the less critical you'll be of it because you'll be so appreciative and knowledgeable of its function."

Nia provides an effective workout for the base, core, extremities and joints of the body, but is non-impact

Photo: Bruce Thayer



Photos: Nia White



and performed barefoot. The goal is to embrace the "body's way" — its natural alignment and posture. Kolbo says there is no pressure on students to follow the teacher directly, push through the movements, or even to finish a workout. This flexibility and ease opens the practice to all people, regardless of age or ability.

For singers specifically, Nia helps develop a connection between mind, body and breath to produce a safe and effective sound, overcome performance anxiety and improve onstage movement.

Kolbo says results reported by current students inspire her to keep Nia going at UNO.

"There are just so many beautiful things happening," she says. "They feel more confident before they walk on stage. They're using positive self-talk. I had one person tell me that she looked at her body in the mirror and was proud of herself."

Kolbo will begin teaching Nia sessions open to all students and Campus Recreation members on Monday evenings and Thursday afternoons in spring 2016.

— Noelle Lynn Blood,
Communications Specialist, CFAM

Mental Health Matters

UNO group works to end stigma against mental illness

UNO'S CHAPTER OF THE National Alliance on Mental Illness (NAMI) has hit its stride. NAMI on campus is a young program, growing steadily and already making an impact on our community.

The student-run organization focuses on ending the stigma surrounding mental health and raising awareness of available resources.

The group is one of more than 100 campus chapters across the nation and the first of its kind in Nebraska. Though "on campus" is in the name, its efforts extend far beyond that.

"We want to be in the community, not just here at the university," says Jennifer Alquicira, Vice President of NAMI on Campus UNO.

Last fall, the group began working with an area high school to create a high school affiliate of the national organization. The goal is to ensure that teenagers who are struggling with mental illness receive the support they need.

They also hosted a panel discussion on mental health and the effects it can have on an individual. Alquicira says advocacy is important to the organization; it's part of their mission.

"Mental health matters to everyone. It's just as important as physical health," Alquicira says. "If we do our part, we can change lives."

— Sam Petto, University Communications



From Basketball to Biomechanics

Researcher Kota Takahashi brings expertise on powered ankle exoskeleton to UNO

FOR KOTA TAKAHASHI, it all started with high school basketball. After suffering an injury during his senior season, the newest addition to the UNO biomechanics faculty became fascinated with the world of sports medicine.

"I was at a point in my life that I needed direction," Takahashi says. "Discovering biomechanics gave me a path and allowed me to pursue a new passion."

Takahashi was born in Japan, but grew up in Michigan and earned his undergraduate degree at the University of Michigan. There, he discovered he could make a bigger impact for those with muscle disabilities by studying a unique technology: exoskeletons.

At the time, scientists and engineers had taken notice of Paralympians who were performing and running as fast (or faster) as Olympic athletes, and were curious about the mechanics behind prostheses. Takahashi began studying biomechanics under Dan Ferris, a pioneer in the field, and alongside Greg Sawicki, now a prominent biomechanics researcher. While at Michigan, the group was able to apply the same mechanics Paralympians use to run and walk for those with deficient muscle diseases.

After earning a Ph.D. in Biomechanics at the University of Delaware, Takahashi continued his post-doctorate work at North Carolina State University, again alongside Sawicki. There they helped create non-invasive sensors that capture the real-time movements of muscles, as well as a robotic exoskeleton that can move along with the person's regular gait.

These sensors "listen in" on the electrical signals muscles use to move, and are attached to the robotic exoskeleton the user is wearing, which, through air compression, painlessly moves the ankle and foot at the same pressure and rate as the user's other non-deficient foot.

This innovative technology currently is in the testing phase and will be used as a therapeutic tool for stroke survivors as a way to regain muscle control and retrain the user how to walk. Takahashi and his team performed a feasibility study at North Carolina State, where five post-stroke patients walked with the powered ankle exoskeleton, which resulted in enhanced ankle movement in the paretic ankle.

While conducting his research, Takahashi had learned about UNO's unique, stand-alone Biomechanics Research Building, and knew he'd found the perfect place to continue his research.

"This is an exciting time," he says. "The technology we're using to design complex and innovative devices is amazing. We're one big team in this building."

Now at UNO, Takahashi plans to continue his research on the powered ankle exoskeleton, and has a new ultrasound machine that will help him better see how muscles contract. He also wants to delve into more basic, fundamental research on how the foot and ankle muscles work.

"Whether it's as a walking aid to help with day-to-day movement, as a smart therapy device to retain people how to walk, or simply as a way to improve shoe design, I think wearable devices like exoskeletons can have a huge impact."

— Jennifer McCahill, University Communications

The Body and Behavior

PERHAPS ONE DAY a defeated political candidate will blame his loss on "too much cortisol out there."

Over the past few years, scientists from UNO's neuroscience program have explored how the brain regulates hormones producing anxiety. In 2014, Jeff French,

director of the program and Varner Professor of Psychology and Biology, teamed with two political scientists from the University of Nebraska-Lincoln and determined people with naturally low levels of cortisol, the hormone released during stress, were more likely to vote because they could better handle anxiety involved with the process.

"The decision to vote or not is obviously complex and takes into consideration lots of variables, but what our study showed is that, above all other variables, we could predict the likelihood to vote based on stress levels," French says.

A follow-up study released in September showed that how people vote also is impacted. According to the study, those choosing to use absentee ballots had lower levels of cortisol production compared to those who physically went to the polls.

The importance? Low voter turnout could be improved by more flexible options for voters.

"We have to recognize that there are people who are more socially anxious and avoid scenarios where they will be put in a stressful situation," French says. "Easier access to absentee or online voting efforts will allow more people to be engaged."

French and his team also are interested in social anxiety — or lack thereof.

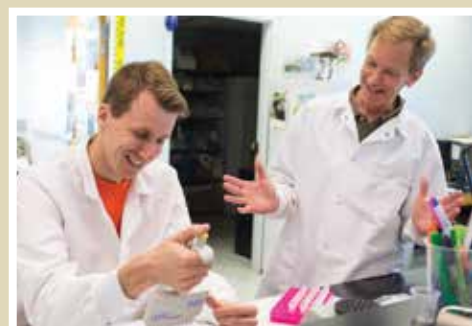
In October, graduate student Jon-Ryan Cavanaugh published a study with French showing that when marmosets experienced an increase in oxytocin, a hormone identified for its role in recognizing social cues, affection given by the marmosets' partners also increased.

"[It's] something really subtle," Cavanaugh says. "They're letting their partner know to come interact with them more."

French says current research indicates all mammals similarly regulate oxytocin. Given marmosets' similarities to humans, pharmaceutical companies soon may be able to use this information to identify treatments for disorders such as autism or schizophrenia.

French is working with researchers at UNMC and Creighton University to test the theory.

"We know that administration of the unique form of oxytocin enhances social behavior, but not the exact brain mechanisms that produce this result," he says. "That's the next step."



Professor Jeff French (right) with Neuroscience and Behavior PhD student Jon Cavanaugh

— Charley Reed, associate editor



Art Instructor Bart Vargas with student in the sculpture lab.

Busy Hands

A Place for Students to Make Art

A seemingly quiet building nestled on the southern edge of UNO's Dodge Campus, the Ceramics and Sculpture Lab is humming on the inside.

Upon entering, you'll first notice the sound of buzzing power tools. The smell of sawdust and plaster comes second.

Each room has art in it, much of it works-in-progress.

However, beyond the exaggerated clay busts, the neon castings of tree bark or the wall covered with masks, you'll also notice the sights and sounds of busy students at work.

Woodworking equipment, metalworking equipment and kilns are just some of the tools on hand. It's easy to see that all of it gets used, whether in the classes held here Monday through Thursday, or really any time students want since they have access 24/7.

One such student is Megan McCoy, who says she's been there as late as 2 a.m., but she's "heard from other students that have come in at 2 a.m. and left at 6 a.m."

McCoy is pursuing a Bachelor of Fine Arts with a K-12 teaching certification. Her latest project involved unraveling a knit piece down the Weber Fine Arts Building's multistory stairwell.

"It's really amazing that they have this space where we can store everything, and we have all these tools that we can use to create different things and to be more ambitious with our projects," McCoy says.

Professor David Helm says while the space is primarily a ceramic, woodworking and

metalworking shop, the lab holds tools and supplies for other work.

"The emphasis in the contemporary art world is to work with a wider variety of media," Helm says. "As you get to the upper levels [of coursework], there's more emphasis on experimental media, different forms of expression."

Students are only limited by their creativity, and that's something they have in abundance.

Andrew Coniglio is pursuing a Bachelor of Arts in Studio Arts and, for years, wanted to try blacksmithing, but hadn't had the opportunity.

"The house we live in is smack dab right next to another house, and hearing a hairdryer going to keep a fire going and a hammer slamming on steel, that's just too much noise," Coniglio says. "Here, they let me do that stuff."

He made his own furnace and anvil. Now, he's forging nails on campus.

Coniglio says that's the beauty of the Ceramics and Sculpture Lab.

"You get to explore interests and dreams that you wouldn't get to without that resource."

— Sam Petto, University Communications

NIH Grant Furthers UNO Prostheses Research



Jenny Kent



Shane Wurdeman

RESEARCH FROM UNO ONE day could help an estimated 2 million people in America living with amputations thanks to a \$425,000 grant from the National Institutes of Health (NIH).

Using funding from the grant, a team of scientists in UNO's Biomechanics Research Building will spend the next two years working with undergraduate and graduate students to examine sensory connections between lower-limb amputation sites and prostheses worn to improve mobility.

This is the latest NIH grant for the Biomechanics Research Building team, which made history last August when it secured a \$10.1 million grant to create the nation's first

Center for Research in Human Movement Variability.

The study springs from doctoral student Jenny Kent's dissertation research and work done by UNO graduate Shane Wurdeman, a researcher for Hanger, a nationally recognized medical equipment and clinical care company based in Texas. Hanger is a consultant on the study.

Prior to coming to UNO, Kent had spent seven years working as a researcher for UK Ministry of Defense at Headley Court, the country's primary military rehabilitation center for those who sustain life-changing injuries, including amputations.

"When you lose part of a lower extremity you don't just lose the mechanical aspect," Kent says. "There is a huge sensory component that you no longer have."

"The aim of the intervention we're testing is to enable people to sense the position and movement of their prosthesis better."

The research will examine how minor vibrations at varying frequencies could be applied through the prosthetic socket in order to condition the limb to better respond to the environment.

Throughout the study, Kent will work with Biomechanics Research Building Director Nicholas Stergiou, who has published numerous articles on movement variability and how different stimuli can help adjust people's walking patterns.

"Humans are not like robots," Stergiou says. "There are countless variations in the ways we move every day."

Stergiou and Kent say that's particularly important for people who use a prosthesis while navigating uneven terrain, for example while hiking or jogging.

"A lot of work and money has gone into developing high-end prosthetic technology that can mimic a foot or a knee, but the ability to sense and appropriately move and place the limb is important for actually being able to exploit these features," Kent says. "If the intervention is successful, it will increase adaptability, potentially reducing falls and allowing people to tackle environments and pursue activities that they might normally avoid."

— Sam Petto, University Communications



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Making History with a Memorable Night at Baxter Arena

By Kelly Bast, UNOAA
Communications Intern

Opening night at Baxter Arena not only dawned a new era in the Maverick Hockey program, but also marked a pivotal moment in the University of Nebraska at Omaha's extensive history.

Photos: Ryan Henriksen



AS THE SELLOUT CROWD of 7,989 packed into its new home on Oct. 23, dimmed lights heightened fans' anticipation during an extended opening ceremony preceding the first-ever Maverick hockey game, against Air Force.

University of Nebraska President Hank Bounds and UNO Chancellor John Christensen welcomed fans to the arena — an event long awaited even before the building's first steel was installed in early 2014.

A parade of familiar faces took part in the pregame fun. That included Mike Kemp — UNO's first head coach and current associate athletic director. Also there were members of the original hockey committee and players from the 1997-1998 inaugural team — including Jason Mitchell, Jason White and Mike Skoglund.

The current team stood by as a banner was hoisted in honor of the Mavericks' notable run to the 2015 Frozen Four. Kemp, along with current Head Coach Dean Blais and Athletic Director Trev Alberts, carried the banner to seniors Aaron Pearce, Brian Cooper and Tanner Lane. Team

captain Jake Guentzel helped raise the trophy into place.

The packed crowd quieted when Don Leahy's signature on the ice was revealed. A symbolic stamp of ownership on the building, the signature paid tribute to the UNO athletic director emeritus many have referred to as the "grandfather of UNO hockey."

Jim Cornelison, national anthem singer for the Chicago Blackhawks, continued the feel-good buzz, delivering a stirring rendition of "The Star Spangled Banner."

Moments before the puck dropped for the first home game of the season, the fans cheered thunderously, a resounding approval of Baxter.

Then the Mavs — earlier that week ranked No. 1 in a national poll for the first time in school history — took the ice. Loud cheers came from the Bullpen, the 750-seat student section that was packed and passionate.

UNO put sugar on top of the sweet evening with a 4-2 victory, giving the team its first 5-0 start since 2010.

The excitement and celebration continued after the game, spilling over to social media.

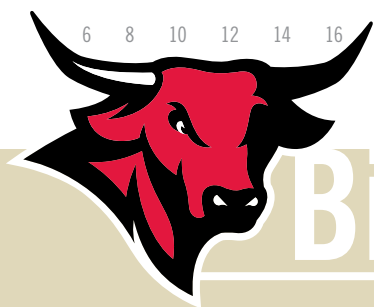
Josh Fenton, commissioner of the National Collegiate Hockey Conference, sent kudos on Twitter: "Congrats to @UNO_Hockey and @UNOmaha on a great job debuting your new home."

Added UNO student Sara Kleinsasser: "Tonight was amazing!! Never been more proud to be a Maverick!"

Maverick Connor Brandt posted a photo shortly after the game with the caption, "The #1 team and the #1 fans, opening night was awesome."

Even Jan Christensen, wife of the chancellor, got in on the Twitter conversation: "@UNOmaha it doesn't get much better than this. Dreams do come true!!! Congratulations on your first home win!"

A home for years to come as The Gateway student newspaper neatly captured: "This is our house. This is our time. It just doesn't get any better."



Bits of the Bull

Springing into Action

UNO's full classification as a Division I program concludes with seven spring Maverick teams

Spring sports teams make their long-awaited debut alongside their UNO fall and winter stablemates as full-fledged Division I members in 2016. It's as if they can't wait to begin.

The spring season begins with a men's tennis match at North Dakota Jan. 16, followed two days later by women's tennis in action at Kansas. Fortunately, and quite necessarily, those matches will be played indoors.

The season ends five months later in May. Following is a team-by-team look at the Division I debut of UNO's spring sports.

Baseball

The UNO baseball team enters the 2016 season with full postseason eligibility and takes aim for its first Summit League Tournament and NCAA Tournament berths. The Mavericks previously won the 2013 and 2014 Summit League regular-season conference championships during the reclassification period.

Veteran leadership is the theme running through UNO's roster with 18 letterwinners back, five of whom are position starters. Three Mavericks are returning All-Summit selections with honors in consecutive seasons — senior infielder Clayton Taylor and senior outfielders Cole Gruber and Alex Schultz — while senior right-handed



pitcher Tyler Fox was a 2014 All-Summit pick and the 2014 Summit League Pitcher of the Year.

Gruber, the conference's leading hitter in 2015, batted .399 as a junior and ranked eighth nationally in on-base percentage (.495) and ninth for batting average. He starred on and off the field, also picking up Academic All-America recognition. Taylor finished his junior season ranked in the top five in the league for home runs, triples and hit-by-pitches, and Schultz was a top-five player in hits and stolen bases. The trio also represented UNO's top three performers at the plate last season.

UNO's squad also includes 14 newcomers and two redshirts. The Mavericks will be led by head coach Bob Herold, a two-time Summit League Coach of the Year, who enters his 17th year just one win away from career victory No. 500. His overall career record is 499-353-2.

"We have a great nucleus of returning experience in our lineup, and they've been at the core of our team for years," Herold says. "Having three of our top hitters back plus one of the league's top pitchers in Fox, we feel we're in a position to compete with the best in the Summit League and contend for a championship."

UNO opened its season Feb. 19-21 with a four-game series against Eastern Michigan in Emerson, Ga. The Mavericks make their first home appearance March 18-20 with a three-game series against league foe Fort Wayne at the Ballpark at Boys Town. Their home slate also includes three premier games at Werner Park, where UNO hosts Nebraska (April 6), Kansas State (April 20) and Air Force (April 26).



Softball

The UNO softball team looks to make a statement in 2016 now that it is fully eligible for Summit League and NCAA postseason play. The Mavericks will try to improve on a 22-28 overall record and 6-10 Summit League mark last season and claim their first Summit League title.

UNO graduated four seniors — including three-time first-team All-Summit performer Allie Mathewson — but return 12 players, including eight starters. Lizzie Noble, a first-team All-Summit selection last season, returns for her senior year. Noble batted .294 in 46 games last season with seven homeruns and a team-best 36 RBI. Megan May earned Freshman of the Year honors by hitting .259 and smashing five home runs and driving in 24 RBI. Also returning is three-year starting catcher Campbell Ditto. Ditto, a former Summit League Freshman of the Year, has started 142 straight games. Last season she hit .242 with eight homeruns and 20 RBI.

Jaylee Hinrichs returns to the circle this spring after a solid freshman campaign. Hinrichs finished last season with a 12-14 record and 3.72 ERA, striking out 110 batters in 143 innings. UNO also added four highly decorated freshmen in Vicky Kinney, Alexis Parker, Kourtney Pock and Laura Roecker.

"This season, I think our offense will be where we'd like it to be," head coach Jeanne Scarpello says. "Our players have shown more of an aggressive approach to their entire game, and I know that will benefit us in the long run. Our



pitching also has improved with Jaylee Hinrichs now being a sophomore, Abbie Clanton a junior and with the addition of Laura Roecker. As a staff they will help us stay in many games, and we believe they will be very tough come conference time."

UNO began the 2016 season in warm weather, playing 15 games in February alone while traveling to Tucson, Ariz., Orlando, Fla., and Montgomery, Ala. In all, the Mavericks play in six tournaments before opening their home schedule with Summit League foe IUPUI at Westside Field at Westbrook on March 25. Additionally, UNO hosts conference series against South Dakota and South Dakota State and welcome Drake, North Dakota and Northern Iowa in non-conference action.

"The 2016 schedule will be the toughest we have ever faced," Scarpello says. "In the first two weekends, we will play three teams at least in the top 15: Arizona, Georgia and the defending national champions, Florida. We will also see Nebraska, Iowa State, Kansas and Purdue, to name a few. The conference schedule does not get much easier as the Summit keeps getting tougher each year."

The Mavericks kicked off the 2016 season Feb. 12-14 at the Hillenbrand Invitational hosted by Arizona in Tucson.

Track & Field

The Maverick track & field team rolls into the outdoor season just a week after the



conclusion of the NCAA Indoor Championships. UNO's prowess in the jumps indoors will be just as evident outdoors. Sophomore Stephanie Ahrens was named all-league during the outdoor season as a freshman. She and junior Taryn Derickson are a strong 1-2 combination in the high jump. In addition, sophomore Noni Henderson will be looked upon for continued improvement

in the horizontal jumps after a good freshman season.

"We'll learn a lot about our team, particularly our 11 newcomers, during the indoor season," head coach Chris Richardson says. "We have only three seniors, so we'll not only look to our large junior class to provide scoring and leadership, but we also think our freshmen and sophomores can provide us with good depth by continuing to improve into the outdoor season."

The Mavericks' young group features nine sophomores and 10 freshmen. Freshman Mackenzie Zach could contribute in the sprints and classmate Lauren Houston in the distance events. In addition, those who should continue to improve into the outdoor season include juniors Alyssa Thavenet (short distances), Nicole Liske (sprints) and Amanda Conlin, who got off to a good start indoors by setting a personal best in the shot put in her first meet.

The Summit League outdoor season culminates with the championship in Vermillion, S.D., May 12-14. Last season, UNO was fifth in the indoor championship. From there, those Mavericks who qualify will move on to the NCAA Championship in Eugene, Ore.

Men's Golf

The Maverick men's golf team was a work in progress during the fall half of its schedule and was challenged by the departure of sophomore Phillip Baumberger in September.

"Having lost three seniors from last year and then Baumberger last fall, our roster experienced a lot of change in a short time," head coach Seth Porter says. "Still, that gave our younger players the opportunity to play in a lot of rounds during the fall, and that should only help us during the spring and into the Summit League Championship."

Junior Mitch Ryan, who redshirted the 2014-15 season, was UNO's leading scorer with a stroke average of 75.3 in 15 rounds during the fall. Sophomore



Miles Russell, who also redshirted last season, was second with a stroke average of 76.3 in 15 rounds and along with Ryan, shot UNO's low round of the fall, a score of 70 in separate tournaments.

Junior college transfer Ben Maskus was third in team scoring while freshmen Kevin Gordon and Sam Musch were fourth and fifth respectively. All three played in every round during the fall.

The spring half of the Mavericks' season includes tournaments in Louisiana, California, Arizona, Arkansas and Oklahoma before the Summit League Championship in Newton, Kan., May 1-3.

Women's Golf

The UNO women's golf team underwent its own transition behind the scenes with the retirement of long-time head coach Tim Nelson following the fall schedule. Porter takes over as interim head coach for the spring.

"We have a very full schedule in the spring," Porter says. "Our goal during that time is continuing improvement of our players so that they are playing their best when the Summit League Championship comes around in April."

As with the men's team, the women's team is long on youth with just one senior and one junior on its eight-person

roster. Senior Katie Kesti was UNO's top scorer during the fall with a stroke average of 80.7 in 14 rounds. Sophomore Megan Vetrovsky was second at 81.1 in 11 rounds.



Freshmen Jordan York and Mandy Boyle were 3-4 in scoring with York also playing in all 14 rounds while Boyle had 11 rounds. Junior Makenna Kroeker was fifth in team scoring.

The Mavericks take part in tournaments at Grand Canyon, Morehead State, Southern Illinois, Bradley and Murray State before finishing close to home when the Summit League Championship comes to ArborLinks in Nebraska City.

Bits of the Bull

Continued

Men's Tennis

The UNO men's tennis team enters the 2016 spring season with a core of six returning letterwinners from 2015: senior Erik Anderson, juniors Colin Buckley, John Ellis and Lukas Vanzura and sophomores Marko Minic and Ignace Warson. Six newcomers have been added to head coach Tyson Thomas' roster with transfer Biraj Parajuli along with freshman Matt Dunn, Brent McKnight, Bryce Medhi, Sean Padios and Alex Woodward.

"We have a significant mix of younger players who I believe will contribute, and I am excited to see how we embrace this season as a team," Thomas says.

The Mavericks play a full 25-match schedule this season, including five Summit League matches. UNO opens the season on the road with matches at North Dakota (Jan. 16) and Nebraska (Jan. 23), before hosting five straight matches at Miracle Hill Tennis Center. UNO has five Summit League matches on tap, beginning with Denver on Jan. 31. The Mavericks also host Western Illinois and IUPUI for home league matches. UNO's Summit League road schedule includes Oral Roberts (Apr. 16) and South Dakota State (Apr. 22). UNO will host the Summit League Men's Tennis Championships on April 28-30.

"We have some new schools on our schedule that we haven't played in many years, if at all," Thomas says. "It will be tough, with stiff competition and a host of away matches, but it also will be worth it as we continue to push to improve our game."



Women's Tennis

The UNO women's tennis team enters the 2016 spring season with a roster loaded with experience, returning seven letterwinners from 2015: seniors Molly Matricardi and Maddie Holscher, juniors Kenzie Hill, Allison Johnson, Hylan Miller and Rebecca Stafford and sophomore Michelle Lo. Head coach Mike Saniuk enters his fifth season at the helm of the program, and his team is poised for its first Summit League Championship appearance with full eligibility for postseason play.

Lo made a splash in her freshman campaign in 2015, becoming the third player in program history to earn All-Summit honors. The Hong Kong, China, native went 8-7 in No. 1 singles competition and also compiled a 9-8 record at the No. 1 doubles position.

UNO lost one letterwinner from last season in former Maverick Jacqueline Baude, who completed her career ranked ninth in school history with 34 career doubles wins. Last season, she led UNO with 10 No. 1 doubles triumphs.

The Mavericks' fall season was highlighted by an 8-4 doubles victory over Oklahoma by Matricardi and freshman Kylie Boyer at the USTA/ITA Central Regional. Freshman Janelle Wilson also had a standout effort during the tournament, winning her first match in the main singles draw.

UNO's spring season featured a challenging start, as the Mavericks faced solid regional competition immediately with Kansas (Jan. 18), Drake (Jan. 29), North Dakota (Jan. 30) and Iowa State (Jan. 30). The Mavericks also play host to the Summit League Tennis Championships, April 28 - May 1, at Miracle Hill Tennis Center.

— By Dave Ahlers,
Bonnie Ryan and Shad Beam —
Omaha Athletics Communications



RUNNING, WALKING TO BAXTER

April 23 Claussen-Leahy Maverick Run set for new home of UNO Athletics

The 2016 Claussen-Leahy Maverick Run will be held Saturday, April 23, at Baxter Arena, which opened last October. UNO Athletics' marquee fundraiser, the event had been held at Aksarben Village since 2013 after being hosted on UNO's Dodge campus prior to that. It previously was known as the Claussen-Leahy Run/Walk.

No matter where it's held or what it's called, the Maverick Run continues to be a hit with UNO Athletics and participants.

Entering its fifth year, the Maverick Run is an outgrowth of the former UNO Women's Walk, which began in 1986 as a way to raise money for women's athletics at UNO. Since then, the events combined have raised more than \$4.6 million for UNO Athletics.

Last year's event featured a record-1,950 participants who combined to raise more than \$95,000 for scholarships and program enhancements for all 15 UNO teams.

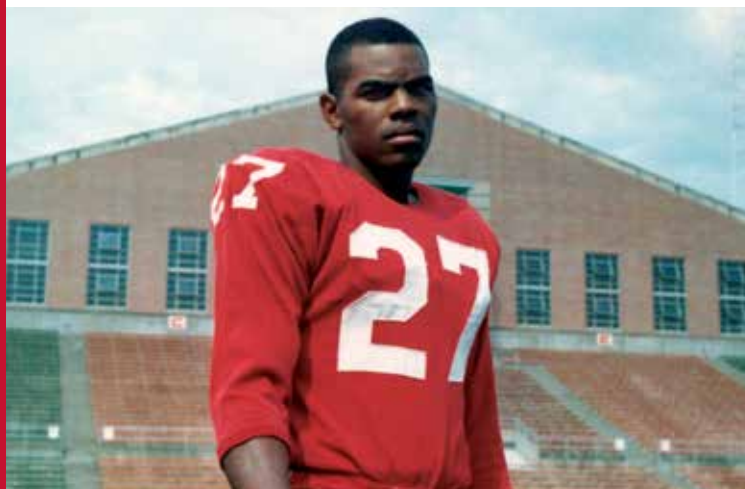
University of Nebraska Regent Hal Daub and his wife, Mary, are co-chairs of the 2016 Run/Walk.

New this year is the "Stampede 10K." A 5K run and 5K walk also will be staged. The 10K and 5K runs will be chip-timed.

An 800-meter kids race is open for children ages 5 to 12. Children also will be able to interact with UNO student-athletes inside Baxter Arena for post-race activities.

Early registration fee is \$25 for ages 13 and older until April 1. Registration increases to \$35 from April 2 to April 20 and is \$40 day of race (participants who register on the day of the event will not be chip-timed.) Registration for children 5 to 12 is \$10.

More information and online registration is available at www.omavs.com.



Briscoe during his days at then-Omaha University.



Alberts with fellow 2015 College Football Hall of Fame inductee Brian Bosworth of Oklahoma.

The Hall Way

UNO's Trev Alberts, Marlin Briscoe join College Football Hall of Fame

FIRST, TREV ALBERTS FOUND his way there. Now, he can show Marlin Briscoe around.

UNO's Vice Chancellor for Athletic Leadership and Management, was inducted into the 2015 College Football Hall of Fame in December. Exactly one month later, the foundation announced Briscoe would follow suit as part of the 2016 Class.

Briscoe's induction, like Alberts', will take place at the Waldorf Astoria in New York City as part of the National Football Foundation's Annual Awards Dinner. The 2016 class will be inducted Dec. 6.

Briscoe played quarterback at UNO from 1963 to 1967, guiding UNO to a 27-11 record and three conference championships. He set 22 records, including 52 touchdown passes, 4,935 yards passing, a 55-percent completion rate and a career total offense record of 6,253.

This despite suffering a fractured vertebra while playing basketball prior to the start of the 1966 seasons. At first, the injury wasn't thought to be serious. But after playing the opener at Idaho State, in which he threw two touchdown passes and rushed for 73 yards, he took a hit and was forced to leave the game. Subsequent X-rays revealed the fracture. At first, he was told he would never play again because of the risk of paralysis.

Briscoe remained in school, studying engineering, and became the first black elected to the student council. He also helped with the football team and took treatments and therapy for his injury. Eventually, his

neck healed and he was cleared to play before his 1967 senior season.

That year he passed for 2,283 yards and 25 touchdowns and ranked fifth among NAIA schools in total offense. The team went 7-3 and won the Central Intercollegiate Conference title. Briscoe was named an NAIA All-American and also was named to the Michigan Chronicle's All-American black team alongside LeRoy Keyes of Purdue and O.J. Simpson of Southern Cal.

He was drafted 14th overall by the Denver Broncos, who initially used him as a defensive back. But a series of injuries to the team's quarterbacks gave him an opportunity to switch positions. Briscoe made the most of it and became the first black starting quarterback in pro football history during his 1968 rookie season.

He finished the year with a Bronco rookie record 1,897 yards in total offense and 14 touchdown passes.

But at 5-foot-11, Briscoe was considered by some to be too small to play quarterback in the NFL. He was released and landed in Buffalo, where he was converted to a receiver and earned a trip to the Pro Bowl after his second season in 1970. He was traded by the Bills to Miami after the 1971 season, joining the Dolphins in time to play a key role in their historic 17-0 season that culminated in a Super Bowl win.

Briscoe was one of the inaugural inductees into the UNO Athletic Hall of Fame in 1975. His personal life has sometimes been a roller coaster ride, which he detailed in his book *The First Black Quarterback*, released in 2002. For several years he has been involved in

working with young people in Southern California. A movie on his life is in the works and could start filming this summer.

Alberts was among 15 players and two coaches comprising the 2015 College Football Hall of Fame Class. He is the 17th University of Nebraska-Lincoln player in the College Football Hall of Fame, along with six former Cornhusker coaches.

Alberts completed his Nebraska career with one of the finest defensive seasons in school history in 1993. He won the Butkus Award and led Nebraska to an undefeated regular season and an appearance in the Orange Bowl against Florida State, where NU fell just short of a national title.

Afterward he was the fifth pick in the 1994 NFL Draft by the Indianapolis Colts and played for them until 1996. He served as a college football analyst for several national television networks before moving into athletic administration at UNO.

During his tenure with the Mavericks, he has directed significant advancements in the areas of academic success, business, facilities, conference affiliation and rebranding for UNO Athletics, and led the Mavericks to full Division I membership in 2015-16.

More honors came Alberts' way at UNO's December Commencement when he was presented with the Chancellor's Medal, given annually to the UNO employee who best reflects extraordinary service and commitment to the university and has performed with excellence in their profession.

Analyzing the genetic
makeup of cancers
— and patients and plants —
gives hope of
targeted treatments

Coding Cancer

By Todd von Kampen



*Dr. Dario Gheri
of the Peter Kiewit Institute.*

Cross plant-gathering by an ancient healer with the “sickbay” of the Starship Enterprise, and you’ll get an idea of the work of Dr. Dario Gheri and his colleagues at the Peter Kiewit Institute (PKI).

When he analyzes computer databases of human and plant genes to help devise “personalized” cancer treatments, Gheri — a UNO assistant professor of bioinformatics — resembles the fictional “Star Trek” doctors who scour DNA records in computer banks to better target treatments for their patients.

And at collaboration-minded PKI, Gheri has found an ideal place to advance understanding of how similar cancers function differently in different people.

He envisions treatment programs that start with genetic sequencing of a patient, reinforcing his or her natural defenses while exploiting the promise of organic products to develop better, more effective drugs.

“My main interest is to understand cancer at a personal level,” Gheri says.

UNO! Pioneers

An Italian who received his medical degree at the University of Genoa and his Ph.D. in structural bioinformatics from New York University, the 36-year-old Gheri joined UNO’s School of Interdisciplinary Informatics in 2014. He became part of one of the pioneering universities offering degrees in bioinformatics — an emerging, rapidly expanding scientific discipline that addresses the collection, processing and analysis of vast amounts of data describing the structure and function of biological systems. The field combines computer science, molecular biology, chemistry and mathematics. UNO’s bioinformatics degree program began in 2004.

Thanks to the DNA-sequencing work of the Human Genome Project and cancer genome projects, Gheri says, “we have the luxury to know the genetic makeup of cancers.” That knowledge, he says, increases the potential to develop treatments that can successfully attack cancers and other diseases with fewer side effects. Many medicines based on lab-created, synthesized compounds have failed in clinical trials “because they don’t interact with natural systems very well.”

Gheri’s first UNO study brought together a team of faculty colleagues and graduate students to compare the genetic and chemical compositions of mostly plant-based “natural products” with the structures of certain synthesized medicines. It built on previous cancer-mapping work that Gheri had pursued at Princeton University from 2011 to 2013.

By analyzing databases of genetic information from cancer patients, Gheri and Princeton computer-science colleague Mona Singh identified frequently occurring gene mutations that apparently control the growth and spread of various types of cancers.

Thanks to that work, “we have a lot more knowledge of cancer targets toward which we can develop specific treatments,” Gheri says. But even with such knowledge, “the drugs are lagging. We don’t have enough products.”

New Search for Old Remedies

Gheri noted that the search for organic materials with medicinal properties — plants and, in more recent decades, microbes — is as old as medicine itself. His team’s first UNO project mined large databases of drugs and natural compounds to identify substances that could take the place of similar but artificially synthesized materials in some existing drugs, such as the anti-cancer drug Paclitaxel and Tazobactam, an antibacterial drug.

The team’s findings are summarized in a paper co-authored by Gheri, bioinformatics software developer Ishwor Thapa, associate biomedical informatics professor Dhundy Bastola and Akshay Balasubramanya, a December 2015 UNO master’s degree recipient. The team presented the paper at a November bioinformatics conference in Washington, D.C., hosted by the Institute of Electrical and Electronics Engineers.

Thapa, 33, joined PKI’s Bioinformatics Group after receiving his UNO master’s degree in 2009. His task was to choose or design analytical computer programs that fragment stored information on natural products and existing drugs to better compare for common elements.

Like Gheri, Thapa sees the congenial atmosphere among his colleagues as an incentive to stay at PKI for the long term. The School of Interdisciplinary Informatics, founded in 2010, uses information technology to advance projects that link faculty and staff members and on-campus entrepreneurs — often with apparently disparate interests.

“I’ve found the particular atmosphere at UNO to be very much open,” says Thapa, a native of Kathmandu, Nepal. “You find that environment at UNO with people from different disciplines. They collaborate easily.”

Gheri said he next wants to explore how vaccines might be developed that “prime” cancer patients’ own immune systems to fight off tumors. While he awaits word on a grant proposal to fund the work, graduate student Sahil Sethi is aiming to prepare the ground as he completes his master’s thesis this semester.

Sethi, 22, is analyzing existing cancer databases to determine whether and how naturally occurring human leukocyte antigens (HLAs) contribute to the growth and spread of many variations of human cancers. He said he’s on schedule to finish his thesis and graduate this spring.

It’s already known, he says, that the success of blood transfusions and organ transplants depends on how well HLAs match between donors and recipients. His thesis seeks to locate and type HLAs in different types of cancers and to develop stronger data on whether particular ethnic groups are more susceptible to some types of cancer than others. Though Sethi eventually wants to return to his native India, he says he would welcome the chance to keep studying at PKI after he receives his UNO master’s degree in May. He grew up in Lucknow and received his bachelor’s degree last May in bioinformatics from Jaypee University of Information Technology at Shimla, both in northern India. “Wherever I go, I’ll work in cancer genomics,” Sethi says. “Back in India, we’re lacking many of the personalized cancer treatments. I want to give something to society back there.”

**THE
EYES
HAVE IT**

**TRACKING
THE HUMAN
RESPONSE**

BY RICK DAVIS

To the outside observer, this might appear to be some futuristic video game experience.

A student sits at a computer. He's wearing a headpiece that features 24 separate sensors. Another device is attached to his wrist and several fingers. And a camera mounted atop the computer screen stares back at his face.

A video begins to play. It shows a person approaching the ledge of a building, straddling its concrete barrier in a sitting position. The person swivels and dangles both legs over the edge.

The student at the computer isn't playing any game, though — he's just watching.

But he's anything but passive. That's clear from data flowing from the sensors into an adjacent computer monitored by a research assistant. The student's brain activity, skin and heart-rate responses, eye movements and facial expressions are being charted and graphed in real time.

Leif Lundmark, assistant professor of management at UNO, examines the data.

Lundmark is one of several faculty members using the new Jack and Stephanie Koraleski Commerce and Applied Behavioral Laboratory (CAB Lab), a state-of-the-art research facility in UNO's College of Business Administration. His research on the role of emotion on creativity and problem-solving — and, specifically, finding ways to more effectively manipulate emotions in a laboratory setting — is one of about 16 studies currently underway in the lab, which opened in October 2014. More research is on the way.

"We're just a little bit more than one year after dedicating the lab, and there is all this activity, all of this research," says CBA Dean Louis Pol. "And the ideas that are spinning off of these particular studies, it's just amazing."

"You can see that the participant is becoming more nervous, more anxious."

Studying advertising, propaganda

Other research topics vary from examining the emotional effects of online advertising to the use of social media in extremist-group propaganda. Some of the projects have received funding from the Department of Defense and Department of Homeland Security.

In the lab, located on the third floor of Mammel Hall on UNO's Pacific Campus, researchers can measure several biometric responses to stimuli simultaneously and in real time.

- Electroencephalogram (EEG) sensors target electrical activity firing in different regions of the brain.
- An infrared camera tracks where a subject is looking and for how long. Pupil dilation also is measured — the more dilated the pupils, the more engaged the subject is with the stimuli.
- GSR (Galvanic Skin Response) sensors detect even slight amounts of perspiration, as well as increased oxygen levels in the blood, both stress indicators.
- A facial-expression system captures and analyzes changes to strategic points on the face (for instance, the eyebrows, lips and eyes) to help determine a subject's manifested emotions.

The lab has one station with the full complement of eye-tracking, facial expression, GSR and EEG capabilities. Four stations have eye-tracking and GSR capabilities. The lab also features 18 computer-participant stations and an observation room.

"It's pretty unique, especially in a business school," says Douglas Derrick, assistant professor of IT innovation in the College of Information Science and Technology, another of the primary researchers using the lab. "There are a couple of things that really set this lab apart: Having the number of stations that we do, coupled with an interdisciplinary team that answers a wide range of questions.

An Eye on Violence



Gina Ligon, associate professor of management and collaboration science, plans to use the CAB Lab in ongoing research with Peter Simi, associate professor in the School of Criminology and Criminal Justice, and Douglas Derrick, assistant professor of IT innovation in the College of Information Science and Technology.

The trio is studying “malevolent creativity” — how current and former white supremacists respond to certain stimuli, including images of violence.

The long-term goal of the research, which will be conducted in collaboration with the Developmental Brain Laboratory at the University of Nebraska-Lincoln, is to help such individuals disengage from radicalization and assimilate into society.



Galvanic Skin Response sensors detect even slight amounts of perspiration, as well as increased oxygen levels in the blood



Electroencephalogram sensors target electrical activity firing in different regions of the brain.

Taking a Hard Look at UP Software

Researchers using the Jack and Stephanie Koraleski Commerce and Applied Behavioral Laboratory (CAB Lab) at UNO are partnering with Omaha businesses, including Union Pacific Railroad, to help them become more productive and efficient.

“Union Pacific has a unique opportunity where they have a piece of legacy software that is about 20 years old that they built. It is integral to their business, but it is built on software that is not being supported anymore,” explains Douglas Derrick, assistant professor of IT innovation in the College of Information Science and Technology.

“This software is incredibly complex. It has 280 different screens, thousands of pieces of data and multiple systems that interact with it. They recognize that out of necessity they have to upgrade it, but there is an opportunity to potentially improve the user interface.”

That’s where UNO’s CAB Lab comes in.

UNO researchers have outlined a multi-pronged study. The first step involves conducting a basic survey of UP employees currently using the software to obtain their feedback. Employees then will be brought into



Multidisciplinary, from faculty to students

Researchers using the lab come from fields including criminology, organizational psychology, business strategy and information technology. The multidisciplinary flavor extends to students.

Joel Elson, a graduate assistant in the lab, is working on his Ph.D. in information technology. He says the lab's research involves undergraduate and graduate students from a variety of disciplines — whether as test subjects, proctors or research assistants.

Derrick says the practical applications of the lab's research are numerous and varied, and include:

- improving user interface design in human-computer interaction;
- helping people make better decisions faster;
- assisting individuals and teams in generating more creative and novel solutions to complex problems; and,
- finding ways for people to collaborate and share information more effectively.

"The name is the applied behavioral research lab," Derrick says. "The intent is to engage with the community and with businesses and government. The intent is very much to take the research out and apply it to real-world problems."

Gina Ligon, associate professor of management and collaboration science and director of research and

“There will be other places that have eye-trackers. There will be other places that have EEG. But having them all integrated together and a team with varied academic backgrounds that can analyze this data from different theoretical lenses is really what makes the lab unique.”

brought a synergy and energy to the facility.

"That thing that makes the lab unique and successful is the multidisciplinary researchers who are engaged with integrated technology around really interesting and complicated problems," Derrick says. "That's what differentiates us."

development at UNO's Center for Collaboration Science, is leading a study funded by the Department of Defense that, among other goals, looks to reduce cognitive barriers to problem-solving and decision-making among leaders at U.S. Strategic Command at Offutt Air Force Base near Omaha.

Elson says results from that study can have meaningful implications for leaders and others outside the military.

For instance, he says: "How do we present tasks to individuals in such a way that they aren't overwhelmed? Or how do we minimize stress when working in a stressful environment? Is there a procedural way to attack certain problems so that leaders who are dealing with crises can have more of a prescribed recipe for success?"

Like other studies at the lab, this research has involved collaboration and a team approach — which has



the lab, where eye-tracking technology will chart their interactions with the software — what they are looking at, in what order and for how long. That will be followed by personal interviews with subjects.

"We call it the John Madden approach," says Gina Ligon, associate professor of management and collaboration science, referring to the Hall of Fame football coach and broadcaster famous for using a telestrator to illustrate plays during televised games. "Because we're going to actually show where their eyes looked and ask, 'What were you thinking? What decision were you making when you looked here?'"

Says Derrick: "It will allow us to give some real objective design input to the team at UP that's going to create this next-generation user interface. It's a really interesting and unique collaboration."

Douglas Derrick, assistant professor of IT innovation in the College of Information Science and Technology

Andrew Henrichsen, director of corporate systems for Union Pacific Technologies, is pleased with the work so far.

"The lab is great, and the professors are even better," Henrichsen says. "To me, this lab is a place where all kinds of opportunities exist."

Ligon explains that traditionally an organizational psychologist would perform a job analysis by observing employees during their work. "That's all well and good when you have very concrete tasks," she says. "But for this next generation of workers, that is more complex. It's humans interacting with the computer. They move so quickly between screens.

"So the eye-tracker is a really novel way to do this ... to understand how their brains are interacting with the machine to do their jobs more effectively."

BEA



Thanks to UNO grad Jorge Zuniga's invention, children around the world can create a prosthetic hand — CYBORG BEAST — with \$50 and a 3D printer

ST MODE

Dr. Jorge Zuniga's office contains a world map with images of tiny flags planted on each continent. The entire surface is covered —Africa, Brazil, Syria, Turkey and throughout the United States.

The flags do not represent places of travel for the Chile-born Zuniga, who received his master's degree in exercise science from UNO. Rather, each marker shows the reach and influence of Zuniga's project to develop and provide low-cost prosthetic hands to children around the world.

"I figured it could be something major," Zuniga says. "It could be something that would help a lot of people."

Indeed.

The idea was launched three years ago after Zuniga heard a radio report on the use of 3D-printing technology to make prosthetic devices — often for children who have a tendency to outgrow or break them.

"I didn't think much of it until I got home and saw my children," he says.

It helped to have a doctorate in exercise physiology and access to research and laboratory facilities at a university. Zuniga, director of the 3D Research & Innovation Laboratory at Creighton University, began studying prosthetic arms and soon developed a low-cost prototype.

He took it to a hospital that works with amputees and was told his device wouldn't help anyone. He persevered and, within a week, more than 100 people had expressed interest in the prosthetic hand.

Affordability was a major reason for the strong interest. A prosthetic hand normally costs up to \$8,000, and there's no guarantee insurance will cover it.

Zuniga's creation costs \$50.

All that is needed is access to a 3D printer, becoming more common at libraries and schools.



Children... need to move to do what they need to do. Being able to grab an object is quite important.



Watch a
Cyborg Beast
being made at
bit.ly/cyborgbeast

Dr. Jorge Zuniga holding a Cyborg Beast.

"If you do not have enough money, you can make your own," Zuniga says. "You give them empowerment."

Zuniga makes the instructions available in an open-source format that can be downloaded online. After choosing the scale of the hand based on size and age of the user, the files are downloaded to a 3D printer that slowly melts plastic to form a solid, three-dimensional object.

It takes six hours to make a hand for a 7-year-old child. Zuniga compared it to making a cake, layer upon painstaking layer.

"When you decorate a cake, you put on layers," he says. "You put on another layer and double it. You start with one thin layer of plastic, then another on top. Eventually you are going to get a solid object."

Once the hand is printed, instructions show how to assemble then use the device. Assembly takes two to three hours, Zuniga says.

The hand works mechanically, with hidden cables that allow the hand to form a fist or flex fingers when the wrist or elbows move.

"The ones we specialize in are body-powered," Zuniga says. "Electronics and children don't go well together. Children find a way to break them."

A Helping Hand

Zuniga could have gotten wealthy off the technology, but instead he makes it available worldwide in an open format. That says a lot to Dr. Kris Berg, who was Zuniga's mentor at UNO.

"It's a gesture of caring about your fellow man," says Berg, a professor in UNO's School of Health, Physical Education and Recreation. "He could have patented the whole thing. The whole drive was to help children."

The latest estimates indicate that more than 2,000 children have received the hand, now referred to as the "Cyborg Beast," a name chosen because Zuniga's son liked Transformers.

Some children, especially in war-torn countries, lost a hand in an explosion or accident. Others were born with defects. In the U.S. alone, an estimated 1 in 1,500 children are born missing fingers, sometimes through complications associated with Amniotic Band Syndrome.

The Cyborg Beast doesn't fix all problems associated with the loss of a hand, Zuniga says. But children can use it to feed themselves and grab a ball or a small object. Some, especially older children, are able to write.

Some only wear the hand for two or three hours. "About 75 percent are using it for fun," Zuniga says. "They use it for support when they go out and play."

In one study of 11 Omaha-area children who used the Cyborg Beast, more than 90 percent reported an improved quality of life. About a third described the improvement as "significant."

"We have worked on several devices that have helped my son pay the violin, ride his bike and pick up objects with his new 3D hand," says the father of one boy who was born without a hand.

From Landscaping to Handscaping

Zuniga, who works with 11 other people at Creighton's laboratory, says his experience at UNO proved essential to what he's accomplished. After receiving a bachelor's degree in his native Chile, he arrived in the United States in 2002 but had to work in landscaping for a year.

That's when he met Berg, who saw something in Zuniga and gave him a chance to pursue a master's degree at UNO while he improved his English skills at the same time.

"He gave me a chance to work in a lab," Zuniga says. "That was the start of everything. It taught me how to be a researcher. My experience at UNO was amazing."

Berg, says much has changed since he arrived on campus in 1971 at a time when little research was being conducted in the university's HPER programs.

"We are getting so many strong master's students now," Berg says. "The Jorge Zunigas, we simply are a lot more likely to get people like that. We like to think we prepare them well. He's proof in the pudding."

Zuniga's master's work didn't involve prosthetic devices, which makes his accomplishments all that more impressive, Berg says.

"When I first learned about it, it just amazed me because it had little to do with his

research here," Berg says. "It showed an open-mindedness. The more I learned, the more I could see the link."

Zuniga sees a future that holds tremendous potential for advancement of artificial limb technology. He traveled to Johns Hopkins University, where he witnessed early prototypes of computerized, mind-controlled limbs that aren't that far removed from what Luke Skywalker used in the Star Wars movies.

"What you see in Star Wars, it's possible," Zuniga says. "I can tell you for sure, that's going to be a reality. What's the cost, we don't know that, either."

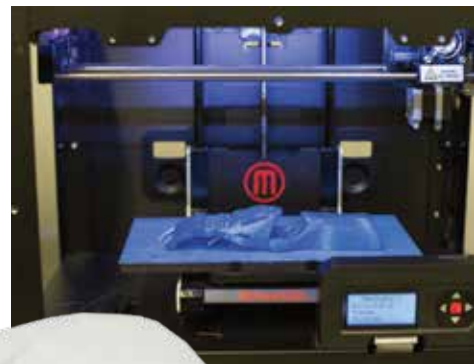
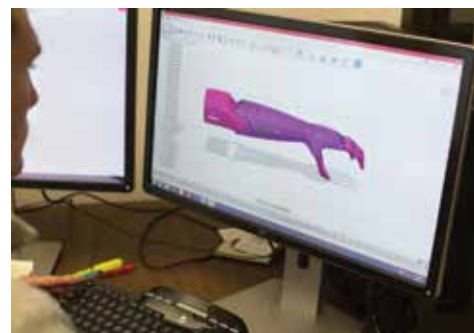
Even now, the Cyborg Beast looks like something from a science fiction movie with its plastic fingers that come in red, green, blue or sometimes black.

For now, Zuniga will continue focusing on the low-cost solutions for children of the 21st century.

He says researchers are developing ways to make the prosthetic devices more durable. There's also talk of Cyborg Beast versions of legs, feet and knees, to go with hands, arms and shoulders that are already produced.

He's come a long way from landscaping and believes his experience at UNO played a role in helping children all over the world find prosthetic limbs that they can afford.

"The things I am doing now are because of UNO," Zuniga says.



UNO researcher explores whether lack of activity as an infant can contribute to obesity later in life

Baby Steps to a Health

By Wendy Townley

As we transition from adolescence to adulthood, we learn about good foods and bad foods. We are taught the importance of exercise, fresh air and a good night's sleep. With our family history taken into consideration, we are eventually presented with a roadmap to a healthy lifestyle.

But what if we could begin that journey even younger than childhood: instead, during infancy?

Danae Dinkel, an assistant professor in UNO's School of Health, Physical Education and Recreation, has been pondering that very question for quite some time.

With decreasing physical education classes in schools nationwide, and more children becoming obese, Dinkel and her fellow researchers are examining the relationship between an infant's ability to sit upright and the likelihood of future weight gain.

"Our long-term goal is to identify whether there is a relationship between the two. And if there is, what strategies are needed to increase activity in infants who might become obese children," Dinkel says.

Dinkel points to a recent study that found 40 percent of infants who are 3 months old regularly view television or spend up to 60 hours per week in high chairs or car seats. Such activity means less movement for the child.

Her research — made possible through a \$50,000 grant from the National Institute of Health's Centers of Biomedical Research Excellence — is trying to determine if a connection exists between parents placing their infants in restrictive devices (anything that props up a child who isn't able to sit up just yet, such as a jumper, car seat or high chair) and childhood obesity.

"There are recommendations to allow your infant to play freely and do tummy time, but there's no evidence on how much time to properly promote motor skill development," Dinkel says.

The study — Infant Physical Activity and Postural Control Variability in Relation to Obesity — is examining the activity of infants (and their mothers or primary caregivers) during three key baby milestones: when

the infant is 3 months old, when the infant is able to sit on his own for the first time, and one month later.

The mother (or caregiver) is asked to wear a watch-like device on the wrist and ankle to track movement throughout the day, as well as maintain a diary of their activity.

"We know infants are carried around a lot," Dinkel says. "We want to determine when the infants are being carried around, and when they are placed in a restrictive device or are sleeping."

The researchers also examine the mother's health and history. If a mother is overweight prior to conceiving, her children are more likely to be obese, Dinkel says.

Dinkel and her fellow researchers have data from 12 infants who have completed the study, which began in April 2015. Eighteen more are currently participating in the study.

Ideally, with additional grant funding in the future, Dinkel and her team would conduct a lengthier longitudinal study with participants; specifically, collecting data as the same children age and reach major development milestones: standing on their own and walking for the first time.

If children who were less mobile experience more weight gain, the study might also yield best practices for parents of infants and obesity prevention.

The focus of Dinkel's research has become personal over the past year, after giving birth to her son, Aldrik.

"My poor child," she jokes, as separating her role as mother and researcher just isn't possible.

Dinkel says she rarely places her son in any type of restrictive device if she doesn't have to.

"From birth, he has had tummy time. I have made sure he is down on the ground without being restricted. Now that he is climbing, I give him the opportunity to climb on and into things and roll around," Dinkel says. "And I get down on the ground with him, to encourage those behaviors."

Healthier Weight



From rock concerts and bench press competitions, to marathons and men in bras, UNO students and organizations host a flurry of events to raise awareness for a variety of medical needs — from head to toe.

That was particularly true in October, also Breast Cancer Awareness Month, when UNO was home to a number of fundraising and awareness events.

The month started with the first public event at UNO's Baxter Arena: the 22nd Annual Susan G. Komen Race. The 5k race/walk attracted around 10,000 participants, raising awareness about breast cancer while honoring breast cancer survivors. The 2015 race raised more than \$550,000 for breast cancer research.

Other Susan G. Komen events organized on campus included the "Bench Press for Breast Cancer" contest held at HPER and "Rock for Cancer" at the Sokol Auditorium in South Omaha. In the Bench Press contest, participants paid \$5 each to see who could perform the most repetitions with a 45-pound bar.

The Zeta Tau Alpha sorority also held its annual "Think Pink Week," a series of events including "Kiss Away Cancer," "Save A Life – Pie A Zeta," and a pancake feed. Also, throughout the week, male students competed to be the "King of Think Pink Week" hoping to encourage the most people to donate to the cause while wearing their own personally decorated bra.



Body Benefits

By Nolan Searl, University Communications





Above: Maverick Food Pantry solicited donations in "Reverse Trick-or-Treat."

"We work hard to promote awareness both on campus and in the community through workshops, fundraising and survivor recognition," Jenna Saraka, the sorority's Think Pink chairperson, told The Gateway.

While breast cancer awareness is typically a high profile cause, other groups on campus are raising awareness for lesser-publicized causes.

For example, MavPRSSA, the UNO Public Relations Student Society of America (PRSSA) chapter, was recognized as the nation's top chapter in 2015 and has received numerous awards for their campaigns dedicated to organ donations.

Last year, MaverickPR partnered with the Nebraska Organ Recovery System (NORS) to host "Journey Beyond Yourself." The goal of the event was to increase the number of registered donors by showing students how quick and easy it is to become an organ donor. Organ donors and recipients spoke about their experiences to students, faculty and staff.

The campaign placed second nationally in PRSSA's National Organ Donor Awareness Competition. MaverickPR will be competing in the competition again this spring with a newly named campaign.

There is also the Maverick chapter of "Be The Match On Campus," which is in its first year at UNO. "Be The Match" is dedicated to increasing the number of registered bone marrow donors in the community. The organization hosted its inaugural sign-up event at the HPER Center in November. Students showed up to fill out paper work and take a few quick cotton swabs to register as an official bone marrow donor.

The keynote speaker at the event was UNMC student Tom Blount, who was asked by Be The Match to donate his bone marrow in 2014.

A very small percentage of those who register are ever called to donate. Blount was one of the few who received the call, asking for help for an 11-year-old girl.

"They say 'There's someone out there that needs you,'" Blount said. "From my own experience, getting that call really puts it in perspective."



Above: Diaper Drive for the Lydia House.

Below: Pi Kappa Alpha fraternity slept outdoors to raise money for The Salvation Army.

Be The Match On Campus continues to be active on Facebook and Twitter and the group plans to host more events in the future.

Even when stressed, UNO students find ways to give. During the "De-Stress Fest" that took place in December during finals week, the UNO community came together to contribute to a Diaper Drive for the Lydia House.

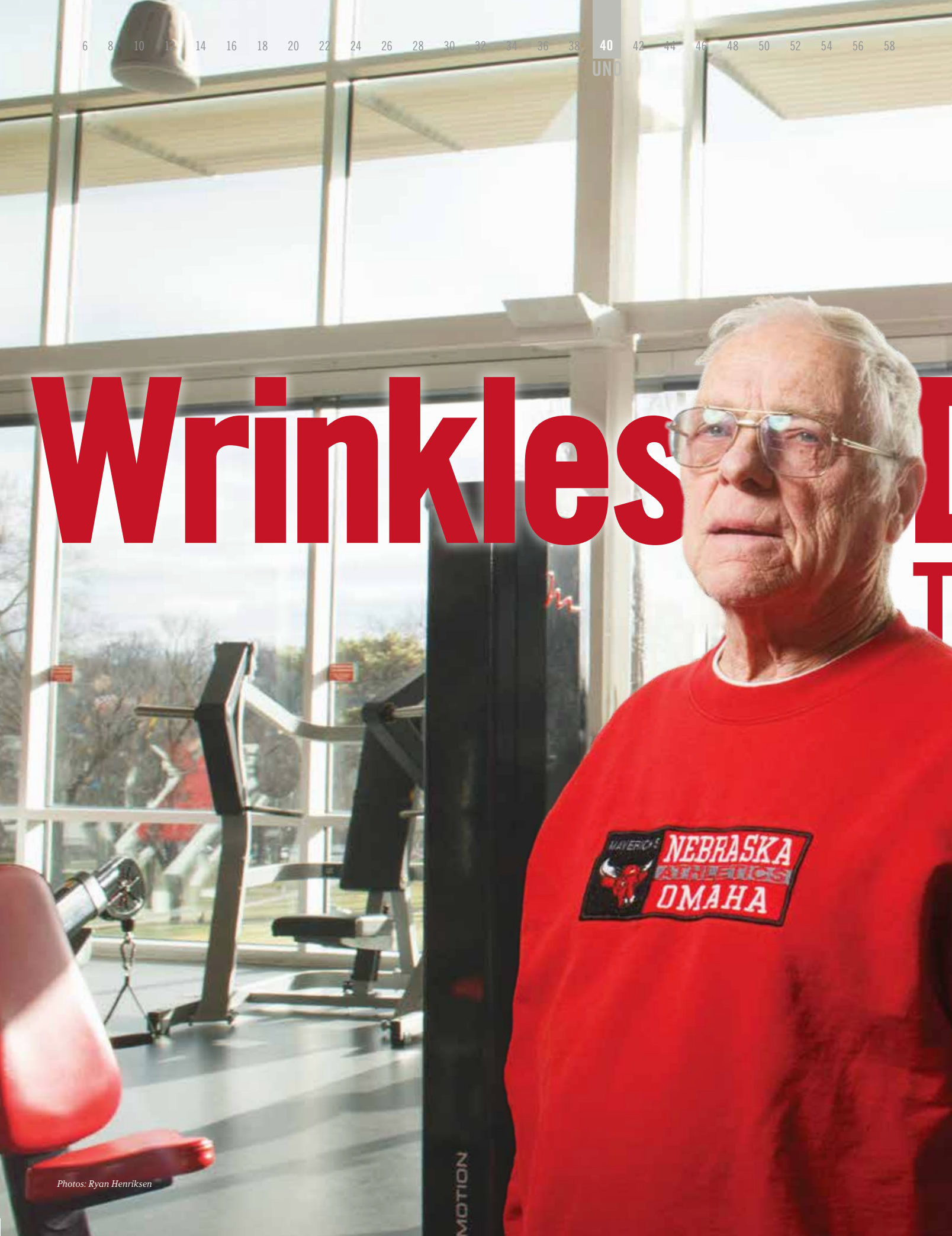
The Maverick Food Pantry also has been active in soliciting donations for its shelves as it tries to eliminate hunger in the UNO community. It participated in the 24-hour Omaha Gives! campaign in November and in a "Reverse Trick-or-Treat" in October.

For the latter initiative, volunteers traveled around campus "trick-or-treating" to collect donations from university buildings, offices and departments. Volunteers were divided into two groups: "Hamburger Helper" and "Campbell's Chunky Soup," which coordinated with two costumes worn by group leaders. More than 3,600 non-perishable food items and \$200 was donated to the pantry. That earned the pantry the Community Service Program award for the Midwest Affiliate of College and University Residence Halls (MACURH) region for the month of October.

A related effort has had even more success collecting food for those in need. UNO's Pi Kappa Alpha fraternity hosted its 12th annual Just Can It! fundraiser in April, teaming with The Salvation Army to solicit money and non-perishable food items. That was done by fraternity members who slept outdoors in cardboard homes at nearby Crossroads Mall.

More than 13 pallets of food were collected. The previous year, more than 34,500 food items were collected.

Wrinkles



From as early as 6 months old, we show signs of aging.

But why?

Students in two new UNO courses are learning the science behind getting old.

Don't Hurt: The Biology of Aging

By Susan Klaus





Sage (front row, far right) on 1953 UNO intramural football team.

**“
I’ve been
disgustingly
healthy, and
I have no
complaints. I
don’t feel any
different as far
as endurance
as I did 25
years ago.”**

Harold Sage takes care of himself.

Three times a week you’ll find him working out at a gym. He tries to eat healthy — aside from an occasional fast-food indulgence — and enjoys regularly connecting with friends through his church and groups like UNO’s Golden Circle and Air Force ROTC alumni chapter.

He is 84 and, one might say, has “aged well.”

He knows he’s fortunate to be in such good health compared to many of his peers. And while he’s not throwing the football like he did back in intramurals at Omaha University, Sage is eager to stay active for many years to come.

He’ll have plenty cohorts, healthy or not, as company. One in every seven Americans is 65 or older, representing more than 14 percent of the population, according to the U.S. Department of Health and Human Service’s Administration on Aging. By 2060 that number will grow to nearly 22 percent — or 98 million of us.

That our aged population is growing is a given. What’s not understood by many is how they will age. How much of the aging process is related to the number of candles on our birthday cake? How much factors in our DNA? How much is related to taking care of (or abusing) our bodies?

Two new courses at UNO are helping gerontology students explore answers to those questions and others, teaching them what’s happening to our bodies as we age.

“Biology of Aging” covers topics related to the genetics of longevity, the cellular changes in aging, what happens to our visual, hearing and cardiovascular systems with age, interventions for longevity, and the biological basis of Alzheimer’s and Parkinson’s disease.

“Cognitive Neuroscience of Aging” covers the changes in aging to the brain systems involved in memory, attention and emotion, how the aging brain influences decision making, diseases that may affect the brain in aging, as well as how cognitive and exercise interventions can positively influence cognition and well-being.

Bonus Years

Like it or not, we’re aging from the moment we enter the world.

“Our late teens and early 20s tend to be our peak biological years,” says Janelle Beadle, a neuroscientist and visiting assistant professor for the Departments of Gerontology and Biology.

“As we get a little older, in our 30s and 40s, you tend to see some decline in certain organ systems.”

In fact, Beadle says, the theory of natural selection suggests our genes are

STRONG BONES, STRONG BODIES



Kris Berg

Alum Harold Sage knows that growing old gracefully involves two important things:

“You need to eat right and exercise to keep your body in reasonably good shape and you can do just about any darn thing you want,” he says “It’s not as easy as when you get to be 80 as it was when you were 21, but it’s certainly important to do that.”

And even if you’re dealing with diabetes, hypertension, arthritis or osteoporosis, you can make improvements in your health.

That’s happening at the UNO Fitness Center where seniors from their 60s to 80s lift weights, do tai chi and even find the best way to lift groceries. They’re taking part in two programs developed by Kris Berg, professor in the School of Health, Physical Education and Recreation.

SELF — short for Special Exercise for Life and Fitness — is designed for people who need special accommodations for exercise because of a chronic health condition. Strong Bones, meanwhile, grew from osteoporosis research Berg conducted with the

only designed to get us to the age of reproduction. After that, the extra years are a bonus.

Some biological aging starts as early as six months, when fatty deposits start building up in our arteries.

"What many people may not realize is that it takes 40 to 50 years for the build-up to occur," says Beadle. "It's the accumulation of bad habits over time that may be more likely to lead to a heart attack."

Other changes aren't so closely tied to family history or poor habits. Around 40 or 50, most of us will need to grab a pair of readers to see the fine print on a menu.

Over time, the lens of our eyes loses some of its ability to change shape, causing presbyopia, commonly known as farsightedness. And if the lens loses its transparency — essential for clear vision — some people may have problems with cataracts.

Parts of our brain actually shrink with age, especially the prefrontal cortex and the hippocampus. That can affect certain aspects of learning and memory, including our ability to remember where we picked up pieces of information.

Another aspect of memory that's affected: our ability to remember details about personal experiences. So in later years our autobiographical memories may not be as detailed as when we were younger.

Scientists have also examined aging on the cellular level by looking at telomeres, the stretches of DNA at the ends of chromosomes that protect our genetic data.

Telomeres allow for cells to divide. Each time that happens, the telomeres get shorter.

Shorter telomeres suggest that a person is older or may have certain diseases like cancer. Some evidence also links shortened telomeres to Alzheimer's disease, heart disease, high blood pressure and type 2 diabetes.

It's All In Your Head

Feeling old? That's only natural in a world where youth is valued and getting older is endlessly remedied in TV commercials for a plethora of pharmaceuticals.

But there's often a disconnect between how we view ourselves and our actual age, says Julie Masters, professor and chair of the Department of Gerontology.

"People tend to see themselves 15 years younger than they are. But some people see themselves as older than their chronological age."

Meeting somewhere in the middle and being honest about what's happening to your brain and your body is a healthy way to look at aging.

"You can't help but have a sense of humor about aging," Masters says. "As you get older, there are things that happen and tests you have to have, whether it's a mammogram or a colonoscopy. And there will be changes in vision, changes in hearing, hair that comes out in places you hadn't anticipated and hair you lost in other places.

"You'll hear people say they look in the mirror and they say they see their mom or their dad and they thought they'd never see that person again and all of a sudden there they are."

Engage your brain and your body

No matter what the person in the mirror peering back at us looks like, there's always an opportunity to turn back time.

Scientists back up the benefits of staying active, especially later in life. "Healthy older adults who walk 30 minutes a day can improve or maintain their level of memory performance," Beadle says. Those kind of interventions can help reduce the decrease in the volume of the hippocampus related to aging.

In her presentations to seniors around Nebraska, Masters hears a common question.

"People I talk to ask, 'What can I do to keep my brain active and what can I do to age successfully?'"

"The answer always comes back to exercise, both physical and cognitive. Get out and meet new people, get engaged in different activities that can enrich your life. The more we can do to maintain and sustain what we have, the better."

Interestingly, older adults have found ways to cope with life's changes, Beadle says.

"Their emotional life tends to be better than those of younger adults. Older people have what's called a positivity bias, where they tend to not pay as much attention to negative information and focus more on positive information."

Harold Sage seems to have tapped into some of that for his own fountain of youth.

"I still plan on going a lot longer," he says. "Whatever I've done, I'm glad it happened and I want it to continue for quite some time."

College of Nursing at the University of Nebraska Medical Center. It's focused on strengthening bones and muscle, reducing the risk of falling and enhancing movement quality.

"We learned that we can slow the loss of bone considerably," says Berg, by loading the bone through walking, doing lunges and squats and lifting weights.

Supervised by graduate students in exercise science, the programs aim to improve movement

patterns, improve balance and build strength. In addition to the load-bearing exercises, activities include standing on each leg, walking in different directions, doing dance steps — even learning the safe way to fall.

Programs are customized for each participant and their progress is measured regularly.

The goal, Berg says, is to make people feel more confident and competent in their everyday lives.

"Some of the comments I've heard are, 'My doctor says this is the greatest thing he's seen,'" Berg says. "It's building confidence among participants and people report being able to do things they wouldn't have tried before."

Enrollment in SELF and Strong Bones is open to the community. The cost for either program is \$120 for six months. For more information, call 402-554-3221 or contact Kris Berg at kberg@unomaha.edu.

Toxoplasma





smosis

Could a single-celled parasite be controlling your brain?

By Lori Rice

Trekkies shouldn't have a hard time understanding the danger of Toxoplasmosis.

At least those who've seen *Star Trek II: The Wrath of Khan*. In it, the villainous Khan places the larva of a Ceti eel into Chekov's helmet. The lava crawls along Chekov's cheek and into his ear then attaches to his brain. Chekov is rendered controllable by Kahn, made to do whatever he suggests.

Cinematic fantasy, you say?

Not so much, perhaps.

Meet *Toxoplasma gondii* — aka *Toxoplasma*, a single-celled parasite that causes a disease known as Toxoplasmosis. It is the focus of research being done at the Molecular Parasitology Lab at UNO led by Dr. Paul Davis, assistant professor of biology, who has studied the parasite since 2006.

Thirty percent of Americans have the parasite in their brain, but the vast majority of people infected have few symptoms because the human immune system keeps the parasite at bay. In newly infected, otherwise healthy adults, the parasite can cause mild, flu-like symptoms for a few days.

But for some, says Davis, *T. gondii* can cause serious infections that attack the eyes, brain and other organs. Women who are exposed to the parasite for the first time while they are pregnant and the immunocompromised are most at risk for adverse effects.

Over the past century, Toxoplasmosis has become the No. 1 cause of birth defects in the United States and throughout the world. Many people are familiar with the advice given to pregnant women to stay away from cats and to avoid changing their litter box — Toxoplasmosis is why.

"That used to be its claim to fame," Davis says. "It wasn't thought of much more than a maternal fetal disease, and no one really thought much more about it until the late 1980s."

For reasons not fully understood, says Davis, the only place *Toxoplasma* can reproduce is in cats — in their intestines, to be exact. Cats get *Toxoplasma* from eating infected rodents. After being swallowed, the parasite invades the walls of the cat's intestines, multiplies and leaves behind tiny cysts called oocytes. The oocytes are shed with a cat's feces and within 48 to 72 hours molts into a highly infectious form that can be easily transmitted to humans and other animals.

Dr. Paul Davis in the Molecular Parasitology Lab. Photo: Ryan Henriksen

Microscopic cysts containing Toxoplasma gondii in mouse brain tissue. Photo Source: www.ars.usda.gov



Davis in the lab with UNO Biology students.

But cats are not solely to blame. *Toxoplasma* also can be contracted by eating contaminated fruits and vegetables, handling soil in gardens and by eating undercooked meat. In fact, according to the Centers for Disease Control and Prevention (CDC), *Toxoplasma* is a leading cause of deaths attributed to food-borne illness in the United States.

It wasn't until the AIDS epidemic in the late 1980s that it was discovered that when a person's immune system goes offline, *Toxoplasma* could reassert itself, says Davis. Individuals with full-blown AIDS were discovered to literally have holes in their brains from the infection. Still today, says Davis, if someone dies from AIDS, it's likely to be due to *Toxoplasmosis encephalitis*, an infection of the brain caused by *toxoplasma*. *Toxoplasma* also is a great risk to others with compromised immune systems, like cancer patients and organ transplant patients.

Changing Behavior

Since 2010, says Davis, there has been concern that when the parasite starts to crawl into your brain, it changes human behavior. "That is something we never anticipated before."

"A parasite that changes your behavior? I mean that's pretty odd," Davis continues. "But, if you think about it, infectious diseases do that all of the time. The cold is transmitted by droplets, that's the only way it can reproduce itself. So what does it cause us to do? We sneeze."

According to Davis, there are associational studies that show people who are Toxo-positive are more likely to commit suicide. They also are almost five times as likely to cheat on a spouse and four times as likely to get in a car accident. Other studies have even found that schizophrenia and other mental illnesses are more common in people with *Toxoplasmosis*.

"It doesn't sound like those all add up and make a lot of sense, but studies done in mice show it reprograms them," Davis says. "It makes them think they are no longer scared of cats. So the question is whether the parasite actually enters our brains and does the same thing. Does it reprogram our fear response, make us more willing to take risks?"

These studies do not say with absolute certainty that these effects on human behavior are due to *Toxoplasma*, says Dr. Scott Snyder, professor and associate vice chancellor for research at UNO. They do, he says, give a strong indication that maladies like schizophrenia and some eccentric behaviors are associated with *Toxoplasma* infection.

"So you can't say for certain that it causes these behaviors in humans, but when you start to look at potential vaccines or treatments for *Toxoplasma* you start to say there's enough of an indication that these issues are caused by this parasite that we ought to work hard and invest in creating a treatment," Snyder says.

Seeking a Cure

The current treatment for those at risk or immunocompromised is the drug Daraprim, which, according to Davis, comes at a high cost and with adverse side effects." Davis says.

Finding a cure for the infection and a vaccine to prevent it altogether is the focus of UNO's research. UNO has one of 10 labs in the United States studying the parasite, joining the likes of Stanford University and the University of Pennsylvania in its research efforts. The Davis lab offers research opportunities for undergraduate and graduate students who study various treatment compounds and collaborate with the University of Nebraska Medical Center. The lab operates with a \$50,000 to \$100,000 budget every year, with funding coming from the National Institutes of Health (NIH), the Nebraska Research Initiative (NRI) and internal student awards from the Funds for Undergraduate Scholarly Experiences (FUSE).

From gene editing and genetic mutation to genetic engineering, says Davis, students at UNO are performing the same research that employees at leading biotechnical companies are doing.

"The Davis Lab provides an incredible number of research opportunities on campus," Snyder says, "and really sets them up well to have successful careers in biomedical science."

UNO graduate student Madalyn McFarland is one of about 17 students currently doing research in the lab. She has worked in the lab for the past two years, developing compounds to treat *Toxoplasma*.

“There is nothing available to cure it. We can try and treat it. There is nothing that will get rid of the infection altogether.”

"I've always been interested in infectious diseases," McFarland says, "The opportunity for developing compounds like this is really interesting."

"Most people have the latent form of Toxoplasma, but for people with HIV or auto-immune disorders, we see recurrent infections, which are terrible. The interest in developing other compounds would be that they would be less toxic to the host and they would more effectively treat the disease."

Another reason why this research is so important is the close relationship between Toxoplasma and Plasmodium, the parasite that causes malaria, says Snyder. Toxo's close relationship to the malaria parasite, one of the top three infectious disease killers in the world, was one of Davis' initial interests in studying Toxoplasma.

"If we were able to develop a drug against Toxoplasma, it would very likely work against malaria. That was the initial idea," Davis says.

For now, those not in the risk categories should take heart. You can keep your cat and continue to eat your steak dinner.

Following the basic guidelines of washing fruits and vegetables, thoroughly cooking meat and changing the cat's litter daily will protect most people.

However, the research continues to be very valuable to the thousands of people who are immunocompromised, and could be a window into a greater understanding of neuroscience, mental illnesses and, perhaps, even free will.

Allowing us, as Mr. Spock would say, to "Live long and prosper."

“The moral of the story is 30 percent of the population has it. I probably have it, you probably have it and most people don’t ever know that they are infected.”

Pinpointing the Brain's Painkillers



James Zadina

Mavericks making discoveries in the brain is nothing new.

In 1997, UNO graduate James Zadina led a research team that discovered endomorphin-1 and endomorphin-2, peptides in the brain that act as potent painkillers.

The discovery came 24 years after Zadina earned a bachelor's degree in psychology at UNO. He went on to earn a master's degree and doctorate, both in physiological psychology, from Tulane University in New Orleans.

Today, he is a professor of medicine and neuroscience at Tulane University School of Medicine. He also is a research physiologist and director of the Neuroscience Laboratory at the Veterans Affairs Medical Center.

His 1997 discovery contributed greatly to what we know about pain.

Endorphins, first identified three decades ago, are natural, morphine-like chemicals that act at three opioid receptors in the brain. Endorphins "fit" into these receptor sites in the brain like parts of a seamless puzzle. Matching pieces had been discovered for two of the three receptors, but a fit for the third, called the "mu receptor," proved elusive. The mu site is where morphine-related analgesics act in the brain.

Because no natural substance had been found that would bind specifically and strongly to the mu receptor, researchers questioned whether such a morphine-like substance even existed in the body.

"People all over the world have been looking for this for 20 years," said Zadina, who in 2002 received the UNO Alumni Association's Citation for Alumni Achievement award.

Zadina himself had spent 10 years of research in this area and another two searching for the specific brain chemical before solving the mystery.

Zadina and his research team, knowing what the core structure of the missing piece might look like, tested different biological structures until finding a match to the receptor. The endomorphin messengers they found fit the mu receptor precisely, acting like a "magic bullet" to unlock a natural morphine-like effect in the brain and spinal cord.

UNO to host International Conference on Brain Informatics & Health

Interested in learning more about the brain?

Oct. 13-16, UNO's College of Information Science and Technology will host the 2016 International Conference on Brain Informatics & Health: "Connecting Network and Brain with Big Data."

The premier forum brings together researchers and practitioners from neuroscience, cognitive science, computer science, data science, artificial intelligence, information communication technologies, and neuroimaging technologies to explore fundamental roles, interactions and practical impacts of Brain Informatics.

BIH'16 addresses the computational, cognitive, physiological, biological, physical, ecological and social perspectives of brain informatics, with a strong emphasis on emerging trends of big data analysis and management technology for brain research, behavior learning, and real-world applications of brain science in human health and well-being.

Virtual Reality and Robotics Help Stroke Patients Recover



UNO Assistant Professor Mukul Mukherjee in the Biomechanics Research Building.

By Greg Kozol

For many stroke patients, impaired living is their new reality.

Virtual reality can help them get back to normal.

That's in part the work of UNO Assistant Professor Mukul Mukherjee in the Biomechanics Research Building. There, Mukherjee uses virtual reality and robotics to help stroke patients retrain their brains and regain the use of their arms and hands. Such advanced technology helps improve basic skills, such as reaching for an object or picking up cups on a tray — the types of everyday tasks that can seem daunting after the brain damage caused by stroke.

"You are tapping into that recovery process," says Mukherjee, a professor who works with a team of researchers in the Biomechanics Research Building. "Lower limbs recover faster. The tongue is the last to recover."

Patients use what Mukherjee refers to as an upper-limb robot to move a computer mouse between two points. Patients encounter more force as they try to move it farther.

"Patients learn this in a destabilizing environment," he says. "It takes time. We have to look for ways to accelerate that recovery."

Mukherjee can individualize the therapy to make it look as if a patient's hand movements are worse than they are in reality. This can boost the recovery process as patients try to overcome their seemingly diminished abilities.

"What I do is I play around with threshold perception to make it look like they are making a bigger error than they are making," he says. "The whole idea is to get them to do something about their problem. When you intervene you are helping them recover."

Other studies use robotics to train patients to use their arm movements in a more unpredictable environment. The idea is to mimic everyday movements that often are closer to chaotic than robotic patterns.

"When they get back to normal patterns, they would be close to what they see in a normal environment," Mukherjee says.

Other research has looked at acupuncture and its benefits in improving muscle function for stroke patients. Mukherjee said much of his recent work has centered on lower-limb movement for stroke patients. He studies how virtual reality helps stroke patients with posture and gait as they learn how to walk.

He notes that his research on lower and upper-limb rehabilitation can benefit Alzheimer's patients and veterans who have experienced traumatic brain injuries, in addition to those recovering from stroke.

A long-term goal is to get some of the robotics and virtual reality technology to the point where patients can undergo rehabilitation at home with small sensors and computers. As it stands, patients doing upper-limb rehabilitation are monitored while sitting in a chair.

"Where I see my studies going is to make it as cheap and affordable as possible," Mukherjee says. "We can get the data from home."

Robots That Do Right

Developed to detect land mines, UNO professor's robots now being developed for use in colonoscopies

by Nolan Searl,
University Communications



UNO Professor Raj Dasgupta

UNO Professor Raj Dasgupta has a thing for saving lives.

First, the College of Information Science & Technology faculty member designed land mine-detecting robots, a project completed in 2014 and now awaiting implementation through work with the Office of Naval Research.

More recently, Dasgupta has taken that technology and adapted it to the field of colonoscopies.

He and fellow researchers at the College of IS&T are working with the Center for Advanced Surgical Technology at the University of Nebraska Medical Center and College of Engineering at the University of Nebraska-Lincoln to develop a self-guided robot that can navigate through the large intestine during a colonoscopy procedure.

And it does so all on its own.

In detecting land mines, Dasgupta's robots are put into an enclosed area, map out their location and send data back. The concept for the colonoscopy robot is that it will be able to find the walls of the large intestine and navigate its way to the colon.

Unlike typical colonoscopy procedures, the doctor will not have to control the robot once it is inside the large intestine.

"It is going to be completely autonomous," says Jonathan Vazquez, a computer science major assisting with the project.

With UNMC's support, Dasgupta and his team of researchers received a Nebraska Research Initiative Grant in 2013 to fund his work related to colonoscopies.

The project is a team effort, with researchers at UNL designing the frame and mechanics of the robot, the team at UNO developing the self-guided technology, and UNMC providing medical expertise.

Dasgupta says most robots used in colonoscopy procedures today are powered by electricity and have wires that can get tangled once inside, especially near the bends of the colon. Dasgupta's robot, though, does not use any electricity. The cylinder-shaped robot, about the size of a golf ball, is attached to a tube and powered by an air compressor.

"Two years back we had no idea this would be powered by air," he says. "There was no literature about a colonoscopy robot being propelled by air."

UNO graduate student Bradley Woosely adds that the distance the robot has traveled can be determined by using algorithms to measure airflow and pressure in the tube, which is connected to a computer.

In addition to removing user error from colonoscopy procedures, the robot also could streamline daily operations.

"Right now, you need one doctor per patient," says research assistant Jose Baca. "With this you can have five or six patients all at the same time."

After nearly two years of development, a prototype has been created and tested on animal intestines. The team's next step is to find a camera for the robot that requires little to no energy.

Once the technology has been proven, Dasgupta says, they hope to also make a robot that can be used for endoscopy procedures.

CLASS NOTES

Send your class notes to
www.unoalumni.org/classnotes.
 Or, post your note on the UNO Alumni
 Association Facebook page:
www.facebook.com/UNOAlumni

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MARY M. HEUMANN

NORTHROP (BS) writes, "I still live in Hastings, Neb., where my son John and family live. I live a very active life and still drive my BMW. If there are any more from 'my era' at OU, I wish they would write to *UNO Magazine*. I was homecoming queen in 1942 and graduated in 1943. Congratulations to OU and all who helped it become the prestigious UNO!"



55

FRED ADAMS (BSBA), was

reunited with his OU football teammate Don McMahon at the 2015 National Senior Games — after 60 years of no contact. Thanks to a Class Note in the Fall 2013 issue of the UNO Magazine, Adams noticed McMahon was a fellow race walker and had medaled at the National Senior Games held in Cleveland. After researching online, he discovered that McMahon would also be attending the 2015 games in Minneapolis and made a point of seeking out his former teammate. Adams currently lives in Kansas City, Mo., while McMahon resides in Black Mountain, N.C.



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DON MCMAHILL (BSBA)

See Class Note for Fred Adams, 1955.

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FREDERIC GOTTSCHALK

(BS) moved back to Omaha from Scottsdale, Ariz., in March 2016 to be closer to his children and grandchildren. Going on 80 years old, Gottschalk has yet to retire. Currently he manages \$11 million in investments for 16 clients.
fgottschalk30@gmail.com

63

COLIN CILEY (BGE), lives in

Niceville, Fla., and writes, "Still enjoying retirement on the sunny beaches and golf courses of the Emerald Coast of Florida." wayfollower@cox.net

65

GERALD MANNING (BGE),

writes, "May this find all of the class of '65 prosperous and well. I am still working 60 or more hours per week: 30 as a part-time minister at Fincastle Presbyterian Church in Virginia and the rest in my housing renovation business. Since graduating from UNO, I've taken a degree in law and theology, have taught at the

American University of the Caribbean in Haiti for four years and did major traveling each year to different parts of the globe. Blessings be!"

geraldrmanning@hotmail.com

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LEONARD STEINER

(BGS) makes his home in Dothan, Ala., and recently finished his first fictional novel, "Climb Up the Steel Mountain." Steiner writes, "It is a medical roman à clef



typemotivational novel about a young man who struggles to become a prominent cardiac surgeon. He has a bad childhood, an alcoholic stepfather and must overcome a

very poor upbringing. He manages to finish medical school with the help of a benefactor and eventually accomplishes two heart transplants. It is a classic story similar to 'Arrowsmith.'" clmbstlmtm@yahoo.com

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MAX HOYT (BGS), partner lives in The Woodlands, Texas, and writes, "I want to express my appreciation to UNO for participating in the Bootstrap Program for military personnel completing a degree program. The university enabled me to continue my education in the military and also obtain an MEd from Pepperdine University. Upon retirement from the army my education credentials were never questioned. Entering the private sector I was blessed with further growth in association management and ultimately ownership of a successful family corporation for more than 20 years."
mhoyt@acesbuilderswarranty.com

71 LINDA PRIESMAN SMITH (BS) lives in Sun City, Ariz., and writes, "The last several years have been difficult at best. I was diagnosed with COPD nearly three years ago. My left shoulder needs to be replaced but I can't have any elective surgery since I probably wouldn't awaken after anesthesia. I have

sleep apnea so I wear a C-Pap mask on my face at night. And my pulmonologist recently discovered blood clots in both of my lungs. I was hospitalized four days and received blood thinner in my abdomen. This is no longer necessary but I take an oral medication." L.S.Smith@cox.net

75 MEL HARRINGTON (MSW) was elected treasurer of the 2016 Board of Directors of the Association of Social Work Boards (ASWB).



Licensed as a Certified Social Worker in Private Independent Practice in the state of South Dakota, Harrington has worked in child protection, a psychiatric hospital and a community health center over his career of 40 years.



76 PATRICK J. CONNELL (BS/CJ), joined the Office of the Nebraska Marine Vietnam combat veteran, was inducted into the Arizona Veterans Hall of Fame Society in October. The Hall of Fame is comprised of veterans who have continuously served their country and their fellow veterans by trying to improve their lives above what is offered by local social services and the Department of Veterans Affairs. Pat is the son of the late Air Force Colonel James S. Connell (BGS '58), former PAS of the Air Force ROTC program at UNO in the early 1970s.

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78

RONALD R. BROWN

(MS) makes his home in Derby, Kan., and writes: "I have served as a professional educator since 1975. I started my career as a teacher with OPS. I have served as a teacher, elementary principal, middle school principal and superintendent. I have been a substitute teacher for the past six years, retiring at last in Feb. 2015. My greatest professional honor was being selected the national distinguished elementary and middle school level principal from Kansas in 2003." ronbrown2@yahoo.com



stationed in South Korea from the mid-1960s to the early 1980s. Thoughtful with poignant reflections on life, it is peppered with humor from the dry to the slapstick. There is inspired drinking, creative pranking and sex — even romance. A native Omahan, McCoy joined the Air Force in 1962. He was stationed at Offutt AFB from 1978 to 1980. He completed his UNO degree during that time. After retiring from the Air Force in 1982 he wrote for various publications. See more about his career at musingsbymccoy.com. musingsbymccoy@gmail.com



81

MARIAN STANDEVEN

(BGS) was named executive director of mission integration at the College of Saint Mary (CSM). In her new position, Standeven will work to ensure that the CSM mission is integral to every decision and activity undertaken by the college. "It's truly an honor for me to join the College of Saint Mary community," said Standeven. "The rich Catholic tradition at CSM and the inspiring legacy of the Mercy heritage offer wonderful opportunities to make our mission and ministry alive in the world today."



79

ROBERT E. MCCOY lives in

Missoula, Mont., and recently published his first novel, "Tales You Wouldn't Tell Your Mother." "It uniquely chronicles the lives of American airmen

80

COLIN CAMPBELL (MS)

lives in Renton, Wash., and is an international cargo pilot for Southern Air, DHL. colcam3@gmail.com

IN MEMORIAM

A listing of alumni whose death the UNO Alumni Association has received notice of since Jan. 1, 2013. Years indicate graduation from UNO.

1949	Sam G. Leftwich	1964	Joan M. Koch	1974	Kenneth W. Jenkins	1989	James J. Novotny
	Joanne Scott-Miller	1965	Loretta E. Gordon	1975	John W. Wilke		Glenn H. Wines
1951	Carl J. Distefano		Gary K. Cline		Barbara J. Abraham	1990	Robert J. Tramp
	Richard E. Deuser		Edward A. Holyoke	1976	Sarah D. Anderson	1991	Margaret R. Macaitis
1952	Bernard R. Anderson		Gerardo R. Dominguez	1977	Gerald L. Rus	1992	Richard E. Alcala
	Sally A. Swancutt		Robert M. Iakisch		Timothy R. Thornton	1992	Curtis D. Freerking
1953	Don L. Fitch	1966	Vernon H. Wood		Joseph J. Warta	1993	Dorothy C. Hurley
	Rosemary Hae		Berthold J. Dold	1978	Willard L. Johnson		Geoffrey P. Goodwin
1954	Turner M. Tefft	1967	William J. Nelson		Victor Helbling	1994	Diane M. Farrell
1956	Von R. Trimble		Lawrence J. Zwart	1979	Joseph H. Hrdy	1996	Rosemary Lubbers
	Ronald S. Bojanski	1968	Walter W. Link		Mary S. Sadaj		Walter L. Taylor
1958	Rodlin E. Bunney		Eldon W. Pentecost	1980	Robert E. Rice	1998	Daniel J. Christensen
1959	John W. Johnette	1969	Patrick J. McCarthy	1981	Frank T. Peak	1999	Katherine T. Burke
1960	Robert D. Doverspike		Carlton L. Clark		Robert J. Broderick		Kimberly E. Sudbeck
	Ramona S. Pepper		William Sneckenberg	1982	Jeffrey A. Willard		Cheryl L. VanWinkle
1962	Ronald L. Witt	1970	Edward W. Maguire		William Robinson	2002	Michelle L. Peterson
	John M. Sheeran	1971	Rodney O. Johnson	1984	Richard J. Shea		
1963	George W. Sheppard		Gary D. Bailey		Theresa J. Urich		
	Robert T. Bianchi		Aileen R. Nystrom	1985	Julie A. Gomez		
	Nick J. Chiburis		Donna J. Smith	1986	Richard L. Paris		
	Vera E. Davidson	1973	Mae D. McGee		Joelyn Hopkins		

84

WALTER JAMES III (BS)

lives in Colleyville, Texas, and writes, "My daughter Delaney James started her first year at UNO in August 2015. She is a graduate of Ralston High School in Ralston, Neb."

walter.james@jamespolic.com

LORI SHOEHIGH WALSH (MPA) makes her home in Colfax, Calif., and was appointed director of human resources for Placer County in Northern California.

86

JONATHAN (J.B) SMITH (MS)

was appointed at the resident faculty director of the "THIS" (The Harrisburg Internship Semester) program for the Pennsylvania State System of Higher Education in Dec. 2014. In the program, each of the 14 PASSHE institutions sends one intern to Harrisburg for a one-semester time frame in which the students participate in a paid governmental internship.

88

GREG GUNDERSON (BS)

was appointed 17th president of Park University in Parkville, Mo., effective at the start of the spring 2016 semester. In his spare time, Gunderson



makes writing pens with a wood lathe, restores cars and enjoys the sport of curling.

95

WADE LEWIS (BSBA)

owns a custom screen printing and embroidered apparel company, Corporate Creations, that celebrated its 20th anniversary on Nov. 4.

01

BRAD CLARKE (MS)

was named director of curriculum operations for the University of Minnesota Medical School. Formerly Clarke was the curriculum coordinator.

clark722@umn.edu

03

JEREMY MORONG (BS)

released "The Legend of Hummel Park and Other Stories," a collection of nine short stories of the horror genre, including the urban legends that



revolve around Hummel Park in Omaha, Neb.



jeremymorong@yahoo.com

SHONNA DORSEY (BS), managing director and co-founder of Interface: The Web School, was named one of the Ten Outstanding Young Omahans (TOYO!) award winners for 2015. The TOYO! Awards, presented by the Omaha Jaycees, honor individuals 21 to 40 who show exemplary commitment to improving the community through selfless acts of kindness while excelling in their professional careers.

04

CRYSTALLE COTTON (BS)

took a course for General Industry Safety and Health from Occupational Safety and Health Administration (OSHA) in April 2015. Cotton also received a voluntary service certificate from the department of veteran affairs in St. Louis. crystalle.cotton@gmail.com

05

BRIAN ALLISON (MPA)

is the executive director of Children's Hospital and Medical Center in Omaha, Neb. Allison recently became a fellow of the American College of Healthcare Executives, the nation's leading professional society for healthcare leaders. Fellow status represents achievement of the highest standard of professional development — only 9,100 healthcare executives hold this distinction. He also is a member of the UNO Alumni Association Board of Directors.

ballison@childrensomaha.org

08

SHEENA KENNEDY HELGENBERGER (BA)

married Brett Helgenberger — whom she met at UNO in 2006 — on May 30 in Papillion, Neb. Six months later, Sheena became program director of Live Well Omaha Kids.

sheenamariel@gmail.com

10

ROGER GARCIA (BA)

executive director of El Centro de las Americas, was named one of the Ten Outstanding Young Omahans (TOYO!) award winners for 2015. See Shonna Dorsey entry (2004) for more about the awards.

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JULIE SEBASTIAN (MSW), president and CEO of New Cassel Retirement Center, was named one of the Ten Outstanding Young *Omahans* (TOYO!) award winners for 2015. See Shonna Dorsey entry (2004) for more about the awards.

11 SHANNON NORTON RICHARDS (MM) writes, "I will graduate in Dec. 2015 with a Master of Music in Carillon from the University of Kansas in Lawrence, Kan. My master's degree recital was performed in July 2015 and included music composed by Baroque as well as 20th and 21st century carillon composers. My passion for carillon was awakened while earning my first Master of Music (with an emphasis in Choral Conducting) degree at UNO." shannonrichards25@gmail.com

WENDY EVERSON (BA) is growing a private mental health counseling practice at Arbor Family Counseling in southwest Omaha and writes, "Thank you UNO for my education!"

08 MEGHAN MURDOCK KUVIN (BA) makes her home in Omaha and married Kyle Kuvín in September. The wedding was held at the Thompson Center at UNO.

12 TIM ROYERS (MA) was named the 2016 Nebraska Teacher of the Year. The award recognizes the state's top teacher for his or her skill, knowledge, dedication and ability to inspire students. Throughout the year, Royers will serve as an ambassador on teaching issues for the state and will be in the running for national teacher of the year.

13 TARA MESWARD (MS) is a board-certified Licensed Professional Counselor and recently earned international designation as a



Certified Eating Disorders Specialist. She has a private practice in Omaha and enjoys continuing her career in the city in which she grew up.

DANNY RERUCHA (BS) makes his home in New York and writes, "I am currently working as a production engineer at Blue Sky Studios, and I recently got my first feature film credit! Please go check out The Peanuts Movie if you haven't already. The film is unbelievably charming and was a pleasure to work on. My 500 coworkers and I thank you for your support!"

DannyRerucha@gmail.com

ANDRES TORRES (MBS), engineering project manager for Valmont, was named one of the Ten Outstanding Young *Omahans* (TOYO!) award winners for 2015. See Shonna Dorsey entry (2004) for more about the awards.

15 JOE MARINKOVICH (BS) is development coordinator with the Football for the World Foundation. The organization works with schools, sports clubs and community groups to help improve the quality of life of children across the globe through the game of soccer. "One initiative that we have been working on is starting the first soccer league in Kanungu Uganda," Marinkovich writes. "The league is for four different primary schools in the local Kanungu area. Football for the World will be implementing a 12-week program on leadership, various life skills and public health. In order to compete in the league the participants have to attend each weekly session." Marinkovich works with fellow UNO graduate Monica Bosiljevác, board president and operations manager at Football For The World. Both are former UNO soccer players.



Marinkovich, at left, with players from the first soccer league in Kanungu Uganda.



FUTURE ALUMS

Since 1991, the UNO Alumni Association has given more than 2,000 free shirts and bibs to the children and grandchildren of UNO graduates! Get YOUR child a new O baby! shirt today! Submit a birth announcement within 1 year of birth by completing the form at unoalumni.org/futurealums

AMELIA JANE ALDRIDGE, daughter of Jillian (Eisma, '11) and Max ('11) Aldridge of Omaha

BLAKELEE MAE FISCHER, daughter of Ryan and Jacquelyn (Hall, '10) Fischer of Blair, Neb.

MAXWELL JAMES HERMSEN, son of Robert and Jennifer (Morris, '13; '15) Hermesen of Omaha.

MAREN DANETTE FIELDS, daughter of Flip and Philip ('12) Fields of Omaha.

JACK MICHAEL STEGHERR, son of Laura and Christopher ('14) Stegherr of Bellevue, Neb.

GRACE MARIE EPPERSON, daughter of Allyson (Tejral, '13) and Levi ('12) Epperson of Omaha.

ELYSE LYNETTE GAULE, daughter of Jennifer (Ponec, '10) and Patrick ('07) Gaule of Omaha.

DREW ELIZABETH REEVES, daughter of Stephanie (Lewis, '03) and Josh ('04) Reeves of Papillion, Neb.

WILLIAM BRIAN MCMICHEN, son of Brian and Christina (Gawley, '10) McMichen of Madison, Wisc.

EMERSYN ELAINE SCHROEDER, daughter of Ryan and Mindy (Theilen, '04) Schroeder of Norfolk, Neb.

SAMUEL DEMPSEY COOPER, son of Kate (Dempsey, '07) and Sam ('09) Cooper of Lincoln, Neb., and grandson of Jeanne ('80) and Jerry ('80) Dempsey of Omaha.

JOSEPHINE ANNE CONWAY, granddaughter of Clare ('83) and Patrick ('84, '94) Prince of Omaha.

WILHELMINA GRACE PITSCH, daughter of Naomi (Seim, '06) and Nicholas ('06) Pitsch of Omaha.

ELWOOD JAMES BELT, grandson of Barry Stuart ('78, '87) of La Vista, Neb.

MARIAH KATHRYN MILLER, daughter of Amanda and Kyren ('04) Miller of Mandan, N.D.

BENNETT RYAN HOLUB, son of Jon and Megan (Hanner, '10) Holub of Omaha

ETHAN JAMES STRAIN, son of Jennifer (Frisbie, '08) and Daniel ('09) Strain of Omaha

LIAM MICHAEL CASEY, son of Cassie and Chris ('06) Casey of Omaha

NICHOLAS KAI MCFARLIN, grandson of Kathy (Welniak, '65) and Lyle ('63) McFarlin of St. Louis, Mo.

EASTON ALAN EPPENBACH, son of Matthew and Janet (Andersen, '07) Eppenbach of Ord, Neb.

MADISON MARIE JANDA, daughter of Emily (Kirkland, '11) and Kyle ('12) Janda of Omaha

CLASS NOTES WHAT HAVE YOU BEEN DOING SINCE GRADUATING FROM UNO?

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SIGHTS & SOUNDS

A look at happenings on and off campus

Flush with Success

Before any puck could go between the pipes, the pipes inside the walls of Baxter Arena needed to get their own kind of workout. In September, students, faculty, staff and alumni were invited into Baxter Arena for a special "Flush Off" where every faucet, fountain and toilet would be put to the test by turning them on and flushing at the same time. All participants received a free t-shirt and had a chance to sample Baxter Arena concessions. Five students also won a year supply of toilet paper and a Maverick swag bag from Student Involvement.



Dogging Finals

Things went to the dogs during De-Stress Fest, a weeklong programming series designed to help students take a break and ease

the stress of finals week. That included time at Pet-a-Puppy and a free snack — free puppy chow (for students).



Dance Fest

UNO's Indian Student Association, established in 2001, hosted its first-ever Navratri-Garba, a festival dedicated to the worship of the Hindu deity Durga.



Diplomas in December

More than 1,100 UNO students made history of their own and for the university Dec. 18, receiving diplomas while becoming the first graduating class to hold commencement in Baxter Arena. See more Page 2





House Warming

UNO alumni got a sneak peek at Baxter Arena before it hosted its first-ever Maverick athletic contest during an open house Oct. 8 — and they liked what they saw. An estimated 3,000 alumni and guests attended the arena preview, some walking away with freebies including hockey puck hats.



Battling in Boats

It's bigger and Battlier than ever — the annual Battleship fight in the HPER pool has become an annual and popular UNO Homecoming tradition. Students compete to flood opposing team canoes with water. The last team floating wins.



Going Corporate

The UNO campus once more was host to Omaha's Fight for Air Corporate Cup, a run attracting nearly 6,200 people and raising almost \$310,000 to benefit the American Lung Association. The course included runs on UNO's Center, Pacific and Dodge campuses.



Be Well, Durango

UNO held its annual Health & Wellness Fair in the HPER building, featuring affordable blood draws, free screenings, free chair massages, more than 70 vendors, door prizes and food.



Test your brainpower with these puzzles created by UNO graduate Terry Stickels ('76). An author, speaker and puzzle maker, Stickels' *FRAME GAMES* is published by *USA Weekend* magazine and in 600 newspapers. He has three new puzzle books being published by Dover Publications later this year: "Savage Sudoku," "The Big Brain Puzzle Book" and "Challenging Math Puzzles." For more information on Stickels, or to order any of his books, visit www.terrystickels.com

Mathematics

Two-thirds of a pound of cheese is balanced perfectly by one-third of a block of the same cheese. What is the weight of the whole block of cheese?

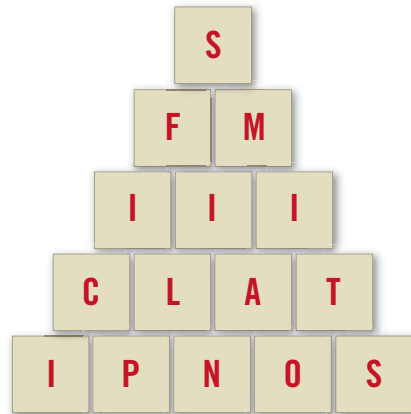
Logic

You are a prisoner sentenced to death. The emperor offers you a chance to live by playing a simple game. He gives you 50 black marbles, 50 white marbles and 2 empty bowls. He then says, "Divide these 100 marbles into these 2 bowls. You can divide them any way you like as long as you use all the marbles. Then, I will blindfold you and mix the bowls around. You then can choose one bowl and remove ONE marble. If the marble is WHITE you will live. But if the marble is BLACK ... you will die."

How do you divide the marbles up so that you have the greatest probability of choosing a WHITE marble?

Wordplay

Below is a scrambled 15-letter word known to all. It begins with "S" and ends with "S." See how long it takes you to come up with this simple, straightforward word, but most often accelerating, will not have the capacity at any point T in time, to attach itself to any bryophyte."



Puzzles taken from "The Big Brain Puzzle Book," created by Terry Stickels for the Alzheimer's Association.

ANSWERS
 MATHEMATICS: Two pounds. The two-thirds of a pound of cheese is equivalent to one-third of a block of cheese, so multiply by three to find the whole block: 3 X 2/3 pounds = 2 pounds.
 LOGIC: Place 1 white marble in one bowl, and place the rest of the marbles in the other bowl (49 whites and 50 blacks). This way you begin with a 50/50 chance of choosing the bowl with just one white marble, therefore life! BUT even if you choose the other bowl, you still have ALMOST a 50/50 chance at picking one of the 49 white marbles.
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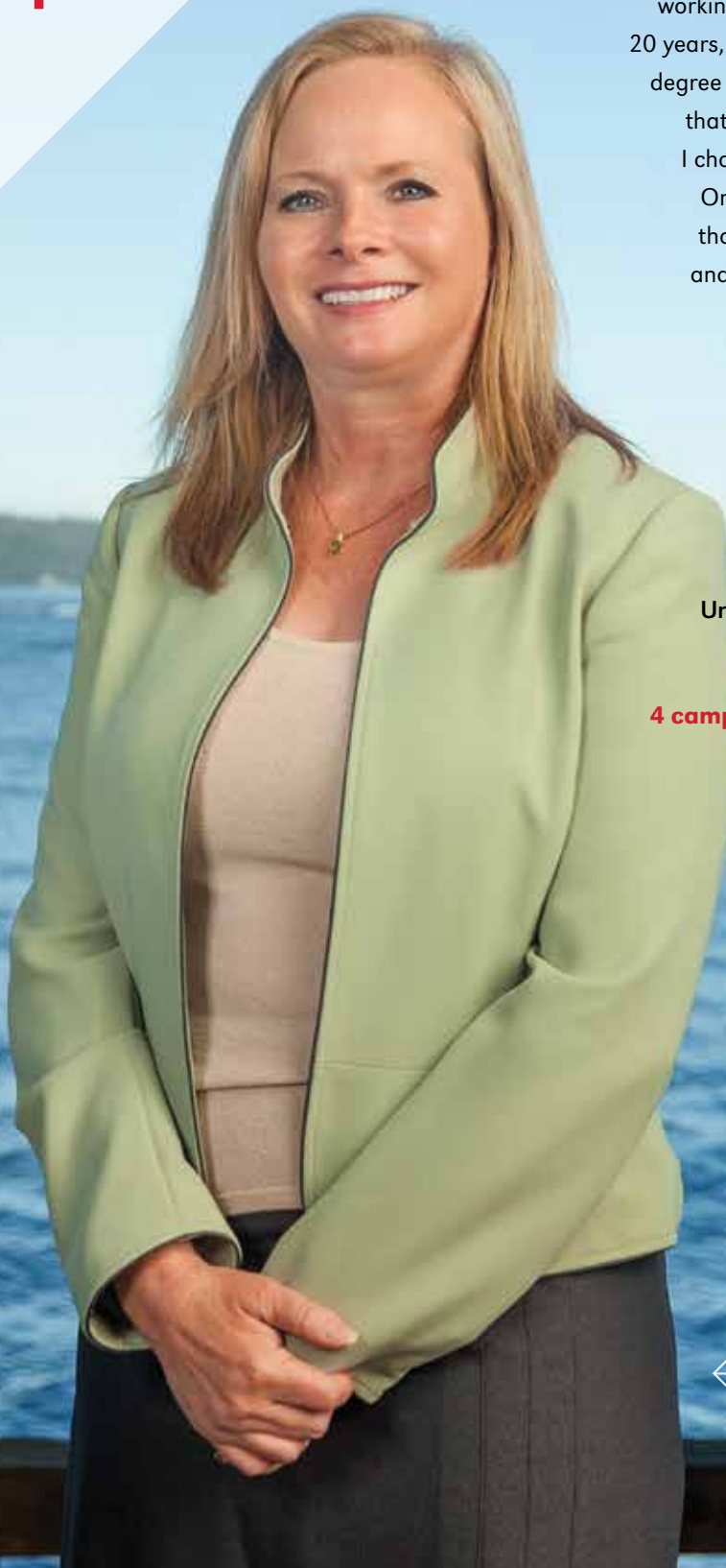
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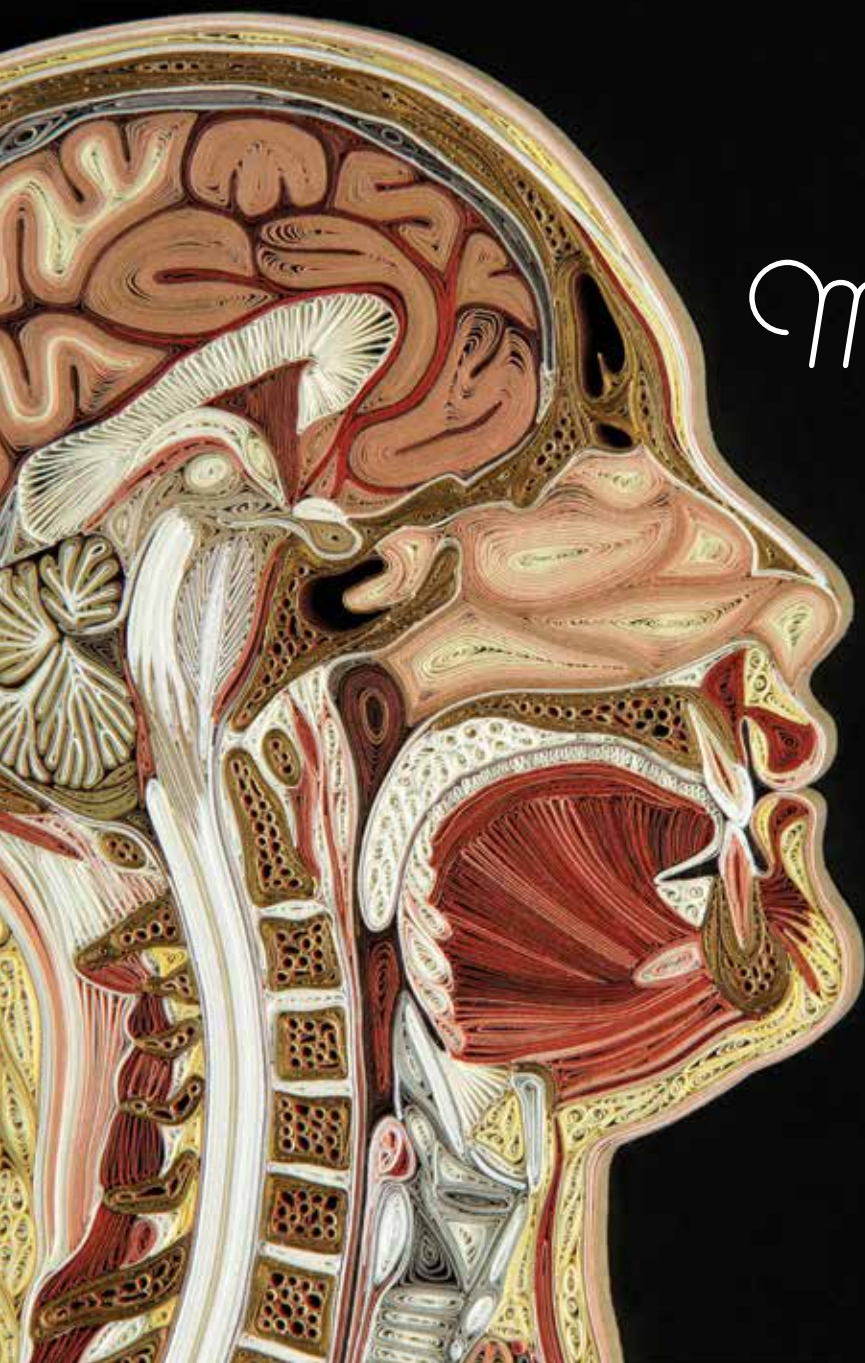
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Unraveling the Mysteries of the Body

The surprising ways UNO students, faculty and alumni study—and help—the amazing human machine

28 The Eyes Have It

The new Jack and Stephanie Koraleski Commerce and Applied Behavioral Laboratory (CAB Lab) is a state-of-the-art research facility tracking human responses.

32 Beast Mode

UNO alum Jorge Zuniga uses a 3D printer to develop low-cost prosthetic limbs for children.

44 Toxoplasmosis

A look at Paul Davis' research into a single-celled parasite that could be controlling your brain.