

# NEW YORK INSTITUTE OF TECHNOLOGY

## THE THRILL OF DISCOVERY

Faculty and students in the Department of Anatomy are pushing boundaries with cutting-edge research.



**PLUS**

New initiatives are connecting students across various fields of study and fostering interdisciplinary collaboration.



Dear Friends,

Each new academic year brings new opportunities for New York Tech to improve the student experience in all areas—and the fall 2022 semester is no different. This takes shape in many forms, such as optimizing classroom technology and campus facilities; promoting positive interactions in financial aid, academic advising, and registration; and, of course, delivering a top-quality education.

Another area where New York Tech is broadening the student experience is research. In this issue, you'll read about anatomy professors in our College of Osteopathic Medicine engaging students in animal locomotion and evolutionary biology (see p. 16). Other research highlighted here and performed by faculty and students include neuromarketing, robotic surgery, and virtual/augmented reality in the classroom setting, among other topics.

Speaking of research opportunities, one project we look forward to sharing more about in the coming months is a planned 20,000-square-foot research building at our Long Island campus that will enable New York Tech to expand its research enterprise into new and advanced fields, as well as grow our intra- and interinstitutional collaboration. One of the new imaging instruments to be added is the X-Ray Reconstruction of Moving Morphology (XROMM) for visualizing rapid skeletal movement in vivo. Using this technology, we can combine 3-D models of bone morphology with movement data from X-ray video to create highly accurate reanimations of skeletal movement from humans, birds, frogs, etc., moving in 3-D space to better understand bone motion.

As we continue to remain focused on providing a quality education, our efforts have proven we are on the right track. For the 12th consecutive year, New York Tech is ranked among the [top 50 universities](#) in the North in the *U.S. News & World Report* 2022–2023 Best Colleges rankings. In fact, we improved our position to No. 22 in the regional rankings, up from No. 34 last year. Another pride point comes from [Georgetown University's Center on Education and the Workforce](#), which ranked our M.B.A. program No. 45 out of 2,523 graduate business programs in the United States and the top Long Island graduate business school. (See p. 6.)

We look forward to sharing more exciting news in the future as our university continues to deliver exceptional student experiences and value.

Hank Foley, Ph.D.  
President, New York Institute of Technology

FOLLOW #NEWYORKTECH      

## Magazine Staff

**Associate Director, Editorial:**

Bessie Nestoras Knoblauch

**Vice President, Enrollment Management and**

**Strategic Communications:** Joseph Posillico, Ed.D.

**Senior Director, Communications and Public**

**Relations:** Libby Sullivan

**Senior Creative Director:** Erica Pennant

**Contributors:** Tina Benitez-Eves, Renée Gearhart

Levy, Sarah Hessasta, Carol Lane, Casey Pearce,

Denice Rackley, Alix Sobler, Amy Sacks, Michael

Schiavetta (M.S. '07), Libby Sullivan,

Kimberly Tucker Campo

**Copy Editor:** Kathleen Scheiner

**Art Director:** Lixia Guo

## Alumni Relations

**Vice President, Development, Alumni Relations, and**

**External Affairs:** Patrick Minson, Ed.D.

**Director, Alumni Relations:** Sabrina Polidoro

## NYITCOM Alumni Relations

**Director, Alumni Relations:**

Esther Pagan (B.A. '94, M.P.S. '04)

**Specialist, Alumni Relations:**

Kathryn Karwoski

## Contact Us

*New York Institute of Technology Magazine* welcomes submissions, story ideas, and feedback. Unsolicited manuscripts, related materials, photography, and artwork will not be returned. Please include your year of graduation, degree completed, and major or program of study. Visit [nyit.edu/magazine/submissions](https://nyit.edu/magazine/submissions), email [magazine@nyit.edu](mailto:magazine@nyit.edu), or write to: Bessie Nestoras Knoblauch, New York Institute of Technology, P.O. Box 8000, Old Westbury, NY 11586-8000.

Update your contact information or mailing address: [alumni@nyit.edu](mailto:alumni@nyit.edu) or 516.686.7800.

*New York Institute of Technology Magazine* is published by Strategic Communications, New York Institute of Technology, P.O. Box 8000, Old Westbury, NY 11568-8000.

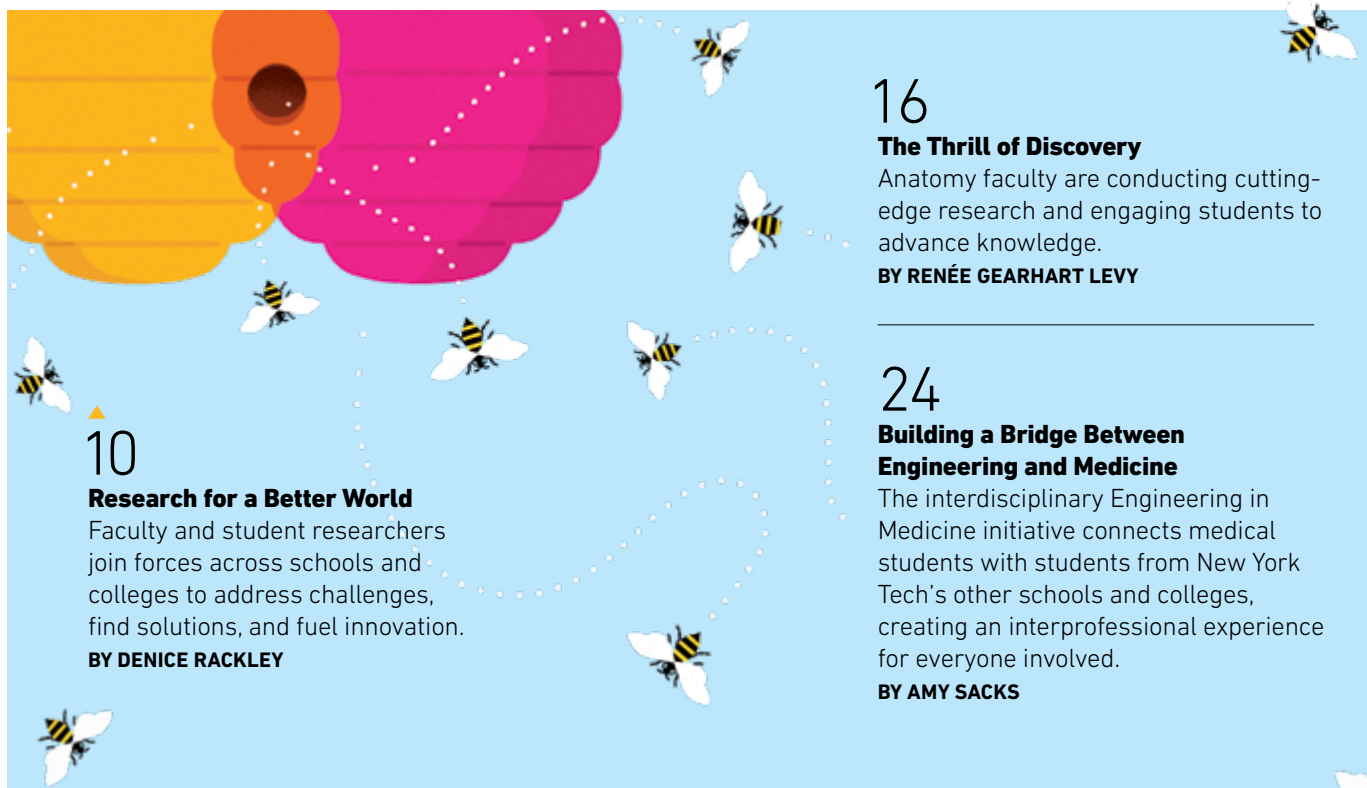
The publication is distributed to alumni and other members of the New York Institute of Technology community. Copyright ©2022 NYIT. Reproduction in whole or in part is prohibited without written permission.

## LET'S BE FRIENDS

Like what you see? Share your updates and feedback at [nyit.edu/alumni\\_notes](https://nyit.edu/alumni_notes) and connect at @NYITalumni, [nyit.edu/linkedin](https://nyit.edu/linkedin), and [facebook.com/nyit.alumni](https://facebook.com/nyit.alumni).



# CONTENTS



10

## Research for a Better World

Faculty and student researchers join forces across schools and colleges to address challenges, find solutions, and fuel innovation.

BY DENICE RACKLEY

16

## The Thrill of Discovery

Anatomy faculty are conducting cutting-edge research and engaging students to advance knowledge.

BY RENÉE GEARHART LEVY

24

## Building a Bridge Between Engineering and Medicine

The interdisciplinary Engineering in Medicine initiative connects medical students with students from New York Tech's other schools and colleges, creating an interprofessional experience for everyone involved.

BY AMY SACKS

2

## CAMPUS BUZZ

### A First for New York Tech

Professor Michael Hadjiargyrou, Ph.D., chair of the Department of Biological and Chemical Sciences and director of the D.O./Ph.D. program, has been named New York Tech's first distinguished professor.

### Putting an End to Pediatric Brain Cancer

Research by Associate Professor Haotian Zhao, Ph.D., and a group of students and faculty in the College of Osteopathic Medicine could help identify lifesaving therapies in some cases of pediatric brain cancer.

### Making a High-Tech Scene

Digital art and design students, faculty, and staff created multimedia imagery and animation backdrops for an outdoor production of *Giulietta e Romeo*.

### HEOP's New Lead

Rachel Morrison (M.S. '15) has been named the director of the Arthur O. Eve Higher Education Opportunity Program (HEOP) on the New York City campus.

### Vancouver's Shao Named Outstanding Educator

Instructure named Assistant Professor of Computer Science Yunlong Shao, Ph.D., a winner of its 2022 Educator of the Year Awards.

### Kudos All Around

New York Tech's Class of 2022 D.P.T. graduates achieved a first-time pass rate of 100 percent, far exceeding the national average mean scaled score.

### Architectural Solutions to Food Insecurity

Faculty and students in the School of Architecture and Design showcase their solutions to food insecurity in New York City at the Tallinn Architecture Biennale.

30

## ALUMNI SPOTLIGHT

**Meet:** Meet Eileen Shanahan (B.F.A. '87), Dina Ragab Selecky (B.S. '17, M.B.A. '18), Jacqueline Velez, AIA, NCARB (B.S.A.T. '85), and John Karaptis (B.S. '03).

35

## ALUMNI NOTES

**Connections and Notes:** Catch up with classmates.

### Cover photo by Rick Wenner

ON THE COVER  
CLOCKWISE FROM  
LEFT: Michael Granatosky, Julia Molnar, Nathan Thompson, Matthew Mhlbachler, Simone Hoffmann, Brian Beatty, Nikos Solounias, Aki Watanabe, Jonathan Geisler



# CAMPUS BUZZ

Stay up to date on the latest New York Tech news. Check out our alumni and student profiles, research updates, campus happenings, and more. [👉](#)



## A First for New York Tech

**P**rofessor Michael Hadjiargyrou, Ph.D., chair of the Department of Biological and Chemical Sciences and director of the D.O./Ph.D. program, has been named New York Institute of Technology's first distinguished professor. This designation is found at most top research universities to recognize outstanding faculty who have achieved the highest levels of scholarship over the course of their careers, earning national- and international-level distinctions and honors of the highest caliber.

"Interim Provost Jerry Balentine, D.O., and I were 100 percent in agreement that Professor Hadjiargyrou should be the first at New York Tech to receive this designation," notes President Hank Foley, Ph.D. "We have some very impressive faculty researchers, and he is absolutely one of the best. He is instilling his passion for research in our students while conducting important work in our labs in a variety of areas."

President Foley pointed to the range of Hadjiargyrou's

work—which includes studying polymeric electrospun nanofibers for cell/gene/drug delivery systems, gene and microRNA expression, stem cells, and the molecular and cellular basis for bone development and regeneration—and the exciting implications his research has for future applications, such as gene delivery and treatment of difficult fractures.

Between 1998 and 2022, his published research has been cited 7,711 times. In addition to his scientific research, Hadjiargyrou has also published thought leadership and opinion pieces on topics ranging from scientific integrity to teaching practices.

"I am humbled by being named distinguished professor, and I will continue to live up to the title," says Hadjiargyrou. "I would like to deeply thank President Foley and Interim Provost Balentine, not only for bestowing this award, but more importantly, for their continual support of my research activities." [👉](#)

# Putting an End to Pediatric Brain Cancer

A new study by New York Tech researchers, led by Associate Professor of Biomedical Sciences Haotian Zhao, Ph.D., could bring the medical community one step closer to winning the fight against pediatric brain cancer.

Zhao, along with medical and undergraduate students, as well as colleagues from the College of Osteopathic Medicine, teamed up with researchers from the National Institutes of Health, Boston Children's Hospital, and others to study the cellular biology behind choroid plexus (CP) carcinomas. These rare but very aggressive brain tumors are responsible for approximately 20 percent of brain tumors in children within the first year of life. The group's findings, which were published in [Cell Death & Differentiation](#), may also help identify lifesaving therapies to suppress CP tumor growth without damaging the developing brain.


CP tissue in the brain serves multiple critical functions, such as preventing toxic molecules and drugs from entering the brain, secreting cerebrospinal fluid (a vital liquid that nourishes brain cells), and removing metabolic waste from the brain. CP carcinoma and CP papilloma are two types of brain tumors known to affect CP tissue. While CP papilloma is typically a benign, non-

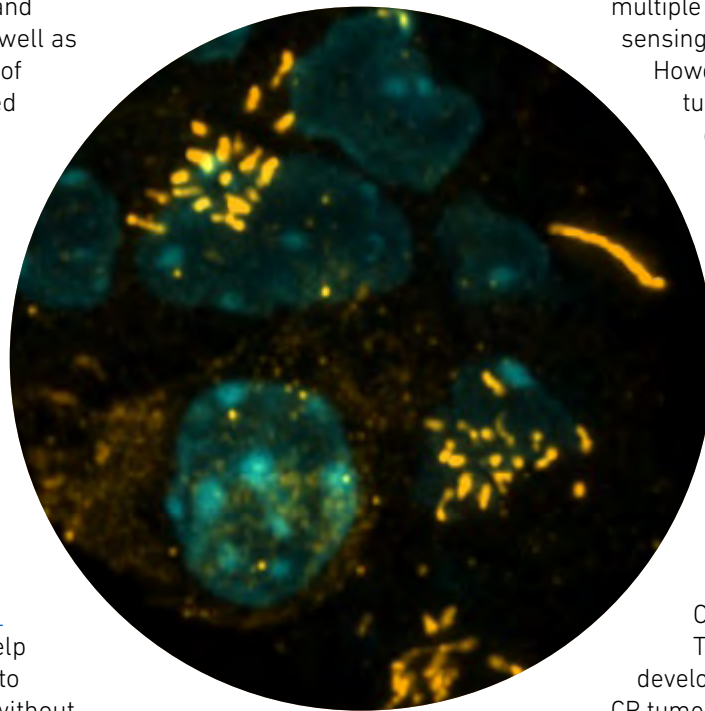
cancerous tumor, CP carcinoma is a rare malignant tumor that occurs primarily in children. These deadly tumors form within the CP tissue that secretes cerebrospinal fluid and tend to respond poorly to existing

cilia (multicilia) helps to direct the flow of fluid in certain tissues, including adult brain ventricles. Defects in the formation or movement of motile cilia can cause fluid accumulation in the brain.

Healthy cells within CP tissue have multiple cilia that contribute to the sensing of the brain environment.

However, most human CP tumor cells—especially CP carcinomas—are monociliated (have only one cilium) and display changes in the chromosomes that code for healthy cilia development. Given this, the researchers posited that changes in cilia development may play a key role in the formation of CP tumors, and those therapies encouraging the healthy development of multicilia could potentially halt the growth of deadly CP tumors.

To test the theory, the Zhao lab developed multiple mouse models of CP tumors caused by genetic defects commonly found in human diseases, including those impacting cilia development. In instances where gene expression for multicilia development was activated, CP tumor cell growth was inhibited. The researchers then administered a treatment to restore multicilia, which decreased tumor growth. Their findings suggest that therapeutic strategies aimed at restoring healthy cilia development may suppress CP tumor growth. 



CP tumors (teal) receive a treatment to restore multicilia (yellow), which was shown to decrease tumor growth.

cancer treatments, which makes them highly lethal.

The researchers investigated whether the development of CP tumors is impacted by defects in cilia, microscopic hairlike structures found in large numbers on the surface of cells throughout the body. The coordinated beating of multiple





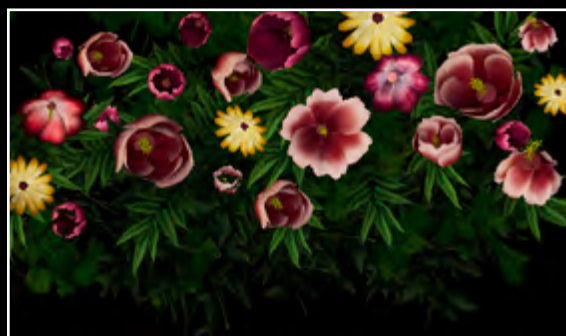
## Making a High-Tech Scene

**O**n June 4 and 5, New York Tech students, faculty, and staff joined in the production of Teatro Grattacielo's *Giulietta e Romeo* in Battery Park City's Robert F. Wagner Jr. Park. The outdoor operatic performance featured a 30-piece orchestra and a 30-member chorus, as well as multimedia imagery and animation backdrops created and rendered by students and faculty. The high-tech scenery accentuated Wagner Park's architectural structure, with the Hudson River waterfront and Statue of Liberty as backdrops.

Teatro Grattacielo, led by Artistic Director Stefanos Koroneos, is known for its forward-thinking, progressive, and multimedia-based exploration of opera. With this production, Teatro Grattacielo celebrates the 100th anniversary of the opera, which premiered in February 1922 at the Teatro Costanzi in Rome.

Department of Digital Art and Design Chair Rozina Vavetsi, at the encouragement of New York Tech Chief Architect and Vice President Suzanne

Musho and School of Architecture and Design Dean Maria Perbellini, led a team of faculty and students, who collaborated with Koroneos and projection designer Camilla Tassi to meet the aesthetic and technical requirements of the digital production. [↗](#)



Digitally rendered and animated flowers served as the backdrop for two outdoor performances of *Giulietta e Romeo* in Battery Park City.

## HEOP's New Lead

On June 1, 2022, **Rachel Morrison (M.S. '15)** was named the new director of the Arthur O. Eve Higher Education Opportunity Program (HEOP), an office she joined in 2009, first working as an administrative assistant and then as a counselor. Before coming to New York Tech, Morrison was busy earning a bachelor's degree in psychology and minors in math and art history and architecture at New York University, hoping to pursue a career in education. Here she talks about her role in this important program, which has 68 students participating in the 2022–2023 academic year, as well as her experience at New York Tech.

### What are your responsibilities as director of HEOP?

The number one responsibility is being passionate about the program and our students.

HEOP is jointly funded by New York Tech and the New York State Education Department. An important responsibility is making sure that we are always in compliance with policies and expectations and that we are recruiting the right students.

The program is meant for academically and economically challenged students who reside in New York. We are here to work with the students who, when they apply, may not be meeting New York Tech's admissions criteria at face value. HEOP works closely with the Office of Admissions, and we have a liaison in that office. We can take a second look at applicants and go a little bit deeper and do some placement testing and interviews. We look for those students that have the potential to do well here with the additional support of the program. HEOP participation includes individual and group counseling, tutoring, a five-week pre-freshman summer program, and many other activities planned throughout the year.


### How has your New York Tech education helped you in your career and life?

I earned a master's degree in human resources management and labor relations at New York Tech in 2015 and have been an adjunct instructor for the last seven years, teaching Foundations of Inquiry. And my husband earned his M.B.A. from New York Tech in 2022.



From my master's degree, I gained a great deal of confidence in terms of understanding employment law and healthy workplace practices, which helps me in counseling HEOP students as well as directing the program.


### What is your proudest career moment?

I have had many jobs in my time at New York Tech and love the opportunity to serve as HEOP director, which of course, just started a few months ago. But my proudest career moment so far may be when I became a HEOP counselor because then I knew where I wanted my career to go. 

## Shedding Light on Residential Energy Use



**E**hsan Kamel, Ph.D., assistant professor of energy management and director of the Energy and Green Technologies Laboratory, is shedding light on residential energy efficiency. Kamel has conducted extensive research on building energy modeling, energy-smart homes, building energy retrofit, and related topics. His latest paper, published in the journal *Buildings*, explores the impact of energy-efficient upgrades to residential building envelope components, including walls, roofs, and windows.

“Buildings consume about 40 percent of the total energy use and 75 percent of the electricity in the United States,” he says. “My project focuses on improving the simulation process for buildings’ energy performance and finding the most effective energy retrofit or conservation measures to reduce their energy consumption.” 

# A Discussion on Climate Change

Faculty, alumni, and industry experts explored strategies for adapting to climate change and talked about how communities can increase their sustainability and resilience at the 2022 New York Tech Energy Conference: Climate Adaptation and Resilience on June 8.


**Thomas Lanzilotta, CEM, CEA (M.S. '10)**, assistant director of energy management and sustainability at Stony Brook University, was one of the speakers and discussed methods of making workplaces more energy efficient. He talked about what he is doing in his current role to achieve that at the university. Lanzilotta is responsible for a utility budget of more than \$50 million per year covering over 200 buildings, totaling 12 million square feet, and has achieved cost savings of more than \$10 million per year.

Focusing on the outdoors, **Robert Cody, AIA, NCARB, LEED AP (B.Arch. '94)**, teaching associate professor in the School of Architecture and Design, discussed urban adaptation through green density zoning, a New York City policy that advocates for developers to incorporate outdoor green



spaces within new buildings from the start, in exchange for height bonuses; increased floor area ratios; and, if applicable, an ability to surpass established zoning boundaries. Considering that 70 percent of the world's population will reside in cities by 2050, he stressed the importance of including sponge cities, vertical forests, open spaces, smarter commuting (walking, biking, etc.), and green infrastructure in urban planning. Such provisions would increase hous-

ing opportunities, reduce heat islands, improve stormwater management, and benefit human health.


"The effects of climate change are already here," says Robert N. Amundsen, Ph.D., associate professor, chair of energy management, and chair of the conference. "We must simultaneously adapt to its serious consequences and work together to minimize future damage to our environment." 

## M.B.A. Program Is Tops in New York State

In Georgetown University's Center on Education and the Workforce (CEW) report "The Most Popular Degree Pays Off: Ranking the Economic Value of 5,500 Business Programs at More Than 1,700 Colleges," New York Tech's M.B.A. program is ranked No. 45 out of 2,523 graduate business programs in the United States. New York Institute of Technology was the fifth best M.B.A. program in New York State, and the top Long Island graduate business school.

"We know our graduates get jobs—very good jobs," notes School of Management Interim Dean **Deborah Y.**

**Cohn, Ph.D. (M.B.A. '89)**. "Plus, our generous financial assistance and competitive tuition costs minimize their debt load, making our career-focused AACSB-accredited degree a high-value, high-reward program in comparison to many others."

Overall, the CEW noted: "Majoring in business typically pays off. While graduates' earnings and federal student loan debt vary by institution and degree level, the majority of business programs lead to median earnings that are roughly 10 times graduates' debt payments two years after program completion." 





Dean of Academic Affairs Amanda Deel, D.O., coats student doctor Stuti Chatterjee at the NYITCOM-Arkansas ceremony.



Newly coated members of the Class of 2026 at the White Coat Ceremony on the Long Island campus.

## Coating the Class of 2026

The College of Osteopathic Medicine’s (NYITCOM) newest medical students received their first white coats during two days of celebration in Long Island, N.Y., and Jonesboro, Ark. The annual White Coat Ceremonies mark the beginning of NYITCOM students’ medical school journey.

At the Long Island ceremony on August 10, the incoming students were greeted by NYITCOM alumni **Jason Golbin (D.O. ’00)**, executive vice president and chief medical officer for Catholic Health, and **Alan Wong (M.B.A. ’03, D.O. ’03)**, chief medical officer and senior vice president for medical affairs at Mount Sinai South Nassau, who delivered the keynote address.

“Once you put on this white coat and you recite the oath, you’ll be representing one of the noblest professions, and with

it, patients give us the power to make decisions regarding their health,” said Wong. “Always remember that it is a privilege to treat patients.”

The NYITCOM-Arkansas ceremony took place on August 11. Among those who received their white coat was Gannon Druessel, who is following in his brother Logan Druessel’s footsteps, a third-year student at the school.

“I looked at a lot of D.O. schools, and with NYITCOM-Arkansas being close to my home and with the great experience my brother has had, it was just a great fit for me,” Gannon said. “He’s told me how great the faculty are and how hard the professors work to give you a good education and make sure you’re in good hands to become a great doctor.”

## What Higher Ed Can Learn from Corporate America



“College administrators should take a page out of corporate America’s playbook and start making customer service our top priority,” said Dean of Students Felipe Henao, Ed.D., in a [CNBC](#) op-ed.

College enrollment has been falling for nearly a decade, argues Henao, which should be a warning for college administrators and everyone who cares about social progress and a robust economy.

While a college education still provides immense value, the students investing in degrees today no longer perceive that value, largely because higher education has not adapted to students’ evolving needs.

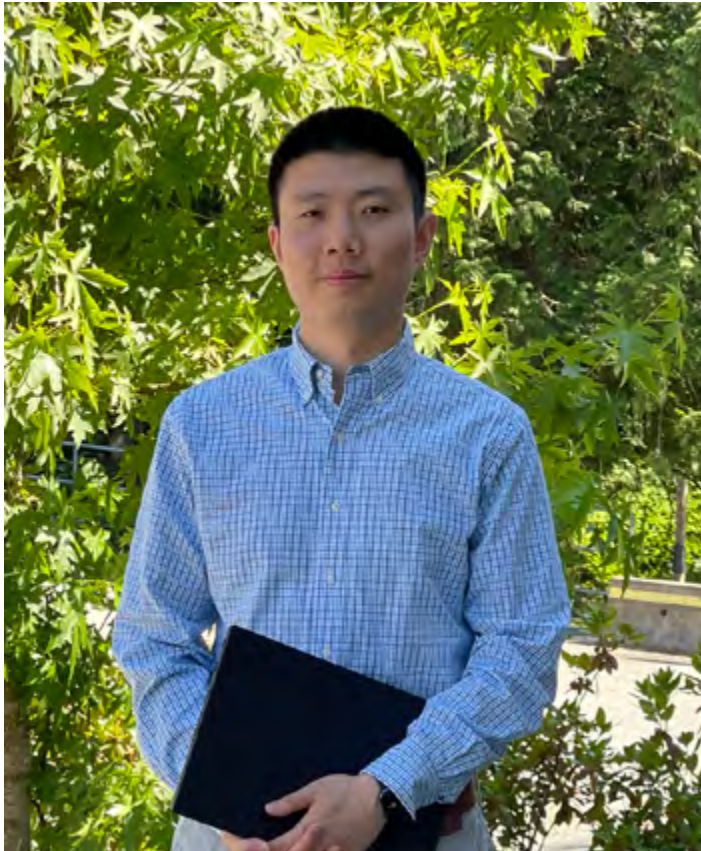
Historically, postsecondary institutions were designed for “traditional” students. But increasingly, college students come from different backgrounds. Minority students now account for 46 percent of the college population. Many enrollees are older than

30, and more than one in five has a child.

“In other words, just as customer bases evolve over time, so do student bodies. Yet higher ed has failed to keep up,” Henao said.

He suggests looking to Disney and other companies for customer service insight. When Disney detected a falloff in customer satisfaction among theme park visitors 20 years ago, it created MyMagic+, a suite of technologies to personalize and enrich consumers’ experience, he notes. Similarly, online shoe retailer Zappos stopped evaluating call center workers on a call’s length and instead emphasized customers’ call satisfaction.


Henao also urged colleges to identify new ways to remove barriers to student success. Since student bodies across many college campuses are incredibly diverse, it should be a mandate to deliver services that meet their unique needs—just as companies do with their customers.



## Vancouver's Shao Named Outstanding Educator

New York Tech-Vancouver Assistant Professor of Computer Science Yunlong Shao, Ph.D., was named a 2022 Educator of the Year by Instructure, maker of the Canvas web-based learning management system. He is among the six honored and the only one from Canada.

The award program recognizes outstanding educators in North America working to embrace remote learning, prepare students for the workforce, and support student success and achievement in an evolving education landscape.

"As the only Canadian winner of this award, I am beyond honored," Shao says. "Without New York Tech, I wouldn't be successful now. New York Tech made me." 

"As the only Canadian winner of this award, I am beyond honored. Without New York Tech, I wouldn't be successful now. New York Tech made me."

## Your Fitness Class May Boost Thinking Skills

**M**any studies have suggested that exercise can increase brain size and cognitive function, but do certain types of exercise offer greater "brain-boosting" benefits than others?

A new study by New York Tech researchers may provide clues.

Executive function is broadly defined as the cognitive skills that help with planning, prioritizing, and performing complex tasks. Core executive function skills include self-awareness, inhibition, memory, attention, emotional self-regulation, motivation, and problem-solving. Few studies have compared the cognitive benefits of externally paced exercise, such as an instructor-led class, vs. self-paced exercise, such as running or walking on one's own.


The New York Tech investigators analyzed two groups, evenly divided between

males and females in good health, for cognitive performance following an externally paced exercise (a one-hour beginner's martial arts class) and internally paced aerobic exercise (one hour of walking at a pace of four miles per hour).

Following each exercise, their executive function was measured using two tests: the Stroop test, which measures processing speed, and the Tower of London test, which measures problem-solving. As part of the Stroop test, subjects were asked to read the name of a color written in a font of a conflicting shade (think: the word "blue" written in red font). During the Tower of London test, subjects were shown an organizational structure and then asked to recreate it in a limited number of maneuvers.

The results showed that the martial arts class significantly improved all the

major areas of executive function, while the walking group did not demonstrate any measured significant changes. The findings suggest that externally paced exercise stimulates the higher levels of the brain, resulting in improved cognitive function. This is likely due to the fact that following an exercise class requires participants to follow complex physical movements while also remaining alert and responding to instruction. This places a greater demand on the brain's cerebral cortex, which houses the region responsible for memory, attention, motivation, and many other daily tasks (the frontal lobe).

The study's authors included alumni from the physical therapy program, who were students at the time of their involvement, as well as faculty from the School of Health Professions and the College of Osteopathic Medicine. 




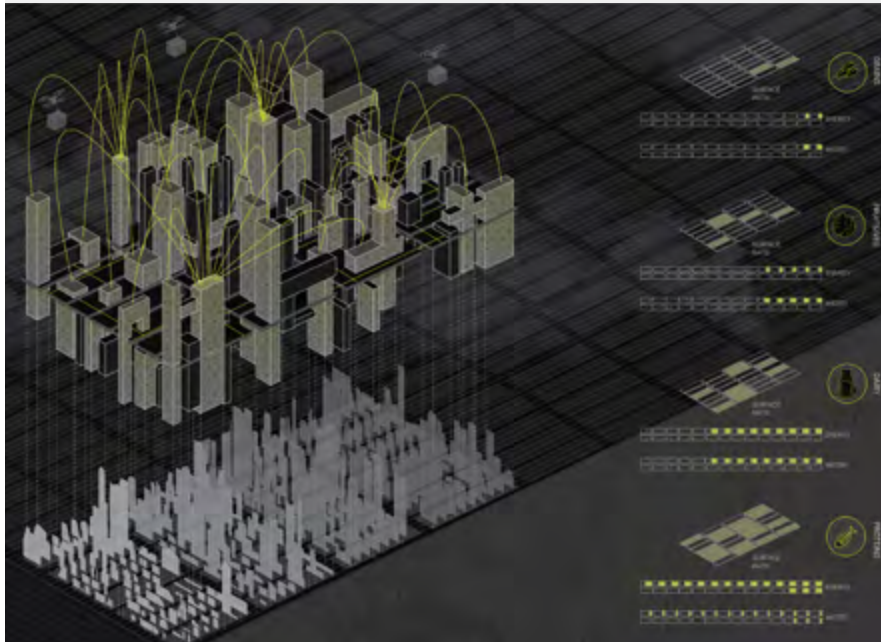
# Architectural Solutions to Food Insecurity

Associate Professor and Director of M.S., Architecture, Urban Design Marcella Del Signore and Professor

Tom Verebes, Ph.D., in the School of Architecture and Design are showcasing their solutions to food

insecurity in New York City at the sixth Tallinn Architecture Biennale in Tallinn, Estonia, running through November 20.

They worked with a team of graduate students in the architecture, urban design program on the project Visions for a Future Food Deal, in which they propose systems that aim to mitigate the long distance between where food is produced and New York City. The group looked at two locations in midtown Manhattan, including one single Manhattan block and an urban field of 24 Manhattan blocks. They proposed design plans for what it will take to replace food produced in traditional farms—located globally, across the United States, and in New York state—with food production on a large scale in New York City. 




◀ Schematic by faculty members Marcella Del Signore and Tom Verebes, and graduate assistants Rasika Deosthali, Hitakshi Agrawal, Akshit Kumar, and Gabrielle Soares.

## Kudos All Around

**T**he 2022 graduates of the Doctor of Physical Therapy program (D.P.T.) have passed their licensure exams with flying colors.

New York Tech's Class of 2022 D.P.T. graduates achieved a first-time pass rate of 100 percent, with a mean scale score of 702—far exceeding the national average mean scaled score of 667.8 and the 90.3 percent national average for this year's first-time pass rate.

"We are so proud of this group. Their dedication and achievement are a true testament to their hard work and resilience. I would be remiss if I did not acknowledge the faculty's incredible efforts throughout the pandemic and their ability to bring the curricular content to the students, both in the classroom and laboratory settings. Kudos all around," says **Cheryl Hall, D.H.Sc., (M.B.A. '01)**, chair and associate professor of physical therapy. 




PICTURED FROM LEFT: Rosemarie Carter (D.P.T. '22), Michaela Chee (D.P.T. '22), and Gabrielle Cinquemani (D.P.T. '22) at commencement on the Long Island campus.







The background is a light blue sky. A series of white dotted lines form a large, irregular circle. Several cartoon-style bees with yellow and black stripes and white wings are flying along this dotted path. The title text is centered within the circle.

# RESEARCH FOR A BETTER WORLD

By Denice Rackley  
Illustration by Chris Gash





**N**ew York Tech faculty and students who want to dream big are finding exciting new opportunities to work with like-minded individuals outside their own departments and disciplines—opportunities that encourage inclusion to explore new ideas, techniques, and insights that are propelling the university’s research enterprise forward and finding solutions to critical real-world issues.

“Cross-disciplinary pollination of projects adds layers of information that can only be acquired when working with people from different areas, backgrounds, cultures, and interests,” notes N. Sertac Artan, Ph.D., associate professor of electrical and computer engineering, who is currently working on a research project with Colleen Kirk, D.P.S., associate professor of management and marketing studies.

The unlikely pair is among three groups of faculty and students—graduate and undergraduate alike—who are working together on

entrepreneurial and interdisciplinary projects, including exploring virtual reality (VR) and 3-D to enhance learning, robotic assistance to address staff shortages in healthcare, and neuromarketing to assess consumer behavior.

## EXPLORING NEUROMARKETING

Artan and Kirk’s joint project explores consumers’ [psychological ownership](#) (when shoppers feel ownership of something before they buy it) and their territorial responses. In [research](#) published in the *Journal of Consumer Research*, Kirk and her fellow researchers have used a variety of tools and experiments to learn how and when consumers get territorial.

But while Kirk says that consumer responses to marketing stimuli are usually measured with surveys, Artan’s role added a layer of physiological information using functional near-infrared spectroscopy (fNIRS), examining if an emotional response reported by subjects coincided with a measurable physiological reaction.

Using a noninvasive headband with lights and sensors, Artan recorded changes in blood flow and oxygen concentration, an indicator of brain activity. “In this research, we are investigating whether activity in different brain regions coincides with a greater degree of feeling infringed upon or feeling territorial,” he says.

The measurement of physiological signals to gather information about customers’ preferences and choices is called neuromarketing, helping to determine whether emotions are impacting the brain or the other way around. This emerging field, which connects thoughts, behaviors, and brain function, could hold important clues for a number of disciplines.

“Marketing and psychology intersect quite a bit, especially regarding marketing strategies,” notes Lisbeth Sandoe Pedersen, a graduate student who assisted on the project. She holds dual bachelor’s degrees in communication studies and psychology and is working on a master’s in communication arts at New York Tech.

“The research project will contribute to understanding different behavior types and how these individuals might respond to marketing strategies. Neuromarketing gives us an understanding at the intersection of communication, psychology, and physiology,” she says.

▶ Graduate student Lisbeth Sandoe Pedersen wears a fNIRS headband, which is used to measure brain activity to learn how and when consumers get territorial.



COURTESY OF COLLEEN KIRK





Given insight into this new field, Pedersen is thinking about exploring it further: “I am considering pursuing a doctorate, and being part of this project enabled me to gain experience conducting a long-term scholarly research project. Neuromarketing presents interesting opportunities. My dream is to use my degrees to consult in the nonprofit or government sector to do good and make the world better.”

“I teach students how to observe behaviors and the difference between what they think is going on and what is happening. Participating in research teaches students how to remove themselves and their inferences from the equation,” Kirk says. “Unbiased observation is a life skill that can be used no matter where students find themselves.”

## **INNOVATIVE SOLUTIONS TO HEALTHCARE WORKER SHORTAGES**

And while the lives of students are enriched by participating in research, others can benefit as well. The collaborative effort of New York Tech medical, engineering, and computer science students, for example, may have found one solution to the lack of healthcare workers. Michael Nizich, Ph.D., director of the Entrepreneurship and Technology Innovation Center (ETIC) in the College of Engineering and Computing Sciences, and College of Osteopathic Medicine Professor of Clinical Studies Todd Cohen, M.D., and their graduate and undergraduate students recently collaborated on research to determine whether robots could perform simple routine tasks of surgical assistants.

The project investigated whether a robot could retract tissue during pacemaker implantation. The team explored if the semi-autonomous ETIC Research Robot for Student Engagement and Learning Activities (E.R.R.S.E.L.A.) could be designed to navigate a surgical suite, extend a retractor, and use the necessary strength and force to maintain tissue retraction.

**“Cross-disciplinary pollination of projects adds layers of information that can only be acquired when working with people from different areas, backgrounds, cultures, and interests.”**

**–Associate Professor N. Sertac Artan, Ph.D.**





▲ Students configure original mounting brackets for a custom-designed robotic arm that will enable E.R.R.S.E.L.A. to function as a surgical assistant.

“E.R.R.S.E.L.A. was built to engage students remotely, regardless of location,” says Nizich. Built from scratch by ETIC staff and students, all the robot’s software, operating systems, and mechanical components are original, giving the team freedom to adjust as needed. “The robot gains functions yearly with different student projects,” Nizich notes.

In this project, E.R.R.S.E.L.A. needed to roll over to the operating table, extend its arm with the retractor, place the retractor precisely, and pull back the skin on a mounted rubber model.

“The engineering and medical students involved worked together to program the needed functions,” Nizich says. “The medical students learn about robotics in medicine, and the engineering students learn to refine the robot’s capabilities and programs to match the parameters put forth by the medical team.”

“I have always been interested in robotics, so to be involved in this project and gain knowledge about robotics has been amazing,” says second-year osteopathic medical student Nolberto Jaramillo.

Working with other students outside of their areas of expertise stretches the students in ways that aren’t attainable when working with those who have the same knowledge and understanding. Each student must communicate and comprehend the complexities of all aspects of the project for it to be successful.

“Osteopathic medicine isn’t always associated with computers or technology. However, as osteopaths, our mission is to restore the body to heal itself. Technology is one tool available to do just that,” Jaramillo says. “It has been a great experience working with the engineering students and Dr. Nizich. Having the opportunity to branch out and gain exposure in other areas that explore future technologies is an advantage that I wouldn’t find at other schools.”

### THREE-DIMENSIONAL LEARNING

Exposing students to innovative learning opportunities is paramount at New York Tech. A collaborative effort between Assistant Professor of Digital Art and Design Kevin Park and his UX/UI graduate students in the School of Architecture and Design; Assistant Professor of Biological and Chemical Sciences Jacqueline Keighron, Ph.D.; and Assistant Professor of Behavioral Sciences Nicole Calma-Roddin, Ph.D., in the College of Arts and Sciences, explored the use of virtual reality/augmented reality (VR/AR) technology in enhancing understanding and retention of classroom material.

“The thought was that adapting and converting a biochemistry lesson from the lab to a 3-D environment would allow students to explore the information in a new way that isn’t possible with a textbook image or lab exercise,” Keighron says. “We wanted to study students interacting in a 3-D environment. Did this virtual experience influence their comprehension and retention? How motivated were students to engage with the content and each other in this virtual setting?”

“Technology gives us the freedom to explore multiple avenues to learning and engagement rather than a teacher telling students this one way is how you should learn.”

—Assistant Professor Kevin Park





UX/UI graduate students Lavin Amarnani, Kyle Diaz-Castro, Mohammed Irfan Shaik, and digital art and design graduate student Vaibhavi Deo designed, built, and tested the environment while emphasizing the ease of use for students and teachers. Making the overarching design adaptable to any subject, amount of information, and other projects was key. In addition, the students needed to make the experience user-friendly without the need for 3-D headsets so that a wider audience could benefit from these virtual lessons.

“The graduate students began with several platform options mimicking a classroom, then expanded to more open-ended architecture, allowing more versatility and flexibility,” notes Park. Taking the lesson, which included a 3-D model, written information, and audio, into an interactive environment was challenging for the students. They discussed everything from how and where to place the information to what could be incorporated within the lesson to encourage engagement and exploration of content.

Park pushed his UX/UI graduate students through the learning process so they could implement what they learned in a real-life situation. “With each test run of students through the virtual environment, the graduate students made adjustments, incorporated feedback, and added increasingly inventive activities that I hadn’t imagined was even possible,” Keighron says.

“Students were able to pick up molecules, stretch them out, and step inside them thanks to the hard work and imagination of Lavin and Kevin’s other grad students,” notes Keighron. “Some students had experienced virtual reality in games, but not in a learning context,” says Amarnani. “The challenge was designing the environment to be adaptable for other projects and to be easy to use while presenting the material to make learning enjoyable.”

Avatars were able to interact with one another, sharing information and asking questions as the students navigated through rooms. In addition, the avatars could step inside molecules too small for the naked eye, toss them to one another, and participate in a scavenger hunt. The program has endless possibilities and adaptations that are only dependent on the imagination of its creators.

Presenting lessons in a virtual environment opens up an entirely new paradigm for faculty and students. Having lessons available in an interactive form to anyone, anywhere, at any time of day may change how the world views education in the future.

This technology also offers teachers a more engaging option to reach those

students with learning challenges who don’t do well in a traditional classroom. “I think 3-D environments will dominate learning in the future,” says Amarnani. “Before the project, I thought I wanted to design apps and websites. Having developed an environment for virtual reality rather than a flat page, I see how this emergent technology will advance into the mainstream and touch every aspect of life. I now see myself specializing in designing these virtual reality environments.”

“The project will open up conversations with faculty and students about how best to present material,” Park says. “Technology gives us the freedom to explore multiple avenues to learning and engagement rather than a teacher telling students this one way is how you should learn.”

## RESEARCH PARTICIPATION FUELS IMAGINATION AND DISCOVERS SOLUTIONS

Successfully navigating our complex world requires accurate, unbiased communication, critical thinking, incorporating feedback from others, and out-of-the-box thinking that in turn is capable of solving the most complex of problems. All these skills can be practiced in research, particularly interdisciplinary research that incorporates different perspectives and approaches.

Notes Kirk, “Fostering conversations, adding different individuals, departments, and specialties add layers of expertise, which leads to questions, possibilities, and solutions that we wouldn’t attain otherwise.” **N**



► Biochemistry students using VR to view and interact with 3-D structures of proteins and carbohydrates they work with in the lab.





Aki  
Watanabe



*the* **THRILL** *of* **DISCOVER**



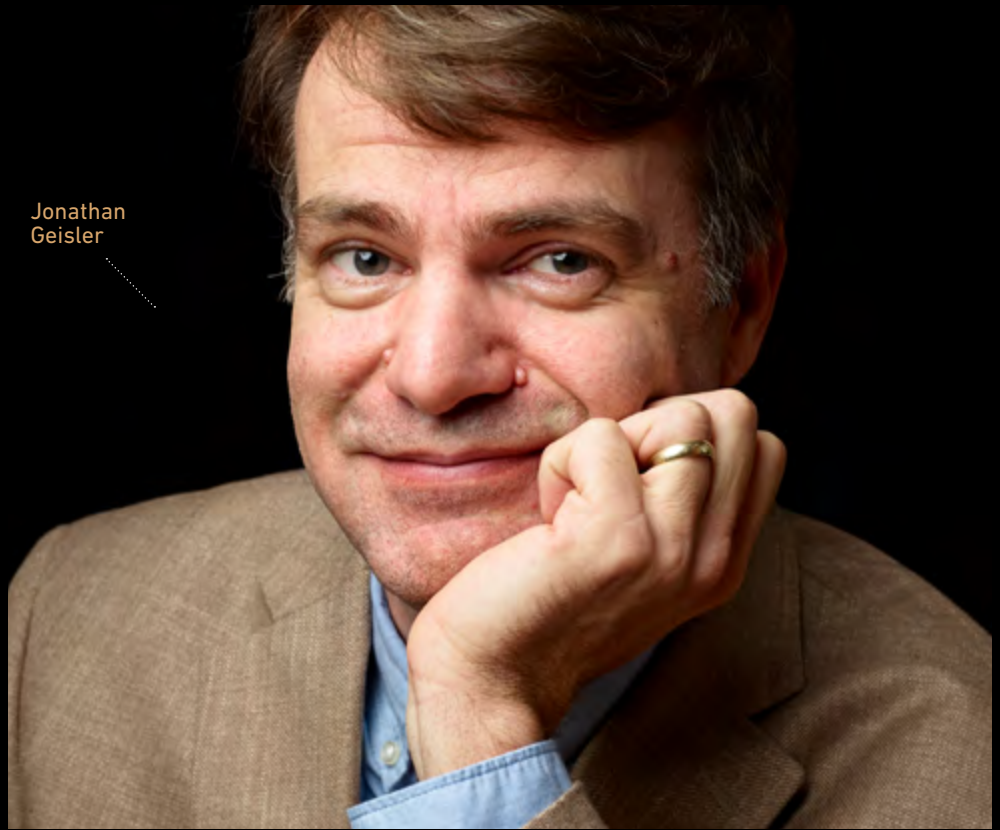
Michael  
Granatosky



Brian  
Beatty



Julia  
Molnar



Jonathan  
Geisler

**VERY** By Renée Gearhart Levy • Photographs by Rick Wenner



Nathan  
Thompson





# Anatomy faculty are conducting cutting-edge research and engaging students to advance knowledge.

Melody Young is sharing a video of a young girl traversing a climbing wall. Young has spent the last year studying how various species—parrots, frogs, chameleons, and sloths among them—climb. A College of Osteopathic Medicine (NYITCOM) D.O./Ph.D. student, she is a researcher in the lab of Michael Granatosky, Ph.D., assistant professor of anatomy, whose work focuses on animal locomotion. While Young’s dissertation will compare the climbing patterns of various species, she has also expanded her research to humans. An offshoot project compares the climbing gait of neurotypical youngsters to that of neuroatypical youngsters.

“I’m looking to see if climbing can be used as a therapy in children with autism, cerebral palsy, and Down syndrome, who are typically a little more hypotonic in their shoulder and hip girdles,” says Young, who is interested in specializing in pediatrics. “We’re using classical biomechanical measures to see if these patients improve after a training session.”

Young originally planned to pursue her doctoral studies in cancer biology. NYITCOM requires its Ph.D. students to complete research rotations in three labs before committing to a lab to conduct dissertation research. She needed to fulfill her third rotation and Young chose the Comparative Animal Locomotion Lab simply because it seemed like a fun opportunity. But the experience changed her path entirely, and Young became the first NYITCOM D.O./Ph.D. student to pursue doctoral study within the Department of Anatomy.

It shouldn’t be surprising. The study of human anatomy is an integral part of medical education, a course taken in the first semester

of medical school. In the anatomy lab, NYITCOM faculty introduce students to the intricacies of the human body. Outside the classroom, however, those same professors are engaged in a diverse array of cutting-edge research that propels understanding of human evolution and individual and population health.

“Within the medical school, the anatomy department is unusual in that most of our faculty share a near equal split of research and teaching responsibilities,” says Jonathan Geisler, Ph.D., chair of the Department of Anatomy. “We’re very focused on getting faculty who are passionate about teaching and research and are keen to serve as research mentors to NYITCOM students.”

## SETTING THE STANDARD, RAISING THE BAR

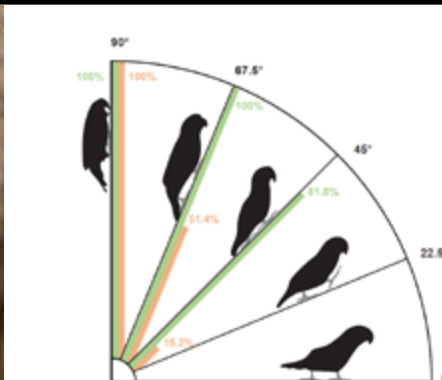
Geisler credits Nikos Solounias, Ph.D., chair of anatomy from 1994 to 2006, and a renowned expert on the evolution of hooved mammals, for charting that course. “He was instrumental in recruiting faculty who could teach anatomy to medical students, but who also did research on the comparative anatomy of both living and extinct species,” says Geisler. “The path that he chose, which aligned with his research interests, has developed its own momentum so that we are an international leader in anatomical research.”

Supporting that research is a NYITCOM priority. “We’ve made an investment in hiring high-quality faculty and continue to support them by hiring postdocs to assist them and providing faculty the time necessary to conduct research and to apply for grant funding,” says Nicole Wadsworth, D.O., dean of NYITCOM.

As faculty members increasingly publish in prestigious journals, Wadsworth says they help elevate the status of New York Tech within the scientific community. “These publications increase the visibility and reputation of the level of work our faculty are producing,” she says.

NYITCOM’s students are clear beneficiaries. In addition to learning anatomy to prepare for medical careers, participating on high-level research projects—which may or may not have direct clinical applications—helps students experience and understand the complexity of the scientific process.

That’s an experience valued by residency program directors. “Increasingly, research is an important component



Michael Granatosky discovered that parrots use their head as a third limb when climbing. Near left, the parrots’ beaks first contacted the vertical runway when climbing at a 45-degree angle and, then consistently made contact while climbing at a 90-degree angle.



to a successful residency application,” says Wadsworth. “Residency programs are looking for students with a certain skill set—not necessarily a particular research area, but the ability to participate in research in a meaningful way.”

Granatosky says the scientific process expands the medical education standard by providing students the tools to question what they’re learning. “Most medical students are trained to memorize a lot of information and to treat these findings as facts,” he says. “We researchers deal with the unknown. We’re not researching things that we know exist. The process of discovery helps open the minds of student doctors to the idea that there’s not an answer to everything. And if there isn’t, we can figure it out.”

► Chair Jonathan Geisler says research allows students to get a sense that the world is much bigger than their immediate interest.

## A LAB OF OPPORTUNITIES FOR ALL

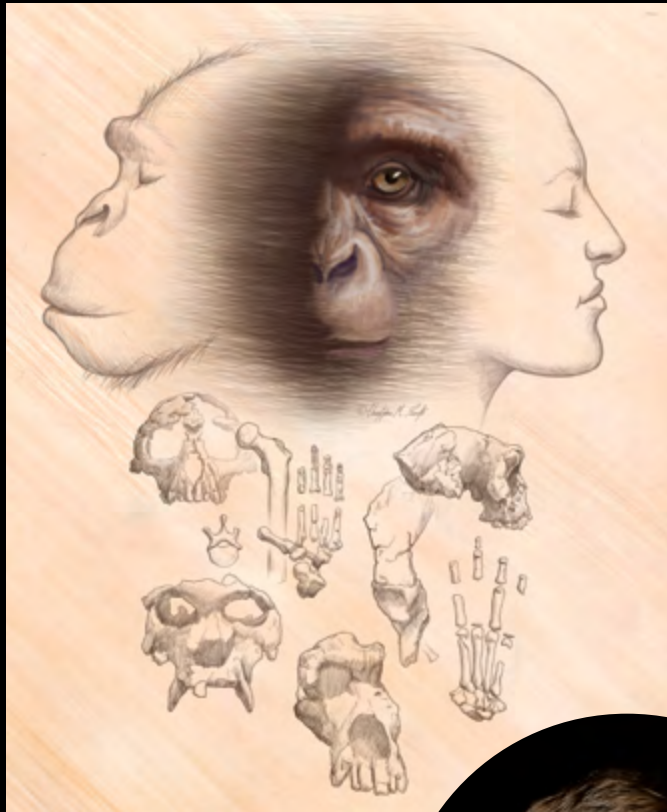
Granatosky is an evolutionary biomechanist who teaches a course for NYITCOM D.O./Ph.D. students called Form and Function, which explores the anatomy and behavior of different species. “We use the same principles of anatomy, but across many different species to understand that structure can inform about physiological function because structure and function are interrelated.”

His research lab explores the same thing, specifically focusing on animal locomotion. Young’s research is a perfect example, already yielding new findings. Young and Granatosky recently published

“We’re very focused on getting faculty who are passionate about teaching and research and are keen to serve as research mentors to NYITCOM students.”

—Jonathan Geisler, Ph.D.





“We have high-performing students who come to us with beautiful ideas, and we are providing the logistical support to make those projects happen.”

—Nathan Thompson, Ph.D.

▶ Nathan Thompson’s work with apes and chimpanzees has shed light on human evolution as well as humans’ ability to walk on two legs and the human stride.



a study in the journal *Proceedings of the Royal Society B* that analyzed the climbing gaits of rosy-faced lovebirds, a small species of parrot, which found that parrots use their head as a propulsive “third limb.”

But research opportunities aren’t limited to doctoral students. Granatosky, along with colleague Nathan Thompson, Ph.D., associate professor of anatomy, created the Anatomy Laboratory Research Program last year to help facilitate student-led projects. “We have high-performing students who come to us with beautiful ideas, and we are providing the logistical support to make those projects happen,” says Thompson. The program supports several second-year medical students annually on research that involves the anatomy lab in some capacity. The students then recruit first-year students to serve as their research assistants.

Meanwhile, NYITCOM’s Academic Medicine Scholars Program is designed to give students a feel for academic medicine. Medical students in the program spend an additional year conducting research and teaching, earning a master’s degree in the process. Many students in the program conduct research with anatomy faculty, including Thompson, an evolutionary biologist whose work with chimpanzees and apes has informed knowledge on humans’ ability to walk on two legs and the human stride. More recently he studied the importance of fossil apes in the study of human

evolution. The findings from the research were published in the journal *Science* in May 2022.

Thompson is deviating from this research to take on a new project related to fetal development with third-year medical student Rachel Feltman, who will start the Academic Medicine Scholars Program in January 2023. “Many recent state laws limiting access to abortion use anatomical justifications and statements about embryonic developments that—at face value—are not correct,” he says. The project will survey OB-GYNs, reproductive endocrinologists, and other doctors and researchers who are experts in fetal development to evaluate the accuracy of what Thompson refers to as “anatomical justifications.”

“This is a project that has the potential to have an impact on both the medical and legal arenas,” he says.

Thompson is not alone in his evolutionary approach to research. Thanks to a prestigious Faculty Early Career Development Program (CAREER) award from the National Science Foundation (NSF), Akinobu “Aki” Watanabe, Ph.D., assistant professor of anatomy, is examining how the brain and skull have interacted over millions of years to dictate evolutionary structural changes, as well as the developmental causes and effects of brain-skull interaction using the domestic chick as a model organism. His research may help clinicians prevent and treat future neurological and cranial birth defects, which can cause developmental delays, physical malformations, and even death.

Watanabe teaches human anatomy at NYITCOM and guest lectures in D.O./Ph.D. classes. He also holds a research associateship at the American Museum of Natural History in New York, where he

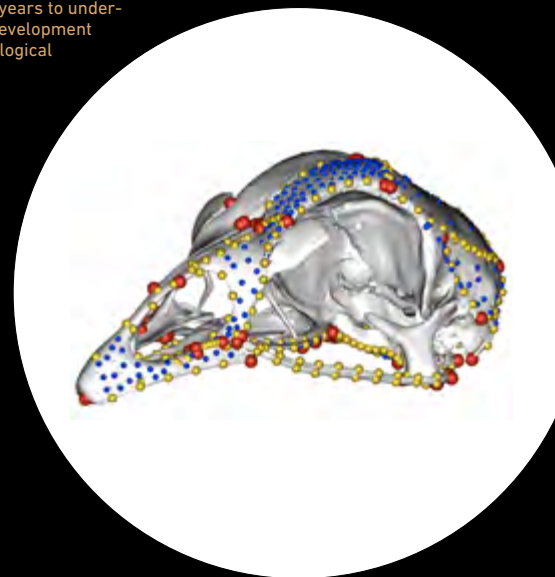


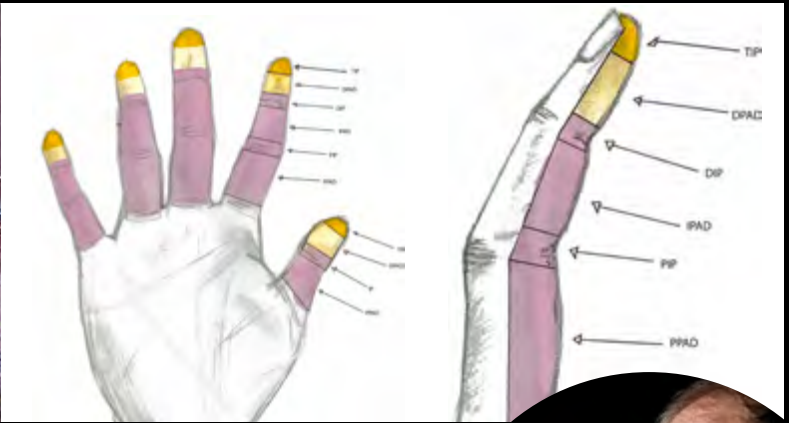
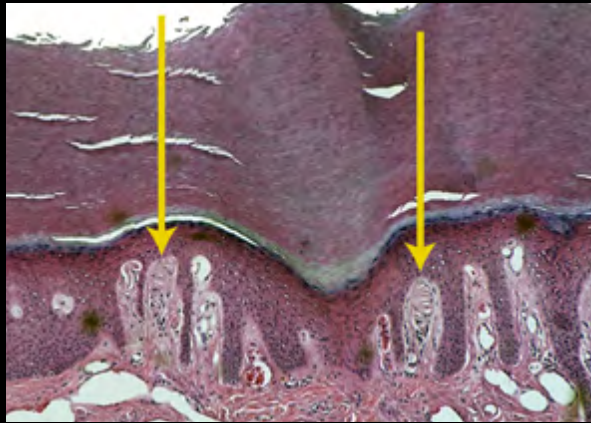
earned his Ph.D. in evolutionary biology and teaches classes there on paleontology and geometric morphometrics.

Watanabe uses that technique—a statistical analysis of shape—to collect high-resolution anatomical data on the brain and skull across the tree of life, focusing on reptiles and birds. He is the first New York Tech faculty member to receive a CAREER award, one of the NSF's most competitive grants, and is expected to receive funding of \$710,855 over five years.

Watanabe currently mentors a postdoctoral researcher and seven students on research projects in his lab. Academic Medicine Scholars Sylvia Marshall, Scott Landman, and second-year NYITCOM student Shebin Tharakan have spent two years in Watanabe's lab, working on high-resolution scans of human eyes, how novel brain shapes emerge, and why snakes and lizards end up with totally different skull configuration. "When motivated students join my lab, I allow them to participate in all the components of their project, from data collection to leading the preparation of a manuscript to be submitted to peer-review journals that the student will be first author on," says Watanabe. "I was lucky to have had that kind of opportunity as an undergrad, so I try to replicate and pass it on to the next generation of students because having these sort of learning experiences outside of standard coursework can be very meaningful."

▼ Using data collected from birds and reptiles, Aki Watanabe examines how the brain and skull interacted over millions of years to understand their evolution and development and possible links to neurological and cranial birth defects.





Just ask **Joseph Ciano (D.O. '16)**. As a medical student at NYITCOM, he worked with Brian Beatty, Ph.D., associate professor of anatomy, on a project that explored why some individuals are more sensitive to tactile sensations than others. Ciano analyzed skin tissue from the right hand of 16 cadavers under a microscope to document the number of Meissner's corpuscles present in each finger, finger region (based on distance from the palm), and hand. That study, published in *Annals of Anatomy* in May 2022, suggests that variations in the distribution of Meissner's corpuscles may explain why some people are more sensitive to tactile sensory cues—which could be advantageous for activities such as playing the piano, sculpting art, or performing osteopathic manual manipulation.

“Having more Meissner's corpuscles in the fingers may be advantageous to D.O.s and other healthcare professionals who use palpation to clinically examine and treat patients, as it could enable them to feel subtle differences in the body,” says Ciano, now an emergency medicine physician at Northwell Health.

The project is one of many Beatty has engaged in with students to make use of cadaver remains after the completion of an anatomy course. Other projects included a study of oral mucosa, which Ciano also conducted, and current research on the surface metrology, or roughness, of skin assisted by Beatty's “dermatology army” of students. “What we're trying to do is develop techniques for studying people's outsides to determine what's happening on the inside without hurting them, such as making a model of a mole or keratosis on the skin to see if potentially we could develop this into a diagnostic tool for skin cancer.”

Like others, Beatty extolls the experience of research as a way to improve students' critical thinking and problem-solving. But he says the use of human cadavers for research also reinforces to students the value and importance of these anatomical gifts. “If we can maximize the educational and research outcomes for every donation, we're fulfilling the wishes of those donors that much more,” he says.

## DIVERSE IDEAS ADVANCE KNOWLEDGE

Shortly after arriving at NYITCOM five years ago, Assistant Professor of Anatomy Julia Molnar, Ph.D., was approached by two Academic Medicine Scholars interested in creating a research project to see

► Brian Beatty's research on Meissner's corpuscles may explain why some individuals are more sensitive to tactile sensations than others. Top left, a histological image indicating Meissner's corpuscles. Top right, a palm and finger view of the regions that were sampled.



if drawing could help students learn anatomy. Molnar, who holds a master's degree in medical illustration, was a natural mentor. “We put this project together where every week a group of first-year medical students in anatomy would come in the evening and draw structures related to what we were studying and look at anatomy-related art and do a little bit of critique of each other's work,” she explains.

While the program did not measurably improve anatomy scores, the students enjoyed the experience so much they wanted to keep it going. That effort became ARTery, a popular art and medicine interest group at NYITCOM that continues today. “There's obviously an aspect of art that is more about wellness and connecting with people on an emotional level,” she says.

Using what she learned from the initial iteration, Molnar is launching a new research project using art to help students study for anatomy exams. With the assistance of Academic Medicine Scholar Natalia Avery, a member of ARTery, Molnar plans to introduce drawing techniques she believes are useful for understanding anatomical concepts, such as using tracing paper overlays and color coding to learn muscle layers. Students will do all their drawing projects in a notebook that they can use as study material. “We're trying to take students who wouldn't necessarily use drawing and give them the basic skill set so that they can,” she says. “When you're trying to learn something deeply and retain it, being able to translate it into visual representation can be really helpful.”

Molnar's doctorate is in the field of evolutionary biomechanics, further representing the diversity of NYITCOM's anatomy faculty, which also includes scholars from the fields of biology, earth and environmental sciences, geology, as well as anatomical science. “When you have people with very different backgrounds, interests,

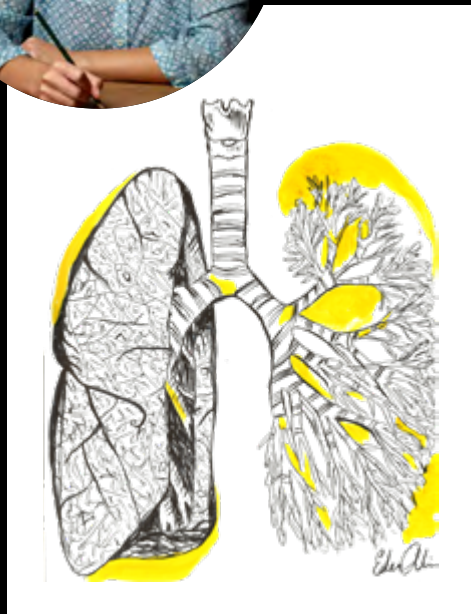


and expertise, interdisciplinary research develops naturally, and we are able to creatively test questions in our own research areas by learning from the approaches of our colleagues,” says Geisler.

That diversity and the collegial spirit of those researchers has been a plus for Young. “One of the strengths of this department, and this lab in particular, is the willingness of faculty to learn alongside students,” she says. “I came in without any experience in this area, and was like, ‘We need to do some human work.’ And although Professor Granatosky had never done human research before, he was willing to dive into the literature with me to figure out how we can make my project somewhat clinically relevant.”

Advancing knowledge while helping students to become intellectually curious professionals is really the goal.

“Research allows students to get a sense that the world is much bigger than their immediate interest,” says Geisler. “Having this broader curiosity is really important, not just to be a scientist, but to be a great physician because you never know when that really hard case is going to come through the door.” ■



▲ Julia Molnar is taking what she learned from the initial iteration of her ARTery project to introduce drawing techniques that may be helpful for students to understand anatomical concepts.

## Animal Behavior

Three professors are exploring the origins and evolution of ancient animals, shedding light on millennia-old mysteries.

### Simone Hoffmann, Ph.D.

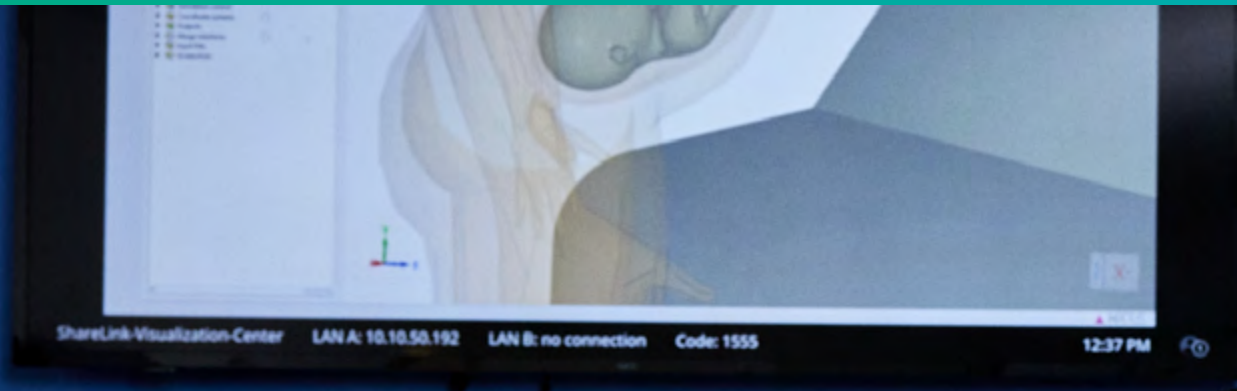
Hoffmann is an expert on the origin and evolution of mammals, with papers describing critical animals from the Mesozoic era (66-256 million years old) from Madagascar and China. In 2020, she was part of a team that named and studied the remains of a prehistoric, possum-sized mammal called *Adalatherium*. The discovery provides new insight into the diversity of mammals that lived during the time of dinosaurs. In 2018, she was a primary investigator on a successful National Science Foundation grant that funded the acquisition of a micro-computed tomography (microCT) scanner, the centerpiece of the Department of Anatomy's Visualization Center. This instrument uses X-ray technology to create an image of the internal structure of biological specimens at high resolutions. One feature of the grant was to allow external users to use the microCT, resulting in the department becoming a hub for research at New York Tech and across the greater New York metropolitan region.

### Matthew Mhlbachler, Ph.D.

Mhlbachler is an expert on the evolution of horses, rhinoceroses, and their extinct relatives, who roamed Earth between 55 million years ago and the present day. He has also made important contributions to understanding how different diets affect the wear of teeth at macroscopic and microscopic levels and how diets and teeth have evolved with climate change. Mhlbachler is also the director of the Academic Medicine Scholars Program, which allows students to spend an additional year at NYITCOM, gaining supervised research and teaching experience. Many of the students in the program have worked closely with anatomy faculty to conduct and publish research on a variety of topics.

### Nikos Solounias, Ph.D.

Solounias is an expert on the anatomy and evolution of hoofed herbivorous mammals, specifically giraffes and horses. His research includes how horses evolved from an ancestor with five toes to the one-toed animal we know today and the evolution of giraffes' necks. In a 2015 study, he showed that the evolution likely occurred in stages, as one of the animal's neck vertebrae stretched first toward the head and then toward the tail a few million years later, developing into a remarkably long neck. Solounias has long involved students in his research, resulting in numerous published collaborations on embryology, human anatomy, and mammal evolution.






Milan Toma

# BUILDING A BRIDGE BETWEEN ENGINEERING AND MEDICINE

BY AMY SACKS  
PHOTOGRAPH BY RICK WENNER





## During the height of the COVID-19 pandemic, Assistant Professor Milan Toma, Ph.D., launched the Engineering in Medicine initiative, an interdisciplinary program aimed at connecting students in the medical school with students from any of New York Tech's schools and colleges, creating an interprofessional experience for everyone involved.

Growing up in Žiar nad Hronom, Slovakia, where his parents worked at the local aluminum plant, Milan Toma dreamed about studying medicine. But math always came easy to him, so he decided to pursue that instead.

After graduating with a master's degree in applied mechanics and mathematics from the University of Žilina in northern Slovakia, Toma left for Portugal to pursue his Ph.D. in engineering science (structural biomechanics) at the Technical University of Lisbon. His first assignment, studying the effect of contact between knee cartilage and bone, allowed him to pair engineering with medicine—and changed the course of his career forever.

"I wanted to do something human body related, and biomechanics was a perfect opportunity to get closer to medicine," says Toma, an assistant professor of clinical sciences at the College of Osteopathic Medicine (NYITCOM). He now uses his mechanical engineering expertise to study interactions between fluids and structures within the human body in his BioFluid-Structure Interaction (BioFSI) laboratory, which utilizes facilities and technology found throughout New York Tech's Long Island campus.

Today, Toma shares his passion for the engineering-medicine connection with NYITCOM's future physicians.

## An Interdisciplinary Approach

In 2021, during the height of the COVID-19 pandemic, Toma launched the [Engineering in Medicine initiative](#), an interdisciplinary program aimed at connecting students in the medical school with students from any of New York Tech's schools and colleges,

including the Colleges of Engineering and Computing Sciences or Arts and Sciences or the School of Architecture and Design. The goal of the program is to encourage medical students to interact with others outside their orbit while allowing other New York Tech students to work on innovative health-related projects.

"This interaction can eventually translate into how medical students interact with their patients, leading to improved healthcare because most patients come from outside medicine," Toma says. The ideal outcome would be the publication of a paper or getting a patent for a product, achievements that could ultimately give medical students a better chance to match with their preferred residency.

The idea for the program, he says, was based on a 2011 [study](#) that found that medical students reported a cognitive and emotional distance from nonmedical students that can hinder their ability to connect with others. While most medical schools encourage interprofessional collaboration, Toma says this is generally limited to interaction between doctors and nurses, not between medical students and one or more traditionally nonmedical professions.

Moreover, despite medical schools more frequently offering dual-degree, engineering-focused programs, Toma says the extra years of study are not for everyone.

New York Tech is well situated to train students who want an interprofessional experience and boasts many fabrication labs and machine shops. There, Toma says, architecture, engineering, and design students can build models and print 3-D prototypes for projects they create with the medical students.

"New York Tech has an immense untapped potential to contribute to medical evolution by facilitating interprofessional collaboration between students across its schools and colleges," he adds.

In its first year, the initiative attracted approximately 100 students, a mix of medical and nonmedical students, who formed into about 20 groups, each choosing an idea to create an app or product. One group created a smartphone app that recorded and analyzed sleeping sounds—snoring frequency, for example—that can provide diagnostic information to patients and clinicians.

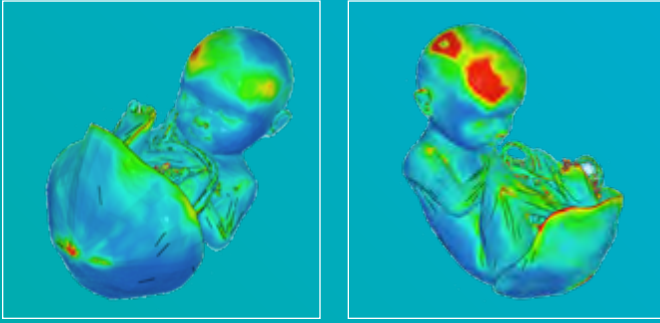
The first [paper published](#) as an outcome of Engineering in Medicine appeared in the journal *Materials*, with two NYITCOM students, Faiz Syed and Rejath Jose, listed as lead authors.

Syed and Jose, who were in their second year during their project, investigated how compressive forces assist patients with orthostatic

▼ NYITCOM students Rejath Jose, left, and Faiz Syed are the lead authors on the first paper published as an outcome of the Engineering in Medicine initiative.







▲ Stresses exerted on a baby inside the uterus when the mother is exposed to a mine explosion underneath her car.

hypotension, a form of low blood pressure that happens when standing after sitting or lying down. Through a workspace set up by Toma on the Slack communications platform, the medical students teamed up with College of Engineering and Computing Sciences and College of Arts and Sciences students at both the Long Island and New York City campuses. They created a 3-D belt that could simulate compression forces. The team also worked with Timothy Devine, a simulation technology specialist in the NYITCOM Institute for Clinical Competence, to simulate a patient with orthostatic hypotension using iStan mannequins.

Toma helped guide the students through the data analysis and writing process and helped create graphics for publication. Syed credits Toma for his outstanding mentorship and leadership and believes that publishing as a first author will help him match into an internal medicine residency and ultimately help him become a better doctor.

“He encouraged our idea and guided us in a way that we could finish the project and publish it,” says Faiz, whose goal coming into medical school was to publish a paper. The Engineering in Medicine initiative, he adds, will help him apply what he’s learned to his studies and as a future doctor.

In the current cycle of the Engineering in Medicine initiative, NYITCOM teamed up with the International Science Reserve (ISR) powered by the New York Academy of Sciences. “We are a part of the ISR wildfire readiness exercise,” says Toma. “Through this exercise, the ISR and New York Tech are taking proactive steps to address future wildfire crises. We are asking our students (medical and engineering students) to develop research concepts in response to a simulated wildfire crisis that may happen in the years to come.”

## Computational Modeling to Study Impact

Toma’s BioFSI lab uses computational modeling to research the interaction of fluids and structures within the human body. He compares the process to knowing the position of clouds and wind direction to predict the weather. “In the human body, the clouds are the blood, cerebrospinal fluid, or air in the lungs, and the wind is the external condition, typically a car accident or explosion, or in sports, two players tackling each other, boxing, or hitting someone’s head with the fist,” he explains.

“New York Tech has an immense untapped potential to contribute to medical evolution by facilitating interprofessional collaboration between students across its schools and colleges.” **–MILAN TOMA, PH.D.**

Working with NYITCOM students, he applies these conditions to the human body using computational models. For example, to analyze the effect of a head punch, Toma can generate a color image of the entire brain without placing a sensor inside a human skull or cadaver.

In June 2022, Toma presented his latest research on [Fluid-Structure Interaction Analyses of Amniotic Fluid with a Comprehensive Fetus Model Exposed to External Loading](#), at the 8th European Congress on Computational Methods in Applied Sciences and Engineering conference in Oslo, Norway. The study used a comprehensive fluid-structure interaction model of a pregnant woman with the fetus exposed to specific car collisions. By simulating multiple seat belt positions over the mother’s belly, Toma and his BioFSI lab members, NYITCOM students Gregory Kurgansky and Jonathan Arias, could determine which scenario will best protect the fetus in case of a car accident.

## The Road to NYITCOM

After earning his Ph.D., Toma was awarded a Marie Curie Fellowship for Experienced Researchers and worked at Altair Engineering France in Paris, with a focus on computational analysis of brain injuries. He then moved to Japan, where he worked in cardiovascular engineering at Tokyo University, and at RIKEN, where he developed numerical algorithms for cardiovascular fluid-structure interaction simulations. After that, Toma spent eight months exploring the field of computational combustion in Saudi Arabia, then came to the United States as a postdoctoral research fellow at Georgia Tech.

His first position at New York Tech in 2017 was as an assistant professor of mechanical engineering in the College of Engineering and Computing Sciences, where he conducted critical research to simulate fluid dynamics under various conditions.

His simulation on pediatric head trauma—also known as shaken baby syndrome—sparked an *International Business Times* [op-ed](#) and demonstrated that the brain’s cerebrospinal fluid might not provide as much protection as previously believed. Toma’s findings helped clinicians and caregivers better understand the impact of these types of injuries.

After three years in the College of Engineering and Computing Sciences, he joined the medical school faculty in 2020.

“The medical students provide me with something that I need, and I provide something they need,” Toma says. His vast network of students and faculty within the various schools, he says, makes it easier to connect students across disciplines to work together.

So far, it’s a great fit, he says. “I love my job because I can help people expand their potential while doing things that interest me and ultimately expand my own potential.” **N**

# ALUMNI SPOTLIGHT

New York Tech graduates are going places. In every issue, we look at alumni who are making an impact on their professions, communities, and beyond. Read on to find out how your fellow Bears are doing, making, innovating, healing, and reinventing the future.

## Eileen Shanahan

(B.F.A. '87)

On six acres in Calverton, N.Y., rescue horses, veterans, and first responders have found a place of healing and well-being at the Warrior Ranch Foundation. Eileen Shanahan, founder and president, has created a place to rescue, retrain, and repurpose troubled horses while offering veterans, many suffering from post traumatic stress disorder, a path and purpose.

“Veterans are natural leaders,” Shanahan explains. “Horses need and want leadership; they react to our body language and begin to build trust. Horses receive the energy that we give off and respond accordingly.” Veterans are invited to attend clinics and workshops where they learn from an expert how to work with horses in several capacities. They engage in non-riding activities such as grooming and feeding, develop bonds, give





guidance, demonstrate leadership, and help horses to overcome certain fears.

The rehabilitated horses are cared for until they are ready for adoption. In return, the veterans experience companionship and lower stress levels. “We give them a chance to decompress and relax,” Shanahan explains.

The program started in her backyard in Islip Terrace, N.Y. When 148 acres of the Beagle Club were sold to Suffolk County for preservation, she persuaded local officials to donate six acres to the Warrior Ranch. A group of volunteers, including many veterans, cleared and repurposed the overgrown property. “Veterans came, and they are building the place we are here to serve. Like the *Field of Dreams*, if you build it, they will come,” she says.

Word of mouth and social media have been the main avenues to promote the foundation. Sixty percent of the funds to operate the ranch come from public and private donations raised through fundraising activities at the ranch and collaborations with local community organizations. The rest comes from grants and corporate sponsorships.

To communicate her love of country, love of horses, and desire to give back, Shanahan produced the documentary *One Soldier One Horse*. “We had a showing at Stony Brook University in the Wang Center Theatre in November 2018. It was re-edited and then put on Fox Nation.com as *Warrior Ranch* in May 2020 and is narrated by Joey Jones of the U.S. Marine Corps,” she says.

Shanahan, who played softball at New York Tech, credits the university and her professors with “teaching her how to tell a story.” In Associate Professor of Communication Arts James Fauvell’s television production class in the 1980s, Shanahan learned how to be a reporter, always asking who, what, where, when, why, and how? After covering a story on domestic abuse, she wanted to dig further into the story. Fauvell gave her the opportunity, and this led to a 15-minute segment on New York Tech’s *LI News Night*, launching her career in shooting, editing, and producing television programs and commercials.

Shanahan also supports our troops in other ways by volunteering as vice president for the New York Leatherneck Campaign Ball, a subsidiary of the Marine Corps Scholarship Foundation, which provides educational scholarships to military children. Additionally, in fall 2022, she will be recognized for outstanding community service by Canine Companions, a nonprofit organization that enhances the lives of people with disabilities by providing highly trained assistance dogs at no charge to the recipient.



## Dina Ragab Selecky

(B.S. '17, M.B.A. '18)

Originally from Cairo, Egypt, Dina Ragab Selecky came to New York with a basketball dream. “I played basketball my whole life, and my dream was to come to America and play at the college level,” she says. When researching and applying to schools in the United States, she came across New York Tech. “Once I started talking to the coaches, it sounded like a great fit, not just because of the team and its diversity, but also because there were opportunities academically.”

She started her undergraduate studies in marketing in 2012 while playing on the women’s basketball team and soon jumped into her first internship in marketing and social media with an off-Broadway dance company.

As she continued her studies, she flourished. After receiving an undergraduate degree in marketing, she stayed at New York Tech to pursue her M.B.A. As a graduate student, Selecky worked as a research assistant and published several papers, including one she co-authored with Associate Professor Joshua Bienstock, L.L.M., J.D., and former Assistant Professor Amr Swid, Ph.D., titled “U.S. Campus Orientation Programs for International Students: University and Student Preferences.” It was presented at the ISERD International Conference on Economics Management and Social Study in Egypt in 2018.

She also met her husband, Matej Selecky (B.S. '18, M.B.A. '21), a finance major who was on the tennis team. The two even ended up working together at dental group The Smilist after she completed her M.B.A. Working there, Selecky says she learned more about finance and business development and realized that she wanted to

# ALUMNI SPOTLIGHT

focus her career on healthcare.

Selecky ultimately landed a full-time position as vice president for strategy and growth at Health Plus Management (HPM), a physician support organization focused on the orthopedic, physical medicine, and rehabilitation markets. “As a basketball player, I had a ton of injuries, so it’s interesting now to be able to support these kinds of providers,” she says. “I’ve had to go through a lot of physical therapy, so it’s all very relatable.”

In her role, Selecky leads due diligence and integrations for new independent physician practices who are looking to join HPM’s network, which provides back-end support systems, including staffing and recruiting, finance and bookkeeping, revenue management, marketing, benefits and human resource management, compliance structures, and more.

“We’re putting in scalable solutions where our infrastructure supports all the growth, while working on the business development side, reaching out to providers, talking to different doctors, and making sure that they understand our platform and what we can offer them.”

Selecky found her path by jumping into some unexpected lanes. “Don’t put yourself in a box,” she says. “Try different things, even some of the things that may not be as appealing, because you can meet people along the way that can change your perspective or give you different opportunities. You may surprise yourself and realize this is something you’re actually good at or comes very easily to you.”

Selecky adds, “Building a good work ethic plays a huge role later in your career as well. You may not be the smartest or the most experienced, but a great work ethic can go a long way.”

## Jacqueline Velez, AIA, NCARB

(B.S.A.T. '85)

“What excites me about architecture is the ability to change our environment,” says Jacqueline Velez. “By creating and reshaping spaces and communities, we can make them appealing and elevate the occupants’ quality of life.”

As the founder and principal of JMV Associates and JMV Architect, Velez has had a chance to influence the shape of spaces and communities. Celebrating its 30th anniversary this year, JMV Associates has become a top consulting firm specializing in building codes, zoning analysis, and expediting services. The firm has served as a prime consultant with the New York



City Economic Development Corporation and as a subconsultant for many New York City governmental agencies, including the School Construction Authority and the Housing Authority.

With the establishment of JMV Architect in 2016, Velez began putting her expertise to work in another way, with renovations and construction of new schools; office buildings; and retail, residential, and community facilities, including adaptive reuse. Both companies are New York state and New York City certified as Minority and Women-Owned Business Enterprises.

“Managing small businesses as a minority woman throughout the most challenging times, such as recessions and a world pandemic, has not been an easy journey,” Velez admits. “There are obstacles which must be overcome daily. My greatest challenges are employment recruitment, seeking prospective clients, and retention. However, there are many benefits and rewards for which I am grateful every day. Being able to spend my time designing spaces, using my creativity, and coming up with a vision reminds me of the reasons I chose this career.”

Velez knew that she wanted to build things since the age of ten when she spent time with a relative who was studying architecture. Later, when researching colleges, she came across New York Tech’s architecture program, and the fit seemed obvious. “New York Tech offered a broad curriculum that resonated with me,” she says.

Velez credits the curriculum for helping her transition to becoming a professional. “There were several memorable professors who positively impacted my time at New York Tech,” she says. “They acted as catalysts by motivating me; instilling in me the ability to think independently, critically, and creatively; and teaching me to pay close attention to detail while managing my time.”

COURTESY OF JACQUELINE VELEZ



Velez says in the 30 years she has been working, the industry has evolved at a breakneck pace: from the use of new building materials to the focus on eco-friendly, innovative, and sustainable solutions to the need for accessible design. But while the industry has changed, Velez says many of the things she learned at New York Tech remain evergreen. “When I think of my time at New York Tech, I am most thankful for acquiring specific and vital employability skills: public speaking, problem-solving, and communication skills.”

## John Karaptis

(B.S. '03)

When asked which memory from his time at New York Tech stands out, John Karaptis has a unique answer. “I still take a lot of pride in winning third place at the National Medical Jeopardy competition at the American Academy of Physician Associates Conference in Boston in 2002. I was on a three-person team from New York Tech, and I always remember it.” He spoke to *New York Institute of Technology Magazine* about his time as a student and how it impacted his career.

### **Tell us a bit about yourself. Did your background influence your choice to become a physician's assistant?**

I grew up in a middle-class town in Suffolk County, Long Island. My father was born on a small island in Greece (Ikaria) and came here as a teenager with nothing.

My father used to tell me stories of how his grandfather was the “island” doctor where he grew up. He had no official schooling or training. He learned and used different customary treatments that were passed down from generation to generation. I was very interested in these stories, and I believe they sparked my interest in medicine. I was also fascinated with biology and health education in primary school, which led me to the healthcare industry.

### **Why did you choose New York Tech?**

The physician assistant (PA) program had a very good reputation and was known for producing high-performing PAs right out of school. The professors were excellent, confident, and extremely knowledgeable. They also offered a wide array of clinical locations in many hospitals and clinics and in different healthcare fields. The class size was also a little smaller and more intimate than in other programs I considered.

When I graduated, I realized how valuable my New York Tech education really was. During my clinical locations, I had more knowledge than any other PA or medical student on my rotations. I could answer all the questions our preceptors would ask, and it made me stand out (in a good way). I had a couple of offers lined up coming out of school, and I believe the preparation we had at our program led to this. The program also prepared us for how to act and be professional around patients and other healthcare workers. This isn't always something you learn in school.

### **Can you tell us about your role as director of surgical services and digestive disease at NewYork-Presbyterian Queens?**

Currently, I am working in healthcare leadership and administration. I now work on the back end of healthcare to improve the quality of care, patient safety, and operational efficiency through process improvement and change management. My clinical training, education, and experience have given me an advantage in working to improve healthcare as a whole.

### **Why is it important to you to serve on the School of Health Professions Advisory Board?**

I believe it's very important to stay connected and give back to institutions and environments that have helped you succeed, which New York Tech certainly has. I also think, in general, healthcare needs a lot of support with the current COVID-19 crisis and staffing situations, and what better way to help out than at the ground level, where healthcare professionals are trained?





Arnold Leap

## The Only Constant Is Change

Three alumni reflect on their time at New York Tech and how their education inspired their success, prepared them to adapt and solve problems, and thrive as leaders in the ever-changing technology landscape.

**Arnold Leap**  
(B.S. '93)

Chief Information Officer  
1-800-Flowers.com

**Tell us about your career journey.**

In May 1990, I was finishing classes, getting ready to graduate, and looking for a job. I had no idea what I wanted to do but was willing to get started. My neighbor worked for a small chain of pharmacy stores and was friendly with the software company that provided the pharmacy's



management software. He introduced me to the principals. I interviewed and was offered my first opportunity to “slings” code.

Over the next six years, I worked for a couple of other small software companies on Long Island and then had an opportunity to transition to an information technology manager role for a circuit board manufacturing company.

After that, I wandered back to my software roots as a director of software development at Direct Insite Corp., a small service company that provided data visualization software.

These skills led to sales. All the skills accumulated and honed over 25 years led to the opportunity at 1-800-Flowers.com, Inc. nine years ago. I am still learning. The majority of my day-to-day is working with people and taking care of our wonderful team. My responsibility as a CIO is to provide an environment that allows everyone to be successful in what they do. The digital transformation of any organization requires a harmonic balance between human and technical capital.

### **How has New York Tech laid the foundation for your role as CIO?**

Critical thinking. Problem-solving. Being challenged every day and learning to embrace the challenges presented.

I have realized the many different foundational aspects of my time studying at New York Tech. Early in my career, it was all about slinging code. Later on, it was leveraging algorithms using linear algebra to deal with complex automated decision-making routines. And most recently, it was embracing challenges and pushing through to solve them by having the confidence to not waver—something I learned from a few of my professors.

### **Are there any classes or professors who inspired you? Can you tell us about them?**

There were many inspiring classes over the four years I spent at New York Tech earning my computer science degree. But there were two professors who made a huge impression on me: Tom Arcidiacono and Jack Wu. Tom taught me the critical thinking aspects of slinging code, and Jack

taught the human side of how to apply the technology. It was the perfect balance.

### **What is the most important thing you learned as a student, and how did it help you in your career?**

I’m able to appreciate it more now than I could back then. It is easy to figure out what you like, but it’s more important to understand what you don’t like. When you find out what you like, doing it really is not work. I figured out early on in my student career that I really liked working with computers. Later in my professional career, I learned that I really like working with people applying computers and software to a business problem. New York Tech taught me the fundamentals of self-discipline and hard work—both of which make a great foundation for success at all levels of life.

## **John Impellizeri (B.S. '87, M.B.A. '91)**

**Chief Information Officer  
Lifetime Brands**

### **Tell us about your career journey.**

After I earned my B.S. in computer science and later an M.B.A. at New York Tech, I went to Lifetime Brands (provider of kitchenware, tableware, and home products), where I have been since.

### **How has New York Tech laid the foundation for your role as CIO?**

My varied experience was the most important aspect of my time there and allowed me to effectively communicate with everyone in the department. Academically, I was an IT person since high school, so the passion was always there. My M.B.A. classes really helped my understanding of finance.

### **Are there any specific classes or professors who inspired you?**

My all-time favorite was Dr. Josefa Cubina. Although I always loved chemistry, it was my time spent with her out of the classroom that I cherished. She was an academic mentor who I could discuss anything with. She always encouraged me to continue to learn, even pushing me to enroll in the information technology Ph.D. program at Nova Southeastern University in Florida. She wrote a wonderful letter of recommendation. I will always appreciate our time together.



John Impellizeri

**What is the most important thing you learned as a student, and how did it help you in your career?**

The most important thing I learned was that technology is constantly changing. So many things I learned in class have become footnotes in my career. [Programming] languages like Fortran and COBOL have been replaced. It's somewhat subjective, but for me, COBOL was replaced with a 4GL called Cognos. Fortran was likely replaced with C. Procedural languages gave way to object-oriented programming. Networks shifted. New fields emerged (cloud computing and cybersecurity). I signed up for a system programming/assembly class, and our instructor said, "You people need to learn C and Unix." And he rewrote the syllabus. In this field, you must adapt. It changes so fast, and we have to be able to learn new things quickly.

**What is your fondest memory of New York Tech?**

There are so many, it's hard to pick one. However, something seemingly small, like the little group that met in the old Dairy Barn on the Long Island campus to discuss how to work through problems in Calc II (we were all getting crushed) is probably my fondest. When you finally "get it" and learn something that has been baffling you for some time, it seems to stay with you.

**Kiran Palla  
(M.S. '96)**

**Senior Advisor to Associate Chief Information Officer Internal Revenue Service**

**Tell us about your career journey.**

My first job after graduating from New York Tech was as a consultant at Andersen Consulting, which is now Accenture. After working for five years at Accenture, I started my own consulting firm, AVS Consultants. It has been running for the past 21 years, though I took a back seat as a part-time consultant in 2011. Since graduating from New York Tech, I held several roles in corporate America. I worked with major employers, but most importantly, I developed a passion for college preparation programs for high school students. In 2019, I started an online academy that helps hundreds of students in college preparation by providing a unique extracurricular platform to build their holistic profile for college admissions. In 2021, I took on the CIO role for OneNine AI, an artificial intelligence company.

**You have since left OneNine AI and took on a new role at the IRS. How did New York Tech lay the foundation for your role at each organization?**

New York Tech's foundation in computer science programming and system administration coursework helped me tremendously during the early stages of my career. The practical knowledge provided by the university in networking (Novell), database administration (Sybase), and object-oriented programming (Lotus Notes, C, C++) was extraordinary. The faculty spent tremendous amounts of time and energy not only educating students in the fundamentals and concepts but also immediately put students into the lab environment dealing with real-time problems and solutions. The professional education offered by the university helped me to break down huge technical issues into small focus areas and apply targeted solutions.

**What is the most important thing you learned as a student, and how did it help you in your career?**

The most important thing I learned was to dream big. When you graduate from the most powerful city university in the world, your career options instantly open doors in global organizations. By just looking over the city from the New York City campus classrooms, it fills you with hope and self-confidence. When I was ready to enter my career, I always dreamed big—that I should one day become a global technology leader.

**What is your fondest memory of New York Tech?**

Celebrating the Indian cultural festival Diwali (festival of lights). I used to mentor undergrad students and always found ways to keep them engaged as well as motivated. We formed a small international cultural club that celebrated various cultural festivals, and we celebrated Diwali festival for the first time at the New York City campus. The celebration lasted three days with excellent cultural displays of traditional dresswear, potluck dishes, and a small fireworks display at Central Park. Then, a surprise of my lifetime when I bumped into the crew of *Pulp Fiction* near the entrance of Central Park. The entire Diwali celebration turned into a celebrity hangout.

*Interviews have been edited and condensed.*



Kiran Palla



# Alumni Notes

## 1970s

**Billy Brill (B.F.A. '72)** worked as a promoter for a Ringo Starr concert at Thunder Valley Casino in Sacramento, Calif.

**Carl Nelson's (B.F.A. '74)** radio show, *The Carl Nelson Show*, launched on WOLB in Baltimore in June.

**Winston Barnes (B.F.A. '76)** was featured in *South Florida Caribbean News*, where he talks about being the commissioner of the city of Miramar, Fla., as well as his childhood in Jamaica and his connection to his family and culture.

**Michael Krozer (B.S.AT. '79)** has published five books, including a science fiction trilogy, a shorter beach read, and a collection of short stories.

## 1980s

**Jim Powers, AIA (B.Arch. '82)** joined H2M architects + engineers as chief growth and development officer. He has served as an adjunct assistant professor for 11 years and is on the board of the FRIENDS of the School of Architecture and Design, helping

New York Tech architecture graduates land positions in architecture and construction management.

**Louis Contadino (B.Arch. '83)** was recently profiled in *Serendipity* magazine. The profile focuses on his work as an architect and his passion for designing homes.

**Edward Urbanowski (B.F.A. '83)** spent three decades working in the public affairs department at Time Warner (now called Charter). He also self-published several children's books, poetry, and a novel and finds time to write a blog.

As executive dean at Touro College of Osteopathic Medicine, **Kenneth Steier, M.B.A., M.P.H., M.H.A. (D.O. '83)**, oversees two osteopathic medical school campuses in New York and one in Great Falls, Mont. He is board certified and trained in internal medicine, pulmonary, and critical care. He lives with his wife Kristen, three-year-old daughter Hazel, four chickens, three dogs, and a cat in Goshen, N.Y.

Dime Community Bancshares, Inc., announced the appointment of **Jim Cloudman (B.S. '83)** as first vice president

and relationship manager responsible for business throughout Nassau and Suffolk counties in New York. Most recently, he was a senior portfolio manager at People's United Bank.

**Shirlee Kuhl (D.O. '83)** has been working as a pediatrician at Henry Ford Health for more than 30 years, where she also contributes to pediatric and primary care leadership committees. Kuhl has recently co-authored *Guidebook to Ace the Lifestyle Medicine Board*, a lifestyle medicine board review book.

**Tom Cilmi (B.S. '86)** recently joined the D'Addario Foundation's board of directors. The foundation is dedicated to funding musical instruction through nonprofit organizations across the United States. Cilmi is a former Suffolk County legislator and is currently vice president at McBride Consulting and Business Development Group.

**Ekpo Bassey (B.F.A. '80, M.A. '86)** recently published *The Misunderstood* with publishing house Christian Faith Publishing. The book explores the comfort one can get from scriptural study.

*Continued on next page →*

# Ingenium Awards

Join the College of Engineering and Computing Sciences at the second annual Ingenium Awards ceremony on April 23, 2023, to celebrate the accomplishments of your fellow alumni and industry partners.

(CONTINUED)

**Mindy Danovaro (M.A. '86)** was [named](#) executive director of philanthropy at Marshall Medical Center in Placerville, Calif. Before joining Marshall Medical Center, Danovaro worked at the University of the Pacific, McGeorge School of Law, where she was responsible for securing \$25 million, the school's largest gift in the history of the law school. She is working on a doctoral degree at the University of the Pacific.

After more than 30 years working as a scout for the New York Giants, **Steven Verderosa (B.S. '87)** retired in 2020. He was part of the first varsity football team at New York Tech. Now, he and his wife split their time between their home in Raleigh, N.C., and the beach on the North Carolina coast. The couple has three children and one grandchild.

*Modern Healthcare* recently named **Elissa Charbonneau (D.O. '88)** one of the year's 50 most influential clinical executives for the third year in a row. Charbonneau

is chief medical officer at Encompass Health, overseeing rehabilitation programs throughout the country.

New York City metro operations at Consigli Construction and spent 19 years at T.G. Nickel & Associates as partner, executive vice president, and director of operations.

**Carol Lawrence (B.S. '92)** has been [named](#) head coach of the Johnson C. Smith University cross-country and track and field program. Lawrence has coached many championship-winning teams at the high school level and is looking forward to coaching at the collegiate level.

**Jacqueline Bocachica-Velásquez, Ed.D. (M.S. '92)** was recognized by *Marquis Who's Who* for her three-decade career in educational leadership development.

**Arie Trouw (B.S. '94)** was [named](#) one of the United States' 101 Top Chief Technology Officers by *CTO Boardroom Media*. Trouw was recognized for his technological breakthroughs and business successes, including his company XY-The Findables.

### 1990s

**Angela Calamia (M.S. '91)** was named [Central Office Administrator of the Year](#) for her work at Gaston County Schools in North Carolina.

Anguilla Electricity Company Ltd. [appointed](#) **Carleen Gumbs (B.S. '91)** as human resources manager. She joined the team in February, bringing more than 15 years of experience.

**Joseph A. Chiarelli (B.S.A.T. '92)** joined EW Howell Construction Group as vice president. Chiarelli has more than 30 years of experience navigating the construction industry in the greater New York region, including New York City and Long Island. He most recently served as the president of



▲ Attendees at the golden anniversary reunion for the Classes of 1970–1972.

## Golden Anniversary Reunion: Class of 1973

Connect with classmates and reminisce on your days at New York Tech at a reunion on May 19–21, 2023. To learn more and join the planning committee, contact Donald Vogel at [dvogel@nyit.edu](mailto:dvogel@nyit.edu).



## Fifth Annual Big Give

Save the date for New York Tech's annual fundraising event. **Join your fellow Bears on March 8 – 9, 2023, and let's make this year even better!**



# Alumni Connections



Dear Alumni and Friends,

Each year, we rededicate ourselves to our mission to connect New York Tech alumni with one another, our students, and the university. The [New York Tech Alumni Association](#) is about being a part of a great and enduring community, ensuring a robust future while honoring the past and engaging the present. Our goal is to expand the community of alumni who come together to forge new friendships with fellow Bears and to deepen the lifelong relationships formed during their journey as students and as alumni.

I am excited to welcome 2,400 members of the Class of 2022 to the Alumni Association. Congratulations, and best of luck as you embark on your next chapter. We encourage you to stay connected and get involved—by attending alumni events, reading emails and other communications from New York Tech, sending your accomplishments to *New York Institute of Technology Magazine*, and visiting us [online](#).

This fall marks the first semester of our Alumni Mentorship Program. Thank you to those who have volunteered or expressed interest. Applications for mentors are being accepted on a rolling basis. Please visit our [website](#) to learn more.

We will also be traveling across the country to meet with alumni and friends, as well as host a variety of opportunities to network in the New York tristate area. Please visit our [events calendar](#) for updates and to register. We hope to see you in person soon—and bring a friend!

Go Bears!

Sabrina Polidoro  
Director, Alumni Relations

**Gina Colon-Bumbalo (B.F.A. '95, M.A. '96)**, producer for the Catholic Faith Network (CFN), earned a 2021 Emmy nomination for Best Magazine Program (Series) and a 2022 Gabriel Award for *CFN Live*.

Bergen Community College's Gallery Bergen will feature an [installation](#) by **Poramit Thantapalit (M.A. '97)** through December 8, 2022, at its PULSE: Resonating Earth exhibition.

**John R. Lee (B.F.A. '81 and M.A. '98)** was featured in *The Positive Community*, a faith-based lifestyle magazine that focuses on African American communities. The profile focused on his life as a musician, his work in radio, and his family.

Bowie State University Vice President for Intercollegiate Athletics and Recreation **Clyde Doughty, Jr. (B.S. '81, M.S. '96, M.P.S. '98)** [received](#) the 2021–2022 Jeanette A. Lee Award for his outstanding service in the Central Intercollegiate Athletic Association.

Suffolk, a real estate and construction company, has appointed **Thomas Cossu (B.S.A.T. '98)** as vice president and project executive. In his new role, he will oversee building construction projects, encourage the implementation of sophisticated technologies on job sites, and work closely with partners and project teams to minimize risk and deliver the highest-quality projects to clients.

**Ian Storch (D.O. '99)** started *D.O. or Do Not*, a podcast with Tian Yu She, D.O. It is aimed at pre-med students, talking about the value of osteopathic medical school. The show is available on Apple Podcasts.

## 2000s

**Idalee Cathcart (B.A. '00)**, owner of L'Dor V'Dor Confections, has published *Luscious Legacies Cookbook*, a collection of recipes from family, friends, and chefs. She says, "I wanted

*Continued on next page* →



## Alum Taking the Helm of FRIENDS

**Tom Scerbo (B.Arch. '98)**, northeast division sales officer and senior vice president at HNTB Corporation, has been appointed chairperson of the executive committee for the FRIENDS of NYIT School of Architecture and Design. Scerbo succeeds founding chair **Domenick Chieco (B.S.A.T. '89)**, who was [recently appointed](#) to New York Tech's Board of Trustees.

"As chair, my goal is to continue to create meaningful engagement between students, alumni, and the industry with a special focus on diversity and innovation as we educate and mentor the next generation of leaders poised to address the greatest challenges ahead of us," said Scerbo. 

(CONTINUED)

to carry on the legacy by bringing life to food in honor of those who gave us life."

**Krista Hachadoorian (M.S. '01)**, a biology teacher at H.B. Thompson Middle School, was selected as one of 230 to be named a New York State Master Teacher.

**Marc Beekman (B.S. '02)** joined Magnus Financial Group LLC as an investment research associate. Before joining Magnus, Beekman was director of financial planning at Northwestern Mutual. At Magnus, he will be managing financial planning as well as billing and trading.

**Michael Ditillo (D.O. '02)** is a trauma, critical care, and acute care surgeon at the University of Arizona, where he is also the director for faculty development, specializing in assessments for the College of Medicine. In addition, he serves as the program director for the General Surgery Residency and associate program director for the Surgical Critical Care and Acute Care Surgery Fellowship.

**Radhika Mehta (M.B.A. '02)** was named managing director at First Republic Bank. In her new role, Mehta will provide portfolio

management, retirement planning, investment consulting, and other wealth management services to individuals, families, nonprofits, and private family foundations. Before joining First Republic, she was a senior vice president and wealth management advisor at Merrill Lynch Wealth Management.

**Achilleas Achilleos (B.F.A. '03, M.A. '04)** was [named](#) chief marketing officer at BDSwiss. He brings more than 20 years of career experience in marketing, creative, communications, and digital roles.

**Sharl Smith (B.Arch. '03)** opened a [solo art show](#) of her beaded art and sculpture at Homer Watson House and Gallery in Toronto.

*Smart Energy International* [interviewed](#) Chair for World Energy Storage Day **Rahul Walawalkar (M.S. '03)** about the global conference, which acts as a platform for companies, energy industry stakeholders, and policymakers to talk about what has been achieved and discuss road maps for the industry's future when it comes to energy storage.

**Saadia Yunus (B.A. '04)** is a licensed marriage and family therapist, a trauma specialist, a motivational speaker, and a community leader. She thinks of New York Tech as a crucial stepping stone to achieving her goal of being able to give back to the world. Yunus has a private practice on Long Island, where she lives with her husband and children.

**Sarahana Shrestha (B.F.A. '04)** [won](#) the New York Democratic primary in the 103rd Assembly District for New York State Assembly.

After working 15 years in the natural stones industry, **Evren Agabeyoglu (M.B.A. '05)** opened a Hemera Marble, supplying marble, limestone, and other natural stone materials to marble distributors around the world.

Syntellis Performance Solutions, a performance management software and intelligence solutions company, appointed **Bill Franck (M.B.A. '05)** as chief revenue officer, overseeing sales, marketing, and customer success.



**Dino Riese (B.F.A. '05, M.S. '07)** was featured in *Marquis Who's Who* Top Executives.

**Patrick J. Lynch (M.B.A. '06)**, senior vice president of sales at Bell Laboratories, spoke at the Target Specialty Products Business Growth webinar on the biology of rodents, how to trap and bait them, and the safe usage of rodenticide.

**Richard V. Waring (M.B.A. '06)** joined the Charleston Metro Chamber of Commerce as vice president for diversity, equity, and inclusion. Previously, he was student services chief of staff at Trident Technical College.

Visual artist **Jonathan Monaghan (B.F.A. '08)** [opened](#) an exhibition of his art in Istanbul, Turkey, over the summer. The exhibit, called ŞAŞAA (OPULENCE), featured Monaghan's visual installations and deals with the flamboyance of the Baroque era and the excess of the digital age.

**Matthew Michaels (D.O. '08)** is an assistant professor in the Department of Neurology at the University of Pennsylvania Health System, specializing in neurocritical care and critical care medicine. He is also the director of neurocritical care simulation medicine.

**Kantrice R. Rose, Ph.D. (M.B.A. '08)**, has been named executive director of the Altrusa International Foundation, Inc. Altrusa, founded in 1917, is an international organization of working women dedicated to fundraising and civic action.

**Kalyanram Udathu (M.S. '08)** was promoted to chief executive officer of ENERPARC India, a solar energy developer. For the last eight years, Udathu worked in business development and finance with the company.

**Guillermo Zamarripa (B.S. '09)** was featured in *Our Esquina*, a publication that reports on Latinx athletes and sports news in

the United States. The feature focused on Zamarripa's early life as a soccer player in Mexico, as well as his company, the Marketing Jersey, which targets inequities in the careers of female athletes.

## 2010s

The North Shore School District Board of Education named **Megan McCormack (B.S. '10, ADIP '17, ACERT '21)** interim principal of Sea Cliff Elementary School in Sea Cliff, N.Y.

**Muneer Alshowkan (M.S. '12)** studies quantum networking and quantum communications at [Oak Ridge National Laboratory](#), conducting theoretical and experimental quantum information science, especially pertaining to quantum communications and networking.

**Karan Lal (B.S. '12, M.S. '16, D.O. '16)** was [featured](#) in an interview with *Healthy Duck*, where he talks about his career journey.

**Tiffani Montelione (M.S. '12)**, a fifth-grade teacher in the Kyrene School District in Arizona, has [become](#) a National Board-certified teacher, the highest credential available to American educators. The certification can take up to three years to complete and involves rigorous assessments of a teacher's performance and subject knowledge.

Bahrain Network (BNET), the nation's telecommunications infrastructure company, [named Ahmed Khalaf](#)

**(M.B.A. '14)** as director of power and buildings. Khalaf brings more than 16 years of experience in civil engineering, during which he held several positions, including head of power and building projects at BNET and head of building and power development at Batelco.

**Rachel M. Tanas, D.O. (B.S. '15)**, completed her medical residency training at the University of Kansas School of Medicine-Wichita Family Medicine Residency Program at Wesley Medical Center. She will be practicing medicine at a clinic in Texas.

**Michael Conklin (M.S. '16)** was [named](#) principal of Eldred Junior/Senior High School in Eldred, New York. He was previously a co-principal/assistant principal at Valley Central High School in Montgomery, N.Y., for four years and served as a special education and classroom teacher in the Florida Union Free School District.

**Darshan Kothari (M.B.A. '16)** became the head of finance and operations at one of the fastest-growing private companies in North America and joined its board of advisors. He has also started a luxury brand called Chelsea Madison New York and is working on another startup called the New York Snack Company.

*Continued on next page →*

## NOTES TAKEN

.....  
We welcome all kinds of news for Alumni Notes. Submit your latest accomplishments—and remember to attach the pics!

[nyit.edu/alumni\\_notes](http://nyit.edu/alumni_notes) or  
[magazine@nyit.edu](mailto:magazine@nyit.edu)



▲ TOP: Harold Rothman, friend of NYITCOM Jeffrey Scherr, Jan Scherr, Jeremy Scherr; BOTTOM: Mark LoPorto, NYITCOM Dean Nicole Wadsworth, Nick Iadanza, Matthew MacKay

## NYITCOM Golf Outing

On August 15, the College of Osteopathic Medicine (NYITCOM) hosted its inaugural Golf Classic at the Woodside Club in Muttontown, N.Y. More than 100 alumni and friends joined in the day's festivities, raising \$53,635 for the Adele Smithers Parkinson's Disease Treatment Center and the NYITCOM Dean's Fund. The event, spearheaded by alumnus **Paul Deponte (D.O. '95)** and friend of NYITCOM Jeffrey Scherr, D.D.S., featured brunch, a round of golf with contests, an on-course barbecue lunch, dinner, and raffles. Save the date for the Second Annual NYITCOM Golf Classic at the Woodside Club on August 7, 2023.

**Dmitry Drozhzhin (D.O. '16)** joined Canton-Potsdam Hospital as a hospitalist, specializing in the care of hospitalized patients and coordinating acute-level care with primary practitioners.

**Sheraine Hines (B.F.A. '18)** is the president of the Jamaica Animation Nation Network, an organization dedicated to promoting the growth of the animation industry in Jamaica and the broader Caribbean. Hines has been instrumental in developing the first comprehensive documentation of Jamaican animation history, as well as providing workshops for Caribbean animators.

In August, **Ye Jin (M.A. '18)** participated in the fifth U.S. Legacy Art Festival in Los Angeles. Jin is vice president of the Sino-U.S. Chinese Musicians Association. The festival aimed to promote international cultural exchange.

**Erin Smith (B.S. '18)** was promoted to head coach of women's lacrosse at Walsh University in Ohio. She previously served as an assistant coach for four years.

## 2020s

**Christopher DeLeon (B.S. '19, M.S. '20)** landed a position at Lockheed Martin as a firmware/field programmable gate array engineer. He says, "Thank you, Dr. (Cecilia) Dong, Dr. (N. Sertac) Artan, and Dr. (M. Christopher) Wernicki, for the mentorship and guidance through the years!"

**Gregory Kwon (D.O. '22)** began his [residency](#) in family medicine at Conway Regional Health System in Arkansas.





## Ship Ahoy!

At the Second Annual Cruise Around Manhattan on September 16, 2022, a group of 250 students, faculty, staff, and alumni from the Long Island and New York City campuses enjoyed a three-hour sightseeing voyage. Attendees enjoyed dinner, dancing, and views of the Statue of Liberty and the Manhattan and Brooklyn Bridges.

◀ LEFT TO RIGHT: Paul Ferrante (M.A. '18, M.S. '22), Michelle Davis, Hannah Berling, Kelli-Ann Francis (B.F.A. '18, M.A. '21), Patricia Napolitano, Deanna Bertini, Jeunelle Sanabria, Michael Aryette, and Ali Gedawi.

## News You Can Use


The recently announced [Federal Student Loan Debt Relief Plan](#) includes the extension of the student loan repayment pause through December 31, 2022 (payments will resume in January 2023.) Those who have borrowed federal undergraduate, graduate, and Parent PLUS loans that have been fully disbursed by June 30, 2022, may be eligible for a one-time debt cancellation. The U.S. Department of Education will provide up to \$20,000 in debt cancellation to PELL-Grant recipients and up to \$10,000 in debt cancellation to non-PELL Grant recipients.

### Who is eligible?

- To be eligible, your annual income must have fallen below \$125,000 (for individuals) or \$250,000 (for married couples or heads of households)
- If you received a Pell Grant in college and meet the income threshold, you will be eligible for up to \$20,000 in debt cancellation
- If you did not receive a Pell Grant in college and meet the income threshold, you will be eligible for up to \$10,000 in debt cancellation

### What do I need to do now?

- Log into your [Federal Student Aid](#) account to check your Federal loan and PELL Grant recipient status. Make sure your contact information is up to date. You can create an account at [studentaid.gov](#)
- Sign up for notifications at the [Department of Education subscription page](#)
- All federal loan borrowers are encouraged to apply before November 15, 2022 to receive relief before the payment pause expires on December 31, 2022

For more information about the program visit [studentaid.gov](#). 

### MARRIAGES:

**Kayvon Roberts (B.S. '13)** to Carly

**Jennifer Haynie (B.F.A. '15)** to Ray Wrobleski

### BIRTHS

**Michael Auriemmo (B.S. '15)** and **Gina Auriemmo (B.F.A. '15)** welcomed Rocco Salvatore.

### PASSINGS:

**Mark J. Cohen (B.S. '70)**

**John E. Sara (B.S. '70)**

**Robert A. Lorelli (B.S. '71)**

**John McBarnette (B.S. '78, M.P.S. '82)**

**Audrey Leif Muller (B.S. '79, M.P.S. '82)**


**Eileen Anna Mandable (M.S. '81)**



## Welcome, Future Alumni!

On July 19 and 21, and August 16 and 18, new undergraduate students got their first look at college life during lively New Student Orientations at New York Tech's New York City and Long Island campuses.

Student orientation leaders introduced the Class of 2026 to the New York Tech community, led campus tours, and helped the new students get to know their future classmates via fun activities and games.

See more at [New York Tech News](#). 

## NEW YORK INSTITUTE OF TECHNOLOGY

Northern Boulevard, P.O. Box 8000,  
Old Westbury, NY 11568-8000