Irreparable Injuries

Regenerative medicine might be a reality sooner than you think.

p. 28
Crash Landing

A rocket remnant awaits rescue in the southern New Mexico desert after traveling to space and back. Built on Northwestern’s Evanston campus by a team led by astrophysics professor Enectali Figueroa-Feliciano, the six-story-tall rocket was successfully launched on Aug. 21, 2022, from White Sands Missile Range. Carrying a highly sensitive X-ray imaging spectrometer, it spent a mere 15 minutes in space—just long enough to capture images of a long-explored supernova’s otherworldly remnants. After completing its mission, the rocket parachuted back to Earth, landing 45 miles from its launchpad. The Northwestern team retrieved its spectrometer for future flights.
The Miracle of Regeneration

Lizards can regrow their tails and crabs their severed claws. Now, after decades of research, scientists including Samuel Stupp ’77 PhD are closer than ever to unlocking the human body’s healing powers.

By Emily Ayshford

That’s how I got on TV, just by raising my hand for what was arguably the biggest story I’ve covered.

— ESPN reporter Coley Harvey ’07, on being in the right place at the right time

Behind the Makeup

A new documentary by Emily Bronham ’02 follows the first winner of RuPaul’s Drag Race.

Dive Right in!

Who says winter in Evanston is no fun? Alumni recall snowball fights, football under a full moon in 5-degree weather and a snowman built on a dorm rooftop.

On the Cover: Illustration by Harry Campbell
Talk Back

IT’S (VIDEO) GAME TIME

Fantastic article (“We’re in the Game,” fall 2022) and I love the in-article animation! Warren Spector is an absolute legend. I am grateful to all the video game Wizards for their incredible gifts.

Youngchin Choi ’17 ID
Seongnun, South Korea

I’ve been working in the video game biz doing content creation and writing character dialogue since 2003, and my bachelor’s in arts in history from Northwestern is put to use every day.

Sanford Santuceco ‘90
United Kingdom

Thank you for the excellent article (and I would have said that even if you had not included the Games for Change Festival, which I co-founded and also a certificate in integrated arts from Northwestern helped pave the way for development and production in 1995, and I then spent two decades in the video game industry learning. A nice follow-up piece to your story could look at Northwestern alumni’s roles in social impact and/or educational applications of gaming. For example, I recently published a piece in the peer-reviewed gaming journal Well Played on ethics and gaming, and much of my game on design in museums comes out in spring.

Buerry Joseph ’11
Forest Hills, N.Y.

JUSTICE FOR CORZELL

I am proud that Northwestern sponsors this much-needed and I

From left, Sheila Thomas, professor Mary Pattullo and Corrall Cole

wonderful prison-education program (“Sheila Thomas on the Biggest Case of Her Career,” Voices, fall 2022). The Northwestern Prison Education Program also gives law students a meaningful experience of what life is like as a prisoner.

Linda Lautsch ’91 JD
Evanton

BANDING TOGETHER

I was the field announcer for the marching band from 1967 to 1969 and under the direction of the most motivational and engaging person I ever met — John P. Paytener (“Strike Up the Band,” Alumni, fall 2022, page 37). That experience, without a doubt, provided the most memorable moments of my college days. I am also the baby-faced announcer in the NU Band classic motion picture, Strike Up the Band.

Ed Saussman ’59, 60 MA
MIS Prospect Heights, Ill.

When I was applying for college, a high school counselor told me that Northwestern would be too selective and expensive to consider. I often think about how that type of discouraging message could dramatically affect a person’s life. Fortunately, my family reminded me of my qualifications and the support available to me. But we can all think of a time when someone said something to us that affected us deeply, perhaps even changing the course of our lives. Messages can build us up or tear us down. They resonate, especially when they strike at the core of our identity, shaping our impressionable understanding of who we are and who we might become.

By Ms. Destin

MESSAGES SHAPE IDENTITY AND TRANSFORM LIVES

When I was applying for college, a high school counselor told me that Northwestern would be too selective and expensive to consider. I often think about how that type of discouraging message could dramatically affect a person’s life. Fortunately, my family reminded me of my qualifications and the support available to me. But we can all think of a time when someone said something to us that affected us deeply, perhaps even changing the course of our lives. Messages can build us up or tear us down. They resonate, especially when they strike at the core of our identity, shaping our impressionable understanding of who we are and who we might become.

In my multidisciplinary psychosocial lab at Northwestern, we seek to discover the types of messages that make a meaningful difference in people’s lives.

We study how social forces such as peers, parents, teachers and financial resources shape the academic experiences and life paths of young people. The right message from these sources at the right time can change how someone feels about themselves and transform the type of education and life that they might envision and pursue.

We have found three types of messages to be especially influential. First, people need to be shown that there is a path to achieve their goals. This could mean growing up in an environment where resources are available or having someone tell you about an accessible support system. In our social psychological experiments, bringing these types of resources to mind opens possibilities for young people in ways that not only expand their dreams but also inspire them to put in the necessary work. For example, sharing information about need-based scholarships makes the likelihood that middle school students imagine futures that include college; subsequently, they dedicate more time to schoolwork.

Second, people need to be shown that their identities have value. All too often, people receive subtle or overt messages that their background, community or culture is “a problem” to overcome. Our experiments show that recognizing how someone’s experiences have contributed to their strengths bolsters their sense of self-worth and drive to persist when they encounter challenges.

Finally, it is essential to be reminded of the importance of social relationships. Growing evidence shows that constantly pushing to overcome barriers — without making space for rest, healthy relationships, community and leisure — can lead to short- and long-term physical health. Our research shows that being reminded to hold on to the important people in our lives as we work toward goals reduces the dangerous consequences of stress, such as inflammation, as a powerful new form of chronic disease development.

Because of persistent forces like racism, segregation and other forms of oppression, some people and groups are bombarded with messages that attack their worth and humanity while others receive overwhelmingly positive reinforcement. These different experiences can have dramatic effects on what people or groups are able to achieve or reach their goals later in life. So, while attention to everyday interactions can make a difference, systemic efforts — such as increasing funding for access to higher education — remain necessary to strike at the root of inequality.

Ms. Destin ’15 is an associate professor of psychology at the Weinberg College of Arts Sciences and of human development and social policy at the School of Education and Social Policy. He’s also a faculty fellow at the Institute for Policy Research.

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VOCES

MíSTER REINFORCIMIENTO

¡Cuando estaba en la escuela secundaria, mi consejero me dijo que Northwestern no sería lo suficientemente selectivo como para considerarlo. A menudo pienso en cómo aquella desalentadora información podría dramaticamente afectar a la vida de una persona.afortunadamente, mi familia me recordó de mis calificaciones y el soporte disponible para mí. Pero podemos todas pensar en un tiempo cuando alguien dijo algo que nos afectó profundamente, quizás incluso cambiando el curso de nuestras vidas. Los mensajes pueden construirnos o desarmarnos. Se resonan, especialmente cuando golpean en el núcleo de nuestra identidad, formando una impresionable comprensión de quiénes somos y quiénes podríamos ser.

En mi laboratorio multidisciplinario psicosocial en Northwestern, buscamos descubrir los tipos de mensajes que hacen una diferencia significativa en la vida de las personas. Nos interests cómo los factores sociales como los compañeros, los padres, los maestros y los recursos financieros modelan las experiencias académicas y las vías de vida de los jóvenes. El mensaje correcto de estas fuentes en el momento correcto puede cambiar cómo uno se siente sobre sí mismo y transformar el tipo de educación y vida que uno podría imaginar y perseguir.

Hemos encontrado tres tipos de mensajes que son especialmente influyentes. Primero, la gente necesita ser mostrada que hay un camino para lograr sus objetivos. Este podría ser conocer que se puede crecer como un adulto y alcanzar sus objetivos. Segundo, la gente necesita ser recordada del valor de su identidad. A menudo, las personas reciben mensajes sutiles o explícitos de que su contexto, comunidad o cultura son “un problema” que deben superar. Nuestros experimentos demuestran que reconociendo cómo las experiencias de las personas han contribuido a sus fortalezas puede fortalecer su sentido de auto-valoración y respaldar su esfuerzo y persistencia para superar desafíos.

Finalmente, es esencial ser recordado del valor de la importancia de las relaciones sociales. El evidente crecimiento del desequilibrio de la energía entre los desplazamientos y las relaciones humanas y el entorno puede conducir a problemas de salud a corto y largo plazo. Nuestros resultados muestran que recordarse de mantenerse unido a las personas importantes en nuestras vidas puede reducir las consecuencias peligrosas del estrés, como la inflamación, como un nuevo tipo de enfermedad crónica.

Porque de manera persistente, fuerzas como la raza, la segregación y otros tipos de opresión, algunas personas y colectivos son constante mente bombardeados con mensajes que atacan su valor y humanidad, mientras que otras reciben un reforzamiento positivo. Estas diferentes experiencias pueden tener efectos dramáticos en lo que las personas o grupos son capaces de lograr o alcanzar en sus objetivos más tarde en la vida. Así, la atención a las interacciones diarias puede hacer una diferencia, pero los esfuerzos sistemáticos — como el incremento del financiamiento para el acceso a la educación superior — son necesarios para golpear en el corazón de la inequidad.

Ms. Destin ’15 es profesora asociada de psicología en la Escuela de Ciencias Sociales y de Desarrollo Humano de la Universidad y de Política Social de la Escuela de Educación y Política Social. También es un graduado con honores en el Instituto para la Investigación Política.
The Magic of Snow
We asked alumni for their favorite winter memories on campus and got an avalanche of responses.

Constantine M. Boukidis ‘81
Blizzard in January 1979. Played football on Long Field with my frat brothers under the full moon when it was about 5 degrees. If you stepped where others had already played, you were fine, but if you went 6 inches off the “field,” you were up to your hips in snow. Quite an experience for a native Southern Californian!

Carla Schopp ‘71
Snow piled up to the third-floor windows of Allison Hall in January 1968. My room was on the third floor, and girls were going out the window, sliding down the snow pile. We dug a tunnel to the front door of the dorm so we could get back inside!

Gaurav Malhotra ‘03 MS
Winter 2003, first winter in the U.S., after life in tropical India. Rushing to the Medill building with wet hair, I ran my hands through my hair and heard a crack. I panicked for a moment until I realized that the water in my hair had frozen!

Allyson Bear ‘99
I returned from the Rose Bowl in January 1996 and drove from Dayton, Ohio, to Chicago in a blizzard so as not to miss the first day of classes. We went through snority rush standing in subzero temps. I ended up with pneumonia — and a new parka appropriate for “real” winters (and I was coming from Ohio).

A New Citizen
Finally at Home

I
in February 2022, my wife, Marina, and I stood up together in Welsh-Ryan Arena, took an oath, and were sworn in as U.S. citizens right here at Northwestern — where our story in this country started more than a decade ago.

When we moved from Buenos Aires to Evanston in the fall of 2009 for my MBA, it was not our plan to stay in the U.S. after I graduated. Yet, after more than 12 years, here we are, living just 30 minutes from the Evanston campus and proudly continuing to give back to the Northwestern community.

From the very beginning, being a student at the Kellogg School of Management was transformative for me, both personally and professionally. During Kellogg’s immersive Culture Is Made (CIM) student orientation experience, we learned about the school’s culture and values and student life. I did not expect to spend my first two weeks of business school doing team-building activities and memorizing the names of all 60 members in my section. But that time allowed me to build strong bonds with my classmates and helped us build a culture of trust and collaboration from the get-go.

My MBA experience also allowed me to significantly change my career trajectory. I have a background in management consulting, but I decided to try something completely different and took on a marketing and strategy role in pharmaceuticals for my summer internship. Being part of a culture that places the patient front and center as the focus of everything we did was a profound experience.

It was not our plan to stay in the U.S. after I graduated. Yet, after more than 12 years, here we are, living just 30 minutes from the Evanston campus.”

By Nicolas Rivelis
Nicolas Rivelis is associate director of U.S. oncology marketing at Astellas Pharma. He and his family live in Lake Bluff, Ill.

A New Citizen
Finally at Home

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Finally at Home
Cody Keenan on Speechwriting for Obama

On the outside, Obama and I couldn’t be much more different. But we share a worldview, and that made it easier to get into his head and imagine what he would say if he had the time. That’s easier with policy speeches. With topics surrounding race, it was tough.

The most important thing about speechwriting — besides being able to string sentences together — is having a sense of empathy. You have to understand your audience and try walking in their shoes. But there are limits to empathy, in terms of imagination. I’ve never been racially profiled, asked for my ID or had to have a conversation with my child about what to do when a police officer approaches you. For speeches like that, I needed more time with Obama before I got started. Ultimately, they’re his words — not mine. So, I tried to get as much guidance from him as I could before beginning. That helped a lot.

Progress and change are a grind. It takes decades. The day the Supreme Court ruled on the right to marry equality, I had the president open the speech by saying, “Progress is the slow, steady work of generations. But sometimes there are days like this, when justice comes down like a thunderbolt.” Those days are few and far between but only happen because people march and organize and toil for decades, often without getting results, and then, bang, sometimes you just get it in one fell swoop.

My students give me hope. They’ve come of age in a much different era than I did. They were born the same year 9/11 happened and lived through a devastating recession and a pandemic and two wars. My generation knew the planet was getting warmer, but we didn’t have to live with the worry that the planet would become uninhabitable in our lifetimes. My students have had to go through active shooter drills in high school. They see the need for change as critical and existential in ways that we didn’t necessarily see it in 2000, 2001. They’re really disappointed with leadership in both parties and politics as it is, and want it to be different. And yet they’re not just sitting on their hands and complaining. They actually jump in — and that makes me hopeful.
The World Is a Classroom

As international travel resumes, Northwestern sends students abroad for one-of-a-kind learning and research opportunities.

**DOCUMENTS BRING MEDICAL HISTORIES TO LIFE**

Sarah Rodríguez, an associate professor of instruction in global health studies, loves the serendipity of historical research. She hopes her students come to love it, too.

Last September, just days after the death of Queen Elizabeth II, Rodríguez took eight students from her Maternal Health in the 20th Century course to the Wellcome Collection's library and archives in London. The students examined primary sources related to the work of the International Confederation of Midwives in the 1960s and '70s and the evolving role of midwives as a source of family-planning education.

**ARCHITECTURE AND ART HISTORY**

Spain

Eight art history students spent 13 days discovering Spain as part of the summer seminar Space and Place: Madrid and Santiago de Compostela, observing sites of architectural and art history importance and gaining on-the-ground archival research skills. "We take the city not as a work of art but an object of study," says professor and Madrid scholar Jesús Escobar, who led the seminar. They witnessed a medieval-style carnival on the streets of Santiago, got a close-up look at prints and drawings at the National Library and received behind-the-scenes tours at the Prado Museum and the Royal Palace.

**WORLDWIDE WATER LEADER**

Israel

Dominated by a desert and bound by saltwater seas, Israel is moving rapidly toward a sustainable water future. Last September, 16 undergraduates embarked on a Northwestern Global Engineering Trek to learn how this nation is coping with a hotter, drier world. The 12-day trek covered Israel's history of water management, from ancient aqueducts to modern-day desalination plants, wastewater treatment facilities and drip-irrigation farms. "Every site we visited was completely contextualized, from both a historic and scientific perspective," says junior Shyam Chandra. "As someone interested in both technology and the humanities, I really appreciated that."

**ON-THE-GROUND INVESTIGATION**

Panama

Debbie Cenziper and nine graduate and undergraduate students traveled to Panama City last May to investigate reports that a massive electricity-producing power plant was sickenhing residents of neighboring villages. "It's one thing to get a quote over the phone," says Cenziper, an associate professor of journalism and ProPublica writer who runs the Missouri Investigative Lab. "It's another thing to look someone in the eyes and have a real discussion, and that's what we did in Panama. It will ultimately help us tell a more robust and humane story." The Panama reporting is part of an international investigation that was published in late 2022 by ProPublica, the International Consortium of Investigative Journalists and media partners around the world.

**Thanks to a gift from Nester Media Group, Northwestern University libraries will hold 15,000 items from Khan Academy spanning 70 years.**

**Students in the Morton Schapiro Northwestern Academy for Chicago Public Schools have an average GPA of 3.8. The program has matriculated more than 300 students from about 40 high schools across the city. Approximately 88% of the academy’s college-bound graduates are first-generation college students.**

**More than 95% of tuberculosis (TB) cases and deaths occur in developing nations.**

**The average museum visitor spends less than 30 seconds looking at a particular work of art. The Block Museum of Art released a four-step Looking 101 Guide that encourages viewers to slow down and fully appreciate the art before them.**

**The project will create significant economic benefits for Evanston. The University is considering hosting a limited number of concerts each year. According to an independent economic impact study, 10 to 12 concerts and a small number of ticketed, amateur events could generate more than $36 million in new tax revenue by 2033.**

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**With support from the Office of Global Safety and Security and the Global Learning Office, Northwestern sent nearly 1,850 student travelers abroad from Sept. 1, 2021, through Aug. 31, 2022.**

**Northwestern history and included funding for not only the new stadium but also the largest academic gifts in the history of Northwestern, to accelerate breakthroughs in biomedical, economical and business research.**

**The new stadium will include a more intimate setting for every fan, as well as an upgraded premium experience designed to focus noise and enhance the game experience.**

**The project will be funded publicly accessible green spaces for Evanston residents to enjoy year-round. “Our family’s commitment to athletics is much deeper than football. It’s about developing the body, mind and soul, which we experienced as undergraduates at Northwestern and have carried with us throughout our lives,” says Pat Ryan.**
Learning Tribal Politics and Policy
Summer internship deepens Isabella Twocrow’s passion for Indigenous issues.

Last summer, Isabella Twocrow worked in Washington, D.C., alongside some of the most important decision-makers when it comes to Native American life, including Secretary of the Interior Deb Haaland. Twocrow interned for 10 weeks with the Bureau of Indian Affairs within the U.S. Department of the Interior, “They’re the people protecting tribal sovereignty through policymaking in D.C.”

Twocrow, who is majoring in learning and organizational change with a minor in Native American and Indigenous studies, plans to travel to Wisconsin after graduation to be closer to her tribal homelands. Then, she hopes to attend law school in 2024. “Going to this internship completely set my mind on law school, and I want to go to a school that specializes in federal Indian law and policy,” she says.

Twocrow has worked as a student outreach coordinator for Native American and Indigenous students within the undergraduate admissions office. She is also a co-designer of a campus community workshop on Native issues.

At Northwestern, Twocrow has worked as a student outreach coordinator for Native American and Indigenous students.

FRUITFUL PARTNERSHIP
A Longer Shelf Life
The Trees That Feed Foundation (TTF) is a nonprofit that plants fruit trees, primarily breadfruit, and establishes food-processing factories worldwide. TTF partnered with students from Northwestern’s McCormick School of Engineering to develop a solar dehydrator that can preserve about 100 pounds of fruit in four to eight hours. Five years later, 18 of the solar dehydrators are in use in Haiti and Jamaica, with others under construction in East Africa. TTF board member Nyree Zerega, director of Northwestern’s Program in Plant Biology and Conservation, helped lead a recent study that found drought-resistant breadfruit is resilient to climate change and could be part of the solution to the worsening global hunger crisis.

FLYING THE COLORADO RIVER

\begin{itemize}
  \item \textbf{Isabella Twocrow, right, and U.S. Secretary of the Interior Deb Haaland.}
  \item photo credit: Todd Rosenberg/Rubber Teeth
\end{itemize}

\begin{itemize}
  \item \textbf{Sydney Lee with a rare Antonio Casini cello. Watch her perform at alummag.nu/cello.}
  \item photo credit: Todd Rosenberg/Rubber Teeth
\end{itemize}

CAT TALES
Biting Humor
In 1982, Northwestern students created Norris University Center for a black-tie gala and retrospective exhibit celebrating the 50th anniversary of Rubber Teeth, a student-run humor magazine.

It was a remarkable occasion — especially since Rubber Teeth had only been founded three years prior. In 1979, Bob Leighton ’82, one of the magazine’s co-founders, describes this elaborate “50th anniversary” prank as the “capstone” of his experience with the magazine. With a staff of more than 30 writers, editors, artists and photographers, Rubber Teeth published satirical articles, cartoons and photo essays.

“I grew up with a love of satire,” says Leighton, now a puzzle author and cartoonist whose work has frequently appeared in The New Yorker. “I think it’s fair to say that we owned the school’s written sense of humor at the time.”

That same year, Lee’s mother taught her to play. At age 8 Lee was accepted into the Julliard School’s pre-college program, and at 13 she made her orchestral debut with the Pittsburgh Symphony Orchestra. After earning her bachelor’s degree from the Curtis Institute of Music, she came to Northwestern to study with Bienen School of Music professor and renowned cellist Hans Jørgen Jensen.

Lee has performed at top venues across Europe and the U.S. and is the inaugural recipient of the $50,000 Guarneri Fellowship from the Meadowmount School of Music, an honor she says has “felt like a kick-start” to her career. After winning the 2022 Washington International Competition for Strings, she received an Antonio Casini cello on loan from Christophe Landon Rare Violins.

“I’ve been enjoying getting to know the instrument, how to bring out the sweetness, the boldness, all the personalities that this cello is capable of showcasing,” she says.

Lee also plays in the Galvin Cello Quartet with other Bienen students and serves on the board of the Back to Bach Project, a music and arts education program that she co-founded in 2014. Now she’s working toward her doctorate in music at Bienen — amid a packed performance schedule.

“Whenever I perform, my main objective is for people to really feel everything that’s inside my heart,” Lee says. “To have that opportunity alone — I just feel so grateful.”

THE HEART OF A CELLIST
Sydney Lee gains international recognition for her music.

\begin{itemize}
  \item photo credit: Todd Rosenberg/Rubber Teeth
\end{itemize}
Discovering ‘Forever Chemicals’

Chemists have found the Achilles’ heel of PFAS.

“Even just a tiny, tiny amount of PFAS causes negative health effects. … We wanted to use chemistry to … create a solution that the world can use.”

Leistinger Professor of Chemistry, who led the research. “Even just a tiny, tiny amount of PFAS causes negative health effects, and it does not break down. We can’t just wait out this problem. We wanted to use chemistry to address this problem and create a solution that the world can use.”

PFAS have been found in the blood of 97% of the U.S. population. Although the health effects are not yet fully understood, exposure to these chemicals is strongly associated with decreased fertility, developmental effects in children, increased risks of various types of cancer, reduced immunity to fight infections and increased cholesterol levels. With these diverse health effects in mind, the U.S. Environmental Protection Agency recently declared several PFAS unsafe — even at trace levels.

Although community efforts to filter PFAS from water have been successful, there are few solutions for how to dispose of PFAS once they are removed.

“In New York, a plant claiming to incinerate PFAS was found to be releasing some of these compounds into the air,” Dichtel says. “The compounds were emitted from the smokestacks and into the local community. Another failed strategy has been to bury the compounds in landfills. When you do that, you are basically guaranteeing that you will have a problem 30 years from now because they’re going to slowly leach out.”

The secret to the indestructibility of PFAS lies in their carbon-fluorine bonds, which are the strongest bonds in organic chemistry. Dichtel’s team, however, found a weakness. PFAS chemicals have two sections: a long tail of unyielding carbon-fluorine bonds and a head containing charged oxygen atoms. Dichtel’s team targeted this head group by boiling PFAS in solvent with lye. The process decapitated the head group, leaving behind a reactive tail that is benign.

Although carbon-fluorine bonds are super strong, that charged head group is the Achilles’ heel, Dichtel says. “Our work addressed one of the largest classes of PFAS, including many we are most concerned about. There are other classes that don’t have the same Achilles’ heel, but each one will have its own weaknesses. If we can identify it, then we know how to activate it to destroy it.”

Deactivating ‘Forever Chemicals’

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**FOOD FOR THOUGHT**

**Simple Snacking**

Student startup develops a superfood-infused, protein-packed bite.

Ryan Teo ’21 is fascinated by how nutrition can affect daily performance. “Food affects my mood, my energy levels, my productivity at work and even my performance in the gym,” he says. But he’s long been dismayed at the snack options available at typical grocery stores — full of sugar, unnaturally flavored ingredients.

When he took Engineering Entrepreneurship, a Farley Center for Entrepreneurship and Innovation course taught by Billy Banks ’98 and Neal Säles-Griffin ’09, Teo launched Minimal Snacks with the goal of revolutionizing snacks.

Sáles-Griffin launched the course to help young entrepreneurs balance innovation, tech and business. Minimal Snacks, launched in 2019, was born out of the class.

“I made connections with beef and mushroom suppliers at the Evanston Farmers’ Market. I even got licensed as a certified food handler and rented a commercial kitchen space in Chicago,” Teo says. “On the first few batches were a hit with friends, the production process was costly and time-consuming. ‘I couldn’t do it alone,’ he says. At startup matchmaking fairs hosted by The Garage, Teo pitched his vision and teamed up with co-founders Ansh Prasad ’22 and Liliana Sydorenko ’22. Eventually, they scaled up production by partnering with Stormberg Foods, a producer of air-dried beef. Unlike conventional beef jerky, which is dehydrated in an oven, Minimal Snacks worked with Stormberg Foods to create a jerky that is air-dried for two weeks to better retain the flavors of each ingredient. “We designed a snack made from just beef, shiitake mushrooms, red wine vinegar and salt,” Teo says.

Minimal Snacks launched a Kickstarter campaign in January 2022. They reached their funding goal in less than two hours and ultimately raised more than $22,000. Now the company’s line of air-dried beef is available online and in local stores. When he took Engineering Entrepreneurship, a Farley Center for Entrepreneurship and Innovation course taught by Billy Banks ’98 and Neal Säles-Griffin ’09, Teo launched Minimal Snacks with the goal of revolutionizing snacks.

INNOVATION

**A Pen for Parkinson’s Patients**

For journalism major Izzy Mokotoff, letter writing has been a longtime tradition she’s shared with her grandpa, Pops. Every week, Pops wrote her from his suburban Boston home, sending recipes and notes on wild animals he’d seen. Mokotoff, who grew up in Atlanta, replied with updates about her studies.

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Izzy Mokotoff teamed up with biomedical engineering major Alexis Chan to find a solution. With support from The Garage and the Farley Center for Entrepreneurship and Innovation, they worked with Stormberg Foods, a producer of air-dried beef. Unlike conventional beef jerky, which is dehydrated in an oven, Minimal Snacks worked with Stormberg Foods to create a jerky that is air-dried for two weeks to better retain the flavors of each ingredient. “We designed a snack made from just beef, shiitake mushrooms, red wine vinegar and salt,” Teo says.

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**Cue the Curves**

Engineering major Charlotte Oxnam ’23 is the first full-time student to be accepted into Techstars Chicago Accelerator, a three-month program that provides mentorship and resources to entrepreneurs. Oxnam used the opportunity to rebrand her startup, Cue the Curves, which began as a community-building fashion blog for plus-size people. In September 2022 she launched a mobile app for Cue the Curves that allows users to search easily for size-inclusive clothing. Oxnam also appeared in an international ad campaign for Microsoft Windows 11 in 2022.

INCLUSIVE SHOPPING

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New Gathering Space on Campus

Donor gifts will help reimagine the outdoor area adjacent to Northwestern's student center.

Norris University Center’s East Lawn is poised for a major renovation thanks to the generosity of Northwestern Trustee Frank Cohen ’95 and Julie Cohen. The East Lawn will be renamed in recognition of the Cohen family, and the main plaza and pavilion will be named in honor of the Kahn family. Architecture firm SmithGroup has already begun the design phase of the project, which is scheduled for completion in summer 2024.

The East Lawn — an open field adjacent to Norris University Center, with stunning views of nearby Lake Michigan — is a prime location for student, faculty, staff and community interaction and collaboration on the Evanston campus. Early plans include the plaza and pavilion, which will accommodate events and seasonal activities; an outdoor restaurant and space for food vendors led by Compass Group, Northwestern’s food service partner; movable tables, chairs and umbrellas; a game terrace; and a lounge overlooking the lagoon.

What to Expect: The updated East Lawn (rendering below) will feature amenities such as a plaza and pavilion for events and seasonal activities; an outdoor restaurant; space for food vendors; movable tables, chairs and umbrellas; a game terrace; and a lounge overlooking the lagoon.

“The new space will be the perfect place for our Northwestern community to connect, engage, relax and recharge.” — Jeremy Schenk, Northwestern’s associate vice president for operations and services.

“The East Lawn renovation is projected for completion in summer 2024 (rendering shown).”

The Kahns are owners of LRP Media Group, which provides training and compliance services, and K-12 educators. Ken, the organization’s CEO, holds a bachelor of arts from Cornell University and a law degree from Harvard University. Jana, who serves as chief marketing officer, has a bachelor’s in human resources and management from Temple University. The Kahns are members of NU Loyal and active supporters of Northwestern's School of Education and Social Policy (SESP) and Student Affairs. The parents of Alexandra Kahn ’25, a current SESP student, live in Palm Beach Gardens, Fla.

The East Lawn renovation is projected for completion in summer 2024 (rendering shown).
Northwestern alum George R.R. Martin is establishing a professorship and writing workshop at Medill. The George R.R. Martin Chair in Storytelling and the Summer Intensive Writing Workshop will enable us to recruit, retain and host recognized authors and storytellers for the benefit of Northwestern students and writers from around the country,” says Charles Whitaker ’80, ’81 MS, dean of Medill. “These initiatives will help aspiring writers across myriad literary genres to make their mark on the world, as George has done.”

Through collaboration with faculty in the School of Communication and Weinberg College of Arts and Sciences, the Martin Chair also will convene panels and conferences on writing for students, the greater Northwestern community and the public and be a liaison to industries related to long-form narrative and storytelling.

George R.R. Martin is a novelist and short story writer who is best known for A Song of Ice and Fire, an international bestselling series of epic fantasy novels that HBO adapted into the acclaimed dramatic series Game of Thrones — HBO’s biggest hit of all time since its conclusion in 2019. Martin also is the author of Fire & Blood, the basis for HBO’s Game of Thrones prequel House of the Dragon, which drew nearly 10 million viewers with its premiere episode in 2022. His books have sold millions of copies and have been translated into 47 languages.

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From the studio to the sidelines, these sports media all-stars all have one thing in common.

BY JOSH ROSENBLAT

If you tune in to ESPN most weekday mornings, you’ll see Get Up host Mike Greenberg in front of a framed Wildcats football jersey. Check back later to catch Michael Wilbon on Pardon the Interruption and you’ll spot a football helmet emblazoned with the Northwestern “N.”

Greenberg ’89 and Wilbon ’80 are two titans of the sports media world who are unapologetically proud of their purple roots.

Sometimes, though, their shared alma mater bleeds into their work. During the 2021–22 NBA season, Greenberg and Wilbon teamed up on ESPN’s NBA Countdown, offering pregame and halftime analysis for some of the league’s biggest matchups. But during their off-camera breaks, the Wildcats took priority.

“One NBA night, we’d sit on set and watch the Northwestern basketball games,” Greenberg confides. And that’s not new. Greenberg recalls the Wildcats’ thrilling run in the 2017 NCAA men’s basketball tournament, when he and Wilbon “held each other like small children watching those games.”

The two ESPN legends are part of a loud and proud network of Medill School of Journalism, Media, Integrated Marketing Communications alumni in sports journalism. From coast to coast, you can find Medill grads on sidelines and in press boxes, breaking down the big plays in studio and digging beneath the surface to get the inside story.

They report, analyze, illustrate and contextualize. Their work exposes injustices, inspires change and unearths history. Some of them have more social media followers than the athletes they cover — Wilbon and Greenberg together have nearly 6 million Twitter followers.

We talked with several prominent and up-and-coming sports media stars about how serendipitous timing put them in the right place to do groundbreaking reporting — and how sports reporting helps us understand broader societal issues.

Clockwise from top, Cassidy Hubbarth, Michael Wilbon, Christine Brennan and Mike Greenberg
SPORTS REFLECT SOCIETY

After her sophomore year at Northwestern, Christine Brennan returned to her hometown in summer 1978 to intern at The Toledo Blade city desk. She covered county fairs, wrote obituaries and reported heartwarming features. Between assignments, though, Brennan would venture back to the sports desk. “Those were my heroes,” she says, “so I’d sneak back and say hi.”

The next summer, The Blade asked her to intern with the sports section, making her the first woman to work full time in that department.

Brennan ’80, ’81 MS has gone on to become a bestselling author, award-winning sports columnist for USA Today and frequent contributor to the CNN and ABC News commentary. Her canon of work provides a broad view of the last 40 years of sports history. But the term “stick to sports” isn’t part of her vocabulary, she says, because it’s such a narrow view of sports’ impact on the world.

“Sports take us to important national conversations that we would not be having otherwise,” Brennan says. “Yes, we love sports. We live and die with sports. But the world of sports is so much more than fun and games.”

Even people who aren’t interested in professional golf couldn’t ignore the conversations that arose when Brennan started writing columns in 1999 that drew attention to Augusta National Golf Club’s archaic policy regarding women members. Her columns helped spur the club, home of the Masters Tournament, to finally admit women in 2012.

Her reporting has also revealed scandals at multiple Olympic Games. She notably broke the stories of the 2002 Winter Olympics scandal in Salt Lake City, where a judge from France was pressured to fix the results for pairs figure skating; the Russian judging scandal at the 2014 Winter Games in Sochi, Russia; and the Kamila Valieva doping scandal at the 2022 Winter Olympics in Beijing.

Brennan’s ability to illustrate how sports are representative of social, cultural, economic and political issues comes in part from her time at Northwestern.

“There’s an old line about the sports section being the toy department at the paper. Well, it’s not the toy department anymore, and it hasn’t been for years,” says Brennan, who in 1981 became the first woman sports reporter at The Miami Herald. In 1985 she also became the first woman to cover the Washington, D.C., NFL team at The Washington Post, where she sat next to Michael Wilbon for 10 years.

“In my career, I’ve always looked at myself — from my first internships to my first days at The Miami Herald — as being a journalist who was covering sports, not necessarily as a sports journalist,” says Brennan, who is a professor of practice at Northwestern as well as a University trustee. “That comes from Medill.”

Kevin Blackistone ’81, Washington Post columnist and University of Maryland journalism professor of the practice, shares Brennan’s mentality. For Blackistone, reporting on issues of equity, racism, poverty and fair compensation go hand in hand with sports coverage.

Blackistone didn’t begin his career covering sports. He worked the city desk at The Boston Globe, then investigated social justice issues at The Chicago Reporter. By 1986 Blackistone had moved to The Dallas Morning News, where he covered business and the economy. It wasn’t until the early 1990s that he started writing a sports column in Dallas.

“Writing about race and social justice is the reason I’m in journalism,” says Blackistone. “So it’s through that lens that I generally look at every topic that I write about. It was also the one area that I knew I had gravitas in and knew would be newsworthy one way or another, because historically there were very few sports columnists who dealt with [race and social justice], despite the fact that those issues have been rampant in sports from day one.”

Blackistone recently served as a producer of Imagining the Indian: The Fight Against Native American Mascotting, the feature-length documentary, which premiered in 2022, focuses on the movement to eliminate the use of Native American slurs and names in logos, images and gestures that represent sports teams.

“For journalists of color and women,” he adds, “if we don’t bring those perspectives to our journalism, then we’re really doing journalism a disservice.”

GETTING THE BIG BREAK

Sometimes it pays to be the last one in the office.

In fall 2019 Lyndsey Armacost ’18 had been working as a production assistant with ESPN’s Outside the Lines investigative series. She was in the office late one day when the phone rang.

“It was a coordinating producer who said, ‘We have a story that might break tonight. We need you in edit, and we don’t know when you’re going to leave.’ I ended up in edit for 15 to 20 hours a day for four days, assisting on the Tyler Skaggs breaking news project,” Armacost says.

Skaggs, who pitched for the Los Angeles Angels, died on July 1, 2019. His death revealed a drug trade involving an Angels employee who was supplying Skaggs and other players with oxycodone and other drugs.

The Outside the Lines report on the U.S. Drug Enforcement Administration investigation won first place for breaking news in the Associated Press Sports Editors 2019 contest. (The former Angels employee was sentenced to 22 years in prison in October 2022.)

Armacost continued to assist the investigative and news enterprise unit at ESPN until she moved into a full-time role with the team in April 2022. She is now an associate producer there.

“Being in the right place at the right time can be key for anyone. But in the fast-moving world of sports media, it can create make-or-break career opportunities.”

In June 2016, Coley Harvey ‘07 was wrapping up a three-year stint as the Cincinnati Bengals beat reporter at ESPN. He had planned to drive to Atlanta to visit family, but a broken toe prevented him from making the six-hour drive. Sitting on his couch in Cincinnati on the night of

I Knew I’d Made It When...
“‘When I was typesetting a box score or double-checking a proof of a page, even then, working the overnight shift and doing these relatively mundane things, I looked around and said, ‘Oh my gosh, this is home. I feel like I’m at home.’”

— USA Today columnist and CNN and ABC News commentator Christine Brennan on her 1979 internship at The Toledo Blade

NORTHEASTERN WINTER 2023

Coley Harvey

Lyndsey Armacost

I saw my name penciled in to co-anchor a Saturday evening SportsCenter with Larry Biel. I started getting nervous that minute, and I stayed nervous until 7:01 p.m., when the show was over. The level of nervousness I felt was not manageable. To me, the absolute pinnacle of the industry was to be an anchor on SportsCenter. It was one of the true thrills of my life.”

— ESPN broadcaster Mike Greenberg
June 3, Harvey started seeing news alerts that boxing legend Muhammad Ali had died. “It dawned on me that I was only an hour and a half from Louisville, which is where Ali was born and raised,” Harvey says. “I emailed some of the TV-side producers and said, ‘Hey, I know I’m covering the Bengals and was just a digital reporter, but if you guys need any help in Louisville this weekend, because I know it’s going to be crazy, let me know.’ They called me back at 2 a.m. and asked if I could be in Louisville by 8 a.m. I said, ‘Yes!’” Harvey anticipated staying in Louisville for a couple days at most. But he became ESPN’s reporter on the ground for that entire week leading up to the memorial service. “It ended up being a game-changing moment in my career, because a week or two later I got a phone call from the head of SportsCenter at the time,” says Harvey, now a national reporter at ESPN. “That’s how I got on TV, just by raising my hand for what was arguably the biggest story I’ve covered.”

Decisions to cover certain stories don’t always come easily. An ESPN studio host for most of her career, Cassidy Hubbarth ’07 had started working sidelines for NBA games in 2014. “The biggest part of the job was being out on the road and getting to know not just the players but also the coaches and general managers within the NBA,” says Hubbarth.

In 2020 the NBA moved to a COVID-19 bubble at Disney World in Orlando, Fla., to complete its regular season and playoffs. “I had a 1-year-old, so it was hard — really hard — to be away for six weeks,” says Hubbarth, now a reporter with ESPN. But those six weeks in Orlando gave her an incredible opportunity. “The bubble really ingrained me into the fabric of the NBA,” she says. “Those players saw me every day, and it was such an intimate experience.”

THE NEXT GENERATION

J.A. Adande ’92, a former Los Angeles Times columnist, is the first director of sports journalism at Medill, an opportunity that emerged when he returned to Northwestern as the Homecoming grand marshal for his 20-year reunion in 2012.

Brad Hamm, then the Medill dean, gathered a group of sports media alumni and “challenged us to think about our connection with Northwestern and how we were connecting with current students,” Adande says. “It stirred something within me.” Adande accepted a formal offer to teach at Northwestern in 2016 while still doing contract work as a columnist and reporter at ESPN. He joined Medill full time in 2017.

He’s proud of the direction that the sports media program — and Medill more broadly — has taken, away from a print-first focus. “Now it would simply be negligent to not help students develop a broader array of skills,” he says. “You should be able to write a story and host a podcast about the subject. You should be able to do a television hit and reformat your story as a video. You need to be able to do all those things.”

The sports media curriculum starts with a focus on the fundamentals of journalism and builds from there, allowing students to concentrate on developing their own voices.

One of the hallmarks of the graduate-level sports media specialization is being able to visit and attend major events, such as NBA All-Star Weekend, the Super Bowl and the Kentucky Derby. Students also report live on game days, gaining real-world experience of covering sports on deadline. And at those events, students are sure to see a friendly Medill face.

“You can always find a Medill grad in a press box,” says Adande. Mike Greenberg, for one, relishes the idea of inspiring the next generation of sports media stars. “I’m delighted to see the emphasis that J.A. Adande and Dean Charles Whitaker [’80, ’81 MS] have placed on our sports concentration,” he says. “When I got accepted to Medill, my first thought was, ‘I’m following in the footsteps of Brent Musburger.’ I hope that the [current and recent graduates] feel that same connection and inspiration.”

— ESPN NBA reporter Cassidy Hubbarth

From Coast to Coast

Want to follow Medill alum writers and broadcasters? Here’s a list of some local and national sports media personalities.

**CHICAGO**
Emily Ethman ’20, broadcaster, Big Ten Network
Meghan McKenney ’14, broadcaster and analyst, Big Ten Network
Eileen Menaker ’13 MS, host, reporter and analyst, Marquee Sports Network and Big Ten Network
Kate Wong ’17 MS, Denver Nuggets TV analyst, Altitude Sports

**LOS ANGELES**
Vic Chu ’91, owner, columnist, ThePostGame
Helene Elliott ’77, sports columnist, Los Angeles Times

**MEMPHIS, TENN.**
Drake Hills ’19 MS, sports reporter, The Tennessean

**MIAMI**
Jim Berry ’77, sports anchor, CBS4 News

**MILWAUKEE**
Lisa Byington ’88, ’90 MS, Milwaukee Bucks TV announcer, Bally Sports Wisconsin

**MONTGOMERY, ALA.**
Rossie Langello ’17 MS, sports director, WSFA 12 News

**NEW YORK CITY**
Jon Heyman ’83, baseball columnist, New York Post

**NEW ORLEANS**
Jay Hale ’00 MS, NBA reporter, Bally Sports New Orleans; NFL sideline reporter, Fox Sports

**WASHINGTON, D.C.**
Andrew Golder ’11, reporter, The Washington Post

**NATIONAL**
Rich Eisen ’94 MS, anchor, NFL Network
Stewart Mandel ’98, college football editor-in-chief, The Athletic
Adam Schefter ’90 MS, NFL insider, ESPN

**CHARLOTTE**
Paul Tenorio ’07, soccer writer, The Athletic
Stevie Weisman ’01, anchor, Tennis Channel

**FROM COAST TO COAST**

I Knew I’d Made It When …

“The first image that comes to my mind is interviewing Russell Westbrook [in 2017] in Oklahoma City after he tied Oscar Robertson’s triple-double record. I felt the weight of making sure that I did justice to what was happening in NBA history while not only providing the fans with the best possible experience but also providing Russell with the best experience to express what that moment meant to him.”

— ESPN NBA reporter Cassidy Hubbarth
Scientists and engineers unlock the body’s healing powers.

BY EMILY AYSHFORD

REPAIR
REGROW
REGENERATE

Illustrations by Harry Campbell
It is somewhat miraculous, the wonders that nature can work. Axolotl salamanders, for example, can regrow their spinal cord, heart and limbs. Many crab species can regrow claws. And a chopped-up panther worm can completely regenerate from each segment.

The human body can do a lot, too, knitting skin and bones back together after an injury. But there are limits. Sever the spinal cord, for example, and the damage is almost always permanent. But Northwestern researchers, including Samuel Stupp, Guillermo Ameer and John Kessler, are on the cusp of some superhuman breakthroughs, pushing the body’s boundaries through advances in regenerative medicine and engineering, with the goal of bringing healing and hope to countless people.

Over the past year, Stupp ’77 PhD has heard from thousands of people who have seen the stunning effects of his latest regenerative therapy, including many who have suffered spinal cord injuries as a result of car accidents and gunshot wounds.

“Not once in 15 years, in all my time spent looking for a way to fix me, has any [research] given me the amount of hope that this one has,” one note said.

The videos of Stupp’s therapy, posted in 2021, speak for themselves. In the first, a mouse paralyzed by a severe spinal cord injury drags its back legs. In the second — after receiving Stupp’s injectable therapy — a previously paralyzed mouse moves its back legs, crawling almost normally across the floor. (See the videos at alummag.nu/regenerate.)

For the nearly 300,000 people living with spinal cord injuries in the United States, modern medicine has offered little treatment beyond physical therapy. But Stupp’s breakthrough might finally offer a ray of hope.

For Stupp, the results of the therapy are the culmination of more than two decades of work in regenerative medicine. In fact, in 2008 Stupp first saw mice regain a limited ability to walk after their moderate injuries were treated with a much earlier version of the therapy, the result of a collaboration with Kessler.

But repairing parts of the body that do not regenerate on their own is extremely complex. It requires a deep understanding of materials science, biology, chemistry and the complicated networks that govern healing and regrowth. Stupp and members of his lab have been refining that knowledge over the past decade, trying to create new materials that could spur robust regeneration in different parts of the body.

So when Stupp saw his new bioactive material harness the motion of thousands of molecules, making the therapy much more effective, he was surprised and excited. And when he published his research in the journal Science in November 2021, and the letters came pouring in, asking when clinical trials would be available, he understood just how desperate people were.

“I never expected there would be this kind of response,” says Stupp, the Board of Trustees Professor of Materials Science and Engineering, Chemistry, Medicine and Biomedical Engineering. “It has been truly overwhelming. It allowed us to become keenly aware of the need, that this therapy could have a huge impact.”

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It’s been a journey to get to this point. As a boy growing up in Costa Rica, Stupp immersed himself in the science books his father brought back from business trips to the United States. Both of his parents had fled Eastern Europe as children in the tumultuous years before World War II, and they encouraged him to take advantage of every opportunity to succeed in their adopted country.

When his father developed the first record manufacturing facility in Central America, Stupp began to learn about the electrochemistry needed to make the metallic molds and the science behind the records’ polymeric materials.

Stupp traveled to the U.S. and attended UCLA for his undergraduate degree in chemistry and then earned his doctorate in materials science and engineering at Northwestern. He first joined the Northwestern faculty in 1977 as an assistant professor of biological materials. He left in 1980, and by the time Northwestern researchers, including Samuel Stupp, Guillermo Ameer and John Kessler, are on the cusp of some superhuman breakthroughs, pushing the body’s boundaries through advances in regenerative medicine and engineering, with the goal of bringing healing and hope to countless people.

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For the nearly 300,000 people living with spinal cord injuries in the United States, modern medicine has offered little treatment beyond physical therapy. But Stupp’s breakthrough might finally offer a ray of hope.

For Stupp, the results of the therapy are the culmination of more than two decades of work in regenerative medicine. In fact, in 2008 Stupp first saw mice regain a limited ability to walk after their moderate injuries were treated with a much earlier version of the therapy, the result of a collaboration with Kessler.

But repairing parts of the body that do not regenerate on their own is extremely complex. It requires a deep understanding of materials science, biology, chemistry and the complicated network that govern healing and regrowth. Stupp and members of his lab have been refining that knowledge over the past decade, trying to create new materials that could spur robust regeneration in different parts of the body.

So when Stupp saw his new bioactive material harness the motion of thousands of molecules, making the therapy much more effective, he was surprised and excited. And when he published his research in the journal Science in November 2021, and the letters came pouring in, asking when clinical trials would be available, he understood just how desperate people were.

“I never expected there would be this kind of response,” says Stupp, the Board of Trustees Professor of Materials Science and Engineering, Chemistry, Medicine and Biomedical Engineering. “It has been truly overwhelming. It allowed us to become keenly aware of the need, that this therapy could have a huge impact.”

It’s been a journey to get to this point. As a boy growing up in Costa Rica, Stupp immersed himself in the science books his father brought back from business trips to the United States. Both of his parents had fled Eastern Europe as children in the tumultuous years before World War II, and they encouraged him to take advantage of every opportunity to succeed in their adopted country.

When his father developed the first record manufacturing facility in Central America, Stupp began to learn about the electrochemistry needed to make the metallic molds and the science behind the records’ polymeric materials.

Stupp traveled to the U.S. and attended UCLA for his undergraduate degree in chemistry and then earned his doctorate in materials science and engineering at Northwestern. He first joined the Northwestern faculty in 1977 as an assistant professor of biological materials. He left in 1980, and by the time
Within a few years (see “Spinal Cord spinal cord therapy to clinical trials at Northwestern, hopes to bring this Querrey Institute for BioNanotechnology they biodegrade with no side effects. After they’ve induced growth and healing, the survival of motor neurons. Insulating layer around axons that helps a physical barrier to regeneration. The aspects of spinal cord repair. One signal distinct signals that trigger different connected with the moving cell receptors. But receptors in neurons and cells constantly move around, and that can make it tricky to make sure those signals reach the receptors. It was only when Stupp and his team discovered how to control the collective motion of more than 100,000 molecules within the nanofibers — making them “dance” — that they saw a greater effect in the therapy. The dancing molecules better connected with the moving cell receptors. These new nanofibers deliver two distinct signals that trigger different aspects of spinal cord repair. One signal prompts the long tails of neurons in the spinal cord, called axons, to regenerate and also reduces scarring, which acts as a physical barrier to regeneration. The other signal stimulates the growth of lost blood vessels, rebuilds myelin (the insulating layer around axons that helps transmit electric signals) and promotes the survival of motor neurons. The biomaterials contain building blocks that naturally exist in the body, and after they’ve induced growth and healing, they biodegrade with no side effects. Stupp, director of the Simpson Querrey Institute for BioNanoTechnology at Northwestern, hopes to bring this spinal cord therapy to clinical trials within a few years (see “Spinal Cord cord and urinary bladder do not form properly. Arun Sharma, research associate professor of urology at the Feinberg School of Medicine and biomedical engineering at the McCormick School of Engineering, is studying the use of small molecules to stimulate native bladder tissue stem cells to regenerate functional bladder tissue — with promising early results. “It’s still a work in progress, but my goal is to ultimately apply this process to patients who are suffering from severe bladder dysfunction so they have some semblance of normalcy regarding quality of life,” Sharma says.

When injected into the body, the liquid biomaterial gels into a network of nanofibers that mimics the architecture of proteins and molecules surrounding cells in bodily tissues. This nanofiber network then sends out signals to cell receptors. But receptors in neurons and cells constantly move around, and that can make it tricky to make sure those signals reach the receptors. It was only when Stupp and his team discovered how to control the collective motion of more than 100,000 molecules within the nanofibers — making them “dance” — that they saw a greater effect in the therapy. The dancing molecules better connected with the moving cell receptors. These new nanofibers deliver two distinct signals that trigger different aspects of spinal cord repair. One signal prompts the long tails of neurons in the spinal cord, called axons, to regenerate and also reduces scarring, which acts as a physical barrier to regeneration. The other signal stimulates the growth of lost blood vessels, rebuilds myelin (the insulating layer around axons that helps transmit electric signals) and promotes the survival of motor neurons. The biomaterials contain building blocks that naturally exist in the body, and after they’ve induced growth and healing, they biodegrade with no side effects. Stupp, director of the Simpson Querrey Institute for BioNanoTechnology at Northwestern, hopes to bring this spinal cord therapy to clinical trials within a few years (see “Spinal Cord
A trained chemical engineer, Guillermo Ameer initially worked in the oil and chemical industries. But as new research fields emerged, Ameer shifted gears early in his career, drawn by the possibility of applying his engineering skills to solve medical problems. In graduate school, he was “surrounded by people who were excited about the possibility of regenerating tissue and organs, given the lack of donors,” he says. “That got me excited and interested in tissue engineering.”

A pioneer in the field of regenerative engineering, Ameer admits that he’s encountered his share of twists and turns on his journey, such as inadequate materials and cell sources for experiments and regulatory structures that were not designed for regenerative medicine. “I thought I would be a billionaire living part time on my own island by now,” he jokes.

But Ameer is now seeing the fruits of his labor. His understanding of chemistry and biology led to the discovery of a new class of biomaterials that help guide or control cell function to regrow tissue and organs. This biomaterials are based on citrate — a derivative of citric acid — and they have antioxidant and anti-inflammatory properties that encourage growth and healing in the body.

Over the past 20 years, Ameer has used these materials to reduce scarring in blood vessels, regenerate bladder tissue and repair defects in the skull. One material based on this work is now used in a device that helps attach soft tissue grafts to bone during reconstructive surgeries.

More recent work includes a hydrogel dressing, inspired by the protein laminin, which signals cells to help heal diabetic wounds. He’s also collaborating with fellow McCormick School of Engineering professor Evan Scott to develop a material to increase the success rate of pancreatic islet transplants for patients with diabetes.

Ameer, Daniel Hale Williams Professor of Biomedical Engineering and Surgery, is director of the Center for Advanced Regenerative Engineering (CARE), where faculty are working to commercialize their technologies as well as train the next generation of regenerative engineers. In 2022 CARE received the first training grant from the National Institutes of Health focused on regenerative engineering to support graduate students in biomedical engineering.

“The field has grown tremendously within the last decade. There are now many more people on board with regenerative engineering, and there is much more investment in this sector,” Ameer says. “We are glad to see the excitement and enthusiasm.”

A PERSONAL QUEST

Since the 1970s, John “Jack” Kessler has been trying to figure out how to regenerate damaged nervous systems — the brain and spinal cord, as well as peripheral nerves that extend throughout the body. He began to study growth factors — naturally occurring molecules that stimulate cellular processes during development and healing. He then focused on stem cell therapies for the nervous system, an area of study that became personal in 2001, when his daughter was involved in a downhill skiing accident that left her paralyzed from the waist down.

“Many people think you can inject stem cells into the body, [and those cells] are then going to do something magical,” says Kessler, Ken and Ruth Davee Professor of Stem Cell Biology and professor of neurology and pharmacology at Feinberg. “But it doesn’t work that way. You must give them an environment where they will flourish, and they must have the appropriate signals to become the sort of cells you want them to become.”

Now, Kessler’s efforts to regenerate the nervous system focus on stimulating growth factors by administering genetic material into the body to treat or stop disease. Within his lab, he has studied injecting DNA into a patient’s muscle, which then uses the DNA as a template to become a “factory” that produces hepatocyte growth factor (HGF). HGF supports the survival and outgrowths of nerve cells and helps regenerate blood vessels.

The therapy is currently in phase 3 clinical trials for patients with diabetic neuropathy — nerve damage that can occur in the legs and feet of people with diabetes. Earlier clinical trials showed that the therapy both reduced pain and restored nerve function. Nerves grow very slowly — no more than 1 or 2 millimeters per day — so the full response to the therapy will be seen months and years down the road.

If the phase 3 trial goes well, “it will be the first time anybody has a regenerative strategy that actually works [to address] a damaged nervous system,” says Kessler. “It’s very exciting, especially since we’ve been working in this area for so long.”

Working in regenerative medicine requires that Kessler, Stupp, Ameer and others take the long view. Regrowing entire organs and limbs might be decades away, but researchers are headed in that direction.

Stupp, for one, is excited to see this work through until it’s available to human patients. He thinks back to his father, who told him that if he wanted a career in science, he needed to move to the United States, a hub of scientific innovation. “As is the case with many immigrants, we are extremely motivated to succeed. It was not easy for my father to start his record manufacturing facility. He had a lot of obstacles. But he showed me how to overcome those.”

“I have that inspiration, too,” he adds. “And there’s no lack of motivation, I will continue to work on this for as long as I can. It’s a good way to stay young.”

Emily Ashford ’12 MFA is a writer in Chicago.
Meet the 2022 recipients of the Northwestern Alumni Association’s highest honor — the Northwestern Alumni Medal.

Since 1932, the Medal has celebrated alumni who have had a transformative impact on their fields, who have performed exemplary volunteer service to society or who have demonstrated an outstanding record of service and support to the University.

By Kari Forsee ’02 and Daniel P. Smith

INSPIRATIONAL DIRECTIONS

TELLING WOMEN’S STORIES

CINDY CHUPACK ’87

She’s the friend whose stories of dating, marriage and divorce might make you laugh until you cry or cry until you laugh. As an award-winning writer, producer and director, Cindy Chupack has been elevating women’s voices, on- and off-screen, for more than 30 years.

In Hollywood, she’s known for her creative mind, collaborative spirit and exceptional leadership skills. Chupack made a name for herself as a writer on iconic TV series such as Sex and the City, Everybody Loves Raymond and Modern Family. She is also the author of two bestselling memoirs, and her comic essays have appeared in publications including The New York Times and Glamour. In addition to her writing, she has been featured on the storytelling radio program The Moth and NPR broadcasts. Chupack also directed Otherhood, a 2019 feature film.

As a child growing up in Tulsa, Okla., Chupack says her third-grade teacher, Virginia Davis, identified her as a writer. “I loved that I had a title, not just a talent,” she says. Chupack thought journalism would be her calling and set her sights on Northwestern’s Medill School of Journalism, Media, Integrated Marketing Communications. During her undergraduate years, she gravitated toward poetry, first-person essays and feature writing and learned to trust her instincts as a writer. “I realized I wasn’t a hard-news journalist,” she says. “I wanted to put more of ‘me’ in the stories.”

During her Medill journalism residency as a reporter at a Binghamton, N.Y., newspaper, Chupack began corresponding with her former undergraduate roommate. “I wrote really funny letters,” she says. “Later, whenever I got stuck trying to write, I just went back to ‘How would I tell this story to my friends at Northwestern?’ I guess this is my version of ‘visualize the audience in their underwear.’ Visualize the audience as friends who love you, accept you, support you and want to hear your stories.”

After graduation, Chupack worked in advertising and published a comic essay in the now-defunct magazine New York Woman. The piece caught the attention of a television producer, who encouraged her to pursue sitcom writing. Since then, Chupack has received many accolades, including a Primetime Emmy Award and three Golden Globe Awards, as well as a spot in Medill’s Hall of Achievement in 2020.

“The industry is finally learning the value of diverse stories, which means more people can recognize themselves on TV and feel validated.” — K.F.

By Kari Forsee ’02 and Daniel P. Smith

PHOTO: CHANNING
ACCELERATING EQUALITY

DAVID LOUIE ’72

As an undergraduate studying journalism at Northwestern in the late 1960s, David Louie felt social change swirling all around him. He and many of his fellow students were aching—and advocating—for a more connected and just future amid an intensifying civil rights movement and accelerating calls for equality.

“We all had to live together, work together and try to advance this world that we had inherited,” Louie says. The Cleveland native took that mission to heart, aiming to become a journalist himself while supporting and encouraging others in the industry.

In 1972 Louie joined KGO-TV in San Francisco as the first Asian American broadcast journalist hired by the city’s ABC-owned television station. During his decorated 50-year career with KGO-TV, he covered the rise of Silicon Valley as the global center for technology, broke ground as a member of the first local television news team to visit China following the normalization of U.S.-China relations in 1979 and secured the first interview with then-U.S. Secretary of Transportation Norman Mineta after the grounding of all commercial aircraft in U.S. airspace in response to the 9/11 terrorist attacks.

“I loved waking up every day wondering, ‘What am I going to report on today?’” says Louie, who retired in September. Over five decades, he earned four Emmy Awards as well as spot in the Medill School of Journalism, Media, Integrated Marketing Communications’ inaugural Hall of Achievement class in 1997. Tracey Watkinson Silva, KGO-TV’s vice president of news, first met Louie in 1999. She describes her longtime colleague as “a tireless journalist.” When the COVID-19 pandemic suddenly required reporters to work remotely, she says Louie was among the first to master live broadcasts from home.

“Even after 50 years as a reporter, he never showed signs of fatigue from the demands of the news business,” Silva says, adding that Louie is also “a wonderful storyteller who understands the essence and emotion of every story.” Louie has consistently looked beyond his own pursuits and found ways to uplift others. He helped launch the San Francisco chapter of the Asian American Journalists Association (AAJA) and served as national president, spearheading scholarship programs, outreach activities and mentorship opportunities designed to propel promising students from diverse backgrounds into the journalism field. While more Asian Americans are populating newsrooms across the country, Louie cites a 2022 AAJA survey that found a quarter of the newsrooms in the nation’s top 20 television markets have no Asian Americans on staff. That’s a troubling reality, he explains, because diversity and varied perspectives in journalism enhance and enliven the industry.

“That’s why we need to continue to put pressure on everyone today to do what we did 50 years ago,” he says.

Louie was the first person of color to chair the National Academy of Television Arts & Sciences, and he served as a board member of the Radio Television Digital News Association (RTDNA), the same organization that had awarded him its inaugural scholarship in 1970. The scholarship helped him afford Northwestern and provided a networking opportunity that led to his job at KGO-TV.

With a desire to support students in similar ways, Louie recently endowed an RTDNA scholarship for Medill students. “If I can help in some small way,” Louie says, “that gives me a great deal of pride.” — D.P.S.

INVESTING FOR IMPACT

JEFF UBBEN ’87 MBA

In 2020 Ubben launched Inclusive Capital Partners, an investment firm that seeks to positively leverage capitalism and governance in pursuit of a healthy planet and the well-being of its inhabitants.

“Jeff is effectively aligning his personal values with his investment acumen and extensive professional experience, creating an entirely new benchmark that might be thought of as the power of positive investing,” Ubben’s longtime colleague George F. Hamel Jr. says.

And while some so-called activist investors pursue tables and incite proxy battles between shareholders, Ubben prefers collaboration. Having served on roughly 20 public company boards, he has built a reputation as a thought leader capable of supporting corporate transformation. When Exxon Mobil sought a board member to propel its transition to the alternative-energy company of the future, for instance, Ubben emerged as a clear choice.

“There is a very short list of experienced investors with a record of constructive partnerships working with companies, and Jeff is at the top of that list,” Hamel says. Ubben’s business sensibilities have naturally informed his own philanthropy and civic involvement. When he was chair of the Posse Foundation, a college access program, Ubben helped bring Northwestern into an effort committed to increasing diversity in higher education and empowering student success. And as a member of Northwestern’s Board of Trustees, he has advanced environmental and financial aid initiatives at the University.

In 2017, Ubben and his wife, Laurie, also made a gift to the Ubben Program for Climate and Carbon Science. Additionally, Ubben served on the steering committee for We Will. The Campaign for Northwestern, which expanded opportunities for students, stimulated innovative research and fuels Northwestern’s future. During the campaign, the Ubbens made an unprecedented estate commitment of $50 million to support scholarships that encourage future Northwestern students to learn, grow and serve the world.

“Laurie and I hope to help more students take advantage of every opportunity Northwestern has to offer and become leaders in the workplace,” he says. — D.P.S.
A unique opportunity to invest alongside your classmates.

Often when you think of venture capital investing, you think of endowments and pension funds investing in hard-to-access opportunities. Alumni Ventures is disrupting the venture capital industry by offering a path for accredited investors to own an actively managed, diversified venture portfolio that invests alongside well-known VC firms. This asset class has outperformed the S&P over many periods. With Purple Arch Ventures, the idea is simple—by investing together with other Northwestern alumni, we all can do better.

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WILDCATS IN DUBLIN

Rena Brooks ’53, a dedicated Wildcats fan from Kalamazoo, Mich., attends as many Northwestern football games as possible. But Northwestern’s 31-28 season-opening win over Nebraska in Dublin was especially meaningful, as Brooks attended the game and festivities in Ireland with her grandson, Max Brooks ’22.
Five Questions with Andrew Krivine ’82
Punk-rock memorabilia collector raves about his 7,200-piece collection, the hunt for holy grails and his love for punk-inspired graphic design.

1 How did you get into punk rock? I grew up in Briarcliff Manor near New York City, and every summer as a teen, I visited family in London, where my cousin John opened two punk clothing shops, Acme Attractions and BOY. I hung out at BOY in July 1977, soon after it opened, and became immersed in punk music and fashion. I returned home a convert and a budding collector.

2 What’s in your collection? I have two storage lockers in New Jersey and one in the Bronx. They contain more than 3,000 posters, 800 concert flyers and more than 400 fanzines. In addition, I’ve got clothing, stickers, hundreds of badges and scores of other promotional pieces, including standees. For many promising bands, the record labels would create in-store promotional posters and larger displays. One great example in the collection is for Blondie, promoting their album Plastic Letters. It’s nearly 6 feet tall and signed by Debbie Harry.

3 Do you collect records, too? Years ago, I recognized that I had to pick a lane. I just didn’t have the money to acquire everything. I do have a modest collection of about 600 45s and 150 LPs. It’s basically what I listened to back in the day, between 1977 and 1986. I was drawn to posters and related promotional graphic pieces because the best designs are so visually compelling. There is a tangible, tactile dimension to all these works. These pieces chronicle the last burst of graphic design creativity before the digital age.

4 Is there a cool item you found after a long search—a holy grail? There are a few holy grails. Through one of my cousins in England, I met someone who worked with the Sex Pistols’ manager. I was able to acquire this woman’s entire archive, more than 40 pieces, mostly of Jamie Reid’s work. Reid was the premier British graphic designer of punk rock. He created all the Sex Pistols posters and graphics and introduced the concept of ransom lettering. You’ve seen his posters and would recognize them instantly. Another holy grail is an original Joy Division poster from March 1980. I own some early reprints, but at one point there may be 10 originals in existence. In 2019 I had an exhibition at the Museum of Arts and Design in New York, which then moved to the Design Museum Brussels. I met a collector at the opening reception, and we did a combination cash-and-trade for this poster. Within three months of that show in 1980, [singer] Ian Curtis had committed suicide, so this was one of the last gigs performed by Joy Division.

5 What was your favorite discovery? There was a legendary record shop in the West Village in New York City called Bleeker Bob’s. It had been there for decades and was on its last legs by the early 2000s. I went there two or three times over the course of about a month in 2007 and got to know the guys behind the counter. I bought a few posters that they had readily available, but finally I asked, “Is there any place where you have a bunch of posters?” And they said, “We have a few more rolls in the basement.” It was really a dank basement in this old Victorian building. Most of the posters were badly water damaged, but inside of one roll was a poster from an early 1977 concert for the Heartbreakers in Liverpool, England. They’re up there with the Ramones—a hugely influential band. Concert posters from that era are quite rare and can trigger a feeding frenzy at auction. As a collector, you can’t let up. You must keep exploring. Even if you’ve spent hours in a musty room, if there’s one last tube, you open it up and see what’s in there!

See rare highlights from Krivine’s collection at alummag.nu/psnk.

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See rare highlights from Krivine’s collection at alummag.nu/psnk.
When Barbara Gaines thinks back to the very first Chicago Shakespeare Theater production — on the rooftop of a Lincoln Park pub — she mostly recalls actors with “really long swords running a Lincoln Park pub — she mostly recalls actors with ‘really long swords running the roof of the Red Lion Pub. “But we can’t give in to these struggles. You go to this tiny town — this little stampage postage of a place — where, if you didn’t know, there’s nothing to tell you that this place produced such a hero,” says Solomon-Glover ‘79, a classical singer who has spent the past five years writing the libretto for a one-act opera about Hamer’s life: This Little Light of Mine premièred at the Santa Fe Opera in October 2022. “The social reckoning that began with the murder of George Floyd is not complete,” she says, “so to be engaging with one of the mothers of the civil rights movement was reassuring.” In Ruleville, she met Jacqueline “Cookie” Hamer Flakes, Hamer’s last living child. Together, they saw the church where Hamer first learned, at age 44, that she had the right to vote. They drove to Sunflower County Courthouse, where Hamer tried to register to vote and was denied. And they stood at the site of the Winona, Miss., jail where Hamer and her fellow activists were brutally beaten after police arrested them for sitting at a whites-only lunch counter. “It was validating to be there,” Solomon-Glover says, “because the words I have written in this opera ring true.” On Oct. 29, 2022, Flakes was in the audience, watching her mother’s life memorialized on stage. “Cookie so evokes Mrs. Hamer’s spirit that sitting with her is like sitting right next to Mrs. Hamer,” says Solomon-Glover. Now, Solomon-Glover is writing the libretto for The Boy From Troy, an “operatorio” about another civil rights icon, the late U.S. Rep. John Lewis. “In many ways, I feel like Fannie Lou Hamer’s daughter, too,” she says. “I feel like a daughter of the movement.”

**Premier Podcasts**

In response to “Are You Listening?” (spring 2022), we heard from several alumni who host, produce or create podcasts. Here are just a few for your feed:

**Erica Rosenfeld Halverson ’97, ’05 PhD**

Launched Arts Educators Save the World in August 2022. The podcast features artists such as musical composer Lin-Manuel Miranda, Tony Award nominee and Broadway star Kate Baldwin ’97 and others in conversation with the mentors who shaped their lives.

**Max Freedman ’10**

Co-created and co-hosts School Colors, a podcast about how race, class and power shape U.S. cities and schools, focusing on rapidly changing neighborhoods in New York City. Season 2 aired through Code Switch, an NPR outlet and podcast. Freedman is also one of the creators of Unsettled, a podcast about Israel, Palestine and the Jewish diaspora.
To recall some real winter memories, see page 6.

Welcome to Winter Quarter
Stay warm, Wildcats.

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The approximate age of an ancient aqueduct in Caesarea, one of the sites visited on the 12-day Global Engineering Trek to Israel last fall.

Read more on page 11.