Seeing What’s Possible

Northwestern partners with the community to reenvision out-of-school learning
Message from the Dean

In 1869, Northwestern controversially opened its doors to women students, the pathbreakers for alumnae like Alice Gabrielle Twilight and Lorraine H. Morton. Twilight, the first woman to earn a Northwestern doctorate, in 1898, became a renowned teacher Morton (MS42, H08). Evanston’s first African American mayor, led the transformation of Evanston schools and the city itself through her work in education and public service.

As Northwestern marks 150 years of coeducation during 2019–20, the legacies of Twilight, Morton, and other remarkable women live on at the School of Education and Social Policy through named professorships. The University’s most prestigious recognition for faculty, named professorships provide faculty with additional funds and resources to pursue their best ideas while continuing to mentor generations of SESP students.

With University support, SESP recently established several new named professorships and continued others. Among the faculty receiving these honors are Uri Wilensky, Northwestern’s first Lorraine H. Morton Professor of Learning Sciences and Computer Sciences. Like Morton, Uri is a pioneer in his field and a major innovator in education.

Miriam Sherin, associate provost for learning sciences and African American studies professor Carol Lee until her retirement last June, honors the legacy of late philanthropist Edwina S. Tarry, who endowed the first named professorship in this issue, is the Edwina S. Tarry Professor of Human Development and Social Policy. This professorship, held by Northwestern’s first Lorraine H. Morton Professor of Learning Sciences and Computer Sciences. Like Morton, Uri is a pioneer in his field and a major innovator in education.

Miriam Sherin, associate provost for learning sciences and African American studies professor Carol Lee until her retirement last June, honors the legacy of late philanthropist Edwina S. Tarry, who received a master’s in education from SESP in 1938.

Including Uri, Miriam, and Emma, SESP can now boast a total of 11 current faculty members with named professorships. That’s 52 percent of our full professors. (The complete list is on page 4.)

What these faculty members have in common is their global recognition as intellectual adventurers and change agents who challenge the status quo to improve human lives.

Who are the women, womxn, gender diverse individuals, and allies in your lives who led or are leading the struggle to open doors, creating greater access and opportunity for all?

You can find such people at SESP, where we help Northwestern make the world a better place—one individual, one organization, one community, and one system at a time.

To join the conversation, write an Instagram or Twitter post, take a selfie, or upload a photo and tag it #WomxnAtNU. And, as always, please let us know how you’re changing the world for the better.
Notable Women Present Loeschner Lectures

SESP’s Ray and Nancy Loeschner Lecture on Leadership series, which provides an on-campus forum for visionaries in education and other fields to inspire students, welcomed two speakers last spring. Public intellectual and award-winning poet Eve L. Ewing spoke in April, and San Francisco Federal Reserve president Mary Daly visited in May. For coverage of the talks and details about the women’s life stories, see the SESP website.

Policy reflects the people who make it. If you have only one type of person around the table making the policy, you’re going to miss a lot of the problems that other people would see. And you’re certainly going to miss the unique solutions they’d be able to offer.

Mary Daly | Leading labor economist, former high school dropout

“Clean Diesel’ Fraud Linked to Worse Health

In 2015, Volkswagen was charged with violating the US Clean Air Act, in a scandal dubbed “Dieselgate.” On the road, so-called clean-diesel cars, which had passed emissions tests by using illegal “defeat device” software, were in fact pumping out dangerously high levels of nitrogen oxide. One diesel car could emit as much as 150 gasoline-powered vehicles.

The cheating cars had a noticeable effect on the health of babies and children, according to a working paper co-authored by economist and assistant professor of human development and social policy Hannes Schwandt and the Federal Reserve Bank of Chicago’s Diane Alexander. Automakers (not just Volkswagen) sold more than 600,000 diesel cars in the US between 2008 and 2015. Schwandt and Alexander found that the additional pollution these cars produced was linked to lower birth weight in nearly 38,600 children and an increase in acute asthma in infants and children.

Children across the socioeconomic spectrum were affected, but the impact was pronounced for those born to white, non-Hispanic mothers with college degrees. As the cars were marketed to environmentally conscious consumers—with ads touting power and mileage in combination with low emissions—they sold especially well in higher-income areas.

Although the poor are at greater risk, “even the wealthiest members of society are exposed to car pollution on a daily basis,” Schwandt says.

Tracking US car registrations to pinpoint where the cheating diesel cars were sold, researchers linked the data to detailed information on pregnancies and births in those counties. They also collected data from Environmental Protection Agency monitoring stations and satellites to measure air pollution.

While previous research had documented the ill effects of pollution on disadvantaged populations living, for example, next to highways, this study provides the first quasi-experimental, causal evidence that even moderate levels of pollution can have detrimental health effects across the entire population.

“This is a necessary reminder that fighting pollution isn’t just important because of the effects on the climate, it’s also about the immediate effects on our health and the health of our children,” Kelsey Piper wrote in Vox. “It might be easier to get the public to back strong emissions standards if there’s greater awareness that pollution won’t just affect our climate down the road—it can kill our children right now.”

The Cost of Having a Twin Brother

A large new study has found that women with a twin brother do worse in school and make less money than those with a twin sister, Claire Cain Miller wrote in the New York Times. In their 30s, the women wound up earning 9 percent less. They were also less likely to graduate from school, marry, and have children.

Study co-author and SESP dean David Figlio noted that the effects were because the women were naturally exposed to their brothers’ testosterone in the womb. The study, published in PNAS, included all births in Norway for 11 years.

“Women exposed to testosterone have some of the educational challenges more frequently associated with men,” Figlio told the Times. “However, to the extent to which labor market discrimination exists in society, they don’t have the discriminatory benefits that men enjoy.”

As reported in The Times, the study involved 728,842 people, including 13,800 twins—everyone born in Norway from 1987 to 1978—in addition to records about their family, education, and work.

Women with a male twin were 15 percent less likely to graduate from high school than women with a female twin, and those who went to college were 4 percent less likely to finish. The women had a 12 percent lower probability of being married and a 6 percent lower probability of having children.

Notably, the research showed no effect on the careers people pursued. Among those who graduated from college, women with a male twin were no more likely to pursue degrees in traditionally male-dominated fields like science, engineering, math, and economics. The study did not find that men experienced long-term effects from having a female twin.
SCHOOL NEWS

SESP Welcomes New Faculty

Tabitha Bonilla, a political scientist who studies voting behavior, communication, and public opinion, has joined SESP as assistant profes- sor of human development and political science. Her work focuses on how messaging influences support for public policies on subjects ranging from gun control and human trafficking to immigration. Bonilla is teaching a new class that explores how and why the media and antitrafficking organizations tend to narrowly define trafficking as the sexual exploitation of foreign women—and how this can affect public support for antitrafficking policy and strategic responses.

Lina Dang, assistant professor of instruction in the Master’s Program in Learning and Organizational Change, researches organizational status and management innovations in the context of executive hiring, strategic alliances, and other network forms. She teaches in the areas of strategic management, organization design, and change, entrepreneurship, and international business. Her work has been published in top journals, including Journal of Management Studies and Academy of Management Journal.

Sally Nuamah, who earned her PhD in political science at Northwestern, has returned to the University as assistant professor of human development and social policy. Her work examines the intersection of race, gender, education policy, and political behavior. Before joining SESP, she held a faculty appointment at Duke University and was a research associate at Princeton University and a fellow at Harvard University. The first-generation Ghanaian American also founded an organization that helps low-income girls become the first in their family to attend college.

IN BRIEF

Cynthia Coburn, professor of human development and social policy, received an honorary doctorate from Belgium’s Université Catholique du Louvain in December, in recognition of her contributions to psychology and educational sciences.

Learning scientist Danny Cohen received the Charles Deering McCormick Distinguished Professor of Instruction Award. His teaching focuses on collective memories and human rights.

Social psychologist Masmin Destin received the Charles Deering McCormick Professor of Teaching Excellence Award for his work studying how identity can be shaped by a student’s environment and the impact this has on motivation, behavior, and life trajectory.

Heather McCamby, a doctoral candidate in human development and social policy, received Northwestern’s most prestigious graduate student award, the Presidential Fellowship.

New faculty member Sally Nuamah was named an Andrew Carnegie Fellow to support her study “How the Punishment of Black Women and Girls Affects Our Democracy.” She joins Kirabo Jackson, who was named a Carnegie Fellow in 2016.

Sociology, education, and social policy professor James Rosenbaum received the Elizabeth G. Cohen Distinguished Career Award in Applied Sociology of Education Award from the American Education Research Association.

Diane Schanzenbach, director of the Institute for Policy Research, was elected to the National Academy of Education.

Learning scientist Sepheh Vakil received the National Science Foundation’s Faculty Early Career Development (CAREER) Award, the agency’s most prestigious honor for promising young academics.

Tabitha Bonilla

Cynthia Coburn

Danny Cohen

Masmin Destin

Heather McCamby

Diane Schanzenbach

Sepheh Vakil

NAMED PROFESSORSHIPS

Faculty members Emma Adam, Jonathan Guryan, Kirabo Jackson, Miriam Sheri, and Uri Wilensky have been honored for academic excellence. They joined their SESP colleagues Lindsay Chase-Lansdale, David Figlio, Larry Hedges, Dan McDaniels, Diane Schanzenbach, and James Spillane in holding named professorships. Northwestern’s highest faculty honor.

Shedding Light on Albinism

Andrea Kington Busby’s daughter, Ruth, is biracial, though few people would guess. The two-year-old’s wispy blond hair and blue eyes are certainly not reliable clues.

But they hint at another truth about Ruth: she lives with albinism, a rare genetic condition associated with decreased pigmentation of the skin, hair, and eyes.

Her diagnosis explains the disconnect between Ruth’s coloring and her heritage, says Busby, a child development researcher and human development and social policy doctoral student at SESP. The real challenge with albinism, she says, is the vision impairment that accompanies it.

Ruth’s albinism causes constant, uncontrollable eye movement, sensitivity to light, trouble with depth perception, and reduced visual clarity. “Yes, her cute little glasses help,” Busby says, but they can’t begin to correct the less obvious effects of Ruth’s vision problems.

“Vision motivates infants to roll over and crawl. It helps toddlers attach meaning to language. Researchers know a lot about average sensitivity to light, trouble with depth perception, and reduced visual clarity. With time and help from her parents and professionals, Ruth has certainly not reliable clues.

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“Vision motivates infants to roll over and crawl. It helps toddlers attach meaning to language. Researchers know a lot about average developmental trajectories,” Busby says, “but not as much about the developmental process for children with visual impairments.”

Busby studies how home and school environments affect children’s development, especially in disadvantaged families. Newly named to the Frances Deegan Horwitz Millennium Scholars Program, which supports scholars from underrepresented groups in pursuing developmental science graduate degrees and careers, she’ll delve deeper into studying neighborhood effects on teachers and children.

She says her research experience made early intervention possible after Ruth was originally misdiagnosed. And being a mother has made her a more compassionate, determined researcher.

With time and help from her parents and professionals, Ruth has taken her own path and made up for the delays she experienced earlier. “She might get there in a different way,” Busby says, “but she ends up in a wonderful place and is even strong in areas that are not commonly strong for other children.”

“It’s About Power”

Computer science educators should think more deeply and critically about the far-reaching effects that new technologies have on historically marginalized communities, argued assistant professor of learning sciences Sepheh Vakil in a recent commentary.

Most discussions about equity in computer science education focus on inclusivity, especially in relation to students of color. But the dynamics of power and ethics play a central role in computer science equity, Vakil wrote in “It’s About Power,” an essay he coauthored with Jennifer Higgs of the University of California, Davis.

“We must fundamentally rethink who computing education is for,” the authors wrote.

Vakil is working with Chicago and Evanston high school students, SESP undergraduates, and community organizations to dig into questions of racism, surveillance, policing, and technology.

He points out that machine learning, for example, is changing how police do their jobs. Automation technologies are reshaping welfare eligibility. And popular search engines can reinforce racist and sexist biases.

By focusing on power’s role, students can explore how the internet and other data-gathering networks interact with social and political systems, including racism, militarism, and US immigration policies.

“These are fraught inter- sections, where ethical dilemmas arise and thrive, where technology and society col- lide to simultaneously create challenges and opportunities for education and social action,” Vakil and Higgs wrote.

Cross-disciplinary programs that link computer science to the humanities and social sciences can help integrate ethics and politics into computing, the authors argued.

From US representative Alexandria Ocasio-Cortez’s statement underscoring racial bias in artificial intelligence to Google and Microsoft engineers protesting their companies’ entanglements with the Homeland Security Department, “there is a powerful discourse emerging at the intersections of ethics, culture, race, and technology,” said Vakil.

The commentary was published in Communications of the Association for Computer Machinery magazine.
Eleven-year-old Harmony Gray knows how to play a musical instrument but says she never really tried inventing her own. That changed on a warm summer day at the new McGaw YMCA MetaMedia@Foster maker hub, the site of a School of Education and Social Policy partnership in Evanston, when she was invited to imagine and create something that doesn’t yet exist.

Over a two-hour span, Harmony and nine other middle schoolers made up melodies using both familiar and novel instruments, sketched out three concepts for their own musical inventions (the more fantastic the better), and practiced handling tools like saws and power drills, which they later used to make their ideas a reality.

The class, Explorations in Arts and Sciences, was part of a larger Northwestern University–powered initiative designed to broaden computer science education beyond coding and bring it to familiar out-of-school learning spaces.

Intentionally located in a former elementary school in Evanston’s most under-served neighborhood—the predominantly African American Fifth Ward—MetaMedia@Foster anchors an ambitious plan by SESP faculty and community partners to build a new type of learning ecosystem that particularly benefits young people who are underrepresented in science, technology, engineering, arts, and math (STEAM).

In addition to offering free computer-science-related classes for middle schoolers and training mentors and graduate students, MetaMedia@Foster is a hub for six SESP research projects—and more are on the way. It also plays a key role in the Northwestern Evanston Education Research Alliance (NEERA), a research-data partnership in which Northwestern collaborates closely with local school districts and the community on educational programs, rather than dictating the agenda.

Ultimately, the researchers hope a community-driven approach to out-of-school learning—one that’s designed to support young people, mentors, and other caring adults—can get more middle school students excited about computer science and its rich intersections with the arts, engineering, and design.

“Out-of-school learning is essential for ensuring equitable opportunities in STEAM,” says learning scientist Nichole Pinkard (PhD’98), who designed EL3, a digital platform that serves as the portal for NEERA’s entire system (see sidebar on page 9). “We know that a single location can’t create enough experiences to make sure children are developing appropriately, so we’re helping them move fluidly between physical and digital learning environments.”

Walter Kitundu

MetaMedia@Foster in Evanston’s Fifth Ward: Where Middle Schoolers Learn Maker-Driven Experimentation with a STEAM Theme

When students go through the process of imagining something and making it real, the impact is bigger when their creations finally come together.”

Walter Kitundu

Explorations in Arts and Sciences, a MetaMedia@Foster pilot program, was co-developed and led by Walter Kitundu, a community artist and MacArthur Fellow; assistant professor of learning sciences Shirin Vossoughi; Paula Hooper, assistant professor of instruction in learning sciences and education; and Arturo Muñoz,
“She was able to use her creativity along with her passion. It gave the class an extra oomph. And now she’s planning to start playing a real piano.”

Deanna Haynes

“Computational making is an emerging field of research that uses both digital and physical materials to help students explore the processes and practices involved in making—whether the end results are tangible objects or spaces created through movement and perception. They get to try their hand at drafting, designing, and iterating—all key computer science tools.

In Explorations in Arts and Sciences, the middle schoolers learned about the cultural and historical context of sound before they tried making their own instruments. They learned about the work of Dj beat maker; and sound collector Cesar Almeida (BS19) and then used an iPad and app to collect their own sounds to make beats themselves.

“A sound pulled into a beat-making app can become material that you can construct, manipulate, and use in many ways.” Hooper says. “The sound itself can be modified in frequency and timbre. It can be used to create beats that are formed as patterns of repetition.”

The notion that a pattern is an object that can be iterated is a fundamental computer science idea, Hooper says.

“This work can support concepts like algorithmic thinking and iteration that are the building blocks of computer science.”

Throughout the class, the children explored how different materials form sounds. Why, for example, do musicians tighten strings? What creates the sound when you blow across an uncapped bottle? And why is steel the best material for tones on a thumb piano?

“Constructing instruments helps children appreciate how sound can be formed,” Hooper says. “Playing the instruments they’ve made allows them to explore sound in physical ways that can’t be easily done with an iPad or app.”

From a research standpoint, MetaMedia @Foster is a vibrant colearning space. Vossoughi worked closely with Muñoz to document the program, focusing on the pedagogical and social conditions that foster agency, self-determination, and free development. Researchers and educators met for daily debriefs that melded theory, design, and cultural insights, prompting reflection on the day and planning for the next in response to the children’s thinking and interests.

In the eighth and final class, held a few weeks after their introduction to instrument building, the students not only unveiled their newly created instruments but strummed, plucked, beat, blew into, and otherwise played them to the applause of family members who had come to listen.

The students performed using conducta, a style of improvisation modeled after the work of the late composer Lawrence D. “Butch” Morris, which Kitundu had demonstrated for the class using instruments of his own design.

Before long the families also joined in, picking up instruments and adding to the never-before-heard musical experience. For Harmony, a violin player, the class deeply enriched a subject she already loves: music. Her final project was a small piano crafted from wood, guitar strings, and metal.

“She was able to use her creativity along with her passion,” says her mom, Deanna Haynes, who tried playing the instrument. “It gave the class an extra oomph. And now she’s planning to start playing a real piano.”

BY JULIE DEARDORFF

The places where young people spend their after-school hours—such as libraries and other neighborhood spaces—can play a role in their learning and development.

But lower-income communities often lack the “connective tissue” that links formal and informal learning opportunities, says Nichole Pinkard (PhD98), associate professor of learning sciences and an expert on educational ecosystems. The system, used in Evanston public schools, helps children and families find STEAM opportunities, programs, and activities both online and across the city.

The network is directly integrated with schools, so teachers have access to individual and class participation and progress.

By removing boundaries and working collectively, says Pinkard, “the community becomes aware of and accountable for its young people’s learning and development both in and out of school.”

BY JULIE DEARDORFF

a PhD student in learning sciences. The team worked closely with MetaMedia mentor Dimtries Dunigan to implement the program.

Open to middle schoolers in several Evanston/Skokie School District 65 schools, the class looked at the role of computation in the making of artifacts—from drawing a design on paper and building a musical instrument by hand to producing digital beats. A previous class had been challenged to design and make unique eyewear sculptures using everyday materials.

“I’m most interested in developing creative confidence,” says Kitundu, a photographer, inventor, composer, and musician who teaches experimental instrument building at the School of the Art Institute of Chicago. “When students go through the process of imagining something and making it real, the impact is bigger when their creations finally come together. In the beginning it feels like it’s never going to happen. But with their enthusiasm and our collaborative work, they end up with these precious objects.”

Researchers and educators met for daily debriefs that melded theory, design, and cultural insights, prompting reflection on the day and planning for the next in response to the children’s thinking and interests.

In the eighth and final class, held a few weeks after their introduction to instrument building, the students not only unveiled their newly created instruments but strummed, plucked, beat, blew into, and otherwise played them to the applause of family members who had come to listen.

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As Northwestern professor Emma Adam scrutinized her lab data, she noticed something curious about the adolescents in her study: their levels of cortisol—the body’s “fight or flight” stress hormone—differed along racial lines.

Everyone’s cortisol levels normally surge in the morning to help kick-start the day. By nightfall, cortisol wanes to prepare the body for sleep. But Adam’s data showed that relative to their white peers, the black teenagers’ cortisol levels were “flatter,” showing less change from morning to evening.

Examining other data, she found that black teens averaged 30 minutes less sleep per night than white teens—a sleep deficit with potentially adverse effects on daily functioning, school performance, and health. These sets of data—revealing flatter or less variable cortisol levels and sleep disparities—led Adam to identify a new concept in social justice: sleep equity.

The banality of sleep belies its important role in human health and thriving. A highly evolved vigilance system, our sleep behavior corresponds to how safe and at ease we feel. When stress is thrown into the mix, it can change cortisol rhythms and sleep patterns. But not everyone experiences the same level of stress.

“Stress—and thus sleep—are unequally distributed in society,” says Adam, the Edwina S. Tarry Professor of Human Development and Social Policy at SESP. “African Americans in particular carry an unfair burden of stress due to structural inequalities and personal experiences of racism. Stress disparities in turn create sleep disparities that have very real implications for daily functioning and well-being.”

The idea of sleep equity—equalizing opportunities for healthy sleep across racially and socioeconomically diverse groups—is gaining traction. Adam’s research is part of a growing body of data showing that black people and other minority populations in the US sleep fewer hours on average than white people, and the sleep they do get is of poorer quality. When studies control for factors like education level and income, the gap narrows but doesn’t disappear.

In response to such findings, some authors and artists have argued that sleep, at once a luxury and a right, should be included in discussions of how to make amends for slavery, since many of the inequities that plague African Americans date back to the Atlantic slave trade and the Jim Crow era.
“Sleep disparities are both caused by social inequalities and likely to perpetuate them.” Jennifer Heissel (PhD17)

Not surprisingly, decent sleep can be elusive for those living in poorer, noisier neighborhoods with high crime rates. Working multiple jobs or overnight shifts can affect an entire household’s sleep patterns. And the stress of racial discrimination has been found to cut into sleep hours and feelings of restfulness. “Sleep disparities are both caused by social inequalities and likely to perpetuate them,” says Jennifer Heissel (PhD17), one of Adam’s former lab members and now assistant professor at the Naval Postgraduate School.

Cortisol: The Body’s Alarm System
At the Contexts of Adolescent Stress and Thriving lab at Annenberg Hall, Adam traces how stress “gets under the skin” to cause health problems and affect children’s behavior and development, both academically and emotionally.

For more than a decade, Adam and her research team have focused on cortisol and its role as a biological energy regulator. During any kind of perceived threat—from a rattlesnake to a racist remark—cortisol increases sugars in the bloodstream, supplying energy to the muscles and brain. It also curbs functions that would be nonessential or detrimental in an emergency. In limited doses, cortisol is something the body needs, maintaining metabolic efficiency, both academically and emotionally.

“In a 2007 study published in the Journal of Adolescent Health, Adam and four coauthors—including Amy DeSantis (PhD10), a senior research scientist at the Geisel School of Medicine at Dartmouth, and Leah Doane (PhD08), associate professor of psychology at Arizona State University—broke new ground when they showed racial disparities in cortisol levels. Later studies showed cortisol is affected by discrimination.”

“Small changes in cortisol and sleep can add up over months and years,” Adam says. “There’s also an intergenerational pattern: a parent’s stress becomes a child’s stress, and a parent’s sleep schedule can spill over to affect a child’s sleep.”

Zip code also matters. In a study published in Child Development, Adam and coauthor Heissel found that young people’s sleep patterns and stress hormone levels change after a violent crime occurs in their neighborhood. Linking sleep, cortisol, and home-address data to a database of violent crimes in a large Midwestern city, they showed that cortisol levels skyrocket the morning after a local violent crime. Meanwhile, the greater the teens’ proximity to the crime scene, the more adverse the impact on their sleep.

Stress, Sleep, and School
“The disruption of both sleep and cortisol have been linked to poorer academic performance.” Heissel says. “Race-based stressors and their effect on stress hormones and sleep patterns are understudied contributors to the achievement gap.”

Research by cognitive psychologists backs up Heissel’s statements. According to a 2016 review article in Nature, stress at the time of learning might enhance how memories form, but it also makes it harder to retrieve past thoughts and can induce a shift from a flexible form of learning to rigid, habit-like behaviors.

“Stress effects are not limited to how much we learn or remember,” the Nature article authors wrote. “Stress also changes the nature (or quality) of memories, for instance, the strategies used during learning.”

Studies also suggest that cortisol blocks perceptual learning. Researchers at the University of California, Irvine, showed that short-term stress of as little as a few hours can impair brain-cell communication in areas associated with learning and memory.

The more discrimination people experience as teenagers and young adults, the more dysfunctional their cortisol rhythms are by age 32.

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“The teenage years are a particularly sensitive time to be experiencing discrimination, perhaps because the body and brain are still developing,” says Adam.

Moreover, the effects may be cumulative. In another study, using data collected over two decades, Adam’s team found that the more discrimination people experience as teenagers and young adults, the more dysfunctional their cortisol rhythms are by age 32.

“Sleep is an underappreciated factor in education and health disparities. Understanding the origins of these disparities is fundamental to beginning to reduce them.”

Emma Adam

Adam is now exploring interventions to reduce stress disparities, including mindfulness training, meditation, and nightly text messaging to cue dimmed lights and earlier bedtimes. She’s also in the middle of the Biology, Identity, and Opportunity Study with SESP research project coordinator Ednah Nwafor. The five-year project, funded by a Lyle Spencer Research Award, helps students explore their races and cultures and promotes feelings of belonging and safety so they can better regulate stress hormones and get a good night’s rest.

“Sleep is an underappreciated factor in education and health disparities,” Adam says. “Racial inequality in school performance and completion is one of the biggest problems facing America today. Understanding the origins of these disparities is fundamental to beginning to reduce them.”

BY BONNIE RUBIN

About Emma Adam
The Eduwina S. Tarry Professor of Human Development and Social Policy at Northwestern, Emma Adam is a leading expert on the psychology and biology of stress and sleep in everyday settings. Most previous work on stress and sleep had been done in labs, but Adam developed methods allowing study participants to keep diaries of daily events and emotions as well as submit saliva samples for cortisol testing. She was able to demonstrate that naturally occurring negative feelings such as sadness, anger, and loneliness can lead to both acute and chronic changes in stress hormones. And she was the first to reveal ethnic and socioeconomic disparities in cortisol rhythms in adolescents, demonstrating that minority and lower-income children and youth who are exposed to discrimination have hormone patterns associated with lower daily energy levels and later health issues.
Yes, and...

Improv training proves its chops as a multi-tool for teachers and learners

Reserved, soft-spoken ninth-grader at Chicago’s Taft High School, Maggie Kopiec often struggled with class presentations. But during her Northwestern Academy for Chicago Public Schools (CPS) improv training, Kopiec learned a useful secret: the little things matter. She began standing up straight, taking deep breaths, and trying to sound confident—even when she wasn’t.

“Those skills didn’t just help me in school,” says Kopiec, now a Taft senior, “they often come up with solutions that connect ideas across disciplines.”

Redfearn, an improv instructor, performer, and consultant, speaks from experience. She studied how improv training can improve workplace leadership when she received her master’s degree in learning and organizational change.

“Improv is a tool that enables you to be open. To be inquisitive. To be comfortable with ambiguity and not having the whole answer right away, but eventually being able to make brave choices,” says Megan Redfearn (MSLOC12), director of Northwestern Academy for CPS—Northwestern University’s college-readiness program for underrepresented and talented Chicago high schoolers—improv does even more: the techniques are part of a comprehensive and coordinated three-year program for teenagers that focuses on self-awareness, self-advocacy, and the transition to college and the workplace.

“Improv is a tool that enables you to be open. To be inquisitive. To be comfortable with ambiguity and not having the whole answer right away, but eventually being able to make brave choices,” says Megan Redfearn (MSLOC12), director of Northwestern Academy for CPS—Northwestern University’s college-readiness program for underrepresented and talented Chicago high schoolers—improv does even more: the techniques are part of a comprehensive and coordinated three-year program for teenagers that focuses on self-awareness, self-advocacy, and the transition to college and the workplace.

The course was so successful that Northwestern Academy for CPS advisor Ian Williams expanded it, giving it a multi-year framework and tying specific goals to a student’s year in school. Rather than preparing students for a final stage performance, the classes now focus on building confidence, practicing interview and presentation skills, and navigating new or challenging environments such as college.

Under Williams’s direction, each summer the academy welcomes a cohort of rising CPS sophomores who work on their ability to assess their own presence—voice, posture, natural energy, and more—while they’re in front of others. The summer before their junior year, those same students learn how to use eye contact, listening skills, and body language in situations such as being cold-called by professors or fielding unexpected questions during interviews or presentations. They practice physical and vocal exercises and conduct mock job interviews.

“We prep them for things that I’m surprised we don’t talk about more as adults,” says Williams, who, like Redfearn, is a veteran improv performer. “We tell students about the need to research companies and dress well, but we never discuss the energy you bring into the room and how you can directly affect that by doing exercises—like tongue-twisters—before the interview.”

In the final summer before college, students explore managing microaggressions to resolve disagreements with roommates or others on campus. They also learn how to be self-advocates in various situations, such as asking professors or tutors for help, splitting a meal check in a large group, or correcting a mispronounced name.

The skills are taught in groups through improv exercises ranging from observing and mimicking scene partners to “yes, and”—the technique of agreeing with and then building on what the person before you just said. Williams says the safe space of group improv allows Northwestern Academy students to make mistakes and learn from them in real time without embarrassment. Once they pick up a few simple tools for responding nimbly to others’ words and actions, they can sense any lingering awkwardness give way to self-confidence.

“If you accidentally say something rude in improv, your partner knows you didn’t mean it,” Williams says. “It’s a free zone where you can learn and practice social engagement skills before testing them in the real world, where there’s usually no safety net and no chance of do-overs.”

In many ways, Williams was the ideal person to design and expand the academy’s improv program. He recalls being a kid who was terrified to talk in public “without a script.” Now an alumnus of Second City Training Center’s Conservatory and a seasoned actor who performs with the Blue Angels improv group in Chicago, Williams says that one of improv’s greatest gifts to him was “the ability to slow down for myself.”

“I learned to take the three seconds if I need to take a breath before I talk. Three seconds is not the three minutes it feels like,” he says.
US business schools—including Northwestern’s Kellogg School of Management—began adopting improv training methods about 20 years ago, once university leaders “got past the comedy” and could see that improv training can build highly transferable communication and relationship skills, says Bob Kizhman, founder of Business Improv, which provides communication skills training for executive leaders.

While improv skills are useful at the C-suite level, Williams adapted the Northwestern Academy improv program to reach teenagers and equip future leaders with the skills while they’re still young.

“Why wouldn’t you provide improv training earlier and therefore influence how organizations are developed from the start?” Williams asks. “Working on young persons’ social skills now will shape how they get to places of power years down the road.”

For Maggie Kopiec, the mock interview was her favorite Northwestern Academy experience: “I remember being nervous at first, but eventually I felt comfortable with myself and confident in my answers. Practicing an interview helped me use the skills I learned in improv class. More importantly, though, I learned how to use them to open up opportunities for myself in the future.”

BY MARK GUARINO

Improv Training at SESP: A Natural Fit

While business schools took the lead in offering improv classes in academia, SESP has been using improvisation training in contexts ranging from teacher coaching and college-readiness programs to icebreaker exercises with doctoral students and in master’s-level courses.

The Master’s Program in Learning and Organizational Change launched a course codesigned by Jennifer Green, artistic director of Evanston’s Piven Theater Workshop, and Kimberly Scott, MSLOC program director. Called Foundations, the course uses improv games and rules to teach students about presence, active listening, and comfort with ambiguity. Since the course debuted in 2006, Green has returned to Northwestern each fall to show MSLOC students how to “yes, and” and to “be in the moment”—practices that can turn an uncertain situation into a chance for innovation.

Megan Redfearn (MSLOC12), director of SESP faculty services and doctoral student affairs, and Michelle Albaugh, MSLOC instructor and assistant director of coaching, codesigned the course. Coaching Relationship Essentials as part of the Executive Learning and Organizational Change coaching certificate curriculum. The course leverages overlap in improv techniques and coaching practice. Students first learn about a skill such as listening, experience it in a new way through improv, and then practice it in a real coaching situation. The instructional model helps students see new ways to coach others beyond traditional managing and mentoring activities.

BY MARK GUARINO

Janet Carl Smith

CHICAGO’S CULTURAL CHAMPION

Janet Carl Smith (BS68) has always been a teacher, one who wasn’t bound by the confines of a school.

Instead, she made Chicago her classroom. Through her more-than-30-year career as deputy commissioner of the Chicago Department of Cultural Affairs, Smith successfully partnered city agencies with schools and nonprofits to bring free arts programming to the public, setting many precedents and establishing herself as a legendary Chicago arts advocate.

“Rather than teaching in a classroom, I found it more fulfilling to help people take the lead and learn from each other,” says Smith, who retired from city government in 2011. “That was a crucial realization for me. Lifelong learning outside the classroom became the impetus for my entire career.”

A New York native and a true child of the 1960s—she once held a college rejection letter bonfire party—Smith earned a teaching degree at Northwestern. Her first major job, at the University of Illinois Medical Center, was connecting students to the arts. In 1978 she became director of programs and exhibits at the Chicago Public Library Cultural Center, where she helped create innovative visual art and performance programs that were free and open to the public.

“We were always more effective when we collaborated with other organizations across the city,” Smith says.

This proved true in a big way in 1983, when she launched a four-month project, Stages of Shakespeare, as part of the Chicago Cultural Network. Thanks to Smith’s join­ing forces with 15 cultural institutions, Stages of Shakespeare brought program­ming to 100 Chicago Public Schools and public venues across the city in what was, Smith says, “arguably the first all-city collaborative program of its kind.”

Smith saw her role as one of public service. “I believe in the power of government to do things that other entities can’t,” she says. “Free public programming is an important value in the city of Chicago. But I also realized I was working in a bureaucracy and would need to use all my skills to be creative within that system.”

In what could be called her “unretirement,” Smith continues to support Chicago arts organizations and has been recognized for her lifelong arts advocacy. Her record includes longtime Arts Alliance Illinois board membership and stints as council chair at the University of Chicago Graham School of Continuing Liberal and Professional Studies and on the advisory committee of the University of Illinois at Chicago School of Theater and Music.

In addition, she has served as a consultant for the Chicago Cultural Alliance, the MacArthur Foundation, and the Terra Foundation of American Art.

“I like going to places that are not about the arts and reminding people that arts should be part of the conversation,” she says. “I give them a challenge that’s also an opportunity.”

BY CLARE MILLIKEN
70s
Betsy Holden (M78, MBA42) was appointed to the board of directors of National Retail Properties, a real estate investment trust that owns upwards of 2,300 retail stores across 48 states. She is a senior adviser with McKinsey & Company and previously served as co-CEO of Kraft Foods.

90s
Bryan Saltzburg (B99), president of TripAdvisor Flights, Cruise & Car, was appointed to the United States Travel and Tourism Advisory Board. His favorite travel destination? Ko Phi Phi, Thailand.

OOs
Jolen Anderson (BA93, JD00) was appointed global head of human resources at the world-wide banking and financial services company BNY Mellon, headquartered in New York City. Anderson had most recently served as Visa’s first-ever chief diversity officer.

Gretchen P. Frickx (MSHE04) is program director for the Global Pathway Program at DePaul University. She helps international students improve their English proficiency while they take credit-bearing courses at DePaul.

Nava Cohen (WCA97, MSED07) received the 2018 Farrand Baker Illinois Classical Conference Latin Teacher of the Year Award. Serving on committees and in various roles for the ICA and the American Classical League, Cohen often presents Latin pedagogy sessions at local, state, and national conferences. This fall she is a teaching assistant for her mentor, Gary Saut Morson of Northwestern’s Department of Slavic Languages and Literatures.

Mimi Engel (PhD08), associate professor at the University of Colorado Boulder School of Education, was one of five SESP alumni who recently received grants through the National Center for Education Research.

Neal Sáles-Griffin (BS91) was appointed managing director of Techstars Chicago, a business networking company that runs a 30-day startup accelerator program. Sáles-Griffin is an entrepreneur who cofounded StarterEdu, an education technology officer. He previously served as chief information and operations officer at Investors Bank.

Mike McGrew (BS96, MSTM97) was promoted to senior vice president of corporate communications at Constellation Brands, an international producer and marketer of beer, wine, and spirits. McGrew joined the Fortune 500 company in 2014 as senior director of communications for the beer division.

Liz Osterhus Fleuelle (MA93) was named chief people officer of Marketing Management Analytics, a business unit of Ipsos Company that provides predictive analytics services.

Michael J. Fegan (BS96) joined Dime Community Bank, a lender based for more than 150 years in Brooklyn, New York, as chief technology officer. He previously served as chief information and operations officer at Investors Bank.

Matthew Tzuker (MSHE11) wrote the commentary “Sorry, Professors, but Presidential Searches Should Be Secret,” published in June in the Chronicle of Higher Education. Tzuker is a recruiting partner at Heller Search Associates, an academic search firm.

Fatima Varner (PhD11) of the University of Texas at Austin, Vivian Wong (PhD11) of the University of Virginia, and Christine LaiCali (PhD14) of the American Institutes for Research recently received grants through the National Center for Education Research.

Levi Mele (BS13) is an assistant area director for AmeriGas Partners, the largest retail propane distributor in the US. He and his wife, Shanna, have four children and live in Sparks, Nevada. They all love exploring Tahoe and the Sierra.

Shao-Yun Gou (MSED15) is a math teacher at Christ the King Jesuit College Prep in Chicago, who also hosts trivia nights at local pubs and eateries. Of the latter gig, Gou says it’s “very similar to teaching, since trivia questions involve collaboration and high cognitive demands.”

Milibia Rodriguez (MSHE15), assistant director of student affairs, academic advising, and financial aid at the University of Chicago’s Harris School of Public Policy, received the Marlene F. Richman Award for Excellence and Dedication in Service to Students.

Amber Barger (MSLOC16) is working on her doctorate in education at Teachers College, Columbia University, focusing on adult learning and leadership.

Jolen Anderson
Sara Ivory
Johnny Buss
Megan Granakis

#SESP Love

Lindy Knight (MSED15) and Charles Stone (MSED10), who met and started dating while both were graduate assistants in the Master of Science in Education program office, were married July 8 in Sheboygan, Wisconsin. Wedding invitee and MSED program assistant director Brad Wadey remembers bringing to their BESP nametags, which they pinned on their wedding attire.

Amy Glazier-Torgerson (BS15) and David Sanchez (BS17), who also met at SESP, were married in 2016. The couple recently moved to Seattle, where David is pursuing his master’s degree in speech language pathology at the University of Washington and Amy, who met her goal in the 2019 Chicago Marathon, is working as a high school counselor.

Please send all news updates and address changes to newsupdate@northwestern.edu. You can also reach us on Facebook (facebook.com/sexpaul) or Twitter (@seesp_nu). For more class notes, visit sesp.northwestern.edu.
Math Meets World

Chris Nho (BS012) is a big believer in making math accessible. So he put it in unexpected places: On stop signs. In laundromats. Even in bars at happy hour.

It’s more than a hobby for Nho, a high school math teacher in San Diego and former math specialist for Chicago Public Schools (CPS). He’s on a mission to get parents and kids to start talking about math—and to redefine what it means to be a “math person.”

Working with Public Math—a nonprofit collective of teachers, designers, artists, researchers, writers, parents, and citizens—Nho dreams up ways to put playful math experiences in public places. The group sees playgrounds, public transportation, waiting rooms, and everyday objects as perfect venues for their work.

Going out for a drink after work? You may stumble upon a happy hour where a Public Math member is distributing posters with geometric designs, allowing patrons to mull over math patterns—with a Moscow mule.

“Chris is creative, encouraging, and super intuitive about how people think,” says Christopher Danielson, founder of Public Math. “When we’re brainstorming, it’s like the relationship you imagine jazz musicians must have—this idea that one solo then influences another.”

Another Public Math effort can be seen at Mr. Bubbles, a “mathematized” laundromat where Chicagoans can read math prompts on washing machines while doing laundry.

Nho taught high school math on Chicago’s South Side after graduating from SESP and led professional learning and math prompts on washing machines while doing laundry.

My family is Ojibwe and comes from what is now Ontario, Canada. I am the mother and auntie of Navajo children and a relative of many others. My grand-father grew up in Canada and was one of many Native children who were forcibly and coercively removed from their families to attend boarding schools. The trauma and loss he survived has shaped my family, but we have also been working toward healing and thriving.

I’ve spent my career focused on education and equity. That is partly because of my family history, but it is also because I’ve spent so much time raising children. I have three biological children, as well as many nieces and nephews that I have helped raise since I was in my 20s. In our cultures, they’re all my children.

Growing up, I was the daughter of a single mom. We didn’t always have enough food or heat, but we did have a big and loving extended family who made beautiful things that they gave to people as gifts.

In school, I struggled academically. But just before I entered third grade, a teacher spent the summer helping me read. That summer changed everything. I went from struggling in school to excelling.

That teacher changed the trajectory of my life. And she wasn’t the only powerful mentor who supported me; there were others—a coach and a chemistry teacher, especially. They made me feel loved, capable. And they helped me imagine different futures.

My brother, on the other hand, didn’t have the same experiences or lessons. He has darker skin than I do, and I remember being a young child and thinking, “People are better to me than they are to him.” He struggled in school until he dropped out in ninth grade. He’s now in prison, and his young daughter is trying to make sense of what has happened.

There were a lot of factors that sent my brother and me down different paths, and a good deal of them have to do with colonialism, race, and gender. As a kid, I didn’t understand why, but I knew things weren’t right.

I attended Williams College in Massachusetts, then earned my PhD in learning sciences at SESP in ’09, working at the American Indian Center of Chicago at the same time. My dad had taught me about work life and managing multiple endeavors. I became deeply interested in how education, instead of being a source of trauma, had the potential to heal Native communities—and all communities, really. For me, this is always tied to relations with land and water, and I believe the 21st century is the time when all human communities need to learn sustainable and just ways of living.

After working as a full-time faculty member at the University of Washington in Seattle, I returned to Chicago last year for an opportunity to split my time between two positions: senior vice president of the Spencer Foundation, which funds educational research and training, and full professor of learning sciences back home at SESP.

My scholarship focuses on culture, families, and STEM education and the design of transformative learning environments. I want to know: How do we create systems of education that can cultivate just, sustainable, and thriving communities?

Almeida will also work with local groups to cocreate traditional music as part of ongoing efforts to conserve Ghanaian culture.
HOW MANY WAYS CAN YOU ARRANGE FOUR OBJECTS?

To explore this question, math teacher Chris Nho (BS12) created Permutations, a print that playfully invites viewers to notice and wonder about patterns and structures. Each four-color set reflects four unique decisions made at four unique points in time. For more about Nho and how he works with the nonprofit collective Public Math to provoke math thinking in unexpected places, see page 20.