

FALL 2020

NJIT

MAGAZINE

**HIGHLANDER
GRADS SOAR
DESPITE
TURBULENT
TIMES**

**NJIT
APPOINTS
NEW VICE
PROVOST
AND CHIEF
INFORMATION
OFFICER**

**NJ CONSORTIUM
DEVELOPS MOBILE
MEDICAL UNIT**



STORIES OF SUCCESS

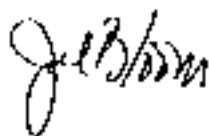
As we enter the fall season, our country remains gripped by the COVID-19 pandemic and its devastating effects. At NJIT, though, we are heartened by the many ways in which our university community has responded with an unrelenting focus and dedication, which we reported on in the spring/summer issue of *NJIT Magazine*.

Our success has continued. When NJIT moved swiftly to remote instruction in March — to ensure the health and safety of students, faculty and staff — our graduating seniors deftly balanced finishing their coursework with launching their careers. Under trying circumstances, they persevered and began the next chapter of their lives. Many landed positions at prominent companies, including American Express, Google and Facebook, while others went on to pursue advanced degrees in fields ranging from entomology and astronomy to medicine and structural engineering. In this issue, we highlight a handful of this year's Highlander graduates.

Another noteworthy achievement is NJIT's collaboration with University Hospital in Newark and The Tuchman Foundation in developing modular, mobile medical care facilities for rapid deployment to regions in need of health care infrastructure and challenged by disease outbreaks and other disasters. These modules, fabricated from 40-foot-long repurposed shipping containers, include customizable internal environments that can be configured for a variety of medical needs. Created in response to clinical capacity constraints posed by the pandemic, the modules were tested in July through patient-care simulations at University Hospital and proved highly effective.

Welcoming new faculty and staff to NJIT always is a pleasure, and we are delighted in this issue to introduce you to Kamalika Sandell, NJIT's new chief information officer (CIO) and vice provost. Kamalika joins us from American University, where she was deputy CIO, and brings decades of experience in the information technology field. (She speaks three languages as well!) Her vision is to transform the information services and technology department into "solutions architects" by building on existing work and initiating data and enterprise services that are more personalized. We look forward to seeing how those initiatives benefit our university community.

I hope you enjoy this issue of *NJIT Magazine*. As always, we welcome your feedback. ■



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Kamalika Sandell looks to make an impact by building scalable services that transform the information services and technology department.



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NJIT RANKS AMONG THE TOP UNIVERSITIES

New Jersey Institute of Technology (NJIT) has been ranked third in New Jersey and 74th nationally in a Quacquarelli Symonds (QS) World University Rankings®: USA 2020 list, placing NJIT in the top 10% of universities nationwide.

Over 700 universities were evaluated according to 17 metrics falling into the following broad categories: employability, diversity and internationalization, learning experience and research. Some of the highest-weighted metrics include: academic reputation, alumni outcomes, salary after 10 years, Fulbright recipients per institution, international research network, Pell Grant recipient ratios and instructional expenditure per full-time student.

NJIT President Joel S. Bloom said of the ranking, "This is excellent news

and provides further validation of our university's uncommon results and growing reputation for both student success and research productivity."

NJIT Provost and Senior Executive Vice President Fadi P. Deek added, "Our performance in the first-ever QS USA University Rankings 2020, placing NJIT among the Top 100 universities in the U.S., is yet another result of the superb work of our faculty and students. It also provides one more confirmation of NJIT's evolution that has been effected through meticulous strategic thinking and action in support of our four-pronged mission of education, research, economic development and engagement."

The university also has been named a top college according to The Princeton Review in the newest edition of its college guide, "The Best 386 Colleges" — a designation only about 14% of America's 2,800 four-year colleges have earned. NJIT received honors as a top college in the Northeast region and a best value college as well. Additionally, NJIT has been selected as a Top 50 College for Undergraduate Game Design and Undergraduate Entrepreneurship Studies. ■

BOARD OF TRUSTEES WELCOMES NEW CHAIR

Robert Cohen '83, M.S. '84, M.S. '87 is the new chair of NJIT's board of trustees. Cohen is president of Digital, Robotics, and Enabling Technologies at Stryker Corporation, a recent promotion from his previous position as vice president for Global Research and Development and chief technology officer,

Joint Replacement. He has worked in the orthopedic medical device industry for more than 35 years and holds more than 25 patents. At NJIT, Cohen has served on Newark College of Engineering's board of visitors for over 10 years and joined the university's board of trustees in



Math Success Initiative Celebrates First Cohort of Graduates

Last summer 35 11th-graders from four Newark high schools — Central, Malcolm X Shabazz (where Naseed Gifted '01 is the principal), Science Park and Technology — participated in a seven-week enrichment program as part of the inaugural Math Success Initiative (MSI), an academic partnership between NJIT, the city of Newark and Newark Public Schools. During the past school year, 23 of the 35 completed either Math 110 or Math 111 as a student at the university. And this fall, 17 of the 23 are full-time Highlanders; another two will begin attending NJIT in spring 2020.

Beyond representing the first cohort of the program, these students exemplify the MSI mission: to increase the number of Newark high school graduates who enroll at NJIT for undergraduate education. MSI is designed to strengthen their math knowledge and skills as well as their college readiness. It also provides professional development to a select number of mathematics teachers from the designated high schools to build learning communities that support best practices in mathematics instruction. NJIT's Center for Pre-College Programs (CPCP) and College of Science and Liberal Arts (CSLA) administer the program.



The first cohort of the Math Success Initiative.

The university celebrated the students' success at a virtual ceremony in June. As Jacqueline Cusack, CPCP's executive director, noted in welcoming the attendees, "We dare not let this moment pass without saying what a great job they've done."

Many were on hand to congratulate the MSI participants for their hard work, persistence and determination, including Joel S. Bloom, president of NJIT; Mayor Ras J. Baraka, city of Newark; Nicole Johnson, deputy superintendent of the Newark Board of Education (NBOE); Mario Santos, assistant superintendent for high schools, NBOE; Marsha Armstrong, youth program director, city of Newark; Kevin Belfield, dean, CSLA; Bruce Bukiet, associate professor, NJIT mathematical sciences; Donivyn Schmidt, university lecturer, NJIT mathematical sciences; Ken Horowitz, university lecturer, NJIT mathematical sciences; Levelle Burr-Alexander, director of special projects, CPCP; and Monique Paden-Hutchinson, director of the TRIO-Talent Search Program, CPCP.

"We want more Newark residents engaged in our university," said Bloom, calling the MSI a "critically important program" for "getting more students

ready for an NJIT educational experience and degree."

He later added, "We do want to be a model of how you educate diverse populations of students, so they know how they can think together, work together, enjoy one another and continue to learn about the differences as well as the similarities in each and every one of our backgrounds."

Mayor Baraka commented that the work the students have done "becomes much more important, not just for yourself but for hundreds and thousands of people that are around you and that will come after you."

Perhaps the most impactful remarks came from the MSI graduates themselves, who described the program as a "life-changing experience" that both improved their math skills and offered a bird's-eye view of college.

The MSI cohort for summer 2020 welcomed 46 students from five Newark high schools (West Side High was added this year). Of the 46, 41 were invited and 37 agreed to take Math 110 or Math 111 this academic year. ■

2018. He also is a recipient of the Alumni Achievement Award in 2012, and served as vice president of the Alumni Association board of directors.

"Robert Cohen is a three-time alumnus of NJIT with both undergraduate and advanced degrees, and he is a perfect example of what our university is about," said NJIT President Joel S. Bloom. "We are thrilled to have him lead our board of trustees, and play an even more prominent role in the university's future."

"Without question, it is a privilege and honor to serve my alma mater in this

capacity. I also am very fortunate in that my colleagues — my fellow members of the board of trustees — are an amazing and dedicated group of diverse individuals who are equally committed to seeing the continued success of this university," offered Cohen in a message to the NJIT community.

"Over the lengthy duration of my relationship with NJIT, my pride in this university only has grown. Our students and alumni are realizing incredible personal and professional success. Our faculty are producing innovative and impactful research

at what has been a rapidly increasing rate, and are exceptional not only at teaching the core subjects but also at adapting and teaching the newer, cutting-edge technologies," he continued. "Our university's reputation has grown widely, and NJIT has garnered many prestigious accolades, both nationally and internationally. There is no doubt in my mind that our future will be a bright one."

Cohen assumes the reins from outgoing chair Stephen P. DePalma '72, who served on the board of trustees from 2003-2020, as well as on the board of overseers from 1989-2003. ■



Angelo Perna (center) was honored by NJIT at the 2019 Undergraduate Research Symposium. Beside him are (left) Durgamadhab Misra, associate chair and professor of electrical and computer engineering, and Abdallah Khreishah, program director of the National Science Foundation Research Experiences for Undergraduates program at NJIT.

NJIT REMEMBERS BELOVED FACULTY MEMBER

Angelo Perna, educator, researcher and mentor at NJIT for more than 50 years, died July 1, 2020, after a long illness. A professor of chemical engineering, he also was director of the Ronald E. McNair Post-baccalaureate Achievement Program and adviser to the chemical engineering honor society, Omega Chi Epsilon. He served for many years as the adviser to the Student Chapter of the American Institute of Chemical Engineers (AIChE) and taught many courses to undergraduate and graduate students.

Professor Perna was widely recognized in his field. A Fellow of AIChE, he was highly active in this professional society and was the recipient of its highest service awards, including AIChE's "Shining Star Award" in 2015, recognizing significant contributions and exceptional volunteerism. Most recently, he earned the distinction of a "Lifetime of Service to AIChE," presented to him in February 2020.

Professor Perna joined NJIT in 1967 after graduating with a doctorate from the University of Connecticut. He earned his Master of Science and Bachelor of Science in Chemical Engineering from Clemson University. Among his many contributions to the education of chemical engineers at NJIT, Professor Perna was the developer of the NJIT pilot-scale Unit Operations Laboratory, designed and implemented with his longtime collaborator and friend Professor Deran Hanesian. This remarkable facility continues to serve NJIT's chemical engineering students to this day, providing realistic hands-on experiences and preparing our students to tackle the complex challenges of the industry and the marketplace.

Professor Perna was highly active until his last days at NJIT, involved in all aspects of NJIT life — education, research, retention, recruitment, governance and long-term planning. He had a large group of followers among NJIT's alumni,

many of whom kept professional ties with him, sometimes many decades after graduation. Alumni often came looking for him at annual reunions, and mentioned him in letters and articles as a key influencer who helped them prepare for professional success. Indeed, Professor Perna's legacy is the generations of NJIT students who owe him the training and careful preparation that launched their rewarding careers and positioned them to make a mark in a highly competitive environment. Moreover, with his longtime service and dedicated involvement, he often served as our living institutional memory. He carried our collective knowledge and learned experiences, and provided insight and advice from decades of experience and careful observation. His colleagues and students will miss his intelligence, guidance, counsel and friendship. ■

Contributed by Moshe Kam
Dean, Newark College of Engineering



Honors Student Is the First at NJIT to Receive Prestigious Fellowship

Donald "Will" Andrews, NJIT's first-ever recipient of the Humanity in Action Fellowship, attributes his selection for the distinguished summertime program to his choice of study at the university: industrial engineering.

"There probably weren't that many engineers that applied ... so that made my application stand out from the start — like, 'hey, look, we have an engineer from Kentucky applying for this social sciences fellowship in Europe,'" said Andrews laughingly.

The now third-year industrial engineering major and Albert Dorman Honors College student

was scheduled to travel to Berlin for the June 2020 fellowship, which centers on diversity, human rights and citizenship around the world. He would have met with community leaders, politicians and activists and toured the city, all as part of an international group of 26 students from Germany, Greece, Bosnia, the United States and other countries. While an in-person experience may come at a later date, the fellowship continued as planned, albeit virtually via Zoom during this time of COVID-19.

Established in 1997, Humanity in Action seeks to "foster democratic awareness

and build bridges among communities through international educational programs for emerging leaders who share a strong commitment to social equity in their own communities, and beyond." The organization has engaged more than 2,000 fellows and senior fellows to date, and partners with foundations, nonprofits, businesses and universities.

Through his fellowship, Andrews examined democracy and pluralism in modern Germany in the context of the Holocaust. The program required him to complete an individual "action project" that addressed the issues delved into during the fellowship.

"I think it was the focus on preserving the rights of those who historically would not have them, especially now," Andrews remarked of what appealed to him about the opportunity. "We are in troubled times and this was even before COVID hit. There are people in unfortunate situations around the world, and there are different contexts for those bad situations." ■

NJIT STUDENT SENATE MAKES HISTORIC GIFT TO THE HIGHLANDER STUDENT EMERGENCY FUND

Tulika Das, a biomedical engineer who aspires to discover new treatments for traumatic brain injury, confronted her own health care conundrum this summer just as she was making the leap from master's to doctoral student: She lost her job in the pandemic-driven shutdown, landed in the hospital after suffering an allergic reaction and found herself short of funds to cover her co-payment.

"This is the first time I'm living outside of my family's house in Kolkata, India. I was also in the process of paying to extend my visa to pursue a Ph.D. in Professor Bryan Pfister's brain injury lab, so it was a difficult period," Das recounted.

A timely award from NJIT's Highlander Student Emergency Fund, she said, came to the rescue.

While the fund was established nearly a decade ago, it became a focus for fundraising this past spring, shortly after the pandemic drove the New York and

New Jersey region into lockdown and shut students out of jobs. Between April 1 and June 30 alone, the NJIT community contributed \$175,000. An infusion of \$50,000 from the NJIT Student Senate in August boosted the fund's restorative powers substantially.

"Every year, we use unspent funds from student organizations' activity fees to put toward major projects, such as the renovation of the Campus Center lobby. This year, we decided to help NJIT students," said Anuj Patel, the Senate president.

The fund currently provides grants of up to \$500 for unanticipated emergency expenses. Recipients have applied them this year toward medical expenses, housing costs, books, educational technology and even tuition. As of early August, the fund had distributed \$210,250, for a total of 455 awards, or

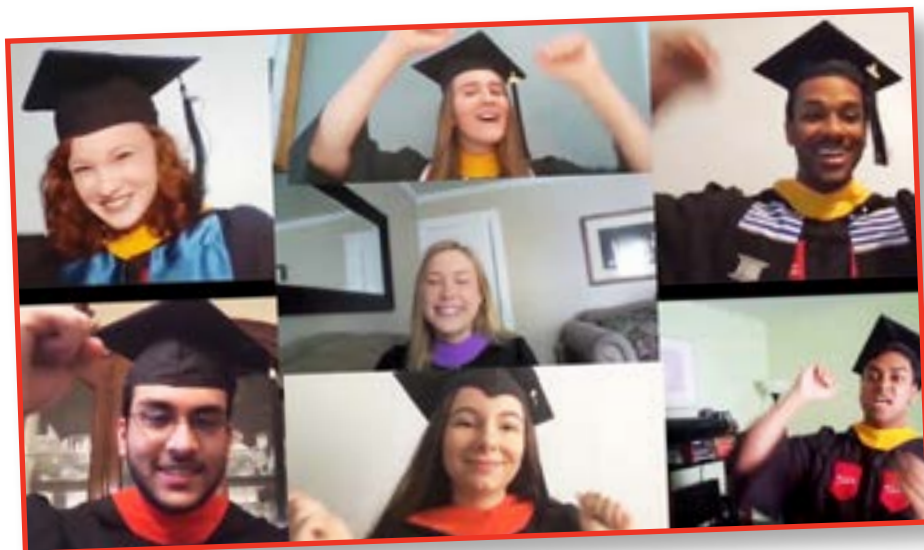


Left: Anuj Patel, Student Senate president.
Right: Tulika Das, biomedical engineer and doctoral student.

approximately \$462 per student.

NJIT President Joel S. Bloom applauded the student senators for their "wonderful generosity and decisive action."

"To recognize — and act on — the urgent needs of their fellow students at this uniquely difficult time in the life of our country is to me a shining example of student leadership at its best," Bloom said. ■



AT NJIT'S 104TH COMMENCEMENT, HELD VIRTUALLY, CLASS OF 2020 URGED TO MAKE AN IMPACT

"It is an unusual graduation, but what is extraordinary always is the work of this class," said U.S. Sen. Cory Booker HON '09, who began NJIT's 104th Commencement with a pre-ceremony heartfelt greeting thanking the university's 2020 graduates for their grit, hard work, sacrifice and struggle, and for epitomizing what "Jersey Strong" is all about. The senator's message of congratulations was one of many during the June 12 ceremony, held virtually this year as the world continues to face disruption and devastation caused by the coronavirus pandemic.

Sen. Booker shared a meaningful story with the 2,931 graduates, one of NJIT's largest classes to date. In the aftermath of Superstorm Sandy, when he was then mayor of the city of Newark, he came upon a man on a hill amid downed live wires. The man, he said, had shown up with a floodlight to alert other people to the wires, many of whom he did not know. With this tale, the senator urged the graduates to bring love, kindness and decency into every decision they make. "Don't underestimate your power. Use it every day to make a difference in this

world that needs you so much."

All of the virtual Commencement speakers that followed echoed the senator's sentiments. NJIT President Joel S. Bloom said, "There is no question that we are living through one of the most difficult and uncertain times in our history," but that the graduates are cause for optimism as NJIT sends them "into a world that desperately needs them, maybe now more than ever."

He also noted their intelligence, inquisitiveness, determination, diversity, collaboration and bravery, and how many stepped up during this unprecedented time of COVID-19 by serving as EMTs, producing personal protective equipment, volunteering in hospitals and food kitchens, and more.

Undergraduate student speaker and Student Senate President Amanda Azer, who received her bachelor's in biology, started her message with a creative rap song. In addressing her fellow graduates, she commented, "Though we are unable to celebrate in the manner we had hoped for, we must remember that your accomplishment is one of great measures, and you are now the future of society."

Matthew Joseph Moye, graduate student speaker and a Ph.D. recipient in mathematical sciences, noted, "We are graduating during a truly challenging time. In the years to come, we can reflect on the adversity we've had to face, both personal and as a community, and recognize how we embodied the strength needed to overcome it, aided through the lessons and experiences we've shared at NJIT."

Four honorary degrees were presented by Stephen P. DePalma '72, outgoing NJIT board of trustees chair. Vincent L. DeCaprio '72, president and CEO (retired) of Vyteris, Inc., and past vice chair of NJIT's board of trustees, and M. Stanley Whittingham, distinguished professor at Binghamton University's Department of Chemistry and Materials Science and Engineering, and the 2019 Nobel Prize in chemistry recipient for developing the lithium-ion battery, each received an honorary Doctor of Science.

Steven B. Kalafer, chair and CEO of Flemington Car & Truck Country, owner and chair emeritus of the Somerset Patriots and member of NJIT's board of overseers, and Sheila Y. Oliver, lieutenant governor of New Jersey, were recipients of honorary Doctor of Humane Letters degrees.

Oliver also delivered the Commencement address, during which she celebrated the graduates for their fortitude. A longtime advocate of the university, she remarked, "We know the success and value of this institution is not only measured in numbers, statistics or rankings. It is first and foremost measured by your success, and your future is bright because you have been very well prepared."

"While we cannot physically be together, we are certainly in this together. We are one New Jersey family."

Degrees later conferred, the ceremony ended with graduates declaring, "We hope that you are ready for us!"

The world awaits them. ■



NJIT JOINS THE AMERICA EAST CONFERENCE

Effective July 1, 2020, NJIT became the 10th full member institution of the America East Conference. The current members of the conference are State University of New York at Albany, Binghamton University, University of Hartford, University of Maine, University of Maryland, Baltimore County, University of Massachusetts Lowell, University of New Hampshire, Stony Brook University and University of Vermont. The Highlanders are the first addition to the America East Conference since UMass Lowell joined in 2013.

“We are thrilled to welcome NJIT as America East’s 10th member institution,” said Amy Huchthausen, commissioner

of the America East Conference. “They will be a great addition to our league and strengthen the academic and athletic profile of our conference.”

“We are very excited to begin this next chapter of NJIT athletics as a member of the America East Conference,” said Associate Vice President/Director of Athletics Lenny Kaplan. “Since the beginning of our Division I journey 15 years ago, the goal has always been to be in a regional conference and aligned with like-minded institutions. The America East provides us with an exceptional opportunity, and we are happy to call the America East our new athletics home.”

NJIT will compete for the America East Championships in a total of 14 sports, including baseball, men’s and women’s

basketball, men’s and women’s cross country, men’s lacrosse, men’s and women’s soccer, men’s and women’s indoor and outdoor track and field, men’s swimming and diving, and women’s volleyball.

The Highlanders depart the ASUN Conference after five seasons as a member (first season 2015-16), which marked the first time that they had been a full member of an automatic qualifying NCAA Division I multisport conference. The efforts of the NJIT administration and the Highlanders athletics department and coaching staff have paid off, as the Highlanders have achieved national, regional and local recognition for their accomplishments on the playing field, including honors, titles and awards earned as a member of the ASUN Conference. ■



NJIT’S ALVARO GIMENO REPRESENTED SPANISH NATIONAL VOLLEYBALL TEAM

NJIT men’s volleyball rising senior Alvaro Gimeno represented the Spanish National Team for the third straight summer. The team competed from Aug. 30 to Sept. 6 in Cyprus, with the qualifier games consisting of three days of games, two days of rest and three more games against Cyprus, Moldavia and Latvia. The champion, Latvia, now qualifies for 2021 EuroVolley.

Gimeno, one of the youngest players on the 22-person Spanish roster, competed with the U20 Spain National Team at the 2019 CEV European Golden League and 2018 CEV U20 Volleyball European Championships.


The 6-foot-9-inch outside hitter, who was selected to the 2020 American Volleyball Coaches Association men’s Division I-II All-America second-team and named Uvaldo Acosta Memorial Co-Player of the Year, led the Highlanders in three categories: kills (174; 3.62 kills per set; 20th in the nation), service aces (25; 0.52 aces per set; 9th in the nation) and digs (74; 1.54 digs per set).

An Eastern Intercollegiate Volleyball Association first-team honoree, Gimeno’s .353 hitting percentage ranked 23rd in the nation. He reached double-digit kills in 12 out of 14 matches this season, including a career-best 26 kills at George Mason (2.21). The 26 kills tied for second in the nation in a four-set match.

Gimeno posted four service aces in a pair of matches, at Lindenwood (1.18) and at George Mason (2.21), season-best eight digs in three matches and six total blocks (all assists) at McKendree (1.17). ■



NJ Consortium Develops Mobile Medical Unit to Address Health Facility Shortage



A prototype of the mobile medical care unit developed by a New Jersey-based consortium to deploy to areas in need of health care infrastructure.

In response to the extreme challenges to clinical capacity posed by the COVID-19 pandemic, three New Jersey institutions — NJIT, University Hospital in Newark and The Tuchman Foundation — are collaborating in a unique partnership on the development of modular, mobile medical care facilities to be deployed to areas of surging disease outbreaks and other disasters, as well as to regions that lack health care infrastructure.



The modules, constructed in Woodbridge, N.J., are fabricated from 40-foot-long repurposed shipping containers. They were tested in July for their effectiveness as triage centers in a series of staged patient-care simulations conducted by medical personnel at University Hospital.

The units include customizable internal environments that can be configured for various medical needs, including clinical point-of-care services and the testing and treatment of communicable and noncommunicable diseases. They are easily transportable for rapid deployment and can be staged horizontally to create larger clinical field operations sites with effective patient separation and management.

“This pandemic has challenged emergency health care systems and patient management capacity globally. But it has also emphasized the critical importance of distributed health care facilities in resource-constrained environments in both urban and rural areas,” said Atam Dhawan, senior vice provost for research at NJIT. “The mobile medical care units we’re developing can be reconfigured and adapted to deliver a variety of medical needs to augment facilities at hospitals and nursing homes. They can also function independently in communities lacking these facilities.”

As shipping containers, they can be deployed rapidly and redeployed regionally, nationally and internationally within existing commercial intermodal networks.

“All of these units are standard and can be moved to a particular area when there is an urgent need. They can be sent to any place in the United States, Canada and Mexico in a matter of days,” noted Martin Tuchman ‘62,

CEO of the Tuchman Group, chairman of The Tuchman Foundation and alumnus of NJIT’s Newark College of Engineering. “For example, in areas where the hospital system is overwhelmed, rather than shipping patients out of the affected area, we can ship containers into the area to meet the needs of the patient population.”

The partners are contributing their respective expertise in these areas:

NJIT provides architectural design, management and technological know-how. Julio Garcia Figueroa, an architect and university lecturer in NJIT’s Hillier College of Architecture and Design, is the principal designer. Officials at NJIT’s Martin Tuchman School of Management are overseeing project management.

University Hospital, the state’s only public hospital and Northern New Jersey’s only Level-1 trauma center, is the consortium’s medical partner. The hospital is responsible for, among other aspects, input and feedback on the units’ internal configurations, clinical use and regulatory requirements. The clinical team running the simulations — physicians, nurses, technicians and infrastructure support personnel — is assessing the efficacy of workflows in the modules in order to continuously refine them.

The Kingston, N.J.-based Tuchman Foundation, established by Martin Tuchman, supplies his company’s deep experience in shipping and logistics. The foundation, a nonprofit corporation that supports research on health care, including diseases and cures, provided initial funding to develop the prototype.

“The COVID-19 public health emergency has impacted every facet of our lives. But one

of the bright spots has been the innovation it has sparked between the hospital and partners like NJIT,” said Shereef Elnahan, president and CEO of University Hospital. “The work between University Hospital and NJIT and The Tuchman Foundation exemplifies a new era for the hospital, which now promises to be a bright spot for innovation in New Jersey. Together, we will help everyone be better prepared for whatever challenges come next.”

“As one of the states hit hardest by this public health crisis, we must ensure we are doing all we can to protect the health and safety of each and every New Jersey. Tackling this pandemic demands an all-hands-on-deck approach, and innovative projects through strategic partnerships like this one are key to providing our health care professionals with the resources and capacity they need while better preparing us for the future,” said U.S. Senator Cory Booker, who inspected the medical unit this past summer.

The prototype was constructed by Woodbridge, N.J.-based Integrated Industries Corp, a company that provides intermodal services including container and chassis modification, fabrication and storage services. The two demonstration units tested at University Hospital in July were staged one in front of the other with a central corridor connecting them, and included a registration/triage area, a patient waiting room and two testing and examination rooms.

The group’s phase-1 prototype focuses on simple health care provisioning, including initial COVID-19 point-of-care examination and testing. A potential phase-2 model would address increased health

care complexity with an airborne infection isolation room required to treat and manage critical patients.

“If we’re able to scale up our model — that is, quickly transforming the same containers for use from testing centers to mobile field units capable of housing critically ill patients who have contracted infectious diseases — we will need to develop something highly adaptable and flexible. Some areas may lack ICU beds, others testing and triage centers,” said Steven Rubin, the project manager and an adviser to The Tuchman Foundation who has worked in the intermodal and container shipping logistics sectors for three decades and is a member of the board of advisers of the Martin Tuchman School of Management.

Garcia Figueroa designed the initial units to create a workflow around patients who had potentially been exposed but displayed no symptoms, by creating enough space throughout them to safely admit, test and examine patients.

“We’ll test the value of the box’s modularity, with the idea of potentially scaling it up vertically or horizontally, to accommodate dozens of beds if needed,” he said.

The prototype’s designers worked closely with Tomas Gregorio, chief innovation and technology officer at University Hospital, as well as with a group of emergency physicians, nurses and hospital operations experts. The team members contributed their experience in managing COVID-19 patients at the hospital and in additional tented structures set up on the facility’s grounds to

manage patient overflow during the height of the pandemic surge in the New York-New Jersey region.

“Managing the COVID pandemic was challenging because of the clinical needs of these patients and the unique infection control requirements that posed. We had to isolate patients on a greater scale than ever before. At the peak of the surge, almost every patient in the emergency department needed to be distanced from other patients or placed in a negative pressure isolation room,” said Jonathan Green, executive director of University Hospital’s emergency department.

“By rapidly expanding our space with the tents, we were able to take patients who were not very sick out of the hospital, including lower-severity COVID patients, and keep them away from the flow inside the ED [Emergency Department],” said Lewis Nelson, chief of service of University Hospital’s emergency department and chair of emergency medicine at Rutgers New Jersey Medical School. “By expanding our capacity to rapidly and safely manage the very ill patients in the main ED, we surely saved lives.”

In light of these experiences, the University Hospital team said it viewed the mobile units as potentially useful screening rooms to fast-track care for patients needing moderate levels of medical attention. Their ability to withstand extreme weather, such as high winds, and to control the temperature inside them, would also be an advantage, it said.

“COVID-19 has created unprecedented challenges to our medical infrastructure.

Upper left: NJIT President Joel S. Bloom (left) and U.S. Senator Cory Booker (right) talking about the need for innovation and collaboration at the July unveiling of a New Jersey consortium’s mobile medical care unit (center). Earlier in the week, the prototype, fashioned from two repurposed shipping containers, was tested for its effectiveness as a triage center in a series of staged patient-care simulations conducted by medical personnel at University Hospital in Newark.

Below: U.S. Senator Cory Booker (fifth from left) joins members of the New Jersey consortium that developed a mobile medical care unit, including NJIT, University Hospital in Newark and The Tuchman Foundation, a nonprofit corporation that provided initial funding to develop the prototype.


The clinical needs of COVID-19 patients, and the isolation requirements necessary to protect our staff and other patients, required a brand new approach,” said Maureen Gang, M.D., vice chair of quality and patient safety for University Hospital’s emergency department, and professor of emergency medicine for Rutgers New Jersey Medical School. “This spring, we were able to rapidly expand our emergency department testing capacity for patients with possible COVID-19 by using tents adjacent to our ED. This project will provide an even better solution, with built-in medical capabilities and the ability to withstand inclement weather and storm conditions, that can be quickly deployed to COVID-19 hotspots or used for other emergencies.”

Author: Tracey L. Regan is an NJIT Magazine contributing writer.





NJIT Appoints Kamalika Sandell as Vice Provost and Chief Information Officer



Kamalika Sandell, who started earlier this summer as NJIT's chief information officer and vice provost, is settling into her role and looking to make a positive impact. Sandell was previously deputy CIO at American University. She's worked in the information technology field since the 1990s, spent time in the corporate world, earned a master's in organizational development and speaks three languages.

"Even pre-pandemic, higher education was going through a full-scale transformation," Sandell observed. "We know that today's students want choices — they want to choose the modality for learning, the courses, they want to balance learning, research and hand-on experience, they want a campus with choices that enables them to engage and explore at their pace and time. ... They want to be the architects of their own experience.

"When you translate this into architecting enterprise services that can support them, we need to build these services in a completely different way than how they had been built during the early 2000s. The same applies to learning and research from a faculty point of view. We want to incorporate research involving massive simulations and research involving data science and artificial intelligence," she continued. "It's the art and science of building enterprise-level services that are differentiated, specialized, scalable, apply broadly and incorporate specific choices, but integrate without friction and are smart enough to continue evolving without massive application changes.

"I like building scalable services, and I like building teams who are empowered to explore and innovate as the needs of the institution changes," Sandell added. "I was looking for a challenge, a place that is bold and ambitious with its vision and not afraid to support transformation. Transformation comes with a level of risk-taking, not limiting ourselves to model things the way they were modeled 10 years back, but to model things anticipating what lies ahead."

Sandell said the information services and technology department has an opportunity to serve as solutions architects. In IT-jargon, that means acting as strategic partners who strive to understand problems and explore solutions that add technology as a key anchor, sometimes changing the way things had been working in the past, in order to bring in the level of transformation that is needed.

"The fundamental underpinnings of a great group are already there, but the strategies we are using are extensions of the same strategies that were there in 2000-2010. Those don't scale in their current form, not anymore," she said.

An example is the university's high-performance computing systems for researchers. Such systems tend to be designed for horsepower but aren't always exactly what researchers need — they can be dragsters designed for top speed in a straight line, where a Formula 1 car designed to be nimble on tight turns is a better choice.

"What we don't want to do is to get in the way of innovation," Sandell said, balanced against concerns such as security, risks, resources and budgets.

Sandell first used Unix workstations in college. Her first work was IT support for a local police station in India, arranged by her grandfather. She entered a computer engineering program and was one of only three women in a class of 32 students.

That left a lasting impression. "When I talk to elementary and middle-school aged kids, I always remind them that computing is not necessarily for the guys and the geeks," Sandell said. "If you want these apps to suit

your tastes and your needs, then you should probably be part of making it come to life.

"We need diversity in every possible way. Information technology is a broad profession but sometimes to young minds it gets very narrow — they say, 'I have to write code,'" she noted.

Sandell emphasized that plenty of important jobs in STEM fields do not require coding, but simply a technical aptitude and curious mind. "I love learning programming languages and new platforms. Every time I learn something new, it's like flexing a different muscle. I don't have a favorite — I'm just glad this field allows us to learn something new constantly."

Sandell regularly coaches girls to consider technology careers and said she's pleased to learn about the efforts of Ying Wu College of Computing Associate Dean James Geller to recruit and retain female students, as part of a \$520,000 grant through Northeastern University.

Her predecessor, Gregg Chottiner, oversaw the addition of universitywide cybersecurity training, an increased move to cloud-based services, and greater cooperation with campus departments in selecting systems. He also moved the university to develop capital budgets plans for technology.

Now, Sandell said, it's time to build on existing work and initiate data and enterprise services that offer differentiation and personalization, and leverage public and private partnerships.

Author: Evan Koblentz is an NJIT Magazine contributing writer.

Highlander Grads Soar

When the United States went into lockdown in March to stem the coronavirus pandemic, NJIT moved swiftly to remote instruction, to both ensure the safety of all the university's community members and continue the higher education experience expected by its students with the least disruption possible. Perhaps most affected was the senior class, which balanced finishing coursework with finding jobs. As anticipated, NJIT's most recent graduates persevered and prospered, landing positions at many notable companies and pursuing advanced degrees in a range of disciplines. Here, we feature just a handful of the Highlander graduates* who have made NJIT proud, and take a glance at the newest members of the NJIT community — the Class of 2024.



CHARLES AURIEMMA '20

From Martin Tuchman School of Management to American Express

For the latter half of 2019, Charles Auriemma was working double-time — spending 9 a.m. to 5 p.m. as an audit analyst for Fidelity Investments in Jersey City, and evenings completing his degree in financial technology at NJIT's Martin Tuchman School of Management (MTSM), through a full and final semester of both online and on-campus classes. He didn't get many zzz's.

"Yes, [I was] very tired," he said with a laugh. But, "I got lots of sleep in January."

Fidelity was one of three job offers Auriemma received many months before he graduated early in December 2019. The others were audit positions from Guggenheim Partners, where he interned, and Interactive Brokers.

This past January, he received a fourth, from American Express. Auriemma was on a well-earned vacation in Cancun when a rep from the global company's human resources department found him through LinkedIn and reached out. A phone interview and an in-person meeting one week later were followed immediately by an offer to be a senior audit analyst, two rungs up from his

position at Fidelity and with a 20% higher base salary.

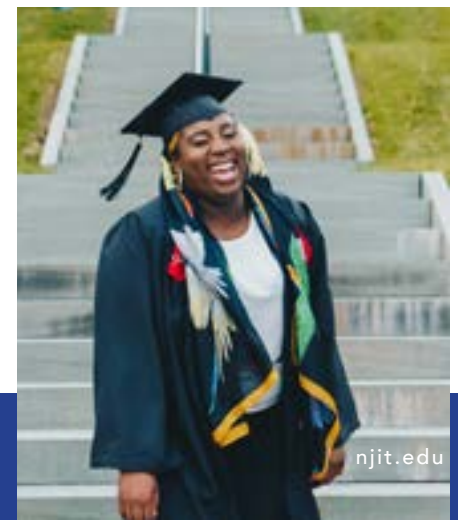
Auriemma is on the professional practices team in the internal audit group. "We support the audit function as a whole. So I personally manage the governance risk and controls platform, which is what they use to input all of our audits so we can have historical data," the Hopatcong, N.J., native explained. He also serves as a liaison between the data analytics and business people to facilitate continuous monitoring of controls within the business units.

RUKAYAT BALOGUN '19

From Newark College of Engineering to Facebook

Since the end of March, Rukayat Balogun has been working for Facebook as a site logistics analyst, overseeing staff that maintain the servers and the facility, and ensuring compliance with industry standards.

Logistics and leadership have become the December 2019 industrial engineering graduate's strong suits. She left her full-time job as a data analyst (that began as a part-time internship) at the National Action Council for Minorities in Engineering to



* Professional status as of September 2020

Despite Turbulent Times

start at Facebook. Her work there entailed updating and cleaning the data on the organization's scholarship recipients, as well as streamlining the process to access it.

She also stepped away from another role: national vice chairperson of the National Society of Black Engineers (NSBE), after a year of service. Balogun was active in the organization while an undergrad as well. It was through NSBE conventions and career fairs that Balogun, who grew up in East Orange, N.J., landed an internship with Otis Elevator Company and co-ops with Johnson & Johnson during her years at NJIT.

How does she think her experiences underscore the progress women have made in STEM? She chalks it up a lot in her case to exposure.

"Being exposed to STEM and engineering gave me the idea that I could do it. Being exposed [to] leadership let me know that I could go very far in this leadership position [at NSBE]. Being exposed to corporate America and exposed to the duties of what an actual practicing engineer can do let me know that, OK, well you're in the right major and you're capable of doing anything."

YOULIANA ELKOMOS '20

From Hillier College of Architecture and Design to Design Resources Group

Youliana Elkomos completed her five-year B.Arch. a semester early in January 2020 while also interning for Design Resources Group (DRG) in Somerset, N.J. DRG has the New York School Construction Authority and the New Jersey public schools on its client list.

"While I was an intern at DRG, we worked mainly on New York public schools doing things like 3D-modeling existing buildings for new renovations and additions,



site and zone analysis and carrying out the design proposal in plans, sections and renderings. With that came technical work such as processing submittals, shop drawings and product data," said Elkomos.

In the spring, projects were being put on hold due to the pandemic and Elkomos found herself on furlough. Speaking of her classmates and peers she said, "Among the group of us, about half kept our jobs. Many of the rest of us decided to go back to school. I started doing freelance graphic design projects by sharing my work via social media and building up some clientele like that. Now I have just started back in the Master of Infrastructure Planning program at Hillier College."

Elkomos added, "The market will open again, and many more architects will be needed to handle the changes in our lifestyles. We are going to have to rewire the way we think and the way we design."

DAVID MICHAELSON '20

From Ying Wu College of Computing to Google

David Michaelson is the latest Ying Wu College of Computing graduate to enter Google's software engineering residency program. Michaelson finished his computer science degree in May with plenty of experience. Besides studying, he worked 20 hours per week for several semesters starting in 2018 as an applications development intern at Broadridge Financial Solutions.

The resident of Lawrence Township is a nerd's nerd — "I really do like DevOps," he said, using the trendy industry term for a converged philosophy of software development and information technology operations. "A lot of operations, automation and that kind of stuff. I'm really open-ended."

By working at Google, in New York, he'll have gotten two months of training followed by rotations to work on different projects. However, he said, sometimes there is an excellent match and a project group keeps the resident full time. Overall, he explained, "This is a yearlong program where they will look to convert you to a permanent employee."

Asked which Google product team he would most like to join, Michaelson said he's happy to be there but could not hide his passion for two applications in particular.

"This is my dream job. I'm not going to lie," he said. "I'm a huge geography nerd ... so Google Maps, Google Earth, you'll just find me looking around randomly."



SCHOOL DAYS

These Albert Dorman Honors College graduates are continuing their education.

- Biology graduate **CHLOE JELLEY '20** worked as an understudy to evolutionary biologist and ant expert Phil Barden at NJIT's Department of Biological Sciences. Now she is attending Cornell University, where she was accepted into the Ph.D. entomology program with Cornell fellowship funding to continue researching the evolution and ecology of ants.
- Under Vivek Kumar, director of the Biomaterial Drug Development, Discovery and Delivery Laboratory, **SOOJIN KIM '20** worked on a hydrogel therapy to block formation of aberrant blood vessels in the eyes of diabetes patients. This fall, she headed to Rowan University's Cooper Medical School with plans to specialize in trauma or urgent care.
- Working with astrophysicists at the American Museum of Natural History, **SAMANTHA LOMUSCIO '20** conducted high-energy astrophysics research to detect Jupiter through gamma-ray emissions. Today she is at the University of Virginia pursuing a Ph.D. in astronomy.
- Chemistry graduate **MARY MCGUINNESS '20** is continuing her academic career as a master's student at the University of Connecticut studying oceanography.
- For his senior capstone project, civil engineering graduate **NIYAM SHAH '20** and his teammates designed a 40-story commercial tower for an empty lot in Manhattan. He hopes to make a career of building "very tall" steel buildings, and is at the University of Texas at Austin pursuing a master's in structural engineering.
- With her biology degree, **SRAVYA VEGUNTA '20** is now studying at New Jersey Medical School, as part of Albert Dorman Honors College's seven-year, accelerated B.S./M.D. program. She aspires to deliver direct patient care, conduct clinical research and, down the road, engage with Doctors Without Borders and the World Health Organization.



DARIUS SINGLETARY '20
From College of Science and Liberal Arts to the Police Force

Darius Singletary went beyond the call of duty in his five years at NJIT. By day, Singletary had been a hard-working college student in the Law, Technology and Culture (LTC) program at NJIT. By night, he was and continues to be a full-time active police officer for the town he grew up in, with the Rahway Police Department.

Not all officers that complete the civil service exam after earning their high school degree — core requirements for entry into police academy training — will share the

academic background in law that Singletary walked away with this past May. Singletary says he wanted to do whatever he could do to improve himself as an officer of the law and better protect and serve his community.

He saw the LTC program — which covers coursework in everything from "Constitutional Issues in Criminal Justice" to "Digital Crime" — as a way to do that.

"I really focused on the criminal justice side of the LTC program," said Singletary. "I was attracted to the program because I already was interested in pursuing a career in law enforcement, and I knew having a background in law would help."

"My future plans are to continue to be a police officer and climb the ranks to one day become the chief of police," said Singletary. "And at NJIT, I learned when you put in hard work and sacrifice, you will see your goals achieved."

NJIT First-Year Class 2020

1292

average overall
SAT score

3.63

average
GPA

1,241 students emerged

from more than **10,299** applicants

7

high school
valedictorians
10 salutatorians

Albert Dorman
Honors College
Students

1502

average overall SAT score

3.89

average GPA

139

incoming students

23

states and

18

countries
represented

NJIT

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MAL & FRIENDS

NJIT Magazine invites new correspondents to join Mal Simon in sharing news about class members and alumni organizations. Professor emeritus of physical education and athletics, Mal was director of physical education and athletics, and men's soccer coach, for 30 years. In 1993, he received the Cullimore Medal for his service to the university.

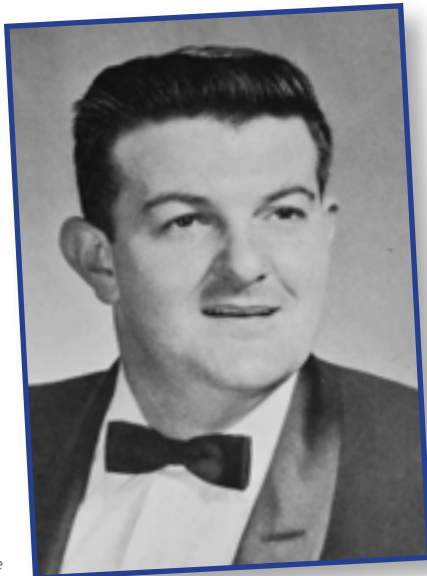
If you would like to be a regular correspondent, don't hesitate to send an email to the editor of **NJIT Magazine**: julie.w.jacobs@njit.edu

First, the latest news from Mal –

On June 5, 1960, a memorable event took place as the first honorary degrees were awarded to 99 spouses of the Class of 1960 graduating seniors. Class President Michael Cafone, Phil Bloom and George Tikjian organized the affair and Bernard Finver gave an inspirational tribute celebrating these spouses. The Class of 1960 was comprised of military veterans and students who attended evening classes. One day Mike and some other veterans were discussing what they could do to let their spouses know how much they appreciated the support they provided for so many years. They came up with the idea of awarding them a degree similar to the degrees awarded to the college's students. NCE President Robert Van Houten gave his hearty approval to the idea.

MICHAEL JOHN CAFONE

'60 BSME was junior and senior class president and a member of the varsity basketball team. He joined the United States Navy after high school and served four years at the Pomona Naval Station in New Jersey where he met his wife, Lois Blanche, who was also serving



Michael John Cafone

in the Navy as an R.N. WAVE (Women Accepted for Volunteer Emergency Service). They left the service together after four years when Mike entered Newark College of Engineering. Mike and Lois had three children — Marie, Marlene and Michael — during his college days. Their first child was born at St. Michael's Hospital while Mike was in chemistry class virtually next door. All together they had six children, all with M as the first letter in their first names; the additional three were named Max, Marjory and Matthew. Mike worked for PSE&G until his retirement in 1980. Lois died after his retirement. He remarried two years later to Ann Marie, a friend whose husband had also passed away. Sadly, Ann Marie died two years

ago. During his 33 years of work at PSE&G, plus his years working in the construction companies of his father and son, Mike learned all there was to know about the building trade. He and his son have built their own homes and renovated many homes in Ship Bottom, N.J.

I contacted **BERNARD FINVER** '60 BSME and his wife, Agnes, and asked about their days at NCE while married and what he said in



Bernard and Agnes Finver

his honorary-degree tribute. He sent me the following story that he titled "A Call from Mal Simon."

"Recently I received a telephone call from Mal Simon. Wow! What a surprise. He drew me back 60+ years to my undergraduate days at NCE. I remember Mal, the phys ed instructor, who all too often disrupted our strenuous study activities. Phys ed was a requirement but we all liked Mal as he made a necessity fun. We students got up early five days a week, traveled to Newark, attended eight hours of class time or hung around our frat house (Alpha Sigma Mu, the veterans fraternity) for a couple of hours to take advantage of well-prepared files or contribute to them, and then traveled home to spend another three to five hours on homework and study (weekends and holidays were no exception).

I was an aerospace engineer for most of the '60s, working for Curtiss-Wright and Hughes Aerospace. Through the '70s and '80s and early part of the '90s, I ran my

own businesses manufacturing, importing and distributing ophthalmic products. During this time, I got involved with computers. By the mid-'90s I became quite proficient in both software development and hardware systems and began migrating to larger corporations as a consultant software developer. From 1994 through 2010, I was active in software systems development for such clients as AT&T, Price Waterhouse Coopers, Ernst & Young and Goldman Sachs. Toward the end of my career, I did technical recruiting mostly for Ernst & Young. At age 77, it was time to quit and at age 78, Agnes and I moved to Boynton Beach, Fla. Now my hobby is photography.

I recall delivering an essay at the honorary-degree ceremony that recognized our spouses' unwavering support, as we were consumed by our curriculum and its long hours with no time for our family."

GEORGE TIKIJIAN '60 BSEE opened his tribute with how he first got together with Nancy Magnus, who was the ultimate honorary-degree recipient. He follows with a delightful tale that the legendary Doc Estrin would have graded an A+. It is somewhat lengthy so I had to edit and save the second part for the magazine's next edition. Here George tells the first part of the Tikijian love story.

"One Friday night a couple of buddies and I decided to crash an all-girls party we knew of. There in the rec room of a friend was Nancy Magnus. She was in plaid Bermuda shorts with a white blouse, penny loafers and bobby sox. The sight of her caused my brain to scream WOW! I decided then and there that Nancy was going to be my date at the Senior Prom and on as many other occasions as possible.

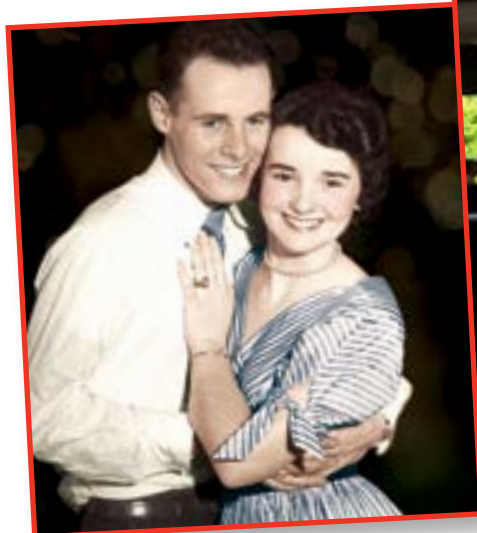


George and Nancy Tikijian

One might consider the deal I made with my mother to enroll at NCE frivolous. She had saved enough for me to go to any college who accepted me, but since NCE was unbelievably inexpensive, mom could redo her kitchen as well as buy me a new car. The deal was made; she got the kitchen and I went to NCE with a brand-new '56 blue and cream Chevy Impala hardtop. On our first day at NCE, incoming freshmen were directed to the gym for orientation. We were given that old 'look to the left and look to the right, that person won't be here when you graduate.' The other thing I remember was a brief talk about physical education from none other than Mal Simon!

I persevered at NCE and with Nancy. We were married in August 1958 and I continued full time at NCE while Nancy supported us. Our story now

Joseph and Patricia Barry, then and now.



fast-forwards to June 1960. As it turned out, we had four graduation ceremonies of sorts. First was the AFROTC President's review. I received the AFROTC medal for best academic performance by an EE cadet. Next was the commissioning ceremony where I was sworn in as a second lieutenant in the United States Air Force. After that was NCE's commencement where I received my BSEE. And finally, the ceremony where Nancy received recognition for working to support me and our children while I spent my time learning the mysteries of the 'electronic black box.' So here we are today, with a few stops along the way, 82 years old, living in Zionsville, Ind."

JOSEPH P. BARRY '60 BSME started at NCE in 1949. He spent two years in the Army from 1953 to 1955 during the Korean War, after which he returned to NCE at night. Joe's wife, Patricia, received an Honorary Degree Summa Cum Laude. She was one of the four spouses



of graduates who had four children. Their family continued to grow and now numbers eight children, 26 grandchildren and 15 great-grandchildren. Their son Joe graduated from NJIT in 1980 with a BSCE.

Patricia was born in the Bronx in 1932 and moved with her family to the Vailsburg section of Newark in 1940. She attended Saint Vincent Academy in Newark and this proved providential as she met Joe at the famous NCE Dance Club attended by girls from Saint Vincent and other schools in the area. When Joe met Patricia it was a case of “love at first sight” because after the dance Joe told a classmate, Bob, he was going to marry Patricia. After 64 years of a “blessed marriage,” Patricia died in 2019.

During college, Joe worked as a junior underwriter for Glens Falls Insurance in Newark, lab technician for General Electric in Bloomfield, N.J., and assistant to the plant engineer at Maas & Waldstein Co. in Newark. He joined McNeil Construction Co. in 1959, starting as salesman and completing his career there as president. In 1989 he became township administrator of Bloomfield, retiring in 1995.

A lifelong resident of Bloomfield, Joe served as councilman for 19 years. He was involved in numerous public and church activities, including The United Way of Bloomfield, Essex County Heart Association, The Historical Association of Bloomfield, Lions Club, The American Legion, The Knights of Columbus and the Parish Council of Sacred Heart Church. He is a life member of NSPE.

He is perhaps best known in Essex County for his work with Project Children, a nonprofit organization that

brought out children from troubled Northern Ireland for six-week vacations every summer. He was Bloomfield area coordinator and New Jersey state coordinator. The project has given over 20,000 children, both Catholic and Protestant, a peaceful summer respite.

PAUL W. KLEIN '64 BSChE wrote that his late wife, Rhea, who earned B.A. and M.A. degrees in business education at Montclair State University and the



Paul and Rhea Klein

University of Cincinnati, respectively, was also proud of her honorary diploma presented by NCE when Paul finally finished his degree after a “lifetime” of night school.

I recall chatting with Paul at an alumni reception three years ago. Among other things, we spoke about the inability of Rhea and Paul to take part in on-campus activities as a night student and how important the friendships were that he and Rhea had with other couples going through the same adventure. They tried to normalize a social life by spending some weekend dates with other couples from Paul’s class section. Rhea got to know the other spouses quite well and when they all received their honorary degrees at the same ceremony, it was a great occasion and meaningful to all.

Rhea and Paul moved to Cincinnati in 1976 and then to Sarasota, Fla., in 2004; Rhea had been suffering with early onset Alzheimer’s since 1996. After more than three decades at Sun Chemical, Paul took early retirement to allow him to stay at home as her primary caregiver. She passed away in April 2009, after spending the previous four years in an assisted living facility. Paul is still active with NJIT’s Florida Gulf Coast Alumni Chapter.

Stay tuned for the next issue of *NJIT Magazine* where, as Paul Harvey was famous for saying, will be “the rest of the story.” We’ll tell you about George Tikijian’s AFROTC and U.S. Air Force career and his career at Union Carbide, and you’ll find out if you had George for a TA or instructor in electrical engineering. Also included in the next edition will be greetings from your Latvian goalie, Peteris Jansons ’67 BSEE, and a story from Jim Morgan ’56 BSEE ’64 MSMgt about Holger Jensen ’56 BSEE and his unique way of remembering the annual Pi Day, as well as stories from other alumni.

“The leaders of tomorrow are counting on us.”



Marjorie
A. Perry '05
(right) with
NJIT mentee,
Rashmi
Kamkeri '18.

MARJORIE A. PERRY '05 OWNS HER LEGACY

“OWN YOUR GREATNESS. OWN YOUR POWER.” That’s what Marjorie A. Perry ‘05, chair of the NJIT Board of Overseers, tells the young people who come to her seeking advice.

Thinking big extends to Marjorie’s philanthropy as well. When she considered what she wanted to accomplish by giving to NJIT, she wanted it to be special. “NJIT helped me build the economic strength to do something that would make people take notice,” she says.

With the naming of the Marjorie A. Perry Theatre in the university’s Wellness and Events Center, Marjorie achieved her vision. “It is so wonderful to see my name displayed in a place where students go to cultivate their minds. I want them to ask who I am, and to find inspiration in my story,” she remarks.

Marjorie has ensured the longevity of her gift by including NJIT in her will, thus becoming a member of the 1881 Society. Her bequest will create an endowed fund to provide funding for the Perry Theatre and for the leadership-focused programs that will be presented there.

Marjorie is eager to inspire others to join her in building something great. “Education makes a difference,” she says. “Let’s see to it that every student who wants to go to college can afford to do so. They need us now more than ever.”

To learn more about Marjorie’s life and her legacy at NJIT, please visit [1881 Society Legacy Stories — Marjorie Perry](#)

For further information on the 1881 Society or to discuss leaving a legacy at NJIT through a planned gift, please contact:

Beth S. Kornstein
Associate Vice President, Planned Giving
973-596-8548
elizabeth.s.kornstein@njit.edu • njit.giftplans.org

Your legacy begins today.



Tech-Savvy Judge Helps Usher in COVID-Era Virtual Courtrooms: **SOHAIL MOHAMMED '88**



On March 15, Chief Justice Stuart Rabner suspended in-person proceedings in New Jersey Superior Court, giving the judiciary two days to prepare for virtual courtrooms. By that afternoon, Passaic County Superior Court Judge Sohail Mohammed '88, a former electrical engineer and technology enthusiast, had already established one in the basement of his house.

His real work began the next day, however. In Zoom conferences with about 150 people, Mohammed began instructing fellow judges, law clerks and attorneys on the mechanics of conducting cases remotely by phone, tablet and videoconference. He taught them how to hold proceedings such as plea negotiations, hearings, oral arguments, sentencing and restraining orders; merge phone calls and join interpreters; send encrypted documents to protect medical and other personal records; and create virtual breakout rooms on Zoom that allow attorneys to confer privately with their clients one minute and the judge the next.

Within a couple of weeks, New Jersey had moved all court functions handled by the judiciary's nearly 10,000 employees across 600 facilities to remote operations. In one week alone, the system jumped

from 21 pre-COVID virtual courtrooms, which support first court appearance hearings for people over weekends, to 230 virtual courtrooms for routine court matters that are streamed live to the public. By the end of May, there were around 350.

Because of his technical savvy, Mohammed was asked by his assignment judge, Ernest Caposela, to help expedite the massive push. Over the course of three months, he instructed more than 2,500 people from around the state, from the Passaic County Bar Association in the early days, to the Bergen, Essex and state bars, to municipal court judges and attorneys.

At the height of the pandemic, with the exception of jury trials, New Jersey courts handled virtually all types of legal matters, from drug court hearings, to domestic violence cases, to adoptions. Seated at a desk in his basement with an image of his physical courtroom as background, Mohammed, a Criminal Court judge, was managing a full calendar of two to three dozen cases on his busiest days.

"There are truly emergent cases that can't wait, including children who are neglected or abused, people contending with domestic violence, tenants about to be evicted with nowhere to go and people in immediate need of medical treatment weighing decisions about whether to go on life support or not," Mohammed said.

He added, "But there are so many other cases I view as pressing. For example, a person has completed their

pre-trial intervention conditions, a program designed to keep low-level, typically first-time, offenders out of the system, and the case is supposed to be dismissed. Should he or she wait until I return to my physical courtroom to do it?"

Addressing a matrimonial lawyer's privacy concerns in a May training session, he noted that confidential meetings between lawyers and clients that take place in breakout rooms are not recorded.

Mohammed says he views virtual courtrooms as superior in some aspects. "I can create five private breakout rooms for discussions. We can always figure out the logistics."

He calls virtual courtrooms a normal progression for a tech-savvy society. In September, the Passaic vicinage became the first in the state to select a grand jury entirely virtually.

"A lot of procedures that can be done virtually will be. My vision is that as people become accustomed to the technology, a remote presence may become the norm for making arguments, filing motions, pleading to charges and downgrading charges and paying fines," he noted. "Because of the COVID-19 pandemic, the platforms are already there. So why should people have to take time off from work and spend several hours waiting for a simple matter to be heard?" ■

Author: Tracey L. Regan is an NJIT Magazine contributing writer.



Passaic County Superior Court Judge Sohail Mohammed '88, a former electrical engineer and technology enthusiast, establishes a virtual courtroom in the basement of his house.



Architecture Alumni Redesign Historic N.J. Church for New Harriet Tubman Museum

Cape May's new Harriet Tubman Museum, which is hosting virtual openings this year due to COVID-19 and plans to open conventionally in spring 2021, has a touch of Highlander inside.

The museum in June 2019 hired Fulcrum Design Group, owned by Hillier College of Architecture and Design alumni Paul and Cassandra (Alberto) Farnan — who both graduated with Bachelor of Architecture degrees in 2013 and married in 2018 — to plan and draw improvements to a 19th-century parish house formerly associated with the adjacent Macedonia Baptist Church.

Agreeing to help with the museum's architectural redesign on a volunteer basis was an easy decision for Paul, raised in Cape May, and Cassandra, whose great-great-grandfather was from Africa. They felt even stronger about it as the Black Lives Matter movement accelerated.

"Knowing the purpose of this [museum] program and what it was to be, that was enough for us," Paul said. "We participated in a Black Lives Matter march and vigil for George Floyd on June 6. ... It's important for us to keep that spirit alive down here. Some of the perception, and some of the thinking and ideology in South Jersey, is not necessarily in line with the rest of the state. That's what makes this all the more important."

"Taking that opportunity as a minority woman, I was compelled to help in any way possible for this project," Cassandra added.

The museum structure at 632 Lafayette Street was originally a private home built around 1800. The surrounding neighborhood blends several generations and functions. It thrived as a free Black

community throughout the 19th century. Tubman worked in local hotels as a summertime cook from 1850-1852. It's still debated by historians whether she also raised funds from vacationing Northern abolitionists and actively planned local stops on the Underground Railroad. Around the corner is the segregation-era Franklin Street School, built for African-American students in 1927, now slated for renovation as a library and community center. All around are modern homes, offices and stores.

While the building itself survived Cape May's revitalization period in the second half of the 20th century, its interior was gutted by a developer who once intended to purchase it. That gave the Farnans an opportunity to redesign it for the needs of a museum, rather than work around rooms intended for residential purposes. They added structural supports below the first floor, which will hold the weight of a 9-foot-tall, 2,400-pound Harriet Tubman statue called *The Journey to Freedom*. They also planned galleries and a two-story-tall exhibit area, along with conference space, while advising museum chairman Bob Mullock about changes to avoid in keeping true to the original building. Initial exhibits will focus on Tubman's life, slave artifacts from Africa and the Civil Rights era.

The museum, recently featured in *Smithsonian Magazine*, will also display a charcoal drawing of Tubman by Haitian-American artist Schuller Ojentis, of Maplewood, N.J., who died in 2018. He was an NJIT classmate and close friend of the Farnans.



Tubman museum main gallery.
Photo courtesy Michelle Giorla / CapeMay.com.

Top left: Hillier College alumni Paul and Cassandra (Alberto) Farnan

"He was one of the most positive people we knew. He would be ecstatic knowing that his artwork is in a museum, for sure, especially one like this. And I think during this time, socially, nationally, he would 100% be someone that was trying to bring people together. He was a friend to everyone," Paul said. Mullock agreed to display the piece on loan from the Ojentis family.

There are several other local preservation projects where the Farnans could assist, Mullock added. "I think they're the up-and-coming young architects in Cape May," he said. "They are a great team." ■

Author: Evan Koblentz is an NJIT Magazine contributing writer.

1950s

'53, M.S. '58 CHARLES E. WILSON was reappointed to the Environmental Assistance and Protection Board by the Forsyth County, N.C., Board of Commissioners.

1960s

'65 ROBERT A. MASON fondly recalls commuting daily from Harrison, working very hard in class and socializing at the Pi Kappa Phi fraternity. Robert feels that attending NJIT was the best decision he ever made!

'65 REGIS P. ZELENZ has obtained his pilot license. He took up flying after he retired, and found that golf was not as exciting. He has, in fact, flown into a golf course that has an airport, close to his home in Butter Valley, Pa.

1970s

'70 STANLEY H. LEIBOWITZ is president of his 896-unit condominium, and treasurer of his 2,536-unit recreation district in Sunrise, Fla.

'70, M.S. '74 HARRY T. ROMAN just published his 26th IEEE USA E-book dealing with management/leadership/process skills, and his eighth STEM book for teachers through ITEEA.

'76, M.S. '78 MATTHEW E. PERRY has retired from AT&T after 33 years of service. He has moved from Franklin Park, N.J., to Waxhaw, N.C., and now enjoys life with wife Alverta, two sons Matthew and Michael, and their families. Matthew enjoyed his time at NJIT, and his service on several NJIT community advisory boards.

'77 KENNETH M. COLAO'S company, CNY Group, won two "Best Project" awards from the *Engineering News-Record* magazine's 2020 New York Best Projects.

M.S. '77 CHARLES WASSER recently moved to San Antonio, Texas. He has been named chief of staff for Rotary District 5840 in South Central Texas.

'77, M.S. '92 RUSSELL C. PEPE has been teaching at NJIT as an adjunct professor since 1992, in the ECET and ECE departments. He enjoys educating future engineers.

'77 GEORGE R. OLSON just welcomed twin grandsons into the world, for a total of 10 grandchildren.

1980s

'80 DAVE WINDER welcomed his second grandchild, Scarlett, July 30. Scarlett's big sister, 2-year-old Maker, was his first grandchild. He is enjoying working from home.

'80, M.S. '81 WING KWOK MA welcomed his first grandchild in September.

'93, M.S. '80 THOMAS L. MANISCALCO is retired after 58 years of working as an engineer for private industry and the Department of Defense. He volunteers as a mentor/tutor at NJIT's Learning Center, and Rutgers' Department of Mechanical and Aerospace Engineering.

M.S. '81 JAYDEB K. KUNDU fondly recalls his time at NJIT. He is proud to have accomplished his lifelong dream of achieving an M.S.M.E. degree.

'82 STEVEN J. DIFLORA, after a 24-year career at Kallen & Lemelson LLP, Consulting Engineers, most recently as partner, has joined MG Engineering, DPC as senior executive director. He and his partner sold their firm to MG, which has allowed him to return to a hands-on engineering career. He is thankful for the exposure to the mechanical engineering education and the background that NJIT provided to him.

'83, M.S. '84, M.S. '87 ROBERT COHEN, chair of NJIT's board of trustees, was recently promoted to president, Digital, Robotics, and Enabling Technologies, at Stryker Corporation. He previously served as vice president and chief technology officer, Joint Replacement, since joining Stryker in 2013.

M.S. '83, M.S. '84 RAM MURTHY has joined an independent agency within Washington, D.C., serving as the director of IT. He recently spent 15 years with the federal government, and served as chief information officer for U.S. Railroad Retirement Board for seven years. Ram and his family have traveled to 50 countries (including Antarctica) and enjoyed meeting many friendly people despite differing political views. He most recently traveled around the world in 87 days on trains, buses and ships, and reached Antarctica from South America. He has been the recipient of several leadership awards, namely the Federal 100 in 2019, Computer World Premier 100 IT Leaders in 2007, GCN Technology Leadership Award in 2008 and CIO Decisions Leadership Award in 2007.

'83 KAMAL SHAHRABI was appointed the new president of Rochester Institute of Technology (RIT) – Kosovo. He has served as the dean of faculty since 2018, as an interim president since 2019, and assumed RIT Kosovo's top post July 1.

'85, M.S. '89 EDWIN S. SKROBACZ currently lives in Tampa, Fla., and has been married for 35 years with two children. He works as a supervising structural engineer. He maintains a PE in three states. He has worked in multiple offices for WSP for more than 30 years. He works in project management and developing plans, specifications, estimates and calculations for the design and rehabilitation of fixed and movable highway and railroad bridges, slabs, walls, culverts, sign structures, canopies, bearings and pilings, and airport structures throughout the country.

'85, M.S. '10, PH.D. '15 REGINA S. COLLINS was recently promoted to director in NJIT's Office of Institutional Effectiveness. She is thrilled to contribute to the university that has done so much for her.

'86 DEREK M. AZIZ enjoyed the many early career opportunities provided by NJIT, which put him on the track to success. He fondly recalls Professor Ed Dauenheimer, who recognized his potential, and provided him with a teaching assistant position. He landed his first job working with one of the most prominent construction management firms in the country with the help of NJIT's Career Development Services office.

'86 DENNIS R. MORRISON celebrates 30 years at Sun Chemical Corporation. He lives in Mt. Pleasant, S.C. He and his wife, Janice, also celebrate 32 years of marriage. Their three children, Patrick, Kyle and Casey, have successfully launched the early stages of their professional careers. Patrick and his wife Brittney have two beautiful sons, Nolan and Colin.

'88H DEAN L. HAWTHORNE recently celebrated 15 years of employment at Cornell University. Dean's research interests include underwater acoustics, array signal processing and signal representation theory.

M.S. '89 VENKATRAMAN BALASUBRAMANIAN is excited to share that the company he co-founded with two others, Cabeus, was acquired last summer by Orion Innovation, a global digital transformation company based out of Edison, N.J. With a global presence in 16 locations with 4,000 associates, the company is poised for enabling digital transformation with agility and scale across multiple industry segments. Venkatraman heads the Life Sciences Business Unit, and supports a number of pharmaceutical and medical device companies in the areas of information management solutions for Regulatory,

Clinical, Safety and Quality.

'91 LEON K. BAPTISTE'S firm, LB Electric Co., LLC has been selected by MBDA Manhattan Center for the MBE of the Year award. His company has been awarded the contract to provide lighting for the entire EWR Terminal 1 Airport.

'93 TODD B. HAVICAN has been appointed director of sales at GreCon. He joined the organization in May, bringing over 25 years of experience leading sales teams in a variety of industries including fire protection, nonwovens, dust collection and food processing.

'96, M.S. '06 PANKESH P. PATEL has been promoted to executive regional manager/program manager responsible for overseeing all project management activities for managing capital projects in Hunterdon, Somerset, Middlesex, Monmouth and Ocean counties for the New Jersey Department of Transportation. Pankesh began his career at the New Jersey Department of Transportation in the Division of Construction and Materials (C&M) more than 31 years ago. Among his C&M accomplishments is his work on the construction of the Route 287 Missing Link in northern New Jersey, and many other projects during his 10-year tenure in construction. Pankesh is professionally affiliated with the American Society of Highway Engineers. Pankesh is also a registered professional engineer, a certified public manager (CPM) and a project management professional (PMP).

'97, M.S. '97 FRANK L. JASPER has been promoted to project director for AFG Group, Inc. Frank is the project director for all federal government projects in the Mid-Atlantic Region 3.

'00 JEFFREY A. STARR has been named the head boys basketball coach

and teacher at the new Crofton High School in Maryland. Jeffrey is a native of Crofton, and will be entering his 18th year in the Anne Arundel County Public Schools system.

'02 JOYCE (SCATUCCIO) JOLLIFFE is happy to announce her appointment to the board secretary position for the section of AIA South Jersey. In 2020, she was also appointed to the position of the historical archives committee chair for the chapter of American Institute of Architects of New Jersey. Joyce and her husband, Keith, were excited to welcome their first child in 2018.

'02, '04, M.S. '09 VIRGINIA L. MAYO has been appointed an IBM Distinguished Engineer in recognition of her outstanding history of technical leadership in security, vulnerability and threat management. As chief engineer of the GTS Security Patch Management Service, she powered innovation that transformed IBM's security and compliance solutions to standardize the GTS service while converging on a best-of-breed architecture and strategy.

M.S. '03 DHAWAL P. SHAH started working as a data analyst at Tata Consultancy Services. During the summer break, he went to the Pocono Mountains with friends and had an amazing time.

'06 TREVOR B. WILLIAMS, a serious fan of science fiction, is proud to say that one of his lifelong dreams — being a published author — has come true. His science fiction novel, *Eternal Shadow*, was released in 2019.

M.ARCH. '08 MATTHEW E. BILOW, principal architect at Bilow Garret Group, and **M.ARCH. '11 THOMAS ASFOR**, owner of CanalRoad Design Studios, have been awarded a design-building project in Forked River, N.J. They met and worked together at NJIT's School of Architecture (now Hillier College of Architecture and Design) in 2005 in their Structures 1 class. Fifteen years later, they continue to design

professionally together on many projects throughout New Jersey.

'08, P.S.M. '14 DAVID L. MORRIS feels that NJIT is the gift that keeps on giving — a place of hopes, dreams, purpose and accomplishments. As an alumnus, he knows that NJIT does not give up on you if you do not give up on your dreams. From graduating high school, going to college, moving into your first home, to starting a new family, he is proud to be a part of the NJIT family.

2010s

'11 GEORGE W. SMIDHUM has been promoted to senior supervisor of operations at Pennsylvania American Water for the Pocono District. He is responsible for water production, distribution, sanitary sewer collections and treatment.

'13 HITESH MONGA is teaching K-12 classes in Freeport, Long Island, N.Y. Prior to COVID, he was a frequent traveler and misses it. He is a proud alumnus of NJIT.

'13H DANIEL A. CERONE is getting married to his best friend and fiancé, Sinead, this October. They are both very excited!

'13H ERIC J. CAMPBELL recently received a Ph.D. in mechanical engineering from Rutgers University.

'14, M.S. '15 JUSTYN PYZ has been with Coperion Corporation close to six years, and works as a process engineer in the Extrusion and Compounding Division. He started working for Coperion as a process engineer co-op as a result of an interview through NJIT's Career Development Services on campus. In November 2015, Coperion moved from its original facility in Ramsey, N.J., to a facility together with K-Tron (both companies acquired by Hillenbrand, Inc.) in

Sewell, N.J. Moving down to the area was an adjustment, but he settled down nicely with his (then) fiancé, Kate. They were married in September 2016, and shortly thereafter purchased their first home. He has gained much experience, and is proud to use his chemical engineering knowledge, as well as work with mechanical and electrical engineers. He is proud to announce the birth of his son, Julian (right before COVID, whew!). He is grateful to have the opportunity to work from home and to spend so much time with his son.

PH.D. '14 ZHE HE was granted tenure and early promotion to associate professor at Florida State University this past August.

'16 RAHID A. CORNEJO is a senior designer at CallisonRTKL in New York City and proud director of the Bergen Arches Preservation Coalition (BAPC), a Jersey City nonprofit organization he helped establish in 2018. He is proud to announce BAPC's membership into the High Line Network, created by the founder of Friends of the High Line in NYC. He is excited that his group will be part of the High Line Network, and the first member representing New Jersey. He believes that the Arches will help break down socio-economic divides, figuratively embodied in the underutilized industrial infrastructure of Jersey City.

'16 DANNY J. CHIANG is proud to announce that he has purchased his first home!

'17H SAMANTHA VERTUCCI recently received a promotion in her role as mechanical engineer at NAVAIR NAWCAD-Lakehurst. She is also excited to announce that her husband, **'18 MICHAEL LA**, is heading to Air Force training.

'17H, M.S. '18 RASHMI B. KETHA has been progressing well in her career. She is working on her professional growth,

co-founding a company, and holding district and global positions for public speaking and women at work initiatives. She looks forward to graduating from a Leadership Development Program at work, and anticipates a bright future of bringing technology and business together.

PH.D. '18 VALERIA BARRA is about to complete a postdoc at the University of Colorado at Boulder, and, despite all the uncertainties given by the pandemic in the higher education sector, was able to land a full-time job as a research software engineer at Caltech. She has moved to California and can't wait to join a vibrant research team.

M.S. '18 TASNUBA NUR was hired in a manufacturing plant after graduation, but was laid off due to COVID-19. She took the opportunity to work for The CommonHealth Project as a faceshield builder, which spurred her to start her own small business, which is in its startup phase but getting good response. She was also hired by U.S. Army Reserves, and will join training in November. She is learning much and enjoying life.

'19 KELVIN SIEBENG just moved to a new apartment with a fellow Highlander!

'19 SEAN W. PINKERTON just started a Master of Engineering program in systems engineering this fall.

'19 JOHN P. SILLIMAN was announced as the Lambertville-New Hope Ambulance and Rescue Squad Member of the Month for July.

2020s

'20 TIFFANY R. OLIVERA completed a dual baccalaureate degree in biology and chemistry, and is pursuing a Ph.D. in applied physics at Rutgers University-Newark starting this fall. She is very grateful and excited for this new journey and learning opportunity.

IN MEMORIAM

Richard V. Muhlethaler '32
Michael M. Mauriello '41
Wilbur A. Rath '44
Fred T. Rosamilia '45
Raymond M. Kane '47
Frederick W. Idenden '48
Prisco Villani '48
Robert E. Jarmick '49, '52
George B. Kilbride '49
Richard Betts '50
John A. Johnson '50
William Easton '51
William H. Morgan '51
William H. Ade '52
William A. Kaepernik '52
Raymond Kirpa '52
Leonard B. Wilson '52
Steven N. Diamandas '53
Howard J. Lunin '53
Fred O. Beckmann '54
Ralph A. Bluntschli '54
Henry R. Krauss '54
Stephen E. Scrupski '54, '58
Frank A. Bianco '55
Alan G. Finkel '55
Gilbert A. Godwin '55
David Teschner '55
Stanley W. Wesolowski '55
Robert A. Filler '56
George L. Holterhoff '56
A. John Morelli '56

Robert R. Drummond '57
John P. Feltovic '57, '65
Carl H. Koch '57
Roland J. Pizzi '57
Richard A. Weber '57
Lou M. Contaldi '58
Alfred G. Kunz '58
Harvey R. Prins '58
Otto W. Taddei '58
Kenneth W. Clark '59
Richard H. Dierkes '59
Bruce L. Samitt '59
Earl W. Whittle '59
Franklin O. Williamson '59
Urs V. Cesana '60
Gerald W. Hannay '60
Terence J. McGurn '60, '63
John J. Mooney '60, '07
Harvey Morginstin '60, '61
Edward J. Ossolinski '60
Henry E. Struck '60
Ralph T. Hansen '61
John M. Kane '61
Anthony J. Myura '61
James C. Layendecker '62
Charles G. Aboyoun '62
Alfred S. Budnick '62
Paul M. Cherubino '62
Walter L. Hinman '62
John A. Santangelo '62, '67
Manuel D. Fernandes '63

Bruce A. Hawkins '63
Anthony T. Johnson '63
Donald W. Johnstone '63
Charles F. Ames '64
Samuel Berman '64, '72
Matthew G. Fischer '64
Felix H. Kuran '64
James C. Payne '64
Edward J. Schlamp '64
Clarence J. Sikorski '64
N. Eric Johanson '65
Sawako "Sally" LeMann,
wife of Gary R. LeMann '65
Douglas A. Morlock '65
Robert W. Walczuk '66
Edwin A. Dokus '66
Louis Hari '66
Andrew P. Srodin '66, '69
Travis G. Hutchinson '67
Charles G. Burns '68
James G. Hart '68
Joseph P. Katona '68
John J. McDonough '68
John W. Broome '69
Joseph P. Cusumano '69, '72
Peter R. Cowie '70
Harold C. Domanski '70
Kenneth J. Valovcin '70
Thomas L. Wagner '70, '78
Thomas M. Child '71
Joseph J. Baldini '72

John G. Braun '72
Raymond C. Galea '72
William A. Griffin '73, '81
Robert J. Matusevich '73
John R. Meszar '73
John S. Thaller '73
Stephen E. Pirnat '75
Gregory J. Bieksha '77
Michael A. Rochefort '77
Eddy Germain '78, '84
William S. Grzyb '78
Dean M. Munley '79
James J. Mortimer '80
Gary C. Burnett '81
Vitalis Onyema '82
Edward F. O'Connor '83
Michael J. Clarson '85
Esmail Y. Dhermajwala '85
Michael T. Ham '85
Philip L. Nader '85
Nagi L. Awad '86
Michael Buchala '87
William J. Wright '88
Brian K. Blanchard '89
Barry W. Halsey '91
Thomas H. Napolitano '91
Kenneth B. West '91, '94
Christopher M. Klammer '98
Brian Hester '01
Mohamed M. Elalem '09, '14
Anthony J. Corsi '12

REMEMBERING JOHN J. MOONEY M.S. '60



The NJIT community notes with great sadness the passing of John J. Mooney M.S. '60, '07 HON, an inspired engineer, renowned inventor and beloved alumnus of Newark College of Engineering who is best known for developing a catalytic converter for vehicles that filters three toxic chemicals.

In devising a so-called “three-way” scrubber, Mooney and Carl D. Keith, his research partner at Engelhard Corporation (now part of BASF), were responding to new air quality standards established by the 1970 amendments to the federal Clean Air Act. Their device improved upon the original catalytic converter by filtering exhaust pipe emissions of nitrogen oxides, in addition to hydrocarbons and carbon monoxide.

When he received the National Medal of Technology and Innovation in 2002, Mooney’s invention was lauded for sparing the environment billions of tons of automobile exhaust pollutants since its introduction in the mid-1970s, while saving lives.

“The device has made an incredible impact in curbing smog and eliminating some of the most damaging side effects of the internal combustion engine on the environment and on human life,” the National Science and Technology Medals

Foundation, which administers the awards, noted of his and Keith’s achievement.

Remarking this week on his passing, NJIT President Joel S. Bloom called Mooney “a brilliant engineer, a trailblazing inventor and an esteemed mentor to many.”

“In his lifelong commitment to putting science to work for the common good, John embodied all that NJIT seeks to inspire in our students,” Bloom said. “It has been our honor and privilege to count him among our alumni.”

During his 43 years at Engelhard Corporation, Mooney also developed a process for the U.S. Air Force that used a ruthenium catalyst to produce hydrogen from liquid ammonia. The catalytic system made it easier for the Air Force to supply hydrogen for weather balloons, since it was more efficient to ship liquid ammonia to distant locations than cylinders of gas.

He went on to secure 17 patents, while continuing to expand the potential of catalytic technology for reducing emissions, including for small two-stroke engines, the type that power chain saws and leaf blowers and are considered among the worst of internal combustion polluters.

In addition to the National Medal of Technology and Innovation, Mooney received the American Institute of Chemical Engineers 1999 Arthur Dehon

Little Award for Innovation, the Finnish Academies of Technology’s 2001 Walter Ahlstrom Prize and the American Institute of Chemical Engineers 2005 Kazutoshi Fujimura Life Time Achievement in International Chemical Engineering Award. He also received an Alumni Achievement Award from NJIT in 2004, and was awarded an honorary degree by the university in 2007.

Born and raised in Paterson, N.J., Mooney went to work for PSE&G immediately after high school.

“I was basically a clerk, but I was also encouraged by some of my co-workers to ‘do something with my life,’” he recalled in a wide-ranging interview about his legacy. He first earned a degree in chemistry at Seton Hall University before deciding to add chemical engineering to his toolkit at NJIT.

“Although I liked my chemistry courses well enough, I’ve always had a practical bent,” he recounted. “I like to make things happen, and that’s what engineers do — they take the basic science and make things happen.”

Author: Tracey L. Regan is an NJIT Magazine contributing writer.



Research into online shopping communities can explain larger online social connections.

ONLINE SHOPPING STUDY CAN HELP EXPLAIN THE INTERNET'S SOCIAL CONNECTIONS

Studying the evolution and function of online shopping communities could teach computer science researchers about online community-making in general, experts at NJIT said in a series of recent papers.

The papers cover the methods and motivations of how shoppers interact with each other online, and examine how such communities depend on members' participation and contributions, according to doctoral student Yu Xu and Assistant Professor Michael Lee, both of Ying Wu College of Computing's informatics department.

Until now, Xu explained, most research about online shopping was intended to help corporate sellers. Xu cares more about social and relational perspectives of the shoppers themselves. He aims to understand their contributions, interactions and participation in such virtual communities.

In his most recent work on these issues, which involved conducting 20 interviews, meeting with 24 focus groups and receiving 194 survey responses, Xu concluded that the four types of shoppers who engage with others online are contributors, explorers, followers and opportunists.

Contributors, Xu said, are the most active members of online shopping communities. Reviewing products and advising other shoppers is practically their hobby. Explorers enter the communities to browse and participate in discussions, but not necessarily for specific products. Followers are passive readers, Xu explained. Opportunists participate for specific objectives and then disappear until they're shopping again.

Roles could change over time. "In addition, we discovered that the personas identified in this study are dynamic and transitional. As a result, users may also develop the contribution behaviors as they participate within online shopping communities," Xu stated in the open-access journal *Multimodal Technologies and Interaction*.

These relationships happen in discussion forums, review platforms and social media. That much isn't new, he acknowledged, as product discussions also happened regularly in the days of internet relay chat and dial-up bulletin board services. Even retired Distinguished Professors Murray Turoff and Starr Roxanne Hiltz, the co-inventors of EIES — Electronic Information Exchange System, which was a social networking ancestor built at

NJIT from the 1970s through the 1990s — predicted online shopping communities in their book, *The Network Nation: Human Communication Via Computer* in 1978.

Xu said he found inspiration for the research by participating in online gaming communities, where players could share advice about matters such as the best products and where to purchase them. Other uses of community software are websites such as Stack Overflow for computer programming advice and Wikipedia for crowdsourced encyclopedia entries. Online dating and group event planning, such as Match.com or Meetup.com, are also good examples.

"Our findings suggest that a socially connected and interactive community benefits both the informational and emotional exchange within the communities," Xu concluded in the *Multimodal* article. "Based on the findings, we discussed a series of design implications to identify user types, facilitate user interaction to form bonds-based commitment, and encourage contribution behaviors among community members." ■

Author: Evan Koblentz is an NJIT Magazine contributing writer.



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