The Wright Move

Former Wildcat Jason Wright goes from running back to running the Washington Football Team. p. 28
A Fond Farewell
Parents watch a group of new Wildcats head out on campus following the March Through the Arch ceremony during Wildcat Welcome in September. After a year of COVID-19 restrictions, Wildcat Welcome introduced the Class of 2025 to the foundational elements of Northwestern, while members of the Class of 2024, who missed out on face-to-face experiences last year, took part in a modified program known as Wildcat Welcome Back.
Last October, for the first time in perhaps 180 years, a traditional Native American birch-bark canoe was launched into Lake Michigan from the shoreline along the Evanston campus. During the course of three weeks last fall, Mino Giizhig Wayne Valliere, artist-in-residence at Northwestern’s Center for Native American and Indigenous Research, shared the Native American craft of canoe building with students. A member of the Ojibwe tribe, Valliere (bottom row, third from left) is one of only a few builders of traditional birch-bark canoes in the U.S. The canoe, launched briefly during a sunrise ceremony, will be on display at Northwestern.
“We can invigorate traditional forms of theater by inviting the audience into a totally different relationship with the work. I like to say that I make boring things sexy.”

— Mara Lieberman ’98 MA, right, director of Voyeur: The Windows of Toulouse-Lautrec

Cover: Jason Wright. © Scott Taetsch — USA Today Sports

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Rhythm & Snooze
We know good sleep promotes good health (and vice versa). Now, researchers from across Northwestern’s schools and disciplines are bringing together sleep science, circadian biology and technology to help us better understand the importance of a good night’s rest — and get more of it.

By Clare Milliken

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Widening the Arch
Increased financial aid has made a Northwestern education more accessible and fueled a transformation of the student population.

By Sean Hargadon

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Better Books for Kids
Alumni entrepreneurs help diversify children’s literature.

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Swim Like a Butterfly
Italian swimmer and Northwestern junior Federico Burdisso flies through the pool on his way to two Olympic medals in Tokyo.

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Home Away from Home
Dwight White II ’16, ’17 MS creates new art for the new Black House.

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We Will Update
Celebration!
The end of a remarkable campaign

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Swim Like a Butterfly
Italian swimmer and Northwestern junior Federico Burdisso flies through the pool on his way to two Olympic medals in Tokyo.

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Talk Back

BATTLING GLOBLASTOMA

Great article (“Outsmarting the Deadliest Brain Cancer”) fall 2021. I found the science writing in plain English, without “science-y” jargon at the expense of clarity, and with thoughtful commentary on the human toll of this disease. Clare Milliken seems to have understood the topic, radios. And condolences to Ned Smith’s family. What a brave man. I hope he has lost his experience in the face of such a devastating disease.

Heather Collins ’91 MBA Evanston

Editor’s Note: We are honored that Ned Smith was willing to share his story with us. Unfortunately, Smith’s tumor recurred last summer, and he transitioned to hospice care in September. He died on Sept. 25, 2021. The magazine extends its deepest sympathies to his family, friends, colleagues and anyone who knew and loved him. Please see his obituary on page 75.

MISSION TO MARS

This is an informative and investigative article that addresses some of the challenges of a manned mission to Mars (“So Far Yet So Close,” fall 2021). However, it leaves unanswered the question that I have come to regard as the quintessential understanding about this project — why?

Why would we want to spend as much as $2 trillion to visit a planet that is deadly in so many ways and has nothing of value on it?

Is the answer to “why” to be found in the contracts that would need to be created with a private industry to build the hardware to sustain life in space and on Mars? There is no reason to expend resources to take people to Mars. Our destiny is on this planet, where we evolved. We should take care of our only home.

Robert Jacobsen ’77 Los Angeles

IDENTIFYING CONCUSIONS

If Rosina Samadani’s EyeBOX (“Identifying Concussions,” page 57, fall 2021) can be delivered in a small, economical, user-friendly way, and with a bare minimum of false positives and negatives, every high school, college, emergency room and ambulance should have one!

Jon van Caanten Tujunga, Calif.

MENTAL HEALTH

The Other Side of the Strong Black Woman

By Inger Burnett-Zeigler

This past summer, women’s tennis star Naomi Osaka and Olympic gymnast Simone Biles launched a movement in women’s mental health by choosing not to compete in order to care for their mental health.

For far too long the emotional pain of Black women has been ignored. Compared with other race and gender groups, Black women experience more stress when it comes to work, finances, family responsibilities, racism, sexism, discrimination and trauma. The COVID-19 pandemic, combined with the civil unrest in response to highly visible police killings of Black people, paled onto that extant stress and exacerbated mental health challenges.

Black women have traditionally coped with their stress and trauma by wearing their “strong Black woman” cape, which empowers us with the resilience necessary to do what we need to do, day by day, to simply make it in the world. However, these caps veil the detrimental effects that stress and trauma can have in our lives.

Both Osaka and Biles courageously defied this strong Black woman mandate, which requires all-enduring strength, self-sacrifice and the denial of emotions such as depression and anxiety. Instead, they provided an example of how to pay attention to our feelings, prioritize our needs and set boundaries in service of mental wellness, even if it is an inconvenience to others.

Though Osaka and Biles are premier athletes with wide-reaching platforms, in many ways they are no different from the Black women I see in my outpatient psychotherapy practice at Northwestern Medicine. I work with women who are struggling with lasting trauma related to sexual abuse, poverty, chronic instability and exposure to violence. This trauma shows up in their daily lives as persistent fear, worry, feelings of insecurity and shame.

Many Black women take with adulthood and learn to deal with being “the first” or “the only” in white spaces. These women sense that they don’t belong and describe the feeling to be perfect, so that they set a good example and don’t let down those who depend on them. In my work, these false positives and negatives, every high school, college, emergency room and ambulance should have one!

Jon van Caanten Tujunga, Calif.
**Our Beautiful Campus**

What place at Northwestern brings you joy?

- **Michael Weidemann '74**
  - Alice Millar Chapel! The stained-glass windows are awe-inspiring, and the organ and choir provide an amazing accompaniment during services. I was part of a group of students, faculty, alumni and townpeople who formed the Church in the Chapel, an interdenominational Christian community that worshipped and studied together and tried to live out our faith in the world. My wife and I were married in the adjoining Leaune Vall Chapel, and our daughter was baptized there. What a wonderful place to nourish one’s soul!

- **Gaye Miyasaki '78**
  - Northwestern had one of the most beautiful campuses I attended. One of my favorite spots was the Shakespeare Garden. I loved reading books in the garden, which was near my dorm, McCalloch Hall. It was a beautiful, serene place in the fall and the spring. I recently looked up the garden online and was pleased to see that it has been refurbished. It looks wonderful and is definitely still a gem!

- **Robert Lillienfeld ‘76, ’76 MBA**
  - It’s an early evening on a Friday in spring. You’re finished with classes for the week and have just eaten dinner at Elder Hall. You and a few friends grab a drink, head over to the rocks and sit along the lake with your legs hanging over the edge. There’s a warm onshore breeze washing over you. The gulls above are squawking, some dogs at the nearby frat houses are barking, and your stress melts away. On a warm spring day, before the alevines washed ashore, that spot was heaven.

- **Jacob Munoz ‘21**
  - Whether it was painting on large rocks along the shore, partying to thundering Dillo Day concerts or just gathering with friends, many of my great memories on campus took place on the Lakefill. Even on the most crowded summer days, the area has a true serenity to it. There’s nothing quite as special as listening to crashing waves while viewing the Chicago skyline or watching the dark blue horizon give way to a bright orange sunrise.

- **Catherine Scholl ’86**
  - No place on campus is more special to me than the Old Music Administration Building. Everything from the creaking floors that gave way as you walked on them, to the smell of oil carefully applied to ease the bones of the century-old wood banisters, to the cavernous rehearsal rooms that connected to others like a cave system — it all made me feel like the artist I was becoming. Often I would close my eyes and “feel” the building through a cacophony of piano, flute, clarinet and other instruments, all performing beautiful concerts of their own. It brought me fullness and peace, and it’s etched in my memory and heart forever.

- **Claire Adama Wang ’03**
  - “Still have the winter coat I was wearing when I painted the Rock in 2000. I got paint on my sleeve and I smile every time I see it.”

**SOCIAL FEEDS**

As Northwestern welcomed the Class of 2025, alumni chimed in to cheer them on and reminisce about their favorite times on campus.

**SOUND OFF**

- **Seretha D. Williams '92**
  - In the end, my story isn’t really about twists of fate. It’s about a university committed to solving big problems. SNAs can actively enter cells, cross biological barriers and serve as the basis for new genetic medicines. The inspiration for SNAs came to me during a conversation with chemistry professor Joe Hupp. We’d heard a talk about trying to make colloidal crystals from nanoparticles, using small molecules to bond the particles together. In nature, colloidal crystals control the color of butterfly wings, for example. In the lab, they can be used to create a wide variety of optical devices. That got me thinking: DNA has the highest information content of any polymer, so we could use it as a programmable bond. Our research here has made all the difference too. One case in point: the development of spherical nucleic acids (SNAs), which are nanoparticle structures modified with bits of DNA or RNA. Due to their unique size and structure, SNAs can actively enter cells, cross biological barriers and serve as the basis for new genetic medicines.

- **By Chad Mirkin**
  - Director of the International Institute for Nanotechnology and the George B. Rathmann Professor of Chemistry

**Illustration by Bruce Morser**

**Using Small Science to Solve Big Problems**

Several fortunate twists of fate led me to Northwestern. As a high school student in rural Pennsylvania, I was interested in math and science. While my brothers had pursued physics, medicine and geology, I wanted to chart my own course. At Dickinson College, I chose to study chemistry.

I landed at Northwestern in 1991 thanks to persistence and a bit of luck. I reached out to the chemistry department several times until, finally, professor Jim Ibers said there was an unexpected opening. He invited me in the next week, and it was the best interview I ever had. The vibe, environment and faculty were perfect for what I wanted to do: build a world-class laboratory that would push the frontiers of inorganic chemistry. When I arrived on campus, I had the freedom to try new things. The materials science and engineering department had a scanning probe microscope, a tool used to determine the topology of surfaces at the atomic scale. I had never even seen one before, but I taught myself how to use it. Before long we had built one of the largest scanning probe operations in the world, which enabled the rapid growth of nanotechnology at Northwestern and led to the invention of techniques that have revolutionized aspects of materials discovery.

The collaborative nature of research here has made all the difference too. One case in point is the development of spherical nucleic acids (SNAs), which are nanoparticle structures modified with bits of DNA or RNA. Due to their unique size and structure, SNAs can actively enter cells, cross biological barriers and serve as the basis for new genetic medicines. The inspiration for SNAs came to me during a conversation with chemistry professor Joe Hupp. We’d heard a talk about trying to make colloidal crystals from nanoparticles, using small molecules to bond the particles together. In nature, colloidal crystals control the color of butterfly wings, for example. In the lab, they can be used to create a wide variety of optical devices. That got me thinking: DNA has the highest information content of any polymer, so we could use it as a programmable bond. Our research here has made all the difference too. One case in point: the development of spherical nucleic acids (SNAs), which are nanoparticle structures modified with bits of DNA or RNA. Due to their unique size and structure, SNAs can actively enter cells, cross biological barriers and serve as the basis for new genetic medicines.

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Seattle — all good “middle-of-the-night movies.”

The Rewatchables, a roundtable of Ringer regulars who break and, occasionally, Bachelor Party, Jam Session, and, herself, including Nora Ephron. An insomniac, Litman has fallen asleep hundreds of times to You’ve Got Mail, Sleepless in Seattle — all good “middle-of-the-night movies.”

Some of her all-time favorites are the romantic comedies of Nora Ephron. An insomniac, Litman has fallen asleep hundreds of times to When Harry Met Sally.

Here are four more things Litman loves:

• New York City’s Upper West Side, where she grew up: “It’s like a small town in a big city.”
• The theatrics of pro sports: “After all, my parents named me after basketball star Julius Erving.”
• Kobe Bryant: “When he took Brandy to his high school prom, it was a sensational collision of basketball and pop culture.”
• An ER binge watch on Hulu: “The show and young Georiga Clooney still hold up. And it has that nice Chicago connection!”

“Over the course of billions of years, nature has designed seeds with very sophisticated aerodynamics. We borrowed those design concepts, adapted them and applied them to electronic circuit platforms.”

John Rogers, the Louis A. Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Neurological Surgery, to Smithsonian Magazine about his microfliers.

“(Workers are) trying to recover some sort of protections and rights in the workplace, where they have virtually none. Once you realize the extent of the problem, it’s hard to look away.”

Daniel J. Galvin, associate professor of political science, to NBCNews regarding research that shows Latino and Black workers are much more likely to be paid below minimum wage than white workers.

“We know added stress can negatively impact our overall health and well-being, but for women and people who menstruate, stress can also disrupt normal menstrual cycle patterns and overall reproductive health.”

Nicole Wol福特ich, research assistant professor at the Feinberg School of Medicine, to Forbes about a Northwestern study that showed 54% of respondents had experienced changes in their menstrual cycle since the pandemic began.

“If I did not see it for myself, I would not have believed it. ... It’s almost crazy in my mind.”

Rui Yi, the Paul E. Steiner Research Professor of Pathology and professor of pathology and dermatology at the Feinberg School of Medicine, to The New York Times about his surprising discovery that hair loss is caused by stem cells escaping from hair follicles.

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“As we look at the secret behind artists’ hot streaks, we identify the elements that drive success and explore the stories behind these creative phenomena.”

The secret behind artists’ hot streaks. p. 10

Our Next President

Rebecca Blank, who will become Northwestern’s 17th president, is a renowned economist, researcher and public servant.

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Northwestern’s first woman president. She will succeed Morton O. Schapiro, who has served as president since 2009.

“Northwestern is a school that I have known and admired for years,” Blank says. “Its reputation as a top-rated educational and research institution has grown each decade. It will be my mission to make sure the institution’s reputation and quality continue to accelerate.”

“The Presidential Search Committee met with an incredibly competitive pool of candidates and unanimously recommended Rebecca Blank to the Board for election as our 17th president,” says Peter Barris ’74, chair of the Presidential Search Committee and a vice chair of the Board of Trustees. “As part of our process, we heard from all segments of the University community, and I believe Chancellor Blank’s deep experience and talents will support our current needs and position us for a promising future.”

As UW–Madison chancellor, Blank has advanced the institution’s mission of research and innovation, emphasizing the university’s role in nurturing entrepreneurship and driving economic development. She also oversees a research portfolio that brought in $1.5 billion in sponsored research funds this past year.

Blank has championed expanded access to higher education during her time at UW–Madison, notably through Bucky’s Tuition Promise, an initiative that guarantees four years of free tuition to Wisconsin resident students whose household adjusted gross income is $60,000 or less. Under Blank’s leadership, UW–Madison’s student body became more diverse across multiple demographics.

“Her big vision for the University’s role in the world and her proven ability to lead a collaborative academic research enterprise will guide our institution toward greater eminence and impact.”

A member of the American Academy of Arts and Sciences for almost two decades, Blank was named a 2021 Distinguished Fellow of the American Economic Association in recognition of her lifetime research contributions. Her research has focused on the interactions between labor markets, individual behavior, government policy and the macroeconomy.

Blank is also a leader in Division I athletics, serving on the NCAA Board of Governors. She is chair of the Big Ten Conference Council of Presidents and Chancellors.

Blank served as acting secretary of commerce and deputy secretary of commerce under President Barack Obama ’06 H. She also was a member of the Council of Economic Advisers under President Bill Clinton, a senior staff economist on the council under President George H.W. Bush, and a Robert S. Kerr Senior Fellow at the Brookings Institution.

Blank, who received a bachelor’s degree in economics from the University of Minnesota and a doctorate in economics from the Massachusetts Institute of Technology, is married to Hanns Kuttner, a senior fellow at the Hudson Institute. Blank has two daughters, Emily, who graduated from Northwestern in 2018, and Madeleine, a senior at Northwestern.

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**PASTEL DE NATA**

*Portugal*

There is so much food that I miss from Portugal, but my ultimate favorite— the thing that I buy first at the airport cafe as soon as I land—is the pastel de nata (Portuguese custard tart). This is not to be missed for other versions that exist in some Asian countries. Pastel de nata is filled with a sugary egg paste. It is best eaten warm, with a bit of cinnamon. Everyone who travels to Portugal should try it.

*Diogo Costa, McCormick School of Engineering Junior*

**BOEREWORS**

*Eswatini, formerly Swaziland*

I really miss boerewors (South African sausage). It is literally the best food on Earth. We usually have boerewors with pap (soft porridge made from cornmeal) and chakalaka (spiced vegetable relish), a killer combination. When we have our braais (barbecues), there are always stacks of boerewors on the grill. My dad is usually in charge of the grill during the braai. Boerewors reminds me of home and summer, just good vibes while being surrounded by family and playing great music.

*Viyawat Mnymetotui, McCormick School of Engineering Junior*

**NYAMA CHOMA**

*Kenya*

The food I miss the most is nyama choma (roasted meat in Kiswahili). It is usually great or bad. This popular dish can be found throughout Kenya, from roadside shacks to fine-dining restaurants, and is often paired with local beer and side dishes such as ugali (cornmeal or cassava flour porridge) and sukuma wiki (collard greens and spaghetti). Nyama choma reminds me of traveling to the countryside with my extended family over Christmas break and enjoying a meal together.

*Adele Makholi, School of Communication Junior*

**BAOZI**

*China*

I miss everything my grandparents cook, especially baozi (steamed buns filled with carrots and lamb, tofu, beans and pork, or other meats and vegetables) and xiaolongbao (soup buns). I only remember us making baozi together when my extended family—grandparents, cousins, aunts and uncles—were all there. While playing with my cousins, I would run to the big table and watch my grandma teach everyone how to make them. As a little girl, I would ask the adults to teach me— but I would make something that looked nothing like a baozi. Sometimes my grandma would help me fix it. Other times, she would cook it just the way it was and then proudly proclaim it “the special one.” Every time I see baozi, it reminds me of my big family.

*Sherry Xu, School of Communication Senior*

**DOUKKOLKI**

*South Korea*

A popular street food, dükkökkı is made with rice cakes and gochujang (red pepper paste) and often has add-ins like Vienna sausages, cabbage or fish cakes. It’s always a treat to indulge around a food cart with friends on a cold night and eat dükkökkı. My mom makes really good ones (recipes online are always too sweet), and I’ve developed my own recipe while at Northwestern!

*Allison Rhee, Medill School of Journalism, Media, Integrated Marketing Communications Junior*
**Testing His Medal**

Northwestern junior and Olympic medalist Federico Burdisso leads Italy’s swimming surge.

Federico Burdisso made Northwestern history when he claimed two Olympic medals in Tokyo last July.

The Italian swimmer became the first Northwestern athlete in 66 years to medal at the Olympics while enrolled at the University and the first Wildcat to medal since Matt Grevers ’09 earned two golds and a silver at the 2012 Games.

Burdisso, of Pavia, Italy, placed third in the 200-meter butterfly in Tokyo. He and his teammates also took bronze in the 400-meter medley relay.

Italy had won just 20 swimming medals in its Olympic history before Tokyo.

“We’re going in the right direction,” says Burdisso, the Italian record holder for the 200-meter butterfly. “We were the best. ”

His Olympic performance will carry over to the Northwestern pool.

“Federico is a world-class student-athlete who has proven himself at the highest level of our sport,” says Katie Robinson, Northwestern’s director of swimming and diving. “His Olympic medals are a testament that you can find success at the top in both athletics and academics at Northwestern.”

In international competition, I wonder, "Why am I racing with the best swimmers? But when you’re in the water, you don’t really think about that anymore. You just give your best.”

In 2021 the city of Evanston, the first U.S. municipality to approve a plan to repair centuries of educational inequities, became the first to study on the Evanston campus while enrolled at Northwestern.

**Reparations Study**

In 2021 the city of Evanston became the first U.S. municipality to approve a plan to pay reparations to Black residents affected by discriminatory housing policies and practices. African American studies assistant professor Kihana Miraya Ross has received $250,000 from the Spencer Foundation to study and document the effects of the reparations program on Black students’ education in real time.

“In recognizing the debt owed to its Black residents and pledging actual dollars toward repairing centuries of educational inequities, Evanston is in unchartered waters,” says Ross. “The world will be watching.”

The project will inform Ross’ second book.

**Global Connections**

Benjamin Mwangi, a Northwestern University in Qatar junior, helps promote the life-changing work of an alum’s Chicago-area nonprofit.

When Kim Weisensee Brown ’08, ’09 MS needed content creation help for her Chicago-based nonprofit, she turned to Northwestern to find an intern. To her surprise, she found the perfect fit more than 7,000 miles away: Benjamin Mwangi, a junior at Northwestern University in Qatar.

Mwangi, who is from Nairobi, Kenya, completed a remote internship last summer, developing infographics and video for Brown’s website and social media channels. Brown’s nonprofit, Centrally Human, teaches equity and inclusion techniques to high school students nationally to help them reach their career and leadership potential.

Mwangi appreciates the opportunity to help empower teens. “I’m here on the other side of the world and hopefully I’m able to make a difference in someone else’s life,” he says.

“As an alum,” Brown says, “it’s so cool that I get to work with this student who’s a global citizen and an incredible video producer to tell the story of how we’re helping high school students be more inclusive.”

Mwangi and Brown will likely meet in person for the first time when he travels to the U.S. as part of the Evanston Communication Exchange Program, which invites Northwestern-Qatar communication students to study on the Evanston campus during the winter and spring quarters.

**Turn Up the Radio**

Northwestern’s student-run radio station, WNUR 89.3, turns 72 this year. In spring 1950 the station began broadcasting using a 10-watt transmitter with a range of 5 to 7 miles beyond Northwestern’s campus. By 1975 WNUR had acquired a 7,200-watt transmitter, extending its reach to a wider Chicago-area audience.

In the early 1970s WNUR introduced groundbreaking programming through “Fillet of Soul” and “BlackNUss,” shows that celebrated Black culture and provided outlets for discussion. In 1972 the station hosted a discussion on race relations at Northwestern; jazz and funk music shows, such as “Love from the South,” and news and information programs, such as “Third World Report.”

Today the station serves as a forum for underrepresented music and ideas while offering students the chance to hone their broadcasting skills.

**Cat Tales**

Federico Burdisso is the first student-athlete in 66 years to medal at the Olympics while enrolled at Northwestern.

**Benjamin Mwangi**
The Secret to Creating a Masterpiece

Researchers discover that periods of boundary-pushing exploration followed by spans of intense focus lead to artistic and scientific breakthroughs.

Before developing his famed “drip technique,” abstract artist Jackson Pollock dabbed in drawing, printmaking and surrealist paintings of humans, animals and nature. According to a new Northwestern study, this period of exploration followed by a period of intense focus on his new drip technique set Pollock up for a “hot streak,” or a burst of high-impact works in close succession. Pollock’s hot streak lasted from 1947 to 1950, during which he created all his drippy, splattered masterpieces for which he is best known.

By using artificial intelligence to mine big data related to artists, film directors and scientists, Northwestern researchers discovered this pattern is not uncommon and in fact results from an extraordinary formula. Hot streaks, they found, directly result from years of exploration (studying diverse styles or topics) immediately followed by years of exploitation (focusing on a narrow area to develop deep expertise).

“Although exploration is considered a risk because it might not lead anywhere, it increases the likelihood of stumbling upon a great idea,” says Dashun Wang, professor of management and organizations at the Kellogg School of Management, who led the study, “By contrast, exploitation is typically viewed as a conservative strategy. If you exploit the same type of work over and over for a long period of time, it might stifle creativity. But, interestingly, exploration followed by exploitation appears to show consistent associations with the onset of hot streaks,” he says.

In 2018 Wang and his colleagues published a paper in Nature that identified hot streaks in individual careers of artists, film directors and scientists. After establishing that hot streaks do occur on an individual basis, Wang was motivated to discover what triggers them. He found a clue while visiting the Van Gogh Museum in Amsterdam. Van Gogh experienced an artistic breakthrough from 1888 to 1890, during which he painted his most famous works, including The Starry Night, Sunflowers and Bedroom in Arles. Before that, however, his work was less impressionistic and more realistic. He also tended to use somber earth tones rather than the bright colors he favored later.

“If you look at his production before 1888, it was all over the place,” says Wang, who is director of Northwestern’s Center for Science of Science and Innovation.

In the new study, Wang’s team developed computational methods using deep-learning algorithms and network science to examine large-scale datasets of 800,000 visual arts images, 79,000 films and 20,000 scientists.

Wang and his collaborators quantified a hot streak within each career based on the impact of works produced, measured by auction price, film ratings and academic paper citations. Then they correlated the timing of hot streaks with the creative trajectories of each individual. Looking at careers four years before and after a hot streak, the researchers examined how each individual’s work changed around the beginning of a hot streak.

The team found that when exploration was not followed by exploitation, the chance for a hot streak was significantly reduced. Similarly, exploitation alone — that was not preceded by exploration — did not guarantee a hot streak. But when exploration was closely followed by exploitation, the researchers noted the probability of a hot streak consistently and significantly increased.

With this new understanding about what triggers a hot streak, institutions can intentionally create environments to help their members thrive.

With this new understanding about what triggers a hot streak, institutions can intentionally create environments to help their members thrive.

MEDICINE
To Your Health

1. If you’re concerned about a skin lesion, ask your dermatologist to check your entire body — not just that one spot. A Northwestern Medicine study found doctors are more than twice as likely to find skin cancer when performing a full-body exam. In a medical record review of more than 1,000 patients, more than half of the skin cancers discovered were not where the patient thought they were, according to Murad Alam ‘06 MD, ‘15 MBA, vice chair of dermatology at the Feinberg School of Medicine. “If the dermatologist did not check the patient’s entire body, these skin cancers would have been missed,” says Alam, who led the study. About 5 million people a year are diagnosed with skin cancer.

2. About 20% of people in the U.S. with diabetes do not know they have the disease. But if the disease can be identified early on, diet and exercise interventions can help. Sadiya Khan ‘05, ’09 MD, ’12 GME, ’16 GME, an assistant professor of medicine at Feinberg, says it’s important to screen for diabetes with a common blood test known as a hemoglobin A1C (HbA1C) test. “Physicians are always telling people to ‘know your numbers,’ which has historically been about blood pressure and cholesterol, but it should [also] include HbA1C,” Khan says.
NATURAL DISASTER RELIEF

With wildfires becoming ever more frequent and dangerous, Kevin Kaspar, a sophomore manufacturing and design engineering major, and his team developed InfernoGuard, a first-of-its-kind wildfire detection system. The device attaches to a tree and measures air quality, temperature and other environmental data to determine whether a wildfire is present. The team tested the device in Yosemite National Park in July 2021 and will test it again in a prescribed burn setting at Yosemite this winter.

INVENTION

The Equal Opportunity Book Box

Jacob Jordan ’20, ’21 MS was an avid reader as a child and grew up loving books. So when he took Education and the Inheritance of Social Inequality at Northwestern, Jordan was shocked to learn that two-thirds of low-income children in the U.S. don’t own any books. What’s more, children’s literature severely lacks diversity: “In 2018 77% of all children’s books featured either white people or animals,” Jordan says. That inspired Jordan to launch the Equal Opportunity Book Box (EOBB), a monthly subscription service that delivers picture books featuring characters of color, LGBTQIA characters, and/or characters with disabilities. The New York Times recommended EOBB in its 2020 Holiday Gift Guide for Kids.

SHARING THE STORIES

Every month, subscribers receive a box of three picture books featuring characters from underrepresented communities. For every book sold, EOBB donates a book to a child in need through Beanie’s Book Bank, which provides books to underserved children in Chicago.

SUPPORT FROM THE START

Jordan, Stephanie Shin ’21 and senior Anthony Cruz launched EOBB with the help of Northwestern’s student entrepreneurship hub, The Garage. “The support that they’ve offered has been immeasurably important,” Jordan says. In 2021 EOBB won first place in the social impact and nonprofit industry track of The Garage’s VentureCat startup competition.

TELLING IT HOW IT IS

“One of my favorite pieces of feedback is from a mom in Utah,” Jordan says. “She was upset with the school because they were trying to sugarcoat some topics in the curriculum. She really appreciated that our books were realistic and honest about the diversity that exists in the world but also the racism, sexism and homophobia that exist too.”

Thinking Outside the Box

EOBB offers books for children ages 0–2 and 3–7 and is expanding to ages 8–12. “Down the road, we’re hoping to publish our own books written by people with nontraditional life experiences,” says Jordan, “such as incarcerated people and refugees and teenagers, to bring other perspectives into the picture-book space.”

EDUCATION

Can You Dig It?

Mechanical engineering professor Kevin Lynch partners with the Field Museum on Fossil Canyon, a dinosaur-themed educational card game for families.

After his young twins had endured months of remote learning due to the pandemic, Kevin Lynch noticed the kindergartners, Erin and Patrick, were having trouble staying interested in their educational activities.

Lynch, professor of mechanical engineering and director of Northwestern’s Center for Robotics and Biosystems, and his wife, Yuko, began brainstorming ways to help their children engage with science lessons. To study dinosaurs taped onto the cards. It became clear the idea could grow beyond the Lynch family.

“The kids were more than just play-testers,” says Lynch. “They enjoyed being part of the creative process.” When the twins felt sad having to give up a favorite fossil card during an “exchange” phase of the game, for example, the family decided to make the game “a bit friendlier,” he says.

To take it to the next level, Lynch contacted Nathan Martel, a graphic designer with whom he had worked before. Martel created cards with drawings of each skeleton, realistic images of the dinosaurs, essential factoids and even a pronunciation guide. The Lynches then struck up a partnership with the Field Museum and worked with Akiko Shinya, the museum’s chief preparator of fossil vertebrates, who serves as the project’s science adviser.

After a successful Kickstarter campaign, the team brought Fossil Canyon to life, allowing families to have fun together while the children — and adults — learn something along the way.

“It’s really been amazing — my kids know so much about dinosaurs and geology now,” Lynch says. “Paleobiology is not my specialty, but anything that gets kids excited about science works for me.”
NORTHWESTERN RAISED MORE THAN $6 BILLION THROUGH ONE OF THE MOST SUCCESSFUL CAMPAIGNS IN THE HISTORY OF HIGHER EDUCATION.

We did it.

Thanks to a community of alumni, parents and friends from around the world — 174,380 to be exact — We Will. The Campaign for Northwestern brought in an awe-inspiring $6.1 billion. Donors gave a total of 626,796 gifts of all sizes to areas across the University through the ambitious fundraising initiative, proving that every gift really does matter.
"We Will" Update

Committed to Excellence

“We are extremely grateful to our community of generous and dedicated supporters who invested in Northwestern through the Campaign and helped the University achieve new heights,” says University Trustee Paula B. Pretlow ’77, ’78 MBA, “We Will” Campaign co-chair. “Our collective support will continue to propel our students, faculty and staff forward and shape the Northwestern University of tomorrow.”

The Campaign also was highlighted by a series of transformative gifts. In 2015 the University received its first gift of more than $100 million, from Roberta Buffett Elliott ’54, followed by landmark commitments from Louis A. Simpson ’58 and Kimberly K. Querrey, the Patrick G. ’59, ’09 H and Shirley W. Ryan ’61, ’19 H Family, and the Pritzker Foundation. Additionally, the University announced in September 2021 a $480 million gift from the Patrick G. and Shirley W. Ryan ’51, ’79 H Family, and the Pritzker Foundation. The Campaign also was highlighted by a series of transformative gifts.

Broad Support

Donors from 116 countries made gifts during the Campaign. Each year, more than 10,000 alumni, parents and friends participated in the Campaign as members of the Northwestern University Leadership Circle, which recognizes donors who make cumulative annual gifts of $1,000 or more. Over the course of the Campaign, 76,092 donors also were members of NU Loyal, a giving society that recognizes donors who support the University year after year. Those donors included Dorothy Ruby Saxe ’46, who has given to Northwestern in each of the last 76 years — the most of any donor on record.

As an immature, 16-year-old freshman, I learned about and grew to appreciate art, music and literature at Northwestern. It’s where I made lifelong friends and grew up,” Saxe says. “It never occurred to me that one did not support one’s alma mater, so I started and never stopped. I’m proud to see what a world-class university NU has become.”

Volunteers were critical to the University’s success, helping to raise funds and hold 62 Campaign events in 30 cities — 14 cities within the United States and 16 abroad — engaging 4,943 unique attendees.

Every Gift Matters

84% of all Campaign gifts were contributions of $1,000 or less

58% of all Campaign gifts were contributions of $100 or less

97,421 donors made their first gift to the University during the Campaign
Ryan Family Caps Off Campaign with Extraordinary Gift

The Patrick G. ’59, ’09 H and Shirley W. Ryan ’61, ’19 H Family has given the largest single gift in University history to conclude the record-breaking “We Will” Campaign. The $480 million gift will accelerate breakthroughs in biomedical, economics and business research and enable Northwestern to construct a best-in-class athletics venue for the University community.

“Our family has long been committed to supporting areas of strategic importance to Northwestern — from the arts, humanities and sciences to basic research and clinical care,” Pat Ryan says. “Our philanthropy also has focused on helping our undergraduate, graduate and professional school students to reach their full potential regardless of their financial circumstances.”

The new gift will support several areas of the Feinberg School of Medicine, including the creation of the Ryan Family Digital Health Fund, which will focus on digital medicine technologies to improve human health. The fund will facilitate the development of an interactive digital application to assist parents in employing sensor programs for measuring neuromotor performance in infants as well as support the creation of a sustainable and accessible library of diverse and unique health datasets. The gift also will create a new institute that will dramatically advance Northwestern’s distinctive scholarship in the field of neuroscience. Additionally, the Ryan Family Catalyst Fund will facilitate promising medical research by scholars who have the potential to make an important impact on human disease.

Further, the Ryan’s gift will endow the existing Institute for Global Health, to be renamed the Robert J. Havey, MD Institute for Global Health in honor of Robert J. Havey ’80 MD, ’83 GME, ’84 GME — the institute’s deputy director and clinical professor of general internal medicine and geriatrics at Feinberg — and establish the Ryan Family Center for Global Primary Care within that institute.

“Northwestern’s world-class scientists and innovative interdisciplinary approach to research have tremendous potential to advance treatments and tools that can improve the lives of people in the U.S. and globally,” Shirley Ryan says. In addition to supporting human health, the Ryan’s gift will endow a Center for Applied Microeconomics, solidifying Northwestern’s leadership position in economics while fueling research with the capacity for significant social and policy impact. The gift will benefit the Kellogg School of Management as well.

The Ryans were already the largest benefactors in Northwestern’s history before this new gift. They have made broad and deep philanthropic investments across the University, supporting academic programs, students, research and teaching, and facilities. In addition to Ryan Field, they have made possible campus athletics landmarks such as Ryan Fieldhouse and Welsh-Ryan Arena. They also have created prominent academic facilities, including Patrick G. and Shirley W. Ryan Hall, the home of the International Institute for Nanotechnology; lab and research space within the Robert H. Lurie Medical Research Center (Chicago campus); and the Patrick G. and Shirley W. Ryan Center for the Musical Arts.

A total of 90 endowed professorships were created as well, helping the University to attract and retain top faculty across a wide range of disciplines — from screen- and stage-writing to biomedical engineering.

Significant Impact
Gifts raised during the “We Will” Campaign are providing vast opportunities for Northwestern students and advancing programs across the University. A total of 37,825 donors gave $636.3 million toward financial aid, including $235.3 million for undergraduate scholarships, and created 534 endowed scholarships and fellowships that will support generations of students. Northwestern has significantly increased financial aid for its undergraduate students — from $106 million in the 2010–11 academic year to $209 million in 2020–21 — and eliminated loans for undergraduate students.

Graduate student stipends also were increased to enhance the quality of life for graduate students. The University Fellowship rate rose from $20,928 in 2010–11 to $33,504 in 2020–21, and the Graduate Assistantship rate rose from $21,576 in 2010–11 to $33,504 in 2020–21.

International student scholarships expanded during the Campaign too. Nineteen new endowed scholarships for international undergraduate students were created as part of the Buffett Matching Challenge for International Student Scholarships, a matching gift challenge supported by Roberta Buffett Elliott ’74.

Supporting Students

2,807 students received funds from the Summer Internship Grant Program

$7.1M raised for COVID-19-related initiatives, such as emergency student assistance, community initiatives and research

$96.5M raised in support of 184 initiatives focused on diversity, equity and inclusion (DEI)
Throughout the “We Will” Campaign, donors supported initiatives that advanced and expanded Northwestern’s research enterprise. Newly established research institutes and centers include the Kimberly K. Querrey and Louis A. Simpson Institute for Bioelectronics and the Ronald and JoAnne Willsen Center for Nano Oncology. Relatedly, more than $2.8 billion of funds raised were designated to Northwestern Medicine, helping to drive high-impact clinical innovation, accelerate cutting-edge scientific discovery and educate the next generation of medical leaders. The Louis A. Simpson and Kimberly K. Querrey Biomedical Research Center, which officially opened in June 2019 as the largest new building solely dedicated to biomedical research at a U.S. medical school, is facilitating scientific discoveries that will translate to better care for patients in Chicago and worldwide. Altogether, “We Will” Campaign funds supported the construction of 25 new facilities and 32 major renovations in Evanston and Chicago — impacting the lives of the entire Northwestern community, from undergraduate and graduate students to professors and researchers. (See “Building a Better Northwestern,” opposite page.) The record-breaking “We Will” Campaign raised nearly four times the amount of the University’s previous campaign, “Campaign Northwestern,” which brought in $1.55 billion. To learn more about the impact of the “We Will” Campaign or to make a gift, visit giving.northwestern.edu.
A NEW GAME PLAN

Former Wildcat running back Jason Wright thought his football days were over until the Washington Football Team gave him a chance to transform the franchise as its new president.

BY ELLIOTT SMITH
I念 not an exaggeration to say that Washington, D.C.'s NFL franchise has built a reputation for controversy over the past 20 years. The team's owner since 1999, Daniel Snyder is known as one of the most litigious people in the capital region. The organization’s former name, the Redskins, had drawn rebuff from Native Americans and others who pointed out the racist origins of the moniker and logo. In 2021 the NFL concluded an investigation into the franchise’s workplace culture amid accusations of sexual harassment. Members of the cheerleading squad filed a lawsuit against the team for secretly producing inappropriate videos during swimsuit calendar shoots.

So when the franchise fired former team president Bruce Allen in late December 2019, many wondered who would step up to fill the role. Some in Jason Wright’s inner circle advised him to think twice about the opportunity to lead the transformation of the renamed Washington Football Team. But Wright, a former NFL running back and one of the top 10 rushers in the renamed Washington team's history, had been one to shy away from a challenge. His combination of on-the-field NFL experience and corporate boardroom chops made him an ideal candidate to guide the team’s cultural and business transformation.

In December 2020, Wright was named the “Best Hire of 2020” by Street & Smith’s Sports Business Journal. NBA superstar Kevin Durant, a native of Maryland and passionate Washington Football Team fan, applauded Wright on Twitter. And so far, the fan base seems happy with the work of a president who has been transparent about the changes, big and small, to their favorite team.

HIT THE GROUND RUNNING

Admittedly, Wright’s hiring raised some eyebrows. After all, he’d never held any front-office position in the sport. Plus, he was a contemporary of some older players still in the league. But Wright had begun building an excellent reputation at Northwestern, where he was named the “Best Hire of 2020” by Street & Smith’s Sports Business Journal. Wright proved to be multitalented and had been an instantaneous hit with fans and in the locker room. “It was the first time I wasn’t the best of the best at something,” he recalls. “It was a very humbling moment.”

But that didn’t mean he wasn’t making an impact on the team. “When Jason wasn’t starting, he and I were both on the scout team,” recalls former Northwestern quarterback Brett Basanez ‘05, ’06 MA. “He was so talented. He could do it all. When he was on the field, you knew something good was going to happen. He had an amazing ability to make everyone better.”

By his second year at Northwestern, Wright had signed a multi-million dollar contract and become a full-time member of an NFL radio broadcast. And in the Washington, D.C. area, every move made by the team is often met with either skepticism or hostility, something strange happened under Wright’s watch. People actually liked the things he and his newly installed team were doing. In December 2020, Wright was named the “Best Hire of 2020” by Street & Smith’s Sports Business Journal. NBA superstar Kevin Durant, a native of Maryland and passionate Washington Football Team fan, applauded Wright on Twitter. And so far, the fan base seems happy with the work of a president who has been transparent about the changes, big and small, to their favorite team.

SLOW START, BIG FINISH

Jason Wright’s professional accomplishments often obscure the fact that he was an excellent football player, particularly at Northwestern, where he currently ranks seventh all-time in rushing for the Wildcats, with 2,825 yards. Wright was also retained Julie Donaldson, who was a kick returner and wide receiver in his first two seasons, catching nine passes for 60 yards and carrying the ball just three times. But he earned the starting nod at running back his junior year and blossomed, breaking out with a 106-yard effort against the Naval Academy and rushing up 196 yards and four touchdowns against Indiana University for a three-win Wildcats team. Wright wrapped up his Northwestern career with a stellar senior campaign, rushing for nearly 1,400 yards, scoring a conference-leading 20 touchdowns and delivering two monster performances in his final games: 291 yards against the University of Illinois and 237 yards against Bowling Green State University in the Motor City Bowl, both of which rank between the top 10 for single-game rushing records at Northwestern.

“Like a lot of athletes, it just took Jason a while to come into his own,” says Brett Basanez. “He was so talented. He had an amazing ability to make everyone better.”

Wright became captain of the football team in his senior year and twice earned first-team Academic All-American honors. But when asked what the most important part of his collegiate experience is, Wright says there’s no Black text. It was meeting Tiffany Braxton ‘07, a School of Education and Social Policy student whom he married in 2008. Wright also credits the student-athlete experience and the Black community at Northwestern for helping to shape his worldview.

“The Black community was especially vibrant, thoughtful and formative for me, especially my discussions with fellow Black students about the broader issues,” Wright says. “Just being around other brilliant Black folks is always energizing. I don’t think I really understood the value of those experiences at the time. That network of folks has helped me get on my feet as a first-time chief executive.”

Wright’s professional success came as no shock to his friend and
“The entire economy does better if the racial economic gap is closed,” Wright says. “Even taking this job with the Washington Football Team, I looked at it as an opportunity to enact that vision of equitable distribution of capital while creating social good. It just happened to lead me back to sports, fortuitously, at the right time.”

**HIGH-WIRE ACT**

When Wright visited the Washington Football Team training camp in Richmond, Va., in summer 2021, he couldn’t go more than 50 feet without being questioned about the team’s new name. Wright announced in July 2021 that the name wouldn’t be Warriors or any other moniker that references Native American or Indigenous iconography. The team plans to have its new identity in place early in 2022, in time for the franchise’s 90th anniversary celebration.

That’s just one of two polarizing issues Wright faces in his new position. The other is deciding where the team will play in the future, with Virginia, Maryland and Washington, D.C., all jockeying for the team when its FedEx Field stadium lease ends in 2027.

Wright, for his part, is looking to create a world-class entertainment venue that will uplift the surrounding community as well.

“For a 39-year-old brother from L.A., whose life has been focused on economic equity, especially through a racial lens, it’s very rare that someone like me gets to deploy that amount of capital,” he says.

While Wright’s appointment was groundbreaking, he’s also aware of the realities that Black managers and executives in professional sports often face. Studies have shown that they usually have shorter tenures than their white counterparts. And if they are fired, rarely do they get a second chance.

Blake says Wright wouldn’t let fears of that scenario stop him from taking on this opportunity.

“This is a once-in-a-generation, transformational opportunity,” Blake says. “There has never been a Black NFL president before now. When you think about how you can provide equity, how you can truly change the game, how you can create opportunities, especially for people of color and women, how do you not pursue something like this? His success is going to open up doors for so many who come after him.”

Wright is well aware that all eyes are on him. But he hasn’t let that stop him from bringing his unique perspective and experience to the Washington Football Team.

“I don’t want to blow this opportunity, because I don’t want people to be like, “We’re not going to give a brother the keys to the kingdom again. I definitely don’t want that,” he says.

“The only pressure I put on myself is: Don’t mure yourself, don’t water yourself down. When I’m trying to solve a problem around trying to increase our season ticket base, for example, I want to bring my Blackness, I want to bring my background as an economist, I want to bring my nearness, I want to bring my experience as a former player. I want to bring all those aspects of who I am to the forefront. One of those aspects of my identity might have the key to solving this problem. And that’s just my set of experiences.

“To me, that’s the power of assembling a diverse team — you get to better answers.”

**Elliott Smith ’97** is a freelance writer and **Children’s book author**. He lives in Falls Church, Va., with his wife and two children.
It’s so slight, you don’t even feel it coming. You might feel a bit fuzzy, weightless, buoyant. It’s subtle — in the initial stages, your heart rate dips and your muscles relax. Before your brain waves become even slower, your body temperature falls. Finally, brain activity speeds back up, but your limbs are temporarily paralyzed and your eyes begin to dart behind your eyelids. Over the next several hours, this cycle will repeat at relatively regular intervals. Until your alarm blares from your nightstand.

We may regard sleep as a period of pure rest and rejuvenation, but it’s so much more. And while we often hear that we need seven to nine hours per night, there’s more to that story as well.

“Sleep health is multidimensional,” says Kristen Knutson, associate professor of neurology and preventive medicine at Northwestern’s Feinberg School of Medicine. “It’s sleep duration — are you getting enough sleep? But it’s also quality. It can also be timing. You could be getting what you think is a decent quality of sleep, and you might think that you’re getting enough sleep, but you don’t feel rested at the beginning of the day.”

The effects of insufficient or poor-quality sleep go far deeper than our energy level the next morning. As Northwestern researchers have shown, sleep is a key component of our cardiovascular, metabolic and cognitive health. In short, improving sleep can help us live longer, healthier lives.
THE MECHANISMS OF SLUMBER

If you’ve been up since 7 a.m., you might notice that with each passing hour after dinnertime, you feel more tired and ready for sleep. By midnight, you’re likely dreaming — or hoping to be doing so soon. This natural drive to sleep is known as sleep homeostasis, and it is one of the key mechanisms controlling sleep.

“Sleep homeostasis is a fancy word for something very simple: The longer you’ve been awake, the easier it is to fall asleep,” Knutson says.

Sleep is also controlled by the circadian clock, a 24-hour pattern naturally synchronized to the cycle of daylight and darkness. You can think of the circadian clock as your internal timekeeper, which, ideally, aligns with the time of day or night — so-called external time. That grogginess you experience after pulling an all-nighter or the jet lag you feel after flying from Rome to Chicago is due in part to your circadian clock being out of sync with external time.

The central circadian clock is in the hypothalamus region of the brain. Our pattern of sleep and wakefulness — the sleep-wake cycle — is one output, or rhythm, of our circadian system. (Our pattern of hunger and fullness, the so-called feed-fast cycle, is another.)

In recent decades, researchers at Northwestern and elsewhere identified that there are also circadian clocks in the pancreas, the liver and many other tissues. Controlling specific functions like insulin secretion, DNA repair and even stress response, these peripheral clocks are like musicians in an orchestra. The central circadian clock in the brain is the conductor, giving cues to the clocks throughout the body to stay in sync as much as possible. The “conductor” clock can fall out of sync, as we experience when we fly across time zones, and so too can the peripheral “instrument” clocks.

“Circadian biology refers to the 24-hour regulation of every physiological process in our bodies, and the sleep-wake cycle is just one of them,” says Fred Turek, the Charles and Emma Morrison Professor of Neurobiology at Northwestern’s Weinberg College of Arts and Sciences. When clocks are misaligned, so-called circadian disruption can lead to negative health outcomes. At the same time, insufficient sleep and poor-quality sleep are risk factors for a whole host of ailments from hypertension to depression.

More than half the genes at the heart of the central circadian clock were identified by Northwestern’s Center for Sleep and Circadian Biology (CSCB), which Turek directs. Marsha Holtz Vitaterna ’93 PhD, a neurobiology research professor at Weinberg and CSCB deputy director, discovered a mutation in a mouse that helped identify the first molecular piece of the clock in mammals: the so-called Clock gene.

“Twenty-five years ago, these were really two separate fields,” Vitaterna says of circadian biology and sleep science. While she acknowledges that some sleep issues may not be circadian-driven, “it almost becomes a chicken-and-egg question because, especially with humans, it’s very, very hard to mess with circadian rhythms and not mess with sleep. And conversely, it’s very hard to mess with sleep without messing with circadian rhythms.”

In the early 1990s, Turek recognized that understanding the role of circadian biology in the sleep-wake cycle could help researchers shed light on the role of the circadian system in health and medicine more broadly. He set up a rodent sleep laboratory at Northwestern, and within a few years he and his team had earned millions of dollars in research funding.

“I would argue that Northwestern University has played a major role in integrating the two fields into what is almost one field today,” says Turek.

In a 2005 study, Turek worked with Joseph Bass, the Charles F. Kettering Professor of Medicine at Feinberg, and his team to discover that when an animal’s Clock gene is abnormal, the animal is more likely to become obese than an animal with a normal Clock gene eating the same food.

“That told us there was some connection between the genes controlling the sleep-wake cycle and the circadian clock and obesity,” Bass says.

They also found that disrupting circadian rhythms was connected to the development of a metabolic syndrome consisting of symptoms related to cholesterol and glucose levels and fat accumulation in the liver and abdomen.

“So is it circadian disruption or sleep loss contributing to health problems?” Turek asks. “The answer right now is both.”

A T H E A R T O F I T

If you’re walking in the woods and come upon a bear, your body’s autonomic nervous system — your fight-or-flight response mechanism — kicks into high gear.

“This is evolutionary. I want my autonomic nervous system to respond in a way that, if this bear slashes me, I don’t bleed out. I want my heart rate to go up so that I can prepare to run,” says Mercedes Carnethon, the Mary Harris Thompson Professor of Preventive Medicine and vice chair of that department at Feinberg. “Not sleeping well is a stressful situation, and when you’re under a lot of stress, your body is preparing for a fight by raising your blood pressure, raising your heart rate, making your blood more likely to clot.”

And when blood pressure stays high as a result of prolonged stress, Carnethon explains, the lining of the blood vessels suffers abrasions, triggering an inflammatory response that narrows the arteries and can lead to heart attacks and strokes.

“There’s a lot of experimental work that has shown that even a week of sleeping only four or five hours a night changes your autonomic nervous system,” Knutson says.

In a national four-site research project called Coronary Artery Risk Development in Young Adults (CARDIA), Knutson and Carnethon linked short sleep and poor-quality sleep to higher blood pressure and a greater increase in blood pressure over five years among non-Hispanic black and white adults. Being a short sleeper was associated with a buildup of calcium in the coronary arteries and, in men, a thickening of some arteries. All of these, Knutson says, are risk factors for cardiovascular disease.

Carnethon acknowledges, though, that sleep and stress have a bidirectional relationship. “Nonrestful sleep is both a cause of stress and a consequence of stress,” she says. “It’s a total feedback loop.”

So too is the connection between poor sleep and our behaviors in response to our stress and our sleep loss: moving less throughout the day, eating less nutritious food, increasing caffeine intake — all of which may affect our risk for disease. “Short and poor-quality sleep can influence the risk of chronic diseases directly, through changes in biological pathways and mechanisms, and indirectly, through changes in the behaviors that you use to cope with nonrestful sleep,” Carnethon says.

In 2017 Carnethon found that sleep may explain some of the racial disparities in cardiovascular and metabolic diseases between African Americans and European Americans. Carnethon and Knutson are now studying the impact of sleep...
on racial disparities in blood pressure control among 2,200 young people across four cities: Birmingham, Ala.; Chicago; Minneapolis; and Oakland, Calif. “Hypertension is the most commonly diagnosed medical condition in the country and the primary source of Black-white disparities in stroke, heart failure and chronic kidney diseases,” Carnethon says. “And we know that there are gaps in blood pressure control between Blacks and whites that aren’t explained by medication-use behaviors. We want to understand the extent to which the known differences in sleep are contributing.”

**Boosting the Brain**

“We’ve all felt brain fog after a late night or an overseas trip.” That cognitive slump, Knutson says, is itself a health risk. “We can’t discount that if you’re really sleepy, you’re more likely to have an accident,” she says, “or maybe you don’t take your medication properly.”

We may not notice these deficits, or we may think we’re overacting our physiology. “There’s this phenomenon where, if you’re not getting enough sleep long-term, you start to feel used to it and you don’t necessarily feel sleep deprived,” says Vitaterna. “But if you do some sort of performance test, you are experiencing detriments from that long-term sleep debt even though you’re not feeling sleepy.”

Studies in mice have shown that even mild sleep deprivation can affect well-being with psychological stress. According to Turek, poor sleep may be a contributing cause of both post-traumatic stress disorder and depression. After disrupting sleep with mice for five days, Turek and Vitaterna exposed mice to an aggressive male mouse. (The sleep-disrupted mice were inside a safety cage within the “bully” mouse’s cage. “No violence, no bloodshed,” Vitaterna assures.) After just five days of insufficient sleep, the mice were much less able to recover from the stress of an encounter with the aggressor. “And we saw changes in their sleep patterns that are reminiscent of what happens with PTSD,” Vitaterna says.

“If you’re in a war fighter situation and you haven’t had enough sleep — if your rhythms are disrupted — and then you’re subjected to a traumatic stress event, are you more vulnerable to developing PTSD?” Turek asks. “The answer seems to be yes.”

Turek adds that some studies show sleep loss often precedes the onset of depression. “To me that means it’s a causal factor,” he says. In an article in the journal Sleep, Turek cited longitudinal studies that suggest that episodes of depression can manifest about five weeks after insomnia. “The hypothesis here is not only that disordered sleep can bring on depression, but we’re at the very early stages of being able to monitor circadian rhythms.”

A test called Time Signature aims to do just that. Developed by Zee and others, the test measures gene expression markers in the blood to detect whether a person’s internal circadian clock is out of sync with external time. Requiring two blood draws, the test could indicate issues with the clock controlling sleep, but it could also determine whether clocks in other tissues are misaligned.

“This is a first step toward providing a time-based biomarker for circadian timing — and it isn’t just for sleep,” Zee said on Feinberg’s Breakthroughs podcast, adding that Time Signature could help address hypertension and diabetes and even optimize medication dosing and timing.

Resynchronizing a misaligned clock is another challenge altogether, and Northwestern researchers are hard at work on that front too. Supported by the Defense Advanced Research Projects Agency, a national research team led by Jonathan Rivnay, assistant professor of biomedical engineering at Northwestern’s McCormick School of Engineering, is developing a wireless, implantable device capable of resynchronizing a misaligned circadian clock and significantly reducing the time needed to recover from disrupted sleep. (The team also includes Turek, Vitaterna, Zee and Weinberg neurobiology research assistant professor Peng Jiang, among others.)

Integrating bioelectronics and synthetic biology, the so-called living pharmacy device could be invaluable to shift workers, military and medical personnel, and people traveling across time zones. The integration of otherwise disparate fields of research also holds great potential.

“When this program is large enough, you can definitely envision that if we prove out some of these concepts, it could open up applications in a number of other areas,” says Rivnay, citing depression and pain management. “It is giving us the opportunity to target something specific right now with an eye on potentially having an even broader impact.”

For Turek, who has seen the fields of circadian biology and sleep science intertwine over decades, understanding how our circadian clock affects our health — including and beyond our sleep — will usher in the next frontier of medicine.

“People talk about precision medicine,” Turek says. “But without understanding the 24-hour rhythmicity, there will never be precision medicine.”

Clare Milliken is senior writer and producer in Northwestern’s Office of Global Marketing and Communications.

IMPROVING SLEEP

Blood tests and devices to detect and remedy sleep issues may be on the horizon, but there are also other ways to improve sleep — starting tonight.

**Be Consistent**

“As much as your schedule allows, try to go to bed around the same time every night.” says Kristen Knutson.

**Seize the Sunshine**

Getting light during the day can help you sleep deeply during the night, says Phyllis Zee. But at bedtime, make the room as dark as possible with black-out curtains, or wear an eye mask.

**Get Quiet**

Drown out noise beyond your bedroom with earplugs or a white-noise machine. “A box fan can also work,” Knutson says.

**Move Around**

People who exercise are more likely to sleep better, Zee says.
Dwight White II’s new mural in the renovated Black House is about what you can see — and so much more.

INTERVIEW BY MARTIN WILSON
PHOTOGRAPHS BY SHANE COLLINS
You came to Northwestern as a student-athlete. How did you discover your artistic side? Painting was one of the things that came about as I was trying to redefine and explore myself while also battling mental health issues. Art was the thing that got me out of dark places. I actually started painting during my senior year at Northwestern, just before I graduated. I took an intro to painting course, and that's the only painting class I've ever taken. 

What did the Black House mean to you during your time at Northwestern? The Black House was one of the places on campus where I knew I could see people like myself. I don’t know what the percentage of Black students was when I was in school, but it wasn’t likely that you’d just bump into each other on campus. So the Black House was that home away from home. It was a place where I got fed sometimes when I probably didn’t have a ton of money on my Wildcard. There were friends there. I was also on the board of FMO — that’s For Members Only [Northwestern’s Black student alliance] — so I went to the Black House twice a week for our meetings. It was a significant space for me, even more so after my football career ended.

What kind of research did you do before beginning your work on the mural? It was important for me to engage our community as much as possible, even though we were in a pandemic and couldn’t be in the same room. The conversations I’ve had with students, faculty, and even alumni about the Black House have been fairly consistent. The common perception is that the Black House is a home on campus. And it’s something that we aim to protect.

Some students talked about how they always feel like they’re striving to not only improve but prove themselves. I also heard from students about having confidence, feeling like they — we — belong here and can excel and exceed. I found those conversations inspiring and empowering.

Can you describe the mural’s design? There are three subjects on the piece: One represents the past, one the present — looking directly out from the canvas — and one the future. It’s important for me to have both male and female representation as well. I see super powerful, strong Black women leaders on campus. And I know there’s a ton of men, like myself, who also play a significant role in this space. That was the general concept.

The one thing that doesn’t necessarily come through in this piece is the celebration of ourselves as Black Northwestern students. So I literally wrote “celebration” on the canvas, along with other insights that I felt were a part of the story. Celebrating moments on campus with peers, teammates and loved ones are memories I cherish.

How do you prepare the canvas before you work on the main design? I typically add a bunch of symbolism to the piece as my first step. I’ll add words that come to mind that are related to the piece. It helps me understand where I am on the canvas but also gets my creativity flowing. Sometimes that comes through in the final work, and sometimes all of it is hidden. It helps me, especially on larger pieces, map out where I am. You spend so much time right up in front of the piece and don’t step back for hours at a time.

What are some of the words or symbols used as inspiration or “underpainting” in this case? I wrote things like “Time is now.” I wrote and put emphasis on “Black.” There are thoughts about the Black House and my experiences that you won’t see in the final version of the mural. But the thing about that process is that it lives on the canvas, behind the finished concept. And for this project, we documented the entire process, so you’ll actually be able to see the underpainting. It won’t go completely unnoticed, which typically it does in my final work.

What do you hope people see when they experience your mural in the Black House, both today and in the future? When people come into the Black House, I hope they get, one, a sense of curiosity. And, two, I want people to see themselves when they walk in. That’s important. As a Black student, you may walk around campus and not see yourself. This is one place where people come specifically to see themselves.

When people see this mural in the Black House in the future, I hope that they get a sense of time. The reason I create art is partially to document history. So I hope they get a sense of what the energy was at this time — why the subjects look the way that they do, why there’s a sense of seriousness. Because I do think we’re in a transitional time, an empowering time, that’s hopefully going to be uplifting to our community. The subjects in the mural are representative of the energy I got from our current students. In the future, our student body will continue to evolve, based on all of the work being done, and I imagine the energy on campus will also change as we continue to make progress. I love to see progress.

“I’m always looking for ways to understand things and people at a deep level and then bring it to life artistically,” says Dwight White II ’16, ’17 MS. White, who grew up in Houston, played defensive back for the Northwestern football team before injuries forced him to leave the team prior to his senior year. In the personal introduction that followed, he turned to art and is now a professional artist and creative consultant based in Chicago and Los Angeles. His works include a 40-foot mural in Chicago’s South Loop and recent collaborations with the Chicago Bulls and Chicago Fire.

His sensitivity to history and to people made White a natural fit for a big commission: creating a large mural for the newly renovated Black House on the Evanston campus. White’s Undivided Legacy mural — 5 feet tall and nearly 14 feet wide — now hangs in the main first-floor space known as the Quibbler’s Club Family Room. (A replica of the original 1970s first-floor mural now hangs on the wall of the B100 Student Lounge.)

Northwestern Magazine’s Martin Wilson sat down with White to talk about his experiences in the Black House, his transition from football to art and his creative process.

“We’re in a transitional time, an empowering time, that’s hopefully going to be uplifting to our community.” — Dwight White II

[Image 60x185 to 173x332]
“Some of us come from families who have done this before. Some of us are the first to walk through this door. Some of us don’t have the family that others do. Some of us didn’t know whether or not they’d make it through.”

— NOLAN ROBINSON ’21

Increased financial aid has made a Northwestern education more accessible and ushered in a student population that is more diverse by almost every measure.

BY SEAN HARGADON
Northwestern’s virtual Commencement last June, Nolan Robinson opened his student address with a poem (excerpted on page 44) that captured the essence of his Northwestern experience.

“That entire speech really is a reflection of everything that has happened to me here, with the lessons I learned about knowing that I’m enough, that I don’t need to prove anything to anyone, that I belong here, that I’m worthy and that my voice is powerful,” says Robinson 21.

Robinson grew up a few miles from the Evanston campus and often attended — and acted in — Northwestern theater productions as a child. The Evanston Township High School (ETHS) graduate never really considered attending the University because of its proximity to home — and its cost.

“I don’t come from a rich family,” he says. “And I have a twin sister who was going into college at the same time. I knew I needed to be cognizant of how much my family would be spending for my education."

Robinson was part of Evanston Scholars, an ETHS program for aspiring first-generation college students from low-income backgrounds. One day his Evanston Scholars mentor, Liane Anderson ’82, spelled it out for him.

“She said, ‘Go to Northwestern. It’s a full-needs-met school.'” Robinson recalls, “I didn’t really know what that meant. I’m like, ‘OK, well, it’s still pretty expensive.’

“She says, ‘Nolan, Northwestern will meet 100% of your financial need.’

“Once that sunk in, ‘there was no way I could say no to this,’ says Robinson, who graduated with zero debt, thanks to Northwestern’s no-loan financial aid package. ‘I would not have enjoyed my time here as much if I was always worried about paying a bill or needing to pay back all those loans. My mind wouldn’t have been focused on the moment, on growing as a person, as an artist, as a human being.’

REMAKING THE STUDENT BODY

Financial need is not a factor in determining admission to Northwestern, and the University is among a small number of institutions that meets the full demonstrated need of its financial aid applicants. More than $210 million in aid is awarded annually to thousands of undergraduates — assistance that opens the doors to students who otherwise could not afford to attend.

Throughout his tenure, President Morton Schapiro has worked to open those doors even wider.

Most notably, Schapiro pushed to increase the number of Federal Pell Grant recipients, aiming for 20% of the incoming class by 2020. The University hit that goal in 2019 — and with every incoming class since. (Students whose total family income is $50,000 a year or less qualify for Pell Grants.)

The University also established the Northwestern Academy, a free college access and enrichment program for underrepresented, academically motivated high school students from Chicago and Evanston, and the Good Neighbor, Great University Scholarship program, which provides financial aid to students, like Robinson, from Evanston or Chicago. Students from Chicago Public Schools (CPS) now make up nearly 6% of the incoming class, up from just 3% a decade ago. Thanks to these initiatives, first-generation college students comprise more than 15% of the class of 2025.

To a large degree, financial aid initiatives have helped remake the undergraduate student body. Socioeconomically, racially and geographically, the class of 2025 is the most diverse incoming cohort in University history. “Northwestern is a different and better place because of the assistance the University is providing,” says Chris Watson, dean of undergraduate enrollment and associate vice president for student outreach.

“We have a larger number of low-income students on campus [than in years past],” says Phil Asbury, director of financial aid. “And oftentimes, if you come from a less affluent background, you have a different perspective. It makes us all more empathetic toward one another. All of our students benefit from that.”

IMPACT OF AID

“My mom knew that the No. 1 opportunity would be sending me to a good university,” says Jason Weber ’20, who grew up as an only child in Creve Coeur, Mo. “But it was always a question of, how are we going to afford it?”

His mother, Cheryl, a single parent and special education teacher, sometimes worked three jobs to provide for the family. She never took vacations and seldom spent money on herself so that she and Weber could afford to live in the Ladue School District, one of the best in the St. Louis area.

Still, the prospect of paying for college was “an unbelievably big stressor,” Weber says. “And seeing that stress get essentially erased by the generosity of Northwestern was unbelievably relieving.”

Financial aid made a Northwestern degree possible for Weber. “A lot of hard work, perseverance and sacrifice put me in a position to go to school like Northwesterns,” he says, “and Northwestern made possible all sorts of opportunities that I never imagined when I was growing up.”

He certainly made the most of his opportunities. The first in his family to go to college, Weber majored in economics and political science. During his junior year he studied abroad in Paris for a quarter — a trip funded by Northwestern.

“I had never had the chance to travel internationally,” says Weber, now a consultant at Segal Group in Chicago who also has a deferred enrollment at the Kellogg School of Management.

“That international experience opened my mind to other cultures, other possibilities, other perspectives. It helped me become a more educated global citizen. It was one thing to learn about Brexit [while living] in Evanston, versus going to European Union institutions and talking with some high-level people about the real-life implications of that policy decision.”

“That trip brought everything to life and showed me what was possible,”

“I’m amazed by the sheer number of jobs out there and how achievable they are given the fact that I went to Northwestern and made the connections that I did.”

— Hannah Whitehouse

NORTHWESTERN WINTER 2022
“ENGINE OF SOCIAL MOBILITY

The price of a Northwestern education in 2020–21, including tuition, fees, housing and meals, is more than $80,000 per year. “Typically, students see this sticker price and think, ‘There’s no way that can be an institution for me. That’s way out of reach,’” says Jackie Marthouse ’15, former senior assistant director of admissions. “But with our need-based financial aid program, we’re able to say, ‘No, you can afford it because, based on your financial situation, you only need to pay this portion. We’ll cover the rest.’” (Marthouse became director of enrollment marketing and communication at the University of Denver in October.)

The ability to give a student access to a Northwestern education sets them on a different path. “From a social mobility perspective,” Marthouse says, “we’re seeing students who come from incredibly low-income backgrounds and graduate from Northwestern debt-free. Then they lock themselves into careers that potentially put them in different income brackets or different socioeconomic statuses than what they came from.”

After determining the expected family contribution — a formula-derived measure of a family’s financial strength — Northwestern meets full financial need using a combination of need-based scholarships, grants and part-time work, but no federal student loans. With support from Schapiro, the University implemented a policy to meet each student’s full financial need without loans, starting in 2016–17.

“That relieves the burden of borrowing,” Ashby says. “Many low-income families are averse to borrowing, and that can be a barrier to them even considering a school like Northwestern.”

The University is one of just 19 institutions in the U.S. that are need-blind (or do not consider an applicant’s financial situation) in their admissions processes, meet full demonstrated need for domestic students and offer no-loan financial aid packages.

“This policy has accelerated our efforts to recruit and enroll students with as diverse an array of backgrounds, experiences and perspectives as possible.”

Watson says. Nearly 50% of all undergraduate students receive a Northwestern University Scholarship as part of the no-loan program. Overall, more than 60% of all undergrads receive some form of financial aid. Some students still take out private loans to replace a portion of the expected family contribution. However, since the implementation of the no-loan program, the percentage of seniors graduating from Northwestern with student loan debt has dropped by 45%.

“Fitting In

Hannah Whitehouse ’20 had Northwestern on her radar ever since eighth grade, when she discovered that the University has a strong program in music education.

“Without financial aid, Northwestern would have been totally impossible,” says Whitehouse, now a middle school orchestra instructor in her hometown of Memphis. “Tuition itself was nearly twice as much as my household was making at the time I applied.”

Her financial aid package made Northwestern cheaper than many of the in-state schools she applied to. If it had not been for Northwestern’s assistance, Whitehouse says, she would have gone to college in Tennessee, lived at home and worked several jobs to make ends meet.

“But Northwestern went above and beyond,” says Whitehouse, the first of her siblings to graduate from high school and the first in her family to go to college. “It was insane. I was basically on a full ride.”

Thanks to financial aid, “I was able to enjoy my college experience, be a real student.” Free to explore, Whitehouse traveled the world, participating in Northwestern’s Global Engagement Studies Institute after her freshman year. “I’d never left the country before, and here I was living in a rural village in Kenya for six weeks,” she says.

Then Whitehouse taught stringed instruments to children during a weeklong trip to Panama during junior year. Finally, the summer before senior year, she set out on a 10-week, six-country trip to research El Sistema, a global public music education program, on a Circumnavigators Travel-Study Grant, a program made possible by the Office of Undergraduate Research and the Chicago chapter of the Circumnavigators Club.

“I learned more about the world and what possibilities I have career-wise,” says Whitehouse, who spent summer 2021 teaching English in Israel. “I always wanted to be a music teacher, but since graduating I’m seeing ways that I can advocate for music education even on a higher level. I’m amazed by the sheer number of jobs out there and how achievable they are given the fact that I went to Northwestern and made the connections that I did.”

Whitehouse acknowledges, though, that she encountered challenges as a lower-income student. “Relationally, it was still challenging at times being around people who come from money and who grew up differently,” she says. “The [financial aid] didn’t fix everything — but it freed up so much of my brain space and free time to study hard and make good friends and participate on campus.”

“Equality Access

When reflecting on his time at Northwestern, Nolan Robinson echoes Whitehouse’s views. He says his Commencement address to fellow graduates was “100% honest” about the joys and challenges he experienced as a first-generation, lower-income Black student at Northwestern.

“A lot of hard work, perseverance and sacrifice put me in a position to go to a school like Northwestern. And Northwestern made possible all sorts of opportunities that I never imagined.”

— Jason Weber

“I was able to get technology assistance for Zoom learning. And it made it possible for me to do a remote internship this summer with a U.S. district judge in New York City.”

— Daniel Rodriguez

EXPANDING AID

61% of undergraduates receive financial aid

$51,300 is the average first-year scholarship

$209M in scholarships was awarded to undergraduate students in 2020–21
“I made the right decision choosing to go to Northwestern,” he says. “At the same time, not everything is rosy and peachy.”

Indeed, financial aid is just the beginning. Making the Northwestern experience accessible to all is a priority for the Office of Undergraduate Financial Aid and other partners in the Division of Student Affairs, including Campus Inclusion and Community Engagement (CIC) and Student Enrichment Services (SES), as well as Northwestern Career Advancement (NCA).

Assistance comes in many forms. The Knight Community Scholars Program, for example, provides four years of individual and group advising, community-building opportunities, workshops and programming for a cohort of first-generation, lower-income (FGLI) students, undocumented students, and students in the U.S. as part of the Deferred Action for Childhood Arrivals program. The Student Activities and Assistance Fund, provided by student organizations & activities, allows recipients to fully participate in their student organizations’ programs. The Purple Pantry, run by SES and the Shell Catholic Center, keeps students from going hungry. The Summer Internship Grant Program, an NCA endeavor, offers funding that makes taking unpaid internships possible. SES also provides funds for interview travel or assistance in acquiring professional attire. SES and NCA, in collaboration with the Northwestern Alumni Association, also host Work the Room, a career development series focused on fostering networking skills and connecting students with FGLI alumni from various industries.

The financial aid office also provides $1,500 in startup funding to help first-year students from lower-income backgrounds pay for travel expenses, buy new bedding or cover the cost of a new laptop, even before they arrive on campus. And emergency aid is available upon request to cover unexpected medical bills.

“Students need their basic needs met before they can engage in ways that are both intellectually stimulating and developmentally appropriate,” says Lesley-Ann Brown-Henderson, assistant vice president for inclusion and chief of staff in the Division of Student Affairs. “Providing a coat, making sure students have meals to eat — those things are foundational. But that’s just the foundation. It’s not where we aspire to be as a community. We want to champion a culture where all students thrive.”

Through physical spaces on campus — including the Black House, the Multicultural Center and the Gender and Sexuality Resource Center — and programmatic offerings, the student affairs team is helping students develop a sense of belonging and make the connections necessary to navigate Northwestern’s campus and community.

“We have a responsibility to our students, particularly our students of marginalized identities, to make sure that they feel seen, that they have opportunities to explore their identities and engage across lines of difference, as well as celebrate their cultures and who they are,” says Brown-Henderson. “CIC plays a really important role in ensuring that students who are Black, Indigenous and people of color, first-generation students, lower-income students, undocumented students, and LGBTQIA students have a space that’s carved out just for them.”

Going forward, the University’s financial aid and student affairs teams continue listening to students and looking for opportunities for improvement. “CIC was created for students and by students,” Brown-Henderson says. “And when I think back, there’s traditionally been a call and response. So the students make their voices heard, and the University sometimes more speedily than other times, responds. We’re starting to anticipate some of our students’ needs so our response becomes not only reactive but proactive.”

In spring 2020 Northwestern and the world faced the effects of a global pandemic, a catastrophe that no one could have anticipated. In response, the financial aid office created a special COVID-19 emergency aid fund that helped about 2,000 students in less than a month, providing funding for emergency travel and technology expenses.

School of Education and Social Policy senior Daniel Rodriguez received funding to improve his unreliable Wi-Fi. “I had terrible internet at home and knew that my laptop was definitely not going to be able to handle Zoom classes,” says Rodriguez, who hails from Chicago’s West Ridge neighborhood. “I was able to get technology assistance for Zoom learning. And it made it possible for me to do a remote internship this summer with a U.S. district judge in New York City.”

Rodriguez, who participated in the Northwestern Academy and received a Good Neighbor, Great University Scholarship, says he has been pleased to see the changes that have resulted from a University-wide focus on doing more for lower-income students.

“I’ve seen Northwestern try to prioritize its outreach for students of marginalized backgrounds more and more every year — partly as a consequence of students on campus being frustrated with the current systems and advocating for better [ones],” he says. “There’s obviously still a lot more work to be done, but I think the University is really trying to get this right.”

Sean Hargadon is editor in chief of Northwestern Magazine.
Five Questions with Mara Lieberman ’98 MA

A theater-maker brings 1899 Paris to the streets of New York City.

What was Voyeur: The Windows of Toulouse-Lautrec? Voyeur was my answer to the notion that live theater could not be done during the pandemic. Bated Breath Theatre Company, where I’m executive artistic director, had a show running in New York in spring 2020 called Unmaking Toulouse-Lautrec. It was a very down-and-dirty biography of postimpressionist French painter Henri de Toulouse-Lautrec. When the pandemic hit, we had to close. The idea came to me that perhaps theater could be done safely if the scenes were in public, outdoor spaces and a small group of masked audience members traveled through the streets of the West Village together. The show itself was basically like a dream, a memory-scape from 1899 Paris — as if someone asked Toulouse-Lautrec, “If you could pack up six memories in a suitcase and take them with you when you die, what six memories would you take?”

What was it like to create a show outdoors during a pandemic? As a director and a theater-maker, I’m hyper-obsessed with every detail, every bit of choreography, every breath. It’s all like a symphony of sound and motion and words. But when we moved the performance outdoors, New York City became our scene partner. To have this highly stylized, choreographed sensibility thrown up against this totally wild, chaotic and full-of-life city — it was fascinating. The architecture of the city became like a playground for us.

What drew you to Toulouse-Lautrec as a focus for this work? If you look at Toulouse-Lautrec’s figures in his paintings and the lines of their bodies, they have this kind of theatrical but almost grotesque quality to them. They’re extremely vivid and have a lot of movement and shape.

Toulouse-Lautrec loved the outcasts of Paris: working-class people, artists, bohemians and queer people. He really wanted to embrace them and bring beauty and light and integrity to them. As a theater-maker, I love the untold stories.

What do you find most exciting about immersive theater? I believe theater has unparalleled power to make us feel our lives as we’re living them. Sometimes the traditional audience configuration, where the audience is sitting in the dark, disassociated somewhat from the play, can sort of deaden the experience. I try to make my work an invitation for the audience to co-create the experience.

Northwestern taught me that theater can happen anywhere, anytime, and that we really need to loosen the boundaries of what performance is. We can invigorate traditional forms of theater by inviting the audience into a totally different relationship with the work. I like to say that I make boring things sexy. I love when audiences say, “You know, I’ve walked down 8th Street a million times, but I’ve never seen it like this.” The power of the performance is in its unexpected surprises, in being able to make beauty anywhere.

What’s on the horizon for you? We did about 350 performances of Voyeur through July 31, 2021. Now I’m obsessed with this kind of walking-tour model of theater. It’s so exciting to look at the city as a narrative asset. I have another immersive performance in the works about Andy Warhol. I’m in an intensive devising phase right now.

Kiss Me with Your Eyes: The Windows of Andy Warhol will open in the East Village in New York in March 2022.

Creation

What was Voyeur: The Windows of Toulouse-Lautrec? Voyeur provided a window into Toulouse-Lautrec’s mind.

Flipping Over Crypto

In 2013 Daniel Polotsky ’17 learned about cryptocurrency — a new kind of anonymous, often decentralized digital currency. He wanted to buy bitcoin but ran into difficulty: “People were literally throwing cash on a table. The other person would scan a QR code to access their digital ‘wallet’ and send them bitcoin. It was just this wild, wild west.” Polotsky, a double major in economics and Slavic languages and literatures, saw an opportunity and co-founded CoinFlip, an ATM for cryptocurrencies, in 2015. “I felt like an ATM would be the fastest, easiest way to get bitcoin, along with 24/7 customer support,” says Polotsky, now chief advisor and founder at CoinFlip. The ATMs allow customers to buy and sell cryptocurrency, with CoinFlip taking a small percentage of each transaction. In 2021 CoinFlip was the fastest-growing company in Chicago, according to Crain’s Chicago Business’ annual Fast 50 list, with growth over the past five years at almost 2,000,000% (yes, that’s 2 million percent), Polotsky estimates revenue next year to be around $100 million off $1.5 billion in transactions. CoinFlip has more than 2,000 ATMs in 47 states (plus Washington, D.C.), with plans to expand into the remaining three.

Polotsky says it was a challenge bootstrapping CoinFlip from his Bobb Hall dorm room — “I remember taking customer support calls at Dillo Day” — but he credits his liberal arts education and the Farley Center for Entrepreneurship and Innovation for helping him develop the skills and the business acumen to get CoinFlip off the ground and up into the highest (digital) heights.
Making Business Personal
CEO and co-founder Eunice Byun’s new line of kitchenware comes straight from the heart.

After working for more than a decade in finance, marketing and business development, Eunice Byun’s career took an unconventional turn. In 2017 she quit her role as vice president of global digital marketing at Revlon to launch Material, a kitchenware company.

“When I had my first daughter, I realized I didn’t want to work for anyone else,” says Byun ’04. She also wanted to create a business that was more meaningful to her. That meant getting back to her roots.

“Both my co-founder, Dave Nguyen, and I come from immigrant families, and I grew up in a Korean American household where cooking was very much our love language,” says Byun, who met her husband, Daniel Lee ’94, at Northwestern and now has two young daughters.

Channeling the familial love she felt in the kitchen while growing up, Byun created a sleek yet minimalist collection of kitchenware for home cooks. “Material is the business we felt was missing from the marketplace, not only from a category perspective but very much from a values-driven perspective,” says Byun, who believes in old-school growth tactics. “Word-of-mouth loyalty and retention are not sexy things — but those are really what help businesses scale over time,” she says. “You’ve got to build a business that people trust, because if you (or your products) are being invited into someone’s home, that’s sacred space.”

Since its launch, Material has donated about $100,000 to organizations at the forefront of the fight against anti-racism, which Byun says is “the hardest piece I’ve ever had to write.” She explains that “the story itself was a turning point in my development as a musician and human being.”

ALUMNI

Desafío Candente
by Gustavo Cortiñas

How does one evoke the rich cultural heritage of Latin America while also acknowledging the region’s history of violent colonialism? Chicago-based drummer and composer Gustavo Cortiñas ’13 MMus does just that on his critically acclaimed album Desafío Candente. Inspired by the themes of Uruguayan journalist Eduardo Galeano’s Open Veins of Latin America: Five Centuries of the Plunder of a Continent (a book banned by several Latin American dictators), Cortiñas brings together 34 collaborators from 11 countries for an eclectic mix of jazz and Latin American rhythms with Spanish lyrics and spoken-word narration.

“The album journeys through the American continent, denouncing its history of colonialism, imperialism and neoliberalism, while celebrating the resilience of its many diverse communities,” says Cortiñas, adding that his studies at Northwestern allowed him to “explore the jazz tradition and foster important relationships.”

“My time at Bienen was a turning point in my development as a musician and human being,” he says.

GOOD READS

The Book Nook
New works by Northwestern alumni challenge history, celebrate activists and uplift mundane, everyday moments.

The Rolling Stones: Exile on Main Street
by Nick Toscano

This classic rock chronicle of the band’s 1970s European tour is a testament to the durably radical, post-hippie spirit that remains essential to the Stones. In this new edition of the acclaimed art book, photographer Douwe Blumberg explores the visual history of the band with new images and text.

Green Horses on the Walls
by Cristina A. Bejan

A Romanian American poet, Rhodes Scholar, historian and playwright, Cristina A. Bejan ’04 explores inheritance trauma, crimes of communism and more in her first book of poetry. In the title poem, Bejan recalls being told “You only want green horses on the walls,” a Romanian expression for “having delusions.” It is, however, a starting point for her self-understanding: “From the start I was told my dreams/ Weren’t possible / That I was crazy...”

Gayle Jessup White: For Her Family’s Lasting Legacy
by Sally Hemings, Thomas Jefferson and a Descendant’s Search

When she was just 13 years old, Gayle Jessup White learned she was a descendant of Thomas Jefferson. That family lore, passed down from her eldest sister, sent Jessup White ‘92 MS on a quest for truth. During the course of 40 years, she conducted research and pursued DNA evidence that ultimately confirmed her legacy and uncovered an even broader family tree, a journey she recounts in Reclamation.

Reclamation: Sally Hemings, Thomas Jefferson and a Descendant’s Search For Her Family’s Lasting Legacy
by Gayle Jessup White

A journalism alum who formerly worked at The New York Times, Jessup White is now the public relations and community engagement officer at Monticello, Thomas Jefferson’s legendary estate. “Because Black people were considered property, documentation about many of our ancestors is hard to find, if it exists at all. So much was lost,” says Jessup White. “My hope is that people will see their own family’s struggles and successes in my family, that they will be inspired by their dignity and strength, and that they will seek their own truths.”
Our small science makes a big impact. IIN director Chad Mirkin shares how breakthroughs in nanotechnology have shaped his Northwestern direction. See page 9.

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The total scholarship money awarded by the University to undergraduate students in 2020–21. Read more on p. 44.