

FALL 2023

NJIT

MAGAZINE

# DIVERSIFYING STEM

THE NEW POWER • GOING PRO • NJIT





## PURSuing THE MISSION

I have spoken often about diversity being one of NJIT's great strengths, because it is an essential ingredient for learning and innovation, as well as an opportunity for resource development. Bringing together people with varied backgrounds, from different cultures, and with unique life experiences informs thinking while spurring creativity and enhancing problem solving capabilities. Diversity also is one of NJIT's greatest areas of opportunity for the future. Demand for talent far exceeds supply in the STEM fields, and the only way to meet that demand is to grow the talent pipeline by attracting more qualified women and people from underrepresented groups to the STEM disciplines. Doing so also will help NJIT grow and unlock an array of new funding streams from government, corporate and philanthropic sources. The cover story for this issue of *NJIT Magazine* highlights our efforts to bring more underrepresented and minority students into STEM and the positive impact that can have on our university and the individual students.

Our second feature in this issue, "The New Power," details groundbreaking research done by NJIT faculty and alumni on new, reusable and improved batteries that can improve performance and enhance sustainability efforts. This issue also introduces the new president of New Jersey Innovation Institute, a corporation of NJIT, and celebrates the renaming of the Wellness and Events Center in honor of former NJIT President Joel and First Lady Diane Bloom, and the Honors Residence Hall in honor of philanthropist and business leader John Martinson. In addition, we are introducing a new item, the "President's Corner," which will share noteworthy data points and pieces of information related to NJIT's operations and performance.

I am incredibly grateful to serve as president of such an outstanding university and for the opportunity to work closely with so many talented students, alumni, faculty and staff in pursuing our mission. I hope you enjoy reading this issue of *NJIT Magazine* and learning about the incredible members of the NJIT community who are featured. ■

Sincerely,

Teik C. Lim  
President

## NJIT MAGAZINE

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On the Cover: NJIT students gather with  
Faith Adams, a biomedical engineering  
major, and Bob Medina '75, chair of the  
Board of Overseers, inside the Life Sciences  
and Engineering Center.

## FEATURES

### Diversifying STEM 8

Underrepresented minorities make up 43 percent of NJIT's incoming fall class, underscoring the university's commitment to marginalized communities gaining access to STEM education and careers. With specialized programs beginning in grade school, unique opportunities for undergraduate research and devoted alumni — NJIT continues to lead.

### The New Power 14

From laptops to cars, society has come to rely on rechargeable batteries, with demand only growing. NJIT researchers and alumni are on the cutting edge of technology designed to tackle the needs of modern energy storage.

## SPECIAL RECOGNITION

### The Joel & Diane Bloom Wellness and Events Center 7

### Dedication of the John Martinson Honors Residence Hall 18

## DEPARTMENTS

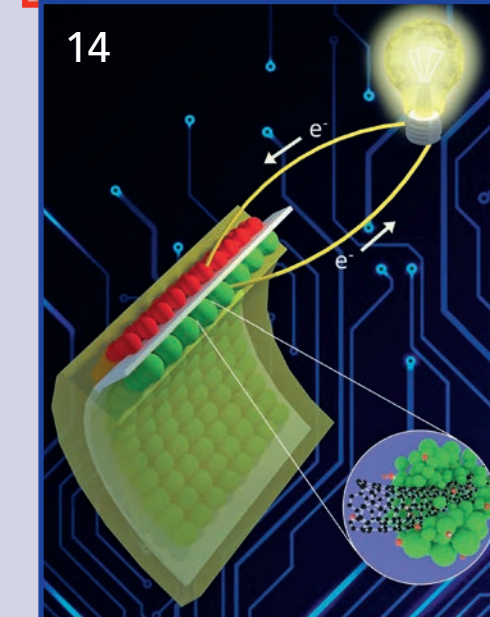
### Abstracts 2

### Point By Point 6

### President's Corner 20

### Class Notes 21

### In Conclusion Inside Back Cover





## WHY AIRPORT CITY NEWARK IS A BIG DEAL

Realizing the vision of integrating Newark Liberty International Airport into the surrounding city is still years away. But advisers from NJIT remain focused on the prize: an aerotropolis that welcomes visitors to stay, dine, shop and experience the culture of the largest city in New Jersey, while creating economic opportunity nearby. A Newark aerotropolis would be one of just a few in the United States.

Darius Sollohub, professor and interim director of NJIT's School of Architecture, and Colette Santasieri, executive director of the university's Center for Community Systems, lead a coalition that advocates for Dayton, the neighborhood

around the airport, with the financial support of the Prudential Foundation, U.S. Economic Development Administration and New Jersey Economic Development Authority. Here are five reasons why the project, known as Airport City Newark, is significant to Dayton, Newark and New Jersey.

Airports are economic engines. Currently, Newark Liberty generates 24,000 direct jobs and 110,000 indirect jobs that collectively represent \$3.3 billion in wages and salaries.

Dayton is among the poorest neighborhoods in Newark. In

2019, more than a third of Dayton's 12,480 residents lived below the poverty line, according to the U.S. Census.

New York consultancy Hatch, subcontracted by NJIT, is working on an economic development strategy for 37 acres around the airport.

A new production studio is also being built nearby. The Lionsgate Studios in the South Ward, due to open in 2024, will employ 600 workers. Airport City Newark could complement it and, collectively, they would create a larger economic development zone. ■

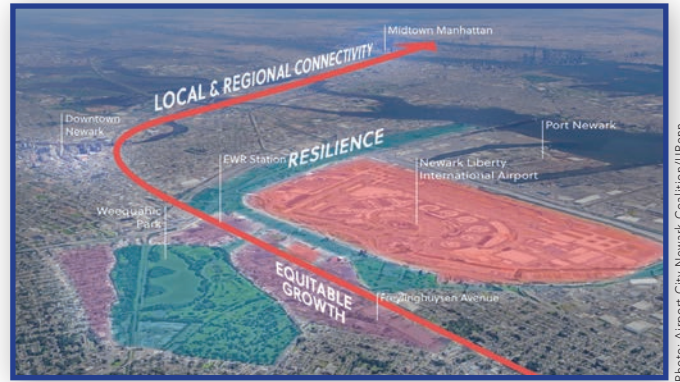
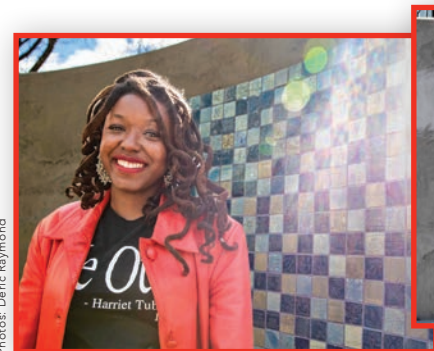


Photo: Airport City Newark Coalition/UPenn



Photos: Denise Raymond

## CONNECTING NEWARK RESIDENTS TO HARRIET TUBMAN

NJIT alumna Adebunmi Gbadebo played an important role in the unveiling of a new Harriet Tubman Monument in downtown Newark.

Gbadebo served as the community



engagement apprentice, working closely with Nina Cooke John, the architect and designer of the monument,

known as "Shadow of a Face."

"My role on the project was to assist Nina Cooke John in establishing and facilitating tile workshops and audio workshops where we went out to all the different wards of the city of Newark and asked the community questions, such as, What is your liberation story? What is something that you struggle with

and overcame?" Gbadebo said.

Residents answered those questions through etchings and writings into ceramic tiles, which are now part of the physical wall. They also contributed to an audio portion of the monument, which connects their stories to Tubman's.

Gbadebo's ability to use art and culture to shape the physical and social character of an environment was developed through a certificate program at NJIT, the Hub for Creative Placemaking. "It really gave me more of an insight and a framework on this project," she said. ■

## HOW NANOPLASTICS IMPACT REPRODUCTIVE HEALTH

During the pandemic, NJIT student Alixs Pujols read an article that inspired her to become an undergraduate research assistant at the Laboratory of Endocrine Disruption & Chemical Biology. The article showed how researchers had found nanoplastics in the placenta.

Backed by an Undergraduate Research and Innovation fellowship, Pujols investigated the effects of nanoplastics on ovarian function by measuring hormone levels. Her studies

focused on preconception. Her work aims to measure how hormones behave before a woman decides to become pregnant.

Pujols '24, a forensic science major, believes her experience will equip her as she mulls future steps with her career.

"My goal is to be a DNA analyst, so it's even more focused on the biology side of forensic science," Pujols said. "And I think that seeing quantitative



Photo: Bella Alay

polymerase chain reaction (PCR), RNA extractions, even hormone levels will be helpful as I pick up more knowledge in the years to come."

Pujols used to think that bodies naturally got rid of plastic material. Now, armed with knowledge through her research, she understands the reality, and is intent on learning more and creating further knowledge in this field. ■



Photo: iStock

## EPA AWARDS NJIT \$10M TO HELP DEVELOP BROWNFIELDS

The U.S. Environmental Protection Agency has awarded NJIT \$10 million in a \$315 million initiative from the Biden administration to expedite the assessment and cleanup of brownfield sites across the country.

Brownfields are abandoned or underutilized properties that

may have hazardous substances, pollutants or contaminants present, making their redevelopment complex.

NJIT's Technical Assistance to Brownfield (TAB) Communities program serves two EPA territories: Region 2, which comprises New Jersey, New York, Puerto Rico, the U.S. Virgin Islands and eight Indian Nations, and Region 4, made up of eight southeastern states and six tribal nations.

NJIT TAB provides expertise,

guidance and resources to state, regional and local governments, tribes, nonprofits and other stakeholders involved in brownfield redevelopment. Its primary function is to empower communities to assess, clean up and redevelop brownfields, transforming them into productive and sustainable assets. This assistance comes at no cost to communities.

"We will help transform previously unsafe and unusable sites into sustainable, resilient, environmentally just and economically sound locations," said Colette Santasieri, executive director of NJIT TAB. ■



## AI REPRESENTS A TEACHABLE MOMENT FOR FACULTY

NJIT faculty are embracing public artificial intelligence programs such as ChatGPT as the latest classroom tools, similar to the arrivals of videoconferencing, computer-aided drafting and pocket calculators in the past.

AI itself is an established technology that emerged from research labs in the 1950s and has periodically surfaced in consumer life, such as in computer chess games in the 1980s or IBM's Watson in the 2010s. But not until now has AI, and specifically large

language models, been so accessible.

"So, how do we best help our students learn to use it wisely? How do we as educators use it and integrate it into what we are doing?" said NJIT Vice President for Student Affairs and Dean of Students Marybeth Boger, at a recent university town hall.

To that end, Information Systems and Technology has developed guidelines for instructors. They cover everything from academic integrity, accessibility and citations

to tips for students and professors.

"We're looking into ways that we can leverage that technology and prepare students for the workforce that they're going to be in," explained Justine Krawiec, assistant director of learning technologies in the Office of Digital Learning. "We're training students for many jobs that might not even exist at this point." ■



Photo: iStock

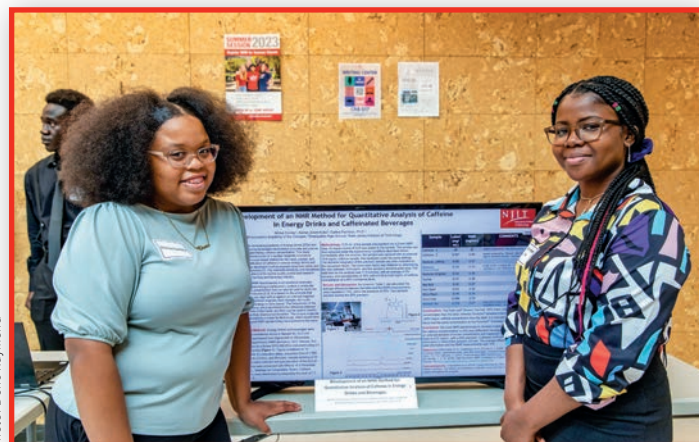


Photo: Deric Raymond

## FORENSIC SCIENCE INITIATIVE DELIVERS FIRST GRADS

More than a dozen local high school seniors became the first graduates of NJIT's Forensic Science Initiative (FSI) after completing intensive STEM training this year.

they showcased their capstone research projects — the culmination of their work throughout the program dating back to the summer of 2022.

FSI is a collaboration among New Jersey school districts and NJIT's College of Science and Liberal Arts and Center for Pre-College Programs. The initiative aims to provide local high schoolers with a pathway to

The participants drew plaudits from forensic science professionals at a New Jersey Association of Forensic Scientists conference, where

higher education by strengthening their skills in STEM through the gateway of forensic science. The initiative also introduces participants to life on a college campus.

FSI already is making inroads, as many members of its first cohort have enrolled at NJIT, according to David Fisher, director of the university's forensic science program.

"What impressed me the most about these students was their drive and intellectual curiosity," Fisher said. "They really challenged themselves by taking a college-level course while in high school and their hard work has really paid off." ■



## PAUL A. RUBY '50 A LEGACY FOR FAMILY AND FUTURE ENGINEERS

**LIKE SO MANY COLLEGE STUDENTS OF HIS GENERATION,** Paul Ruby '50 rarely saw the Newark College of Engineering campus while the sun was still up.

A World War II veteran, Paul worked full-time during the day and pursued his bachelor's degree in mechanical engineering at night. After years of this weekly grind, Paul spent his final year at NCE as a full-time student, graduating in 1950 at the age of 38. Following a successful career at Best-Champlain Corporation, Paul put his skills to work in the classroom, becoming a teacher at Bergen Tech and eventually serving as a guidance counselor at New Milford High School.

As an educator, Paul was committed to inspiring the next generation of engineers and scientists. He further invested in this vision through his estate plans, creating a charitable trust that provided Paul's nephews with two decades of income and ultimately established and endowed the *Paul A. Ruby '50 Highlander Promise Scholarship* at NJIT.

As a Highlander Promise award, the *Ruby Scholarship* ensures that select New Jersey students from households with limited financial means will have the opportunity to attend NJIT with little-to-no tuition burden.

Hundreds of NJIT alumni and friends – just like Paul – have invested in the future of NJIT by establishing charitable trusts or gift annuities that provide lifetime income for loved ones. To learn more about Paul and the legacy he has created at NJIT, please visit "Donor Stories" at [njit.giftplans.org](http://njit.giftplans.org).

**To learn more about the Highlander Promise Scholarship Program at NJIT, or to request a complimentary copy of "A Personal and Charitable Financial Record," please contact:**

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**Your legacy begins today.**





## WOMEN'S SOCCER ALUM GOES PRO



Photo: NJIT Athletics

NJIT women's soccer alumna Angela Harris has signed a professional contract to play for Greek club Panathinaikos A.C. during the 2023-24 season.

"I am super excited for this next

chapter," said Harris '22. "I'm especially thankful for Coach Ally [Nick] for preparing me on and off the field for the last five years and for pushing me to a level I never knew I had. Also, thank you to Coach Ariana [Ruela] for her dedication and time spent on my growth as a player."

"Her signing this contract is a culmination of all she has put into this sport," Head Coach Ally Nick said. "It also shows the growth of our women's soccer program here at NJIT and will

inspire our players to follow in her footsteps."

Harris – the first Highlander to sign a pro contract under Nick's tutelage – appeared in 55 contests (21 starts) across four seasons at NJIT. More than half of her caps, starts and points came after sitting out the 2020 campaign due to injury – a testament to her work ethic and perseverance.

Another example of her impact: the Highlanders reached their conference tournament (in two different leagues) each year she was active. ■

## MEN'S BASKETBALL WELCOMES 11 NEW PLAYERS

In his first year, NJIT men's basketball Head Coach Grant Billmeier is welcoming 11 newcomers to the roster.

"I am extremely excited about the first recruiting class my staff and I put together in a short period of time," Billmeier said. "We wanted to try and keep some of the top local talent home, but also look for the best available players in the country."

Two of the newcomers, Elijah Buchanan and Daniel Schreier, are graduate transfers from Manhattan College, where they spent the last five years alongside new NJIT Assistant Coach RaShawn Stores.

Billmeier also brought in nine first-year students. ■



Photo: NJIT Athletics

### MEET THE NEW HIGHLANDERS

Left to right:

Isaac Hester - Ocean Township, N.J.  
Jake Goldberg - Pasadena, CA  
Elijah Buchanan - Bronx, N.Y.  
Levi Lewan - Clarksville, MD  
Tariq Francis - Pittsburgh, PA

Daniel Schreier - Santa Monica, CA  
Jalen Robinson - South Orange, N.J.  
JJ Chaikovsky - Manhattan Beach, CA  
Not Pictured:  
Jeffrey Akintolu - Welling, England  
Cameron Piggee - North Brunswick, N.J.  
Sebastian Robinson - Montclair, N.J.



## A LEGACY OF TRANSFORMATION

This October, NJIT celebrated the naming of the Joel & Diane Bloom Wellness and Events Center (WEC) in honor of NJIT President emeritus Joel S. Bloom and former NJIT First Lady Diane Bloom. The Blooms were fixtures at NJIT from 1990 through 2022 and worked tirelessly to raise the stature of the university significantly while transforming NJIT's campus and enhancing student and faculty success. During President Bloom's tenure as president, which began in 2011 and ended in 2022, NJIT grew enrollment and the size of the faculty, earned top 50 status among public national universities, received an R1 designation from the Carnegie

Classification® and completed construction projects that included the Life Sciences and Engineering Center, the Central King Building renovation, the Makerspace, the WEC, the renovation of countless labs and lecture halls, and much more.

The Wellness and Events Center is the perfect building to carry the Bloom name, because the Blooms were the driving force behind its inception and funding. Like the Blooms, the WEC has improved all aspects of campus life, providing spaces for athletics and recreation, for hosting major academic and professional conferences and for alumni and community engagement. ■

From left: Nicholas DeNichilo '73, '78 (Co-Vice Chair, Board of Trustees), Angelo Del Russo '82 (member, Board of Overseers), Patrick J. Natale '70, '75 (member, Board of Overseers), John Seasholtz '59 (Chair Emeritus, Board of Overseers), Richard Sweeney '82, '18 HON (Chair Emeritus, Albert Dorman Honors College Board of Visitors), J. Robert Hillier '17 HON (member, Board of Overseers), Daniel A. Henderson '11 HON (member, Board of Overseers, member, Albert Dorman Honors College Board of Visitors), Teik C. Lim (President of NJIT), Gina Lim (NJIT's First Lady), Jason R. Baynes (member, Board of Trustees), Diane Bloom (former NJIT First Lady), Joel S. Bloom (President Emeritus of NJIT), Steven Saperstein '84 (member, Board of Overseers), Stephen P. DePalma '72, '22 HON (Chair Emeritus, Board of Trustees), Penny DePalma, Robert C. Cohen '83, '84, '87 (Chair, Board of Trustees), Paul V. Profeta (member, Board of Overseers)





# DIVERSIFYING

# BUILDING TOMORROW'S WORKFORCE TODAY

By Theta Pavis

**T**he work to grow a diverse student body starts long before undergraduates enroll. While NJIT is ranked eighth in the nation for ethnic diversity among public universities (*U.S. News & World Report*), the drive to build on that success is stronger than ever.

The Center for Pre-College Programs is just one example of NJIT's commitment to increasing diversity in STEM. Each year, the program works with roughly 4,000 students and educators across many demographics — with significant participation from underrepresented women and

minorities from the greater Newark area and surrounding urban school districts.

Underrepresented minorities set a new record this fall, making up 43% of the first-year class, underscoring NJIT's dedication to offering STEM education to traditionally marginalized groups. The number of first-year students identifying as Black has nearly tripled since 2013, and Hispanic first-year enrollment has exceeded 30% for the second year in a row. The surge in Latinx students means NJIT expects to meet its goal of becoming a Hispanic-serving institution ahead of

schedule — by early 2024. (The federal designation requires a Hispanic student body population of at least 25%. NJIT's figure for undergraduates now stands at 25%.) Meanwhile, alumni are a big part of making sure more people have the chance to enter — and excel — in STEM fields. Highlanders supported the creation of the Hispanic and Latinx Leadership Council in 2021 and the recent founding of a new Black Alumni Society.

NJIT has already earned two important designations from the U.S. Department of Education: it's recognized as a minority-serving

institution (MSI) and also qualified as an Asian American Native American Pacific Islander Serving Institution (AANAPISI), with more than 20% of undergraduate students identifying as Asian American or Pacific Islander.

What do all these formal designations mean? They give NJIT important access to federal grants, enhance research opportunities and increase networking and visibility for students. That's more important than ever, given the fact that each year the United States has millions more available STEM jobs than it has skilled workers to fill them.





# A PASSION FOR GIVING BACK

By Nayib Morán

It's been close to 50 years since Bob Medina '75 graduated from NJIT as an engineer, and when he looks back at his journey he marvels at how NJIT gave him the tools to excel. In fact, he still has the slide rule he used in class, in the days before calculators were allowed and laptops didn't yet exist.

"I was the first in my family to attend college, and many of our students, 50 years later, are still first-generation students at NJIT," said Medina. "And what that does is it allows somebody like me, first in their family to attend university, to be able to find a career. My father emigrated from Cuba; my mother came from Puerto Rico. They both worked so that their children could get a good

education in the United States." After graduation, Medina began work as a civil engineer, eventually starting his own firm, Medina Consultants, PC, in 1989, which he grew over 20 years to become the largest Hispanic-owned engineering company in New Jersey, and the third-largest in the country.

Medina also is a proud Highlander, giving back to NJIT in numerous ways. Currently the chair of the Board of Overseers, he is the co-founder and co-chair of the university's Hispanic and Latinx Leadership Council (HLLC) and chair of the Board of Directors of the New Jersey Innovation Institute, an NJIT corporation.

"The student body is so diverse. I'm

amazed at the representation that we have from the state of New Jersey and the northeast region, not only in Hispanic students, but African American students, Asian students," he said. "We have probably one of the most diverse campuses in the state, and one of the highest when it comes to SAT scores and GPAs. So the quality of our students is extraordinary."

Medina believes that STEM, in one way or another, will impact every career in the future.

"Our population growth is driven by diversity, not only in New Jersey,

From left: Angelica "Angie" Ogando '02, '11 (co-chair, HLLC), Robert "Bob" Medina '75 (co-chair, HLLC), Elisa Charters '92, '93 (member, NJIT Board of Trustees), Teresa Ruiz (N.J. Senate Majority Leader) and President Teik C. Lim, at an HLLC event.

# MAKING CHANGE

NJIT educates approximately one-third of New Jersey's engineers and scientists and is a TOP 20 national university for producing African-American and Hispanic engineers.

62% of all engineering degrees awarded to African-American and Hispanic students by New Jersey public institutions are awarded by NJIT.

As the first person of color to lead NJIT, President Lim – a Malaysian immigrant who was the first in his family to earn a college degree – exemplifies progress.

In 2023 NJIT hired its first chief diversity officer, David E. Jones.



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but throughout the United States. And so we need those diverse students, engineers and architects to go into the STEM professions to keep the United States at the cutting edge," he added. "This growth is driving careers, it's driving the economy."

With the HLLC, Medina has helped develop programs to bring alumni and

other prominent business people on campus to meet with students. He describes the group as providing "an atmosphere that says, 'Hey, you're here on campus, and we're here to help you.'"

Education is a very important part of Hispanic culture, as Medina experienced with his own parents.

"To see a student who has fulfilled the dreams of the family, to get a university education, and particularly in the arena of STEM, it's inspirational. And we are graduating students not to just go out and get a job, not to just go and work for somebody, but to go out and get a career ... to do something that is transformational and innovative." ■



Faith Adams, a biomedical engineering major, is helping research muscle graft alternatives to help combat veterans.



## FINDING COMMUNITY

By Theta Pavis and Jesse Jenkins

As a child, Faith Adams '26 usually went to her grandparents' home after school and that meant sometimes accompanying them to their doctors' appointments. While some kids might have been bored, Adams loved studying the diagrams of ears, noses and bodies decorating the walls.

"I would ask 'What is this, and how does it function?'"

A biomedical engineering major recently inducted into NJIT's National Academy of Inventors Chapter, Adams said she felt at home on the campus as soon as she arrived.

"After visiting during an open house, specifically the university's Murray Center for Women in Technology, I felt a sense of community that I didn't find at any other college," said Adams,

an Englewood, N.J. native. "I made great connections right away. I was inspired meeting faculty who looked like me and were doing big things in engineering, and who were willing to help young women excel."

Soon, Adams found another burgeoning community on campus — the National Society of Black Engineers (NSBE) — which she says helped her grow in confidence as a young African American engineering student in a field historically lacking in diversity.

NSBE's mission is to increase the number of culturally responsible Black engineers who excel academically, succeed professionally and positively impact the community.

"The camaraderie really helped my

college transition, especially as an African American woman," added Adams. "I had moments of doubt and even considered dropping one of my engineering classes last fall, but NSBE members were there to tutor and encourage me through it."

Although she was a determined student, there were some obstacles to overcome. The pandemic was challenging and then she lost her grandparents. "It was a one-two punch to the stomach," she said. "I was just kind of holding on to my love of science."

Now, Adams leads campus and social media engagement for NSBE's chapter at NJIT as its public relations chair. In her role, she's also become active in planning the organization's

Photo: Courtesy of Early College Preparatory Programs

NJIT's Women in Engineering & Technology Initiatives, commonly known as the FEMME program, runs for four weeks in the summer. It immerses girls in grades 4-10 in a range of hands-on engineering projects that teach principles, design and everyday applications, while also boosting their math, communications and computer science skills. Each cohort focuses on a separate area of the field, such as environmental, biomedical and chemical engineering, coding and robotics. The girls get to look inside research labs on campus to see science in the making.



efforts to engage local K-9 students in STEM learning activities this year.

"Being part of NSBE inspired me to be the best engineer I can be, not only for myself, but as representation of the Black community. If I can help young minds feel at home in the STEM world like I have, that's what I want to do."

Adams discovered her passion for research after sitting in on a campus lecture by NJIT biomedical engineering assistant professor Jonathan Grasman. The talk covered cutting-edge tissue engineering methods his lab is exploring.

An opportunity to pursue research with Grasman opened when Adams

was accepted into NJIT's Ronald E. McNair Post-Baccalaureate Achievement Program, which provides underrepresented STEM students with preparation for doctoral study, as well as critical research opportunities of their choice.

At NJIT's Tissue Innervation and Muscle Mimetics Laboratory, Adams began researching muscle graft alternatives to help combat veterans and others suffering from injuries leading to volumetric muscle loss, where 20% or more of skeletal muscle can be nonrecoverable.

"Muscle grafts from a person's healthy tissue are often used to

regenerate lost muscle but they have a high failure rate, so we are aiming to improve upon this by regenerating myofibers in muscle using collagen scaffolds," explained Adams.

"Collagen is very present in the muscle regeneration process. We are investigating the abilities of collagen scaffolds to facilitate muscle cells regenerating host tissue again. We've been conducting in vitro studies, and it's promising. I know people in the armed forces that have suffered, so the opportunity to help them is amazing." ■



# THE NEW POWER

By Theta Pavis

**From laptops to cars, society has come to rely on rechargeable batteries – and the demand is only growing. This surge means researchers are racing to figure out the most efficient ways to manage this type of energy storage.**

**W**hile current designs utilize microparticle-based technology, it's insufficient for the most affordable, safe and efficient batteries possible. Given advances in nanotechnology, Associate Professor of Mechanical and Industrial Engineering Dibakar Datta is interested in deploying nanoparticles as battery electrodes.

The National Science Foundation (NSF), which recently awarded Datta a Faculty Early Career Development (CAREER) grant, sees next-generation energy storage as something urgently needed to advance the U.S. economy, welfare and defense.

While there are problems associated with nanoparticles that need to be

overcome before the battery industry will use them over microparticles, a way forward lies in utilizing “multiscale active materials” to leverage the advantages of both kinds of particles. What if microparticles were used with nano pores, for example?

“The potential is huge,” Datta said. “We could have the best of both worlds, micro and nano, and create more long-lasting, compact batteries.”

The goal of Datta's research is to understand the interrelated electrical, chemical and mechanical behaviors of these multiscale materials. The project will develop an integrated simulation and machine learning framework to

discover the optimal materials for energy storage.

Datta's \$500,000 CAREER grant also supports creating outreach and educational activities that provide research opportunities for underrepresented students. Working with community college students in partnership with the Louis Stokes Alliances for Minority Participation program, Datta will offer workshops for elementary school teacher trainees and provide STEM content to promote science among young students. Additionally, free online workshops related to this research will benefit the global mechanics research community.



Dibakar Datta in a classroom at NJIT's Mechanical and Industrial Engineering Department



# New Lives for Discarded Batteries

Chao Yan '17 Ph.D. is the founder and chief executive officer of Princeton NuEnergy, which develops advanced technologies for recycling lithium-ion batteries. Since 2017, he has also served as a research associate at Princeton University's Keller Center for Innovation in Engineering Education.

**Q: What got you interested in recycling batteries?**

**A:** As a research associate at Princeton University working in 2018 on renewable energy, electrification was seen as a big opportunity, especially lithium-ion (li-ion) batteries. People first think about making better batteries, but with the environmental and safety issues associated with mining the materials, along with their limited recycling and likely disposal into landfills, I saw recycling li-ion batteries as an underexplored sector. In the U.S., only about 5% of used li-ion batteries are currently recycled. Today, there are about

two million electric vehicles on the road, a figure expected to jump to roughly 26 million by 2030! The demand for energy storage for grid stabilization, as well as solar and wind energy, is growing rapidly as well. Some experts estimate that over 80 metric tons of li-ion batteries will need to be recycled in the U.S. in 2030 alone. This is just the beginning!

**Q: Why is it so difficult to recycle them?**

**A:** Unlike more commonly and easily recycled lead-acid batteries, li-ion batteries are extremely complex. The cost of recycling often outstrips the value of recovered battery components. Most current methods use acids to leach out metals — cobalt, nickel and lithium. This process is typically slow and energy-intensive,

produces wastewater contaminated with toxic metal ions, and loses critical battery materials. The cost of then refining the recovered metals is very high and often involves using toxic organic solvents. Additional transportation, material inventory and energy costs complicate traditional recycling processes. Combining these costs with elevated demand and prices of pure materials, we have a critical shortage of materials. This makes recycling — smartly — a true imperative.

**Q: How does Princeton NuEnergy tackle this problem?**

**A:** Rather than reducing batteries to their source compounds, we use a simpler method to separate valuable materials and advanced plasma technologies to clean them — minimizing impurities for

direct return to battery manufacturing. We can produce battery-grade materials that are just like virgin materials.

**Q: What are your near-term goals?**

**A:** Over the next five years, we plan to build more than five additional discrete recycling facilities containing 10+ production lines with capacity to process over 50,000 tons of spent batteries and manufacturing scrap. Each facility will reduce CO<sub>2</sub> emissions by up to 80%, water use by 70% and the overall cost by 50%, compared to current industrial recycling processes.

**Q: How can we improve the sustainability of the li-ion industry?**

**A:** When switching from the internal combustion engine to electric cars, the idea was to reduce emissions and energy use. Recycling was an afterthought. Going forward, we need to think more carefully about technology decisions and best practices we take in recycling li-ion batteries to optimize cost and minimize environmental concerns. We believe that direct recycling and Princeton NuEnergy can make a substantial positive impact to this new electrified world. ■

- Jesse Jenkins, Tracey Regan

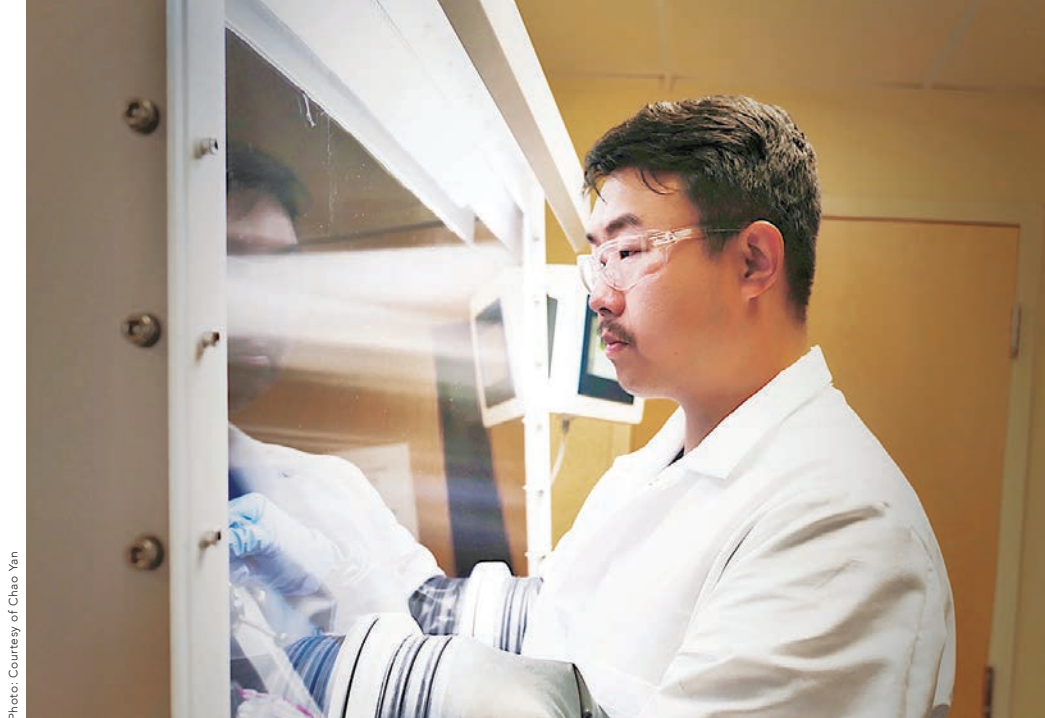
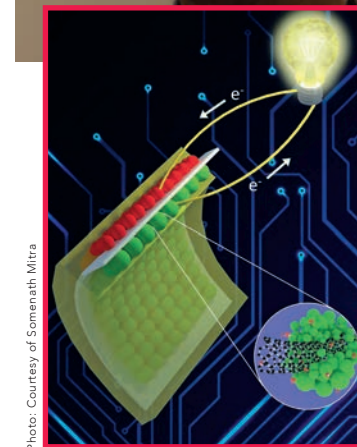


Photo: Courtesy of Chao Yan

Somenath Mitra inside his lab at the Otto H. York Center for Environmental Engineering and Science



A schematic showing the layered structure of a flexible battery.

**SOMENATH MITRA and ZHIQIAN WANG** have received a patent for their breakthrough in developing high-capacity, iodine-based batteries. The new materials can last 2.5 times longer, which is particularly important in applications where long battery life is critical, such as in medical devices and remote sensors. Mitra, a distinguished professor of chemistry and environmental science, and Wang, who was a research associate in the group, found that their batteries generate similar voltages as alkaline cells, so they can be used where D, AA and AAA batteries are used for both domestic and military applications. While studies on batteries for large machines, such as electric vehicles, are popular, the improvements in batteries for small consumer devices, including remote controls, toys and flashlights, have been overlooked. The batteries they developed are also highly customizable. Wang and Mitra fabricated reusable battery casings using 3D printing techniques, so the batteries can be made into different shapes and dimensions, even in the forms of flexible thin-film batteries, which have great potential in wearable and portable device applications.





## DEDICATION OF THE JOHN MARTINSON HONORS RESIDENCE HALL

This September, the NJIT community gathered to dedicate the John Martinson Honors Residence Hall in honor of John Martinson's historic \$3 million gift to the Albert Dorman Honors College (ADHC). Martinson's generous commitment is the single largest in the 28-year history of ADHC. It provides seed funding to broaden and deepen the curriculum and experiential learning opportunities for the university's 712 Albert Dorman Honors Scholars and the 280 Dean's Scholars in the university's five other colleges.

Martinson's gift will enable the college to add two new educational tracks; triple the number of scholars

in the Honors Summer Research Institute; more than double the number of scholars who study abroad; add internships and cooperative educational experiences; and restructure course offerings. Notably, it also provides funding to create two new faculty appointments specifically within the Albert Dorman Honors College, the first such affiliations in ADHC history.

A self-described "venture philanthropist," Martinson is invested in the success of honors colleges and finds the quality of education at NJIT to be noteworthy. "What impresses me is that NJIT is growing in size and rising in national stature," said

Martinson, chairman of Martinson Ventures and co-founder of both the New Jersey Technology Council and the New Jersey Venture Fair. "I'm enthusiastic about the university's progress, transformation and vision."

For additional information on John Martinson and his extraordinary gift to NJIT, please go to <http://njit.edu/honors-gift>. ■

From left: Richard Dorman, Sriramy Ganiseti (student speaker, Honors College), Louis Hamilton (Dean, Honors College), Nancy Witt, John Martinson, Teik C. Lim (President of NJIT), Gina Lim (NJIT's First Lady), Richard Schatzberg (MS '93, chair, Board of Visitors, Honors College), Paulo Pinho ('96H, member, Board of Visitors, Honors College)

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**#2** public university nationally **AND #19** university overall

- The Wall Street Journal 2024 Best Colleges in the U.S.

FOR FALL 2023, RECORD  
ENROLLMENT OF 13,000+  
STUDENTS, A GROWTH OF 11%  
OVER THE PAST THREE YEARS

**A look at the 2023 undergraduate class:**  
Largest ever, with 1,790+ new students  
• 43%+ underrepresented minorities  
• 33%+ female  
• 44%+ identify as first generation

**#86** among national universities  
for 2024 - a jump up of  
11 spots from 2023

- U.S. News & World Report

**122** degree programs

**\$178.4**

million  
research  
expenditures  
in 2022-23\*

**\$15.6**

million in  
new gifts and  
pledges in  
2022-23

**\$681.9**

million  
annual  
budget for  
2023-24

PRESIDENT'S

CORNER

\*preliminary

1970s

**HARRY T. ROMAN '70, '74** was recently conferred the title of Distinguished Technology and Engineering Professional by the International Technology and Engineering Educators Association.

**RICHARD M. DeFURIA '71** joined Re/Max Platinum Realty as a broker-associate at the Lakewood Ranch office in Florida. Before Re/Max, DeFuria worked as a professional engineer and is the former president of Tekworks, Inc. in New Mexico.

**MASARU MASHIKO '75, '83** writes, "As a retiree, I enjoy walking every morning 365 days a year and playing tennis with my neighbors twice weekly. In 10 years, I would have walked around the equator, according to my calculations."

**RUSSELL J. FURNARI '79** received the Water Resources Association of the Delaware River Basin's Samuel S. Baxter Memorial Award in recognition of his significant contributions advancing sustainability.

1980s

**NORMA J. CLAYTON '81** was elected to the board of directors at The Goodyear Tire & Rubber Company. Clayton also serves as chair of the board of Tuskegee University. She brings with her 20 years of experience in several industries, including leadership roles in engineering, plant operations, management roles and human resources. She is co-vice chair of the NJIT Board of Trustees.

**THOMAS B. TESTA '83** was appointed as the chief executive officer and member of the Board of Directors at Corza Medical.

**CURTIS M. BASHFORD '87, '95** is the CEO and president of General Devices and has been named one of "The Top 25 Healthcare Technology Leaders of New Jersey for 2023" by The Healthcare Technology Report.

**DONALD E. CARLUCCI '87** is a senior research scientist for Computational Structural Modeling at Picatinny Arsenal. He was awarded the Presidential Rank Award for his exceptional work over an extended period of time. Carlucci was selected in the Meritorious Senior Professional category, making him one of the 233 winners across 33 federal agencies in fiscal year 2022. He is employed at the U.S. Army Combat Capabilities Development Command (DEVCOM) Armaments Center and is the chancellor of the U.S. Army Armament Graduate School at Picatinny Arsenal.

**RAKESH I. KAMDAR '87** was recently elected as vice chair and member of the Global Board of Trustees for TiE, a non-profit organization that fosters entrepreneurship across generations, with 61 chapters and 15,000 members around the world. Kamdar is also the founder of DB Healthcare Inc., a staffing and consulting company that provides services for hospitals, pharmaceutical, biotechnology and medical device companies.

**CHETAN H. SHAH '88** was named managing director of Technology, Media and Telecommunications at Kaizen Analytix LLC.

1990s

**RALPH F. ARCURI '90** received the National Association of Printing Ink Manufacturers Pioneer Award. The Pioneer Award honors individuals who have given over 20 years of service to the printing ink industry through their work with one or several printing ink companies or suppliers. Arcurio has 38 years of service to the advancement of polymer development and has been granted 13 patents, seven pending, during his tenure at Sun Chemicals.

**LEON K. BAPTISTE '91** was recognized as NAMC's 2022 Affirmation Gala's Trade Contractor of the Year Honoree. Baptiste is the chief executive officer of LB Electric, an electrical contractor and engineering firm that he founded in 1999. In addition, he launched the LB Training Center, which aids college students, inner-city youth and re-entries in solar energy education and technologies.

**BRIAN TIBBS '91** was one of 73 architects to be elevated to the American Institute of Architects College of Fellows, an honor awarded to architects who have made significant contributions to the profession in society and on a national level. Tibbs is currently the managing partner at Moody Nolan.



## PROFILE

## SAM SABET '98, M.S. '99, PH.D. '06

## Triple Degrees Lead to a Dream Job



Photo: Courtesy of Sam Sabet

**S**am Sabet, the new chief technology officer of industrial audio firm Shure Inc., has an NJIT degree for every season of his career.

After transferring from American University in Cairo, Sabet arrived in Newark in 1995 and earned a B.S. in what was then called computer information systems. He returned for an M.S. in electrical engineering to help with an unexpected career in underwater telecommunications at AT&T, and then opted for a Ph.D. in information systems and management, aiding his career evolution and transition into leadership at Crestron Electronics.

Shure recruited him in June of this year and Sabet said he's happy to have taken the chance. "This is my dream job, working every day with some of the smartest people I've ever worked with, helping guide and craft the vision of new technologies. I wake up every morning excited to come into work," he said.

"It's a 98-year-old company. They are the premier manufacturer and provider of audio products. You look at any

professional venue like a concert, or any of the famous singers, and you'll notice that they all use Shure microphones," whether it's Bruce Springsteen rocking the Meadowlands or Taylor Swift singing in Los Angeles, he explained.

But those microphones are vastly more technically complex than most people know. Each one is a computer inside — processor, memory, batteries, digital signal processing, C programming code — and Sabet believes that artificial intelligence is on its way, as it's already being studied for use in post-production.

Shure isn't just in the entertainment business. They also make microphones for corporate applications. Sabet said NJIT has such products in lecture halls and large conference rooms. "Gone are the days where everybody in the meeting is going to be in the same room. You can't have a great meeting across five or six locations if your audio gets garbled," Sabet observed. On that front, AI is helping out with transcription functions, such as identifying not just what's being said but also who said it, he noted.

Managing the teams that develop

such products leads Sabet to draw on skills he honed as a Highlander. Primarily, he said, the most important skill for an engineering manager is to never stop learning.

"If I could, I'd still be a full-time student. I loved going to school there and I love learning. The doctorate part of it wasn't so much to reach the destination but to enjoy the journey," he said.

Sabet said his favorite faculty were Ravi Paul and the late Murray Turoff. He now teaches as well, focusing on graduate-level courses in NJIT's Ying Wu College of Computing. These include IS-663, Advanced System Analysis & Design and IS-676, Requirements Engineering — the latter formerly taught by Paul. Sabet travels between home in Texas and Shure's headquarters in the Midwest, and teaches exclusively online.

"Always search to challenge yourself," Sabet advised. "That's the thing that I learned the most at NJIT, to get out of that comfort zone. What I wish I knew back then was to enjoy the journey." ■

- Evan Koblentz

**HONGCHAO YU '91** was recognized by the Paterson City Council on his retirement and on his 28 years of service to the City of Paterson, N.J.

**LEWIS C. GUERRETTE '93** was named the executive vice president and general manager for the development and construction firm Shanska.

**MICHELE C. SCOTT '93**, CEO of WeEmpower Partnerships, LLC, was awarded the Visionaries Award for her exceptional contributions to education at the Education 2.0 Conference's Summer Edition in Las Vegas. Scott's global experience includes executive roles at Rutgers University-Newark in China and serving as a foreign academic ambassador in France. She also serves on nonprofit boards and provides career and professional development training.

**JAYANTI CHATTERJEE '95** was appointed the new vice president of HSE at The Valcourt Group.

**ROBERT KURKJIAN '95**, a member of the board of directors and the chief financial officer of Chemists Without Borders (CWB), was recently featured in *Environmental Monitor* for CWB's project in Bangladesh to provide safer drinking water.

**CARL ROSSI '95** has been appointed the new director of Public Works for Holyoke, MA. Prior to this role, Rossi served as public relations director for the Sportfriends Soccer Club in Wayne, N.J.

**CHRISTOPHER M. ANDREWS '96, '02** was appointed the chief operating officer of Logiq, Inc., a leading provider of digital consumer acquisition solutions.

**ALLEN F. RUTHERFORD '96** was named the new director of construction for the Colorado regional office of St. John Properties, Inc.

**JEAN C. SIMEON '96, '98** was appointed SVP, Quality by Orchestra BioMed Holdings, Inc. Previously, Simeon worked for Amring Pharmaceuticals as head of quality assurance and regulatory affairs, and executive director of quality at Actinium Pharmaceuticals.

**ANDREW J. STEWART '96, '99** was named president, Ophthalmic Pharmaceuticals, by Bausch + Lomb Corporation. Prior to Bausch + Lomb, Andrew was the general manager within the eye care franchise at AbbVie.

**ROBERT S. LARSEN '97** has joined MidAtlantic Engineering Partners at its new division, MidAtlantic Architecture and Design. Before MidAtlantic, Larsen was the director of planning at CPL Partnership.

**SAMEH A. SABET '98, '99, '06** has been appointed the new executive vice president and chief technology officer at Shure. Previously, he served as the senior vice president of engineering and head of product development and delivery at Crestron Electronics. Sabet

also teaches graduate-level courses at NJIT. (See page 22 for interview.)

**CHRISTINA J. SEO '98H** was selected as the Top Colon and Rectal Surgeon of the Decade 2023 by the International Association of Top Professionals (IAOTP). Seo is currently the director of Colorectal Surgery for Holy Name Medical Center in Teaneck, N.J. and has been practicing for almost two decades in the field of colon and rectal surgery. Seo has also been awarded the Top Doctor of the Year, Empowered Woman of the Year, VIP Woman of the Year, Top Female Executive, Elite Worldwide Professional, Professional of the Year and Best Colon and Rectal Surgeon.

**TIMOTHY C. TIERNEY '00** joined HNTB as a senior project director and rail industry technical advisor.

**SHUJAH AWAN '02** is Kafene's first general counsel, leading the legal and compliance team.

**OLGA Y. GARCIA '04, '05** received the Outstanding Women in Municipal Government Award from the Members and Officers of the New Jersey League of Municipalities for her contributions and dedicated service toward the advancement of women officials in municipal government. She currently serves as the president of the New Jersey Society of Municipal Engineers.



## PROFILE

## ALINA EMELIANOVA '22 PH.D.

## Exploring the Intricate World of Cellular Processes



Driven by a passion for computational methodologies and a desire to explore new horizons, Alina Emelianova achieved numerous successes as a Ph.D. student at NJIT, including eight peer-reviewed publications and several academic awards. Emelianova is now conducting research in one of the world's preeminent research groups at Princeton University.

Emelianova's foray into academic research began at the National Research Nuclear University MEPhI in Moscow, where she conducted experimental investigations focused on fluids confined in nanoporous materials. This early work ignited a curiosity for the complex interplay of molecules and materials that would become her area of expertise.

Emelianova sought new challenges where she could push modeling and computational boundaries and found it at NJIT. She said faculty offered inspiration, guidance and support.

Professors Irina Molodetsky and Alexei Khalizov "left a mark" on her academic growth, though it was the mentorship and advisement of associate professor Gennady Gor that made

the biggest impression.

"His profound impact on my development as a scientist cannot be overstated. His support and guidance pushed me to think critically and seek innovative solutions, shaping the researcher I am today," she said.

They conducted pioneering research on adsorption-induced deformation of nanoporous materials, including zeolites and metal-organic frameworks (MOFs). Zeolites possess well-defined pores and cavities, making them exceptional molecular sieves for applications such as gas separation and water purification. MOFs, consisting of metal ions interconnected by organic linkers, offer unparalleled tunability, enabling tailored properties like tunable pore sizes and high surface areas.

Through her exploration of these porous materials, Emelianova stands at the forefront of advancing knowledge and showcasing the profound impact of materials science on real-world challenges and innovation in the energy, defense and healthcare sectors.

This passion set Emelianova on a path to pursue postdoctoral studies in biomolecular engineering, ultimately leading her to Princeton

University's renowned Joseph Group for Computational Biophysics and Bioengineering. Emelianova delved into exploring phase separations in cells and investigating treatments targeting condensate-linked diseases. Expertise in computational approaches has proven invaluable in understanding cellular processes, and the group's research holds immense promise for advancing medical science and healthcare.

Emelianova's prolific research, publication of numerous articles and active participation in prestigious conferences tell just part of her story. She's also a selfless collaborator and embraces the responsibilities of being a representative for current and future scientists. Her collaborative nature has fostered a global network of peers; she mentored undergraduate and high school students and she was an active member of NJIT's Graduate Student Association.

"I believe that science is a fun and creative process and this is the philosophy I try to use as a mentor," she said. ■

- Deric Raymond

**GURVINDER S. REKHI '04** was named Vice President and Chief Information Officer at the University of Dayton.

**JONATHAN ORLANDO '06** recently started a new role as vice president of Network Engineering at Sirius XM Pandora.

**ANTONIO A. LOPEZ '07** has been named the senior financial advisor, founder and president at Triumph Wealth Management, LLC.

**GREGORY GADOMSKI '08** was recently recognized as one of *Railway Age* magazine's 2023 "25 under 40." He writes, "Following graduation, I joined the Port Authority of NY & NJ Engineering Department as an electrical engineer, progressing in roles, responsibilities and projects. This led me to PATH in 2014, as manager of technical services for the PATH Power, Signals and Communications Division. The role then led to my becoming superintendent of the division in 2017. I attribute the ability to lead and guide a highly technical operational division of the PATH rail system to the technical roots of electrical engineering."

**CLIFTON W. PRESCOD '12** did photography work for Netflix's hit series "Kaleidoscope," which was featured in campaign ads across the country, including being featured on a billboard in Times Square. Prescod

currently works as a motion picture still photographer for IATSE Local 600 and along with Netflix has worked with Starz, Peacock, CBS, Viacom, MTV, VH1, Comedy Central, iHeart, Condé Nast, Armand Du Brignac and Dusse. Additionally, Prescod works as a freelancer with celebrity Nick Cannon.

**JAMAINE S. MUNGO '13** professor at Cornell University, recently published "Anatomy of Cyber Attacks," a comprehensive guide on how to combat cyber threats through effective security awareness training.

**NINA ASTILLERO '14** was appointed as ESG director for Ioneer Ltd. Previously, Astillero worked at Holcim Inc., Freeport-McMoRan, Inc. and Bureau Veritas North America.

**RYAN M. CRUZ '14** is the co-founder of Muvez, a footwear company known for its innovative slipper shoes. The idea to create the Muvez slipper shoe started with a homework assignment while Cruz was attending NJIT as an undergraduate. Muvez's revenue doubled after his appearance on the popular television show "Shark Tank." Muvez has donated to the World Health Organization (WHO) and also donated 500 Muvez shoes to New Jersey's Hackensack University Medical Center's first responders.

**CHRISTOPHER J. GANDY '14** is the director of business development of JAKTOOL, a product development, engineering and precision prototyping

company based in the Northeast.

**KELSEY J. JACKSON '14** was awarded a Common Bond scholarship during Common Bond: The Center for Architecture Gala. The scholarship is given to outstanding architecture students chosen by area schools. Jackson, a master of architecture candidate at Columbia University Graduate School of Architecture, Planning and Preservation, is dedicated to integrating her experiences in education and architectural design to uplift historically Black cities and communities.

**MOHAMMAD A. RAHMAN '14** was appointed the chief information officer of Rider University's Office of Information Technologies. Rahman brings with him experience in information technology in higher education institutions, including Ellucian, the world's leading provider of software and services for higher education.

**KIMBERLY LAM '16H** is being honored as the Society of Women Engineers Distinguished New Engineer, recognizing her outstanding contributions to engineering and technology.

**SAYYID M. ALI '17** was named to the *Forbes* "30 under 30" Education list for co-founding the number one diversity recruiting platform PeduL in 2019. PeduL has reached over 160,000 students and has been able to raise



## PROFILE

## DAVID RUCHMAN '06, M.S. '09

## From Intern to CEO



Nobody expects their summer internship to lead to a job as CEO, but that's exactly what happened to computer science alumnus David Ruchman.

Ruchman, who graduated in 2006 and added a computer science M.S. in 2009, became chief executive of Powersolution, a 20-person IT services firm in Midland Park, N.J. in 2022.

As a student, Ruchman was a commuter from Teaneck who thought he might become a programmer but didn't really have "a game plan."

"It's a funny story," he said. "My girlfriend at the time, who's now my wife, decided to help me out the summer after my junior year and try to find me an internship. She said, 'You really have to get an internship, it's going to help you out in life.' She opened up the phone book, believe it or not, and found local companies and started calling them for me. That's the story, she called on my behalf and found a company willing to see an intern."

At Powersolution, Ruchman did entry-level systems administration — the drudgery of backups, printers and upgrades — and also worked in a support role, where he learned the invaluable soft skill of interacting with customers. Over the years, he moved up to become a senior systems administrator, worked while going to graduate school, served in various operations roles and ultimately became the company's chief technology officer, before founder David Dadian stepped back and picked Ruchman, just 39, to lead the whole business.

"I've been here 18 years. I've never left. I never had any other job," Ruchman said. "It's unheard of. They've been very good to me. I stepped my way up."

Although he never formally worked in software development, Ruchman finds constant benefits to the skills he learned at NJIT's Ying Wu College of Computing. He finds himself writing code every few months to solve some real-world customer problem, usually

working in Java, PHP and Powershell.

His skills paid off for Powersolution as much as they did for him personally. The company provides services such as backups, email, networking and security to about 70 clients and 1,600 total users, all of which are small or medium-sized businesses, mostly based in North Jersey. Notable clients include medical workers union HPAE, J. Supor, a trucking and rigging specialist, and law firm Scura, Wigfield, Heyer, Stevens and Cammarota.

"I'm very happy that I have a base in computer science. It's been beneficial. My goal has been to slowly grow this company. I'd like to see us double in size. I'd like to double our revenue," Ruchman said. "I think that'd be a great place to be," whether through acquiring smaller companies or being acquired by a larger firm. ■

- Evan Koblentz

\$1.5 million while partnering with Paramount, Visa and Audible.

**DALAL ELSHEIKH '17** served as a judge on NBC's "Hot Wheels: Ultimate Challenge," helping decide which contestants will see their designs come to life.

**SIMONE GAGNERON '18** was appointed as the CEO of Newark's New Community Corporation. Gagneron was formerly the chief operating officer of United Way of Northern New Jersey. She also serves on the board of Transforming Youth into Adults, a start-up nonprofit organization in Baltimore.

**PAMELA M. OSPINA '18** was recognized in *Interior Design* magazine's Top 30 Designers under 30. Ospina has been working as a workplace designer at M Moser Associates in New York since graduating from NJIT in 2018. While at NJIT, she served as the co-president of NJIT's International Interior Design Association chapter.

**MELISSA NIEVES '19**, an associate architect for The Port Authority of New York & New Jersey, was awarded the American Institute of Architects New Jersey 2022 Service Award. The award recognizes Nieves' dedication to bettering the architectural profession, especially for underrepresented minorities. She credits Hillier College and NJIT for preparing her to enter

the field of architecture. Nieves is part of the National Organization of Minority Architects and co-founded Arqutina, a nonprofit organization aimed at increasing the representation of licensed Latina architects in the U.S. while creating more equitable and inclusive opportunities in the field.

**JALEN THOMPSON '21** has started a new job as a junior Mechanical Engineer at Techflex.

**KYLE J. LIEBAU '22** writes, "Shortly after graduation, I began working at Asplundh Engineering Services in northern New Jersey. My NJIT education is a crucial part of my capabilities in the workforce. Many of the labs and courses I took at NJIT accelerated my understanding of various difficult topics that I see every day at work! Following the Spring 2022 semester, I started the Power Systems Electrical Engineering M.S. program, and will never regret that decision. If I could go back in time and choose again what path I would take, I would still choose NJIT. I plan to take the FE Exam in the coming months, with hopes of one day acquiring my PE, so that I may build and own a renewable energy farm and a power generation plant."

## IN MEMORIAM

Richard Crittenden '53

Dr. Walter T. Reichle '53

Leonard Merel '56

Armand A. Gregoli '57, '63

Paul J. Juhasz '57

Robert G. Burtha '59

Felix J. Rospond '59

Stanley M. Barauskas '61

Carl L. Sulzberger '62, '66

Robert L. Goldstein '63

Michael F. Quinn '63

Werner R. Zorn '63

Bruce D. Reinert '66

George J. Kelly '67

Richard C. Lee '68, '72

George E. Martinez '70

Robert E. Berens '71

Nicholas J. Stecky '71

Charles D. Cherry '75

Richard Greene '76

Ronald A. Lotrecchio '76, '79

Elliott S. Sadle '76

David R. Good '78

Edward S. Gutt '79, '85

Patricia Kelly Stanzione '79

Rosario J. Lobosco '93

Douglas A. Newandee '96, '03

David N. Nare '07H

Sallie A. Porter '10

Marcus P. Rinaldi '13



# HOMECOMING 2023



In October, the annual Homecoming Carnival & Soccer Game featured music, entertainment and plenty of Highlander spirit. Homecoming featured everything from walking tours of Newark to an Oktoberfest-themed beer garden, a carnival and much more. ■

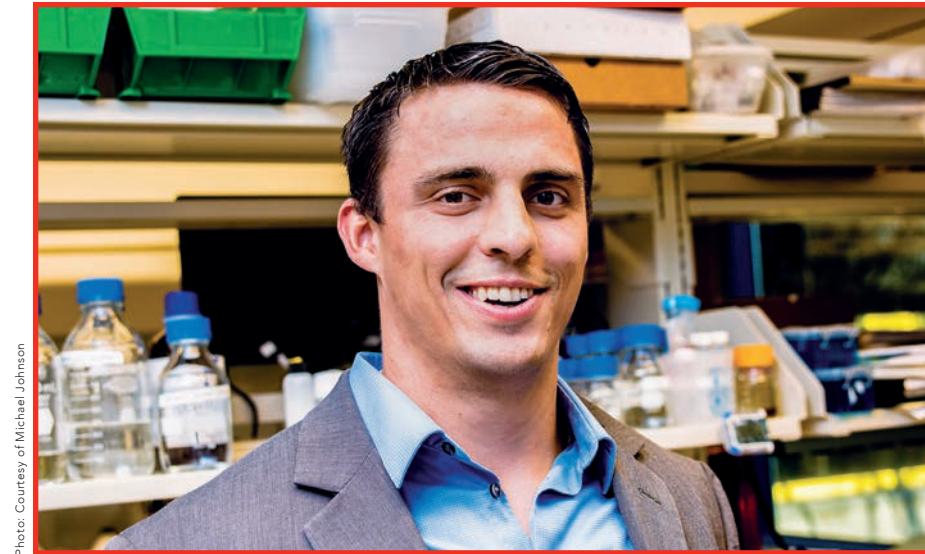


Photo: Courtesy of Michael Johnson

## A NEW LEADER FOR NJII

Michael Johnson, Ph.D. has been named president of the New Jersey Innovation Institute (NJII). Working as managing director at Visikol and chief commercial officer of MatTek Life Sciences, Johnson is a visionary leader who has focused his career on the development and commercialization of paradigm-shifting life science technologies.

Johnson, who began his tenure on Oct. 10, founded the advanced cell culture and imaging contract research service business Visikol, which he sold in 2021 to Swedish biotech company BICO. At Visikol, Johnson led all scientific, commercial, strategic, operational and finance efforts and attracted all 20 of the top 20 pharmaceutical companies as clients. He oversaw 200+ discovery programs and led the development and launch of many advanced cell culture models,

assays and imaging approaches.

Following the sale of Visikol, Johnson joined MatTek Life Sciences (a BICO sister company), where he oversaw an international sales, marketing and business development team. Johnson also held positions at Johnson & Johnson and NASA earlier in his career and earned a bachelor of science degree in biology from Muhlenberg College, as well as a Ph.D. in microbiology from Rutgers University.

NJII, an NJIT corporation, was founded in 2014 and serves as a portal and platform for university partnerships with corporations and funding agencies. This work makes a direct and significant impact on the economy, as well as the health and welfare of individuals.

NJIT President Teik C. Lim said, "We are very excited to have attracted someone of Michael's

experience and capability to serve as NJII's next president. He is an excellent match for this opportunity, and we have great confidence that he will have a tremendous and positive impact on NJII. I very much look forward to working with him as we expand the ways in which NJII and NJIT engage with government and industry to develop mutually beneficial partnerships."

Johnson said, "I am passionate about translating cutting-edge research into innovative technologies that change the world, and the opportunity at NJII to be the conduit between a leading R1 research organization and industry was very attractive to me. As I look at NJII, I see an opportunity to greatly expand the organization's scope, size and impact over the next few years as we look to form stronger public and private partnerships, accelerate the translation of NJIT technologies, expand corporate education programs and spur innovation within the state while leveraging NJIT's vast resources. I am very grateful for this opportunity to join such a great team." ■





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**Online M.S. in Artificial Intelligence (AI)** With a master's degree in AI from NJIT, students will be able to demonstrate expertise in several areas, including designing and building custom AI models using programming languages and frameworks such as Tensorflow and PyTorch. Among other skills, students will also learn to: design and develop software in the form of scalable AI software architectures and APIs; process and analyze a variety of data in different formats including text, images, audio, videos, and time series data; and formulate complex problem statements and solve them using specific AI models. For more information, please see: [ds.njit.edu/graduate-programs](https://ds.njit.edu/graduate-programs).