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Dean's Message



We are very pleased to welcome you to the 25th Salute to Engineering Excellence. The annual event celebrates the contributions and impact of the Newark College of Engineering on our society, our city and state, and the engineering profession.

This year's 'Salute' comes during a period of important changes of the leadership at NJIT. Among our attendees are the 9th president of NJIT, Dr. Teik C. Lim who began his NJIT tenure on 1 July 2022, and Dr. John Pelesko who was named Provost and Senior Vice President for Academic Affairs on 20 March 2023. We look forward to the benefits to NJIT from the new ideas and directions that the new president and provost will chart for the university and for our college.

Like many other universities and colleges, NCE is still emerging from the impact of the COVID-19 lockdowns and restrictions. There are several good signs of recovery – especially the growing interest of precollege students in engineering as a career path. We also experience a near 'normal' hiring environment for faculty, allowing NCE to expand the faculty ranks by first-rate experts in diverse areas from robotics and drones to membranes for environmental applications. In recruiting of both students and faculty, we apply multi-objective criteria. In addition to technical strength, scholarly promise, and strong communication abilities, we are seeking to hire cohorts of students and faculty who are diverse. We would like to educate females and males, if possible, in equal or near-equal proportions. We would like to make NJIT affordable to students from all rungs of the economic ladder. We seek diversity of race and ethnicity. We wish to be open and welcoming to members of the LGBTQ+ community.

These last two quests, concerning race/ethnicity and the LGBTQ+ community, have been the subjects of public and political controversy for decades. Among the areas of discord and debate was universities' use of race-conscious admissions policies (two current U.S. Supreme Court cases are *Students for Fair Admissions (SFFA) v. University of North Carolina* and *SFFA v. Harvard*). More recently, a series of sharp debates and legislative actions have taken place concerning university policies on diversity, equity and inclusion (DEI). As of this writing, anti-DEI legislation was introduced in 15 states (none of which are in the Northeastern United States or the Mid-Atlantic).

NJIT has expressed commitment to DEI in multiple ways. These include the establishment of a Diversity and Inclusion office, the hiring of Chief Diversity Officer Dr. David E. Jones, development of pre-college programs that create admission opportunities for the underrepresented, and staff initiatives that empower minorities to assume leadership positions. In this context, it is relevant that underrepresented minorities account for 42% of this year's first-year class. Apparently, our policies do have impact.

In spite of NJIT's (and NCE's) clear commitment to DEI, and the growing numbers of our students who belong to underrepresented groups, it is unlikely that we will be able to stay outside the vigorous cultural/political debates on DEI. At the present time our accrediting body, ABET, is planning two DEI-related changes to the all-important engineering accreditation criteria. One is in the area of curriculum and the other is in the area of faculty. Without detailing the planned changes, we know that they are in line with NJIT's policies, but may face legal obstacles in some states. The ensuing debate will require clear and well-articulated positions from schools of engineering in states like New Jersey. The ABET changes would also require engagement with the state (new educational DEI models would require more credits in NJ engineering curricula).

NCE is known for its contributions to human welfare and the civic infrastructure, from transportation to water resources and from pharmaceuticals to signal processing and medical imaging. While these are the areas where NCE has historically had the greatest impact, public deliberations within ABET and elsewhere on DEI policies may require more of our energy and time in the near future. If such intervention is needed in order to establish the importance of diversity, equity and inclusion in engineering education and engineering practice, the faculty and leadership of NCE will be at the forefront of this debate, enthusiastically and willingly.

Moshe Kam



Dean, Newark College of Engineering

NEWARK COLLEGE OF ENGINEERING
25TH ANNUAL
SALUTE TO ENGINEERING EXCELLENCE

-PROGRAM OF EVENTS-

Networking Reception

Welcome Remarks

Dinner – Award Presentations

Recognition of Students, Faculty and Staff Honorees

NCE Outstanding Alumni Awards

NCE Spirit Award

Tuesday, April 18, 2023

Westmount Country Club
728 Rifle Camp Road
Woodland Park, NJ 07424



ALUMNI HONOREES

NCE Outstanding Alumni Awards

Andrew P. Christ, P.E. '94, '01

Michael (Mike) McDermott '88, '89

Newark College of Engineering Spirit Award

Marjorie Perry '05

Outstanding Industry Partnership Award

Urban Tech Consulting Engineers

FACULTY AND STAFF HONOREES

NCE Excellence in Teaching Award

Kathleen McEnnis

Saul K. Fenster Innovation in Engineering Education Award

Prateek Shekhar

NCE Outstanding Advising Award

Vivek Kumar

NCE Rising Star in Research Award

Angelo Tafuni

NCE Excellence in Teaching by an Adjunct Faculty Award

Yusuf Oni

NCE Outstanding Administrative Staff Award

Patrice Edwards

NCE Outstanding Support Staff Award

Monteria Bass

NCE Dean's Service Award

Eric Hetherington

STUDENT HONOREES

NCE Outstanding Student Organization Award
IEEE Student Chapter

Saul K. Fenster Innovation in Design Award
BME Capstone Team
Gabriela De Carvalho
Thinuri Fernando
Supriya Iyer
William Kuo
Ketan Patel

Madame Mau Outstanding Female Engineering Student Award
Chelsea Castillo

NCE Outstanding Doctoral Dissertation Award
Liang Zhang

NCE Outstanding Graduate Student Award
Jorge Medina

NCE Departmental Outstanding Seniors
Arun Aryal
Philip Baranowski
Nicholas Carrillo
Ymer Dinoshi
Elizabeth Mundkowsky
Justin Pace

NCE Outstanding Senior Award (Overall)
Elizabeth Mundkowsky

Andrew P. Christ, P.E., '94, '01

Senior Vice President of Real Estate Development and Capital Operations

New Jersey Institute of Technology

NCE Outstanding Alumnus



Reporting to the President of NJIT as the Senior Vice President of Real Estate Development and Capital Operations, **Andrew Christ** oversees Real Estate Development, Facilities Services, Campus Planning, Design and Construction, Facilities Systems, Transportation and Parking, Public Safety, Campus Health Services, and Environmental Health and Safety.

Under his leadership, the University has invested over \$490M in physical facilities, including 990K square feet of new buildings and significant renovation and renewal of existing facilities. Christ has been actively engaged in numerous important campus initiatives, including the strategic plan, “***NJIT 2025 - Building on a Strong Foundation***,” where he led as co-chair of the resources subcommittee, and is currently a member of the steering committee working on the enhancement and extension of the strategic plan to 2030. Through the management of 8 direct reports and 220 dedicated team members, Mr. Christ and his team have improved the campus function, appearance, safety, and environment, resulting in a documented increase in student satisfaction.

Prior to joining NJIT in 2014, his experience includes leadership and technical positions in the pharmaceutical, auto, and consulting engineering industries, and NJ higher education institutions. His volunteer efforts include serving his hometown as a volunteer firefighter for over 30 years, being past planning board chair, and as a member of Sigma Pi Fraternity International.

Mr. Christ holds a Bachelor's and Master of Science in Civil Engineering from the New Jersey Institute of Technology. He is a professional engineer licensed in the State of New Jersey.

Michael (Mike) McDermott, '88, '89

**Chief Global Supply Officer, Executive Vice President
Pfizer**

NCE Outstanding Alumnus



As Chief Global Supply Officer, Executive Vice President, **Mike McDermott** leads Pfizer's internal and external manufacturing and supply chain activities. McDermott and the Pfizer Global Supply (PGS) team work to ensure uninterrupted supply for Pfizer's entire product portfolio, which includes hundreds of medicines and vaccines. – more than 38 billion doses each year. The PGS network includes approximately 30,000 colleagues and contractors and 39

Pfizer global manufacturing sites.

McDermott has more than 30 years of experience in the pharmaceutical industry. He joined Wyeth in 1989 as a Project Engineer in Pearl River, New York. Over the years, he has held many roles, including Plant Manager and Operational Vice President of multiple divisions, including Consumer Healthcare, Biotechnology and Supply Chain, as well as assignments in Finance and Marketing.

His recent highlights at Pfizer include the rapid ramp-up of manufacturing and global distribution of the Pfizer-BioNTech COVID-19 vaccine; ongoing efforts to enhance COVID-19 vaccine production and distribution processes; and the expedited production of Pfizer's novel COVID-19 oral antiviral.

A passionate advocate for Diversity, Equity and Inclusion, McDermott served on the Board of a non-profit organization that helps under-served people for 10 years. He leads Pfizer's largest Colleague Resource Group and has enacted impactful changes to increase diversity within PGS. He has Bachelor of Science and Master of Science degrees in Industrial Engineering from the New Jersey Institute of Technology (NJIT). He has been an adjunct professor at NJIT and was named a distinguished alumnus. McDermott serves on the Executive Committee of the National Association of Manufacturers and is a member of the Pharmaceutical Manufacturers Forum. McDermott, his wife, Katie, and five daughters are all committed to community engagement and social action. He is proud of his family's NJIT legacy, as his father, sister, daughter and many nieces and nephews are NJIT graduates and students.

Marjorie Perry, '05

President and CEO

MZM Construction & Management Company

Newark College of Engineering Spirit Award



Marjorie Perry, a lifelong resident of New Jersey, is the President and CEO of MZM Construction & Management Company, Inc. She is widely recognized as an innovator, public speaker, writer and role model for women and minorities in business. Using her extraordinary path to success and 26 years of experience and lessons as fodder for inspiration, Perry finds her mission to be one who motivates nascent entrepreneurs to develop and pursue their dreams with the message that, "You, too, can do it!" Trained as an educator with a B.A. from Kean College, Perry's teaching journey was diverted after a series of layoffs that disrupted the Newark Public School system. Fortuitously, she tried her luck in sales and marketing finding an unexpected perfect fit. Perry went on to work for corporate giants 3M, Johnson & Johnson and United Airlines, ultimately cultivating a burgeoning vision for life as a passionate, self-made entrepreneur.

Perry launched a consulting company focused on helping start-ups and serial entrepreneurs succeed in the marketplace. It wasn't long before she and two partners founded MZM Construction & Management. Soon after, she became sole principal of the company, which has sustained a multi-million-dollar bottom line for the last 24 years. She received her MBA in finance from NJIT with additional coursework at Rutgers, Stevens, and NYU. A lifelong learner, Perry has also completed Leadership for the 21st Century at the Tuck School of Business at Dartmouth College and graduated Harvard Business School (HBS) OPM Executive Program where she was voted class speaker November 2020.

Now a coveted inspirational speaker and writer, Perry's local speaking engagements include the NJ Governor's Conference for Women, The Liberty Science Women's Program, The National Association of Women Business Owners and she has appeared on MSNBC, CBS, ABC, UPN 9, News 12 and NJN's New Jersey Caucus with Steve Aduabato. She has received numerous awards and recognitions, including being inducted into NJBIZ 2011 Business of the Year, New Jersey Business Hall of Fame, 2012 SBA Business of the Year, 2012 Best 50 Women in Business, and one of the Top 25 Entrepreneurs in New Jersey.

Perry sits on several boards some of which include The Board of Overseers at NJIT as Chair, (NJCC) Co-chair committee for Diversity and Inclusion, and her most recent election to RWJ UMDNJ Board of Trustees. Perry served two terms as the Finance Chair for the East Orange School Board, and is a past member of the New Jersey Economic Development Authority and Kean University Foundation Board. She was an adjunct professor at NJIT and Stevens Institute of Technology from 2015 to 2018, teaching MBA students the means and methods of being a successful entrepreneur. In her spare time Perry mentors inner city college-bound youth because it matters that they make it too.



Outstanding Industry Partnership Award

UrbanTech Consulting Engineering, P.C. is a structural engineering firm based in New York City that has developed a highly regarded reputation in construction and structural engineering. It specializes in construction support, mainly in providing solutions for structural issues involving heavy construction applications such as bridge replacement, bearing replacement, and the design of jacking devices to lift heavy structures.

The firm was founded by Wei Wang '95, Ph.D., P.E. in 1999. He is a member of the Department of Civil and Environmental Engineering Industrial Advisory Board and a former member of the NCE Board of Visitors. Wang credits his success to his "practical and hands-on" NCE education and indicated that he would not have made it without the NJIT scholarship, adding that he would "do anything to help NJIT." (Source: NJIT Magazine, Fall 2011) He participated in the 2020 Highlander History Project where he said, "The education at NJIT shaped me greatly to become who I am today." Consequently, UrbanTech actively recruits full-time employees from NJIT.

Over the last 23 years, UrbanTech has successfully completed many public infrastructure projects for agencies such as NJ Transit, NJDOT, NJTA, NYC DOT, NYS DOT, PANYNJ, USACE, including many from the various MTA agencies such as LIRR, MNR, NYCT, and TBTA. On these projects UrbanTech has performed services on both the construction side of the project (acting as the contractor's structural engineer) and the design side of the project (acting as the agency's design consultant). Their experience with both the construction and design aspects of public projects allows the firm to act as a crucial link between the construction team and the design team.

In addition to working on public infrastructure projects, UrbanTech also has a building design group that provides building structural engineering services. Their engineers are familiar with building code structural requirements and with the building structural design processes as they relate to right-of-way and impacts to neighboring structures. The building design group is capable of coordinating across multiple disciplines and with municipal agencies.

UrbanTech is very pleased to partner with NJIT in hiring students, sponsoring the 3D Steel Bridge Competition and serving in various volunteer capacities throughout the University.

Kathleen McEnnis

Otto H. York Department of Chemical and Materials Engineering

NCE Excellence in Teaching Award



Kathleen McEnnis is a Professor in the Otto H. York Department of Chemical and Materials Engineering (CME) since Fall 2017 and teaches both undergraduate and graduate level courses. She studied Chemistry at Massachusetts Institute of Technology (B.A.) and later went to University of Massachusetts, Amherst (M.S., Ph.D.) where her focus was Polymer Science and Engineering.

She is highly valued by her students, earning an overall average in teaching effectiveness of 3.75. Student feedback in the evaluations praised her knowledge, enthusiasm, clarity, interactions, and overall excellence in instruction. During the Pandemic, McEnnis incorporated active learning by utilizing breakout rooms in Webex, PollEverywhere questions, as well as created take-home kits for students to apply in-class demonstration experiments at home.

McEnnis serves as the Chair of the Industrial Advisory Board (IAB) Mentoring Committee where she has led the Mentor-Mentee Program, now in its fourth year. She oversees the program for IAB members to mentor undergraduate chemical engineering students, which includes selecting student participants, administering surveys to evaluate the program, and preparing an assessment report for the IAB. Due to her efforts and its continued success, the program has grown and during the current academic year has focused on transfer students. In addition, the program has better prepared student participants in their job search, often allowing them to secure positions before graduation.

She currently advises two Ph.D. students, one of which is graduating this fall and will continue for a prestigious postdoctoral position at the University of Delaware. She also advised 16 undergraduate students in research in her lab. The success of her students is apparent in the many accolades they have received. One of her undergraduate students is the first author on a peer reviewed journal publication, five others are co-authors on peer reviewed journal publications, and one is a co-author on a refereed conference abstract. Additionally, two of her students have gone onto pursue their Ph.D. at other universities. In her years at NJIT, McEnnis has built upon her experiences in teaching underrepresented students to create inclusive classrooms that have greatly impacted the progress of the students she instructed and advised.

Prateek Shekhar

School of Applied Engineering and Technology

Saul K. Fenster Innovation in Engineering Education



Prateek Shekhar is an Assistant Professor at the School of Applied Engineering and Technology (SAET) who has demonstrated a high level of creativity and innovation in Engineering Education. Shekhar's primary contributions to engineering education can be broken into three different aspects: active learning at the undergraduate level, inclusive classroom practices, and preparing the next generation of educators.

With the support of a NJIT Institute for Teaching Excellence (ITE) Active Learning grant, Shekhar has transformed ENGR 101. He has turned this freshman-level course from traditional lectures to dynamically implementing research-based instructional practices, allowing underprepared students the opportunity to learn the prerequisite material within the provisions of the course as they transition from high school to an undergraduate education in engineering. In the class, he applies an 'asset-based' approach where students' strengths are highlighted through in-class engagement. Simultaneously, he implements peer-based learning as a mechanism to constructively engage students in the learning process. These approaches have been highly recognized and appreciated by his students, some of which attribute their continued success in other engineering courses to Shekhar's impactful approach in this freshman-level course.

At NJIT and beyond, Shekar has emphasized the need for building quality engineering educators and programs. He has led the efforts in developing the Master of Science program in Engineering Science (Engineering Education) which prepares professionals with the background, tools, and skills to apply engineering education in both industry and academia. He was appointed Acting Director of the Engineering Education Program in Fall 2022. His responsibilities include overseeing NCE's curricular offerings in Engineering Education and the MS program in Engineering Science.

Shekhar developed and has been teaching Advances in Engineering Education Research (ESC 705), a graduate level course in engineering education research. Outside of NJIT, he is working with engineering instructors across the U.S. to transform lecture-based classrooms with active learning instructions, which aligns with his educational philosophy to disseminate knowledge and techniques and broaden the impact of new educational innovations.

Shekhar has received several education-related grants from the National Science Foundation (NSF) and private foundations. Additionally, he has numerous publications in his areas of interest. These research interests include; development of quantitative and qualitative assessment tools for education, development and validation of qualitative protocols and survey instruments, understanding and reducing student resistance as a barrier to faculty change, and assessment and evaluation of engineering entrepreneurship programs.

Vivek Kumar

Department of Biomedical Engineering

NCE Excellence in Advising Award



Vivek Kumar is an Associate Professor in the Department of Biomedical Engineering, directs a nationally recognized research laboratory, and is an accomplished mentor and educator. Kumar's advising experience spans the entire University. He works with the Federated History Department to help develop a pre-law mentoring group. At the Albert Dorman Honors College he is involved in the BS/MD admissions process and is a Faculty Fellow. He also works for the Pre-Health committee where he assists students to prepare for medical school and has been paramount in the program's high placement rating (>88%) for students acceptance into medical schools. Additionally, he provides mentorship to countless students throughout NCE, CSLA, and YWCC. Kumar is dedicated to helping any and every student succeed to the best of their abilities. He has mentored two students to receive Goldwater Scholarships, and one of his former students received an NSF Graduate Research Fellowship Program (GRFP) award.

Beyond prestigious awards, Kumar is universally praised by colleagues for the amount of time and effort he spends with each student. His teaching style involves tailoring the subject matter to appeal to specific interests by emphasizing real problems in research and industry to illustrate concepts and stimulate discussion. His extensive research and entrepreneurial efforts complement his approach, ultimately allowing him to provide students opportunities to explore diverse career paths.

Kumar is highly involved in advising capstone projects and supports numerous undergraduates in his research program. He also applies his teaching approach to the laboratory setting, where he is known for identifying interests and goals of an individual student and then setting up an applicable research project worth pursuing. Kumar constantly pushes students to do their best and as a result, the students he assists have been included in multiple publications from his lab, a high number of which continue their education in graduate or medical school.

Angelo Tafuni

School of Applied Engineering and Technology

NCE Rising Star in Research Award



Angelo Tafuni is an Assistant Professor in the Mechanical Engineering Technology (MET) program at the School of Applied Engineering and Technology (SAET), with a joint appointment in the Department of Mechanical and Industrial Engineering. He is the Director of the Heat and Fluid Transport Engineering Research (HaFTER) Laboratory. His excellence in research and scholarly activities are well recognized by his collaborators in academia and industry, in and outside the U.S.

The focus of his research primarily includes the development and advancement of particle methods for the characterization and understanding of fluid flows in theoretical and applied engineering problems. In the last three years, Tafuni has led the efforts in putting together an ambitious robotics platform that paves the way to a completely novel approach for studying cryogenic liquid dynamics at NJIT. Since 2018, he has received multiple federal and industrial grants such as PI/Co-PI, totaling \$2.82M in awarded funds. Additionally, he has published 13 peer review journal articles and 11 conference papers, as well as given 16 presentations and invited talks on and off campus.

Tafuni is active in university, professional and outreach services. He serves as an editor for various journals and special issues, and has provided 73 journal paper reviews and 77 conference paper and abstract reviews. Tafuni is an executive board member of the SPHERIC (an international organization representing the community of researchers and industrial users of Smoothed Particle Hydrodynamics, SPH) and the Metropolitan Chapter of ASME (American Society of Mechanical Engineers). At NJIT he serves as Chair of SAET's Research Committee and Vice Chair of SAET's Excellence in Teaching Committee. In his time at NJIT he has been a leader in the establishment of academic and research exchange programs at NCE.

Yusuf Oni

Department of Biomedical Engineering

NCE Excellence in Teaching by an Adjunct Faculty Award



Yusuf Oni is an adjunct professor in the Biomedical Engineering (BME) Department, and is a Team Lead and Associate Scientific Director at Bristol-Myers Squibb. Oni is one of the department's longest-standing adjunct professors, having begun teaching with BME in Fall of 2010. Since joining NJIT, he has taught four separate courses: BME 304 (Materials Fundamentals of BME), BME 427 (BioTransport), BME 670 (Introduction to Biomechanical Engineering), and BME 698 (Advanced Biomechanics). Some of these courses are at the core of BME curriculum which means Oni often instructs some of the largest enrollment groups in the department. During the Fall 2022 semester, he had a combined enrollment of over 60 students.

Oni demonstrates a passion for teaching and has been extensively involved in teaching and developing much of the course content for BME 304 (Materials Fundamentals of BME). He shows a commitment to quality instruction in his ability to take course feedback and evaluations as an opportunity to improve the courses he teaches. Additionally, Oni is inspired by his extensive industrial experience and utilizes this knowledge to adjust course content and provide students with unique and rewarding experiences each semester. Student feedback on his course evaluations highlighted his enthusiasm for teaching and overall care for his students. Many of his former students have emphasized the extra work he is willing to do for students, even going so far as to adjusting lecture content during the class in order to engage student questions and give them better understanding of the course material.

Oni's teaching style is centered upon engaging students and getting them excited about the subject matter, and the world around them. His philosophy utilizes two major components to accomplish this goal: developing personal relationships with students and being wary of possible challenges in the classroom.

Oni's approach has established lasting impact on students, some of which he still engages as colleagues in his industry role. Oni's teaching evaluations and knowledge of course material evaluations have consistently ranked above both the department and University averages, with comments describing his excellent ability to communicate and adapt course content as well as making courses accessible during the online-phase of the COVID-19 pandemic. All his efforts have been deeply appreciated by his students and faculty.

Patrice Edwards

School of Applied Engineering and Technology

NCE Outstanding Administrative Staff Award



Patrice Edwards began her career at NJIT in 2012 as a Department Assistant and moved into her current role of Assistant to the Chair of the School of Applied Engineering and Technology a few years later in 2015. She holds a B.A. in Speech Communications as well as a M.A. in Corporate and Public Communications. Additionally, she has obtained Graduate Certificates in Professional and Technical Communications, and Social Media Essentials from NJIT.

Edwards has been a crucial member of the team and was directly involved in the transition of the ET department into SAET in 2018. She supported the newly formed advisory board, expanded coordination of SAET meetings, distributed key information to faculty and staff, and promoted the newly formed SAET Department. The department offers 10 unique programs with 70% of courses offered being taught by adjunct professors. Between operating combined lecture-labs, increased contact hours, and utilizing labs outside of the SAET department, there are unique challenges in regards to instructor and facility constraints. Edwards has been the bridge for communication between SAET faculty and coordinators, other departments, registrar, finance, human resources, facilities and NCE Dean's office.

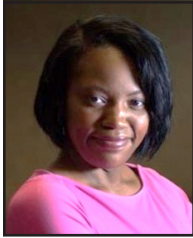
Edwards works well with students, faculty, and staff. She supports program coordinator efforts to find and onboard Adjunct professors, supports tenured and tenure track faculty, and assists the 8 newly hired assistant professors. She helps with requisitions, purchase orders for research work, posting and hiring students for research, and provides travel coordination for conferences and other department initiatives. Her exceptional approach to onboarding staff regarding the NJIT processes has led to faculty being acclimated quickly and increasingly more productive in their research pursuits.

Edwards is well respected by her colleagues for providing realistic estimates of time for task completion, as well as her ability to not only contribute but lead and motivate peer staff to go above and beyond.

Monteria Bass

Helen and John C. Hartman Department of Electrical and Computer Engineering

NCE Outstanding Support Staff Award



Monteria Bass is an integral part of the Helen and John C. Hartman Department of Electrical & Computer Engineering team, helping the department by going above and beyond her Administrative Assistant role to support a significant number of new and existing activities. She recently completed her Masters in Higher Education Administration and will be pursuing her Ed.D in Higher Education Administration.

In the 2021-22 academic year, she was front and center for many new initiatives. Some of these include; Undergraduate Socials, aimed at bringing ECE students together; PhD Stories contest, where doctoral students introduce their research projects and the personal obstacles they have met along the path to completion of their doctoral degree; PhD Student of the Month, content she maintains on the website; and SHE in ECE, aimed at recruiting female students to the ECE department. Bass took on a leadership role, putting in hard work and many hours of extra time to make all the initiatives a grand success. She also creates and manages the content for Digital Signage in the ECE hallway and prepares flyers for the department and NCE events.

Bass is a consummate professional in all her administrative duties and though her focus is to perform administrative duties for the graduate studies program, she keeps track of the entire department's teaching schedule, while interacting with the Registrar and Dean's offices. She is revered as a knowledgeable source of help for faculty, students, and other staff members of the department as well as to the entire NCE community.

Bass has volunteered for every NCE Open House and NCE Career Day since she accepted the position in 2016. When the department lost a dear member of the team, Bass quickly learned all the additional software from Banner Financial to manage all ECE department accounts including research grant accounts. She is extremely self-motivated and has the confidence to obtain the required information to complete any assignment.

Eric Hetherington

Office of Research

Dean's Service Award



Eric Hetherington was educated at New York University (B.A., M.A.) and the City University of New York Graduate Center (Ph.D.). His academic expertise is in ancient Greek philosophy, the philosophy of physics and mathematics, and logic. He joined NJIT in 2002 as a special lecturer in philosophy and has since served as the associate chair of the humanities department, the assistant dean in the College of Science and Liberal Arts, the director of sponsored research administration, and is currently the Executive Director for Sponsored Research Programs Administration. During his early years at NJIT Dr. Hetherington taught engineering ethics to hundreds of students using a pragmatic rather than theoretical framework: students were introduced to the principles of moral theory as practical guides for examining real-life situations that may arise in engineering.

Hetherington has been instrumental in developing processes and increasing efficiency with the aim of improving the research support infrastructure for NJIT's faculty during a time when research productivity and expenditures were rapidly increasing. He has served on several strategic committees for the university, including chairing the committee on general education requirements and the provost's strategic advisory council. He is a member of NJIT's institutional biosafety committee and has co-chaired NJIT's institutional review board since 2017.

Institute of Electronics and Electrical Engineers

Helen and John C. Hartmann Department of Electrical and Computer Engineering

NCE Outstanding Student Organization Award



The **Institute of Electrical and Electronics Engineers (IEEE)** student branch integrates students from computer science, physics and all engineering departments giving multidisciplinary student teams the opportunity to learn and work together. Their events and activities both technical and non-technical, aim to encourage individual students and interdisciplinary teams to implement advanced technologies while

having fun. They aim to prepare students for their future roles in industry and as technical leaders.

The group offers events, workshops, and panels on traditional electrical engineering topics but has also expanded their offerings to cover modern topics such as machine learning, embedded systems, the internet of things, 3D printing and more. One such technical workshop is the Arduino Workshop, which allowed students to utilize Arduino Uno to create a Google Dinosaur Game and involved over 70 student participants spanning from the Biomedical Engineering department to the Chemical Engineering department. Some other prominent events include participation in the Eta Kappa Nu (HKN) Student Leadership Conference, a second-place win for the Mosquito Minimizer Project in HackNJIT, attendance at the MLH Hackcon, and hosting the Involvement Fair which recruited 70 additional members.

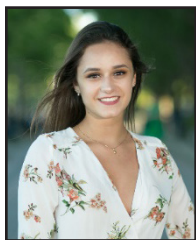
The IEEE student branch also places a great emphasis on networking, career development, and strengthening one's soft skills. Their Interview Workshop catered to over 120 students across various departments and covered best techniques for acing an interview and landing the job. They consistently utilize previous alumni and current professors to provide advantageous opportunities to its current member base. Additionally, IEEE encourages students to rest from their schedules by attending fun events that provide a "brain break" such as hiking trips to Delaware Water Gap, Flag Football Night, Casino Night, Jeopardy Night, and their Halloween Event where students could get candy, use the photo booth, and paint portraits to wind down.

This year the branch has bolstered record turnout by providing quality activities and services to the Highlander community. The executive board remains successful because they run their branch with the skills industry expects from today's engineers. The IEEE store provides an additional service to the students by managing and providing the components necessary for experiments dispensed in ECE, as well as for most projects conducted by students for their own interests, class assignments, and senior projects. In addition, countless winners of the Senior Design Showcase have utilized the resources provided by the group.

Biomedical Engineering Capstone Team

**Gabriella DeCarvalho, Thinuri Fernando,
Supriya Iyer, Ketan Patel and William Kuo**

Saul K. Fenster Innovation in Design Award



Gabriela De Carvalho began her studies at NJIT as an undergraduate pursuing a joint bachelor's and master's program along the biomechanics track in BME, where she first started studying the mechanics of human motion. She is a former recipient of the Madame Mau Outstanding Female Engineering Student Award and graduated Summa Cum Laude as an undergraduate. She is a recipient of the Presidential Award and the Albert Dorman Honors College Merit Scholarship. Currently, De Carvalho has been awarded a National Science Foundation Graduate Research Fellowship Award to continue the work of the capstone team toward developing and testing the universal pediatric exoskeleton to be made available to children with cerebral palsy, as part of her PhD dissertation.

She is a member of the National Academy of Inventors - NJIT Chapter Student Innovator and Inventor Club, United Council of Academics, and Graduate Biomedical Engineering Society. Additionally, she mentors high school and undergraduate students pursuing research at the Computational Orthopedics and Rehabilitation Engineering Lab. Her work includes introducing them to projects, teaching them methods for processing motion capture experiments, and guiding them through selected projects. De Carvalho also volunteered at Mantena Global Care non-profit organization, which assists low-income residents by providing low-cost services like food donations, blood drives, and health exams.

After graduating, she is pursuing her PhD at NJIT, continuing research at the Computational Orthopedic and Rehabilitation Engineering lab to gain experience and knowledge of different methods to quantify gait abnormalities in several populations, as well as, understand and develop assistive walking devices that may improve gait. Her goal is to then pursue a career in the medical device industry.

Saul K. Fenster Innovation in Design Award

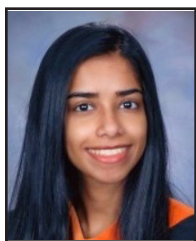


Thinuri Fernando is a biomedical student in the Department of Biomedical Engineering with a 3.94 GPA, graduating Summa Cum Laude. She was awarded the Provost Undergraduate Research & Innovation Summer Research Fellowship, graduated Summa Cum Laude as an undergraduate, and received both the NJIT Academic Excellence and Albert Dorman Honors College Merit Scholarship.

Fernando is an active member of the Highlander community and is involved in several campus organizations outside of her campus research. She is the Co-founder and Vice President of Women Empowerment & Development Organization, which provides underprivileged women around the world with the resources necessary to succeed in their own communities. In her role, she managed websites, organized events, and led some service projects. She is also the Vice President of NJIT's chapter of Engineers Without Borders. With this group, she focused on helping a rural community in Ecuador with fundraising efforts to improve their water distribution system, assisted in writing grants, and helped coordinate fundraising events. Additionally, she was an event coordinator for the Society of Women Engineers where she coordinated meetings with recruiters to organize information sessions and events for NJIT students. As a Student Ambassador for the Department of Biomedical Engineering, Fernando helped with open house events, informed parents and prospective students about student life and academics by participating in informational panels during Open House events, and guided groups to information sessions and lab tour locations.

Following graduation, she will be working at Johnson & Johnson as a Research and Development Engineer in their Medical Devices Engineering Development Program. The two-year rotational program position will allow her the opportunity to gain experience from different teams while assisting with the development of state-of-the-art medical devices, from concept selection to product characterization, design, testing, evaluation, and launch.

Saul K. Fenster Innovation in Design Award



Supriya Iyer is a biomedical engineering student in the Department of Biomedical Engineering with a 3.85 GPA, graduating Summa Cum Laude. She has received numerous awards and scholarships, including the Provost Undergraduate Research & Innovation Summer Research Fellowship, NJIT Academic Excellence Scholarship, and Albert Dorman Honors College Merit Scholarship.

Iyer is the Co-founder and Vice President of Women Empowerment & Development Organization, which helps provide underprivileged women around the world with the resources they need to succeed in their own communities. She helped coordinate events, developed fundraising and service projects within the campus community, and helped recruit new members to the organization. Iyer was also a student ambassador for the department of biomedical engineering in which she assisted with open house events, answered questions about student and academic life for prospective students and their families, and participated in information sessions where she informed groups regarding research opportunities on campus and guided groups on tours of the BME department and research facilities. Performed research at CIBM3 as well as at the Neuromotor Behavior and Neurorehabilitation Lab with Dr. Adamovich that led to a IEEE EMBC Annual Conference Publication.

After graduation, Iyer will begin working at Emerson as a process Automation Systems Engineer, providing automation engineering services through DeltaV batch and continuous processes for major pharmaceutical companies in the life sciences industry. Simultaneously, she will be pursuing a Master's in Engineering Management at Duke University.

Saul K. Fenster Innovation in Design Award



Ketan Patel has been a fixture in the Biomedical Engineering department since he began his studies at NJIT. He was awarded the certificate of excellence for highest improvement in GPA for the 2019-2020 Academic School Year graduating Summa Cum Laude with a 3.87 GPA. Patel received the NCE Outstanding Departmental Senior Award in the fall semester of 2021. He has been an avid researcher, and received a Dean's Fund Grant from Dean Hamilton and the Honors College for a Force Transducer System with Dr. Saikat Pal in the spring 2021 semester.

In addition to performing research for the Computational Orthopedics and Rehabilitation Engineering Lab (CORE) at NJIT, Patel has been active as a student ambassador for the BME department and Albert Dorman Honors College. He assisted with open house events, spoke with information session groups regarding research opportunities on campus, and guided groups on tours of the BME department and research facilities. Patel has also worked with Honors Scholar Council as a Transfer Representative, and with NJIT Learning Community as a Peer Mentor. Always one to get hands on, Patel gained additional experience as a Maintenance Technician in the BME 3D Lab. Additionally, he has been a volunteer with the Overlook Medical Center.

Patel has been working at Mott MacDonald as an Engineer in the Built Environment Division. He is currently assisting with development of the Defence Sector for Mott MacDonald and creating PowerBi dashboards for all of Built Environment. He plans to pursue a Master's in Science in Data Science at the University of California Berkeley, with the eventual goal to further his healthcare career by applying to medical school.

Saul K. Fenster Innovation in Design Award



William Kuo has been an avid researcher at NJIT's Computational Orthopaedics and Rehabilitation Engineering Lab with his first project focusing on the development of a cross-campus wireless force transducer system to measure ground reaction forces for athletes and patients. He received the Dean's Fund Grant from Dean Hamilton and the Honors College for the Force Transducer System with Dr. Saikat Pal.

In addition to his research work, Kuo is an active member of the Highlander community and beyond, lending his time as Ambassador for the Albert Dorman Honors College, volunteering with Branch Brook Park in preparation for the Cherry Blossom Festival, and providing mentorship to Team 752 at Science Park High School's FIRST Robotics Competition. On campus, Kuo has worked for NJIT Strategic Events and Conferences Department as a student associate, training junior staff and providing customer experience and event management services for campus events. Since 2018, Kuo has involved himself with campus initiatives and organizations that promote networking and business development skills. He volunteered for the Bloomberg Terminal Certification Event and has been a Diversity & Inclusion Networking Event volunteer where he recruited and managed volunteers with NJIT's career development services to promote active discussions about workplace diversity.

Kuo has served as Co-founder and Co-president of the Public Speaking Club, where he programmed multiple interactive speeches and taught interpersonal communication and leadership skills to many students. He has participated in several conferences including acting as a Sponsorship Chair for the CAACURH Regional Business Conference at NJIT. His work at this conference allowed him to halve the operating cost of the conference and he developed the conference motto. Additionally, he served as University Heights Toastmasters Club President and Residence Hall Association Honors Hall council President. Kuo was also a Robotics Club project manager for Biped Mk1 and Biped Mk2. He created CAD files, programmed code, chose mechatronics system components from gears to batteries to controllers, and used inverse kinematics to make robots walk.

Kuo is pursuing a PhD at NJIT and will be continuing research at the Computational Orthopaedics and Rehabilitation Engineering Lab. He ultimately plans to commercialize his research to help a wider audience of patients.

Chelsea Castillo

Otto H. York Department of Chemical and Materials Engineering

Madame Mau Outstanding Female Engineering Student Award



Chelsea Castillo is a senior majoring in chemical engineering in the Otto H. York Department of Chemical and Materials Engineering. She is the recipient of the Bauder Scholarship, the Schwanenflugel Scholarship, the NJIT Academic Excellence Scholarship, the Jacqueline Kane Award, and the CD Shea Memorial Endowment Scholarship. She is a member of the Albert Dorman Honors College with a GPA of 3.904 and has been on the Dean's list since 2019.

Castillo has been inducted into the Chemical Engineering Honor Society Omega Chi Epsilon and is currently serving as Vice President. In this role, she supports tutoring sessions for students requiring help in subjects that include ChE 210 Chemical Process Calculations I, ChE 230 Chemical Engineering Thermodynamics I, and ChE 312 Chemical Process Safety. Additionally, Castillo serves as the Events Chair in the NJIT Habitat for Humanity Chapter, which serves the greater Newark area in building homes and communities. She actively volunteers with the Albert Dorman Honors College, the NJIT Student Chapter for the American Institute of Chemical Engineers through outreach activities with K-12 students, and actively supports NJIT's mission on sustainability and recycling.

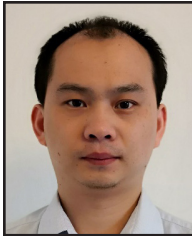
In addition to her service and academic excellence, Castillo applies her classroom education to professional environments through experiential learning opportunities. She is currently a Research & Innovation STEM Diversity Intern at L'Oreal. In this internship, Castillo is advancing new skin care products that support the company's mission of sustainability. She has also been an intern at the chemical company Henkel where she played a role in developing more sustainable formulations for adhesives. Castillo worked with Distinguished Professor Rajesh Dave on a research experience evaluating surface engineered pharmaceutical powder blends.

After graduation, Castillo plans to pursue a chemical engineering master's degree and a role in research and development within the cosmetics industry.

Liang Zhang

Helen and John C. Hartman Department of Electrical & Computer Engineering

NCE Outstanding Doctoral Student Dissertation Award



Dr. Liang Zhang has demonstrated his potential as a researcher prior to joining NJIT, by publishing four journal articles and three conference papers, as well as receiving the best paper award from IEEE International Conference on Computing, Networking and Communications (ICNC) in 2014 and the National Scholarship for Graduate Students in China in 2014. During his first year at NJIT as a teaching assistant and taking a full load of coursework he was able to achieve academic excellence, fulfill the duty of a teaching assistant, and produce research results that were eventually published in premium journals and conferences. His first three years were supported by teaching assistantships; afterward, he assisted his advisor in crafting proposals for NSF grants which supported his additional years of research. In the Summer of 2016, he was recommended for an internship to conduct collaborative research at FutureWei through NJIT's Cooperative Education program. During his internship, he focused on research related to next-generation passive optical networks (PONs), the results of which have been presented in three premium conferences. Zhang successfully defended his doctoral dissertation on April 20, 2020, and was awarded the Ph.D. degree in May 2020.

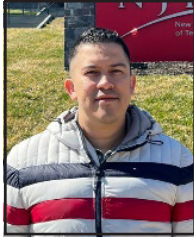
Zhang has served as the technical program committee member for the 23rd IEEE International Conference on High Performance Switching and Routing (IEEE HPSR 2023) and the 11th IEEE International Conference on Wireless Communications and Signal Processing (IEEE WCSP 2019). He has presented his research in the seminars sponsored by the Department of Computer Science, Texas Tech University (TTU) in September 2022, and the Department of Computer Science, New York Institute of Technology (NYIT) in March 2021. Additionally, he has been invited to review over 200 journal submissions, including IEEE Journal on Selected Areas in Communications and IEEE Communications Magazine.

Zhang has published 30 papers, 24 of which he is first author, with 18 journal articles and 12 conference papers, with several additional submitted and others in the works. The quality and originality of Zhang's research has been well recognized by the research community. According to Google Scholar his works have been cited 1379 times with an h-index of 16; his top two cited articles have accumulated 461 and 334 citations, respectively. His extensive research credentials have enabled him to advance his academic career in an extremely competitive market. He joined the College of Engineering and Computing at George Mason University (GMU) as a Postdoctoral Research Fellow, working on a large NSF grant BRIDGES (\$2M) since April 2021. This fellowship will help him seek a tenure-track assistant professorship, and pursue the career he aspires to have in academia.

Jorge Medina

**Helen and John C. Hartman Department of
Electrical and Computer Engineering**

NCE Outstanding Graduate Student Award



Jorge Medina is a PhD student in the Department of Electrical and Computer Engineering and an avid researcher with publications in top ranking journals. He has authored 3 first-author papers and won the best paper award for IEEE HPSR Conference 2020.

Medina has been a teaching assistant in the department since 2018 and has enhanced the course material of ECE 429- Computer Communication Laboratory. He guides students as they perform the experiments set out in the manual and carry out additional work where they exercise ingenuity and design of operation methods to manage and monitor network operations. Medina draws from his own work experience to enhance the course with up-to-date material and real world problems students may face working in the field.

Immediately following graduation, Medina plans to pursue a research career with a leading technology company proposing new ideas and innovating solutions that can contribute to the development and progress of society. Long term, Medina would like to start his own technology research company and consulting firm. He plans to work toward developing software and computing applications in addition to helping his community by funding students in need with scholarships that provide them the opportunity to continue their education and prepare for the future.

Arun Aryal

Department of Biomedical Engineering

Outstanding Senior



Arun Aryal is a senior biomedical engineering major in the Department of Biomedical Engineering. He has been a fixture on the Dean's list with an overall 3.89 GPA. He is both a Highlander Scholarship and NJIT Academic Scholar Award recipient. Aryal is a team player who has garnered praise for his scholastic and research achievements as well as his service to the Department of Biomedical Engineering.

Throughout his academic career, Aryal has delved into many fields of research within the NJIT biology and biomedical engineering laboratories, showing a deep interest in brain neural connectivity. During his first year as an undergraduate researcher, he worked in Dr. Ihlefeld's Neural Engineering Speech and Hearing Laboratory studying auditory processing at peripheral and central nervous level. For Research and Independent Study-I, Aryal joined Dr. Tara Alvarez's Vision Neuroscience Laboratory to assist a capstone team in their efforts to build a vision analysis software that improves research in vision therapy and convergence insufficiencies. For Research and Independent Study- II, he assisted in Dr. Bharat Biswal's Brain Connectivity Laboratory. There, he attempted to build a deep learning CNN (Convolutional Neural Network) architecture that could calculate, with high accuracy, the difference in brain age and chronological age of patients with traumatic brain injuries. Aryal is currently under the guidance of Dr. Horacio Rotstein learning in-depth about neurons and neural circuits. Over the course of his research, Aryal has shown the ability to compete and secure independent funding to financially support his projects. He has received the URI (Undergraduate Research & Innovation) Summer Research Grant, two separate URI Seed Grants, and the NJIT NSF I-CORPS Site Grant.

Additionally, Aryal is an active member of the Highlander community. He has volunteered as a Biomedical Engineering Department Ambassador, Student Ambassador for the Admissions Office and has worked as a desk attendant at Residence Halls. He is currently a Teaching Assistant for Professor Millie Swietek's BME 111 Intro to Human Physiology course. Aryal is also a member of the Biomedical Engineering Society, NJIT Makerspace, Prosthetics Club, Physics Club, and Art Club.

Upon completion of his undergraduate degree, Aryal plans to pursue a PhD in Computational Neuroscience with the intent of solidifying his career path and depth of knowledge in the field of neuroscience.

Philip Baranowski

Department of Mechanical and Industrial Engineering

Outstanding Senior



Philip Baranowski is a senior mechanical engineering major in the Department of Mechanical and Industrial Engineering. He maintains a 3.967 GPA and is pursuing a minor in electrical engineering.

As a freshman, Baranowski participated in the NCE First-Year Design Showcase with a group that worked to reverse engineer and improve 1 component of a reciprocating saw. He was also chosen by Professor Mani to present his individual project of a 3-D printed V8 engine complete with an open block concept, moving pistons, and a camshaft. Baranowski was able to demonstrate the way small scale 3-D printed models could inform the properties of larger models, especially when it comes to kinematics of design, where cheaper, small scale designs could be studied and scaled up to full scale prototypes.

Baranowski's first internship was as an Engineering Intern for Osmose Utilities Services. His duties included building and managing a fleet of vehicles and specialty engineered sensors, developing and instituting maintenance procedures that reduced yearly maintenance expenditures by 5%, and engineering, manufacturing and testing specialty mounts using 3D printing to improve sensor performance. In his current cooperative learning experience, he is gaining useful industry knowledge as a Technical D-SCADA Intern with Public Service Enterprise Group (PSEG). He helps supervise installation teams in the field to ensure proper development and function of capital assets and works with outside vendors to finalize details of new substation SCADA management devices and software. Baranowski also reviews and modifies engineering prints as part of the engineering stage of new substation design and construction. Finally, he acts as field engineer to troubleshoot issues and implement solutions to minimize outage impact and severity as well as regularly testing assets to confirm proper control functions and ensure regulatory compliance.

Baranowski is highly regarded by his peers and professors for his openness and willingness to help. He has assisted the American Society of Mechanical Engineers with tutoring students for their common exams in both math and physics at select events. He also makes himself available to his peers for assistance in various engineering courses. Additionally, he is a member of the NJIT Polish Students Association, working to integrate and spread Polish culture and language to the Highlander community.

After graduation, he plans to take the FE exam and gain industry experience in an effort to obtain his PE license. Ultimately, he would like to design and automate mechanical systems in order to become a subject matter expert.

Nicholas Carrillo

School of Applied Engineering and Technology

Outstanding Senior



Nicholas Carrillo is a senior mechanical engineering technology major with a 3.929 GPA. He is a member of the national honor society of Engineering Technology Tau Alpha Pi and has been a fixture on the dean's list. He is also the recipient of the Curtiss-Wright Century of Flight Scholarship.

Prior to attending NJIT, Carrillo participated in the High Schools United with NASA to Create Hardware (HUNCH) program which trained prospective engineering students at the college level while simultaneously allowing them the opportunity to manufacture parts contracted by NASA for various uses on the International Space Station. Carrillo worked as a student contractor fabricating small clips and nuts for space lockers as well as fixture testing. Upon completion of the program, students were given a Congressional Certificate of Recognition for Participation in the HUNCH Program signed by Representative Rodney Frelinghuysen. Carrillo graduated Magna Cum Laude from County College of Morris (CCM) with an associate degree in applied Science in Mechanical Engineering before transferring to NJIT in Spring 2021.

At NJIT and beyond, Carrillo has been an active participant in philanthropic endeavors. He has volunteered with Habitat for Humanity, assisting with the construction of small homes for Paterson residents. He has also worked with the Foundation for Disadvantaged Families in Columbia. The organization assists families living in poverty in small villages of the Atlantic region of Columbia and allows them access to clothing, education, school supplies, and resources that aid in the renovation of vital infrastructure, most importantly schools.

In addition to his volunteer work, Carrillo has utilized NJIT's cooperative learning program to gain industry experience while pursuing his degree. He accepted an internship with Weiss-Aug and gained valuable knowledge and training with various tooling and machinery, ultimately contributing to product development and production. Carrillo learned numerous skills which included laser welding, manual and automated percussion welding, 3D printing with liquid resin, and injection molding.

After graduating, Carrillo's goal is to work in the aerospace industry assisting in the design and development of specific components or assemblies while pursuing a master's degree.

Ymer Dinoshi

Helen and John C. Hartmann Department of Electrical and Computer Engineering

Outstanding Senior



Ymer Dinoshi is a senior electrical engineering major continuing toward a M.S in electrical engineering in the Helen and John C. Hartmann Department of Electrical and Computer Engineering. He maintains a 3.98 GPA which ranks him in the top 1% of his cohort of electrical engineering students. He is a member of Phi Theta Kappa Honor Society, National Society of Collegiate Scholars, a STEM Student Scholar “3SP” nominee, and a recipient of the John C. Hartmann Endowed Scholarship.

Dinoshi transferred to NJIT in the Fall semester of 2021 after completing his associates degree in general engineering at Bergen Community College (BCC). While at BCC, Dinoshi excelled as a professional tutor in the Cerullo Learning Assistance Center (CALC), where he was the recipient of the 2020 Best Newcomer Tutor Award and the 2021 Student’s Choice Tutor Award.

An avid researcher, Dinoshi has worked with Professor Haim Grebel on a project which involved using COMSOL to perform electromagnetic simulation of different systems. He conducted experiments of electromagnetic situations to confirm simulation results to compare/contrast the experimental results. He demonstrated several key features and presented understanding of the subject matter to the standard expected of graduate students.

During the Summer of 2022, he began working for CACI as a Radio Frequency Engineer Intern. Dinoshi evaluated design prototypes using state of the art equipment to validate parameters such as noise figure, phase noise S-parameters, and image rejection of the system. He designed various RF analog circuitry involving Mixers, Filters, Baluns Crystal Oscillators, Phase Locked Loops, LNAs, ADCs/DACs, FPGAs, and Power circuitry. His work also involved implementing RF schematic design into a printed circuit board layout using Altium Designer.

In addition to his numerous academic involvements, Dinoshi enjoys participating in the various extracurricular activities offered on campus. He is especially grateful to attend those hosted by the Muslim Student Association.

Dinoshi’s vision for his future after graduation is to continue making a difference as an engineer. He plans to use his foundational knowledge to gain further industry experience and expose himself to as many problem solving scenarios as possible. Eventually, Dinoshi would like to form an engineering consulting company and travel from place to place solving difficult problems.

Elizabeth Mundkowsky

John A. Reif, Jr. Department of Civil and Environmental Engineering

Outstanding Senior

Outstanding Senior (Overall)



Elizabeth Mundkowsky is a senior majoring in civil engineering in the John A. Reif Jr. Department of Civil and Environmental Engineering. She is a member of the Albert Dorman Honors College and recipient of the 2022 CEE Sophomore Excellence Award. Throughout her 4 years at NJIT, she has achieved an exceptional academic record maintaining a perfect 4.00 GPA.

Mundkowsky spends much of her time practicing leadership as a co-captain for the NJIT Concrete Canoe Team. She helped revive the university's team after a year of inactivity due to the pandemic, bringing it to competition despite a late start and lack of experience. She also had the opportunity to orally present the team's canoe design and construction at the 2022 ASCE Metropolitan Region Student Symposium. Her leadership capabilities and overall interest in concrete led the team faculty advisor to invite her to become a laboratory assistant in the Materials and Structures Laboratory (MATSlab). In her research, she has worked to pre-batch, mix, cast, demold, test and deliver concrete mixes for Port Authority of New York and New Jersey research of supplementary cementitious materials. Additionally, she tests compressive, flexural and tensile strength, chloride content, drying shrinkage, elasticity, fresh properties, and heat of hydration (according to ASTM methods) of concrete mixes. Mundkowsky's contentious approach to her school work has also been highly regarded by professors. After demonstrating high quality analytical and writing skills on a research paper for EnE262 Introduction to Environmental Engineering, her professor invited her to draft the literature review for a grant proposal.

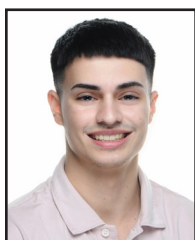
Her passion for learning continues through her volunteer work to spread interest in STEM through her involvement in STEMentors. As a mentor, she guided a group of elementary school students through a challenge to design and construct a wind-powered car. She also handled 3D printing of a component of the student's vehicle. Additionally, she volunteers her time with the American Institute of Architecture Students 3D Print Lab where she prints customer 3D print orders.

After graduation, Mundkowsky plans to continue her education by pursuing a Master's degree in either Civil Engineering or Engineering Management. She is interested in a fellowship to further delve into concrete research. Ultimately, she would like to work in geotechnical engineering as a licensed professional engineer.

Justin Pace

Otto H. York Department of Chemical and Materials Engineering

Outstanding Senior



Justin Pace is a senior chemical engineering major in the Otto H. York Department of Chemical and Materials Engineering and is also pursuing a MS degree in NJIT's pharmaceutical engineering program. He maintains a 3.974 GPA and has been on the Dean's list since transferring to NJIT in 2020. Pace is a member of several collegiate organizations including Omega Chi Epsilon (the Chemical Engineering Honor Society), National Society of Collegiate Scholars, and the National Society of Leadership and Success. He is also a recipient of the CME Annual Scholarship, Service, and Research Award.

Pace enthusiastically participates in undergraduate research with Distinguished Professor Piero Armenante. His research over the past two summers has been supported by the Provost Undergraduate Summer Research Fellowship Program. The primary focus of his research has been on the complete mixing time of tracer materials across numerous variables. He has presented these research findings at the North American Mixing Forum Mixing XXVII Conference as a finalist in the student competition. Additionally, Pace has assisted in authoring a peer reviewed journal paper and is currently working toward getting a second paper published as first author.

Throughout his time at NJIT, Pace has been an active part of the Highlander community as a member of Alpha Phi Sigma Fraternity. He has previously served as Vice President of Brotherhood Development and is currently the Vice President of Growth. His chapter has been involved in numerous community service events including game nights, park cleanups, camping trips, paintball outings, blood drives, and various philanthropic events to raise money for local charities.

After graduating with a bachelors, Pace has accepted a cooperative education experience with Catalent Pharma Solutions as a Validation Engineer, which he will maintain until completion of his master's degree. With great aspirations to work in drug product manufacturing, Pace plans to continue working with Catalent Pharma post-graduation to develop products that will have a lasting positive impact for future generations.

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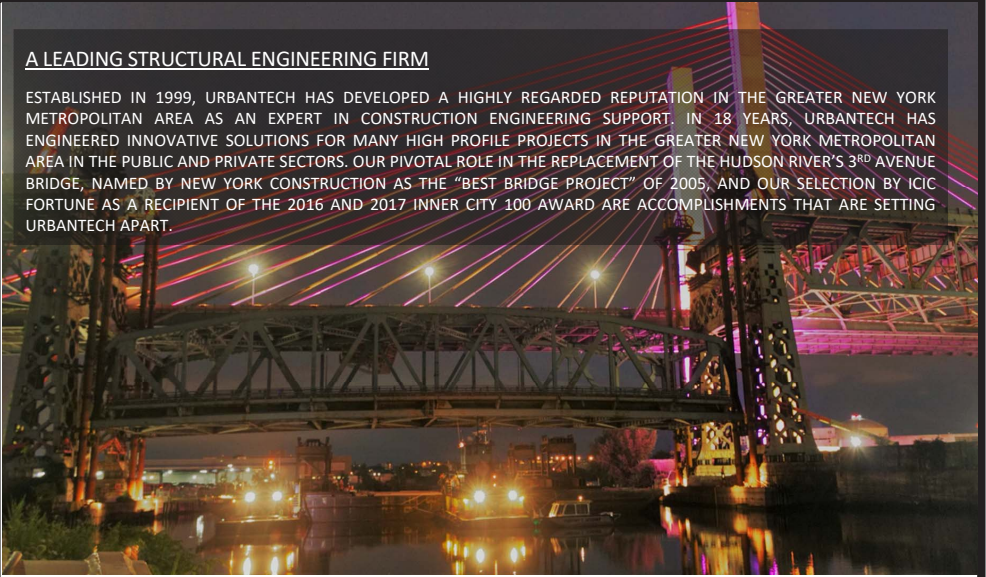
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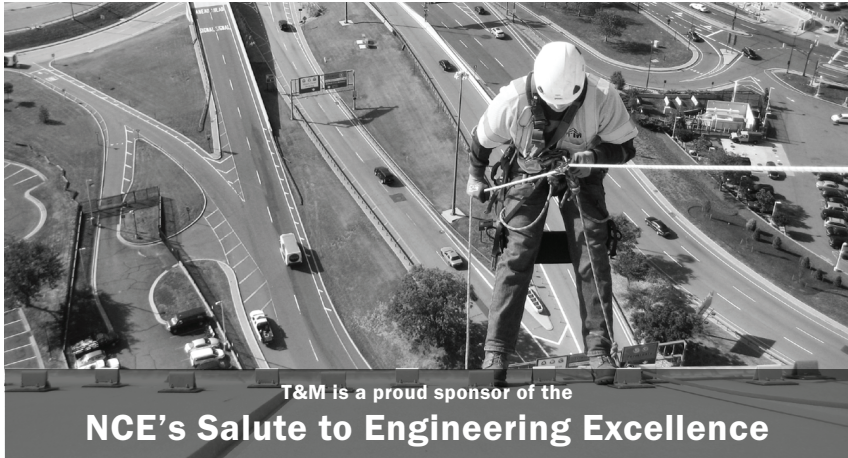
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