ALBERT DORMAN
HONORS COLLEGE

HONORS IN ACTION 2021

NJIT | ALBERT DORMAN HONORS COLLEGE

DEAN'S LETTER

Dear Friends,

The Albert Dorman Honors College develops scholars as intellectual, professional, community and global leaders. I am pleased to present our *Honors in Action 2021* review that highlights just some of the many wonderful stories from the past academic year. The college continues to innovate a unique, interdisciplinary education that empowers Dorman Scholars to become leading researchers and entrepreneurs who communicate complex ideas powerfully and effectively.

The education we offer also reflects our commitment to fostering global cultural awareness, serving our neighbors and enabling our scholars to become effective, moral leaders in the interdependent world of the 21st century. Thanks to the ongoing generosity of Albert and Joan Dorman and their children, we were able to strengthen that commitment through the Joan and Albert Dorman Community Education Fund, the Albert Dorman Honors Scholars Exceptional Service Award and the Albert Dorman Future Leader Award.

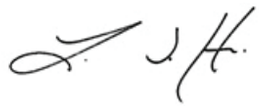
In the fall of 2021, we welcomed one of our strongest classes ever; with an average high school GPA of 3.84 (and an average SAT score of 1500), the Class of 2025 was one of our most selective, drawn from over 2,500 applicants. We are especially proud to welcome our third cohort of Newark Mayor's Honors Scholars, drawn from the most well-prepared students in the great City of Newark that we call home.

Our innovative Honors Faculty Fellows Program enables NJIT's leading faculty members to teach advanced courses in areas such as biology, biomedical engineering, civil and environmental engineering, computer science and mechanical engineering. In this issue, we highlight the work of Honors Faculty Fellow Maria Stanko, senior university lecturer in biology.

We also hosted our fourth, and our most successful, Honors Summer Research Institute with 19 participants, two of whom were recognized for their work by the Provost's Office.

These opportunities and more are supported through the generosity of our alumni and friends. They change the futures of the incredible women and men whom we are proud to call Dorman Scholars, and they have enabled NJIT to lead the State of New Jersey in producing Goldwater Scholars over the past three years. You can read about these and other exciting accomplishments of our graduating class in the following pages. I hope that you are inspired to join with us and help us pass this 26-year-long tradition of excellence to the next generation.

Sincerely,



Louis I. Hamilton, Ph.D.
Dean, Albert Dorman Honors College

HONORS IN ACTION 2021 CREDITS

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On the Cover: A Dorman Scholar inspects an insect attracted to the pollinator garden on the Honors Green. The garden plays an integral role in the college's annual biodiversity survey, for which scholars quantify, map and identify plants, animals and insects on campus.
Photo: Xavier Reyes '22, Dorman Scholar

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Spotlight on Honors Faculty Fellow Maria Stanko

Climate change. It's here. It's happening. But what does that have to do with food? Well, a lot actually. Agriculture, transportation of goods and food processing all impact the climate and our environment. In fact, NJIT recently ran a course called "Food for a Hot Planet," offered by Mario Stanko, a senior university lecturer in NJIT's College of Science and Liberal Arts and the Sarabjit Singh '04H Honors Faculty Fellow. Dr. Stanko was kind enough to sit down with Nazia Shaheed (virtually) and share her experiences teaching the course.

NS: Can you talk a bit about the course itself, its main goals and objectives, and what you hope people would get out of it?

MS: Sure! The idea behind the course is to have students think in-depth about the intersections of climate change and our food systems. So we discuss both how the way humans eat contributes to the climate problem, and also the way that the change in climate is expected to impact the way we eat. We would think in both of those directions, because I've found in another course I teach, "Ecology of the Dining Hall," that thinking about food is a really good way to get students to think about their own connection to other species in other ecosystems. "Food for a Hot Planet" is very specifically thinking about climate change and food systems and with a view toward the future. So part of the idea of the course is to think about "how should agriculture change?," and "how will it inevitably change?" My hope is that we'll take a sort of hopeful perspective in thinking that way.

NS: Does this class also involve any specific projects that students could get involved with, or does it push students to develop their own projects as to how they can affect change in their local communities?

MS: Yes, It definitely does! Throughout the course of the semester, we read a book together as a class and discuss it, but then there are also additional readings and resources that we talk about in connection to different topics as we're working our way through the book. Ultimately, the course progresses toward students developing their own project, which communicates their vision for the future of food to the campus community. So the idea is that it is connected to food and the climate and

somehow our local community — our campus or Newark. The first semester, the students decided to propose a plan for establishing a campus food forest, which is basically like a perennial garden of food-producing plants. They researched what kinds of plants would be good choices; they drew up designs for the planting; and they made a timetable. They wrote about how they thought this proposal would benefit the campus and why it was related to climate change.

NS: I know that climate change is being exacerbated and, internationally, there's a lot of policies being put in place. On a local/NJIT-level, do you think that students still remain optimistic and they're still willing to take these types of action?

MS: I have sometimes felt that students are a little more pessimistic, actually, than I am. And I think maybe that comes from hearing this all your lives. Climate change has been something that you've heard about and has always been part of your future. Whereas, I still remember when, even though it was not a brand-new topic, it wasn't a major environmental problem that people were concerned about. I still have that luxury of remembering not worrying about climate change when I was a kid! I do think that, for some young people, the default position is to be sort of resigned to it. But I think that, in the course last year, the students got very excited about learning about the kinds of things that people are doing and learning about a number of different solutions that are possible. There are ways to deal with this problem. We just need the political will to make them happen. But my hope is that people leave the course [being] more knowledgeable about climate change generally, but hopefully [also gaining] a more hopeful perspective maybe than they had coming in.

NS: Are you running this course or any similar course next semester?

MS: Yes, it will be offered again in spring 2022. The current set of students will make some decisions about exactly how we'll cover the topic and eventually what the nature of their project will be. I think it would be really exciting to have students from across the colleges taking the course.

Interview by Nazia Shaheed '22, ADHC

Alumna Gabrielle Rejouis '15 Chosen as Convocation Speaker

Quoting Fred Rogers and poet Audre Lorde, NJIT alumna Gabrielle Rejouis '15 urged members of the Class of 2024 to be "helpers" and foster communities during the university's annual Convocation, which was held online Wednesday, Sept. 9, 2020.

"You all have a contribution to make," said Rejouis, an Albert Dorman Honors College Scholar who majored in history and is now a senior policy manager at Color of Change. "Your contribution might be a new program or policy at NJIT. It might be winning an election or getting a research grant. On the other hand, your contribution might be backing up a classmate during class discussion. It might be affirming someone's expression or identity. Your contribution might be building a friendship.

"The latter contributions don't get you interviewed or win awards. But they are remembered and make a difference," she added. "You have the potential to change lives with your skills and your kindness."

The Sustainable Campus: ADHC First-Year Seminar Biodiversity Initiatives

Photo: Xavier Reyes '22, Dorman Scholar

First-year Dorman Scholars participate in the college's annual biodiversity initiative.

On the sunny weekend of October 16 and 17, first-year students from the Albert Dorman Honors College trooped out to Eberhardt Hall, the majestic Victorian building that serves as the face of NJIT's campus. They aimed to transform its front lawn by introducing species that would contribute to the ecological diversity of the campus. Wielding shovels, picks and plants, they dug up the space between Eberhardt Hall and Bleeker Street to plant shrubs, grasses and other vegetation along its steep slopes. The scholars were simultaneously planning out their own innovative designs for another space on campus, the Campus Center's rooftop, making their current gardening even more significant.

The quest to increase biodiversity on campus began in 2019 with the reimagination of the Green behind Honors Hall. Based on research from the 2018-2019 Dorman Scholars, the plan aimed to introduce (or rather, reintroduce) several plants into the New Jersey environment, especially into the urban area of Newark. Some of these native species included New Jersey tea, coneflowers, New England asters, lady fern, milkweed and blazing star. In addition to increasing the ecological resilience of NJIT's environment, the undertaking was planned in order to support a growing number of pollinators and decrease rainwater runoff. The Honors Green was the ideal location for this initial project, due to its exposure to sunlight and relatively clear lawn. However, it is also closely connected to the heart of campus — bordering Honors Hall, the Greek houses and the beach volleyball court — so any modifications here would be extremely prominent and therefore high stakes.

The careful planning and execution of the 2018-2019 biodiversity plan meant that the project was a resounding success. Attracting bees, birds and butterflies during the summer months, it serves as a haven for wildlife and is a key stop on the Honors College tours. The impact of the planting was such that the next year's Dorman Scholars were given access to the highest-visibility area on campus: the iconic, red-brick Eberhardt Hall. Keeping in mind their goals of decreasing the loss of precious nutrients,

supporting the surrounding wildlife and enriching the campus soil, they designed a descending garden meant to signal NJIT's commitment to reinforcing biodiversity.

Of course, the actual planting was the most visible culmination of an effort that began the previous year, one which this year's Dorman Scholars could well understand, as they were simultaneously designing a proposal to increase biodiversity on another staple of campus life: the rooftop of the Campus Center. Currently, it contains several precisely aligned planting beds interspersed with tables, affording each group privacy and a fresh outdoor breeze at the same time. Just as Eberhardt Hall represents the NJIT campus, the Campus Center rooftop represents how students relax and unwind; therefore, this year's proposal will be the most closely connected to other NJIT students.

As the Dorman Scholars of the Class of 2025 dug in the sun and envisioned their own ideas coming to life the next year, reflection became equally important. This project has and will undoubtedly encourage students to grow as scientists and engineers: Not only are they able to track their observations in real time with apps such as iNaturalist, but they are also beginning to consider the wider impact that their proposals may have on NJIT and the Newark community. However, revisiting the origin of the project was also equally crucial; sometimes, even the best ideas in theory do not succeed in the real world, as no one can always account for every factor. And to be sure, some plants in the original Honors Green garden had decayed, but the vast majority of them were still standing, ready to be weeded and nourished by scholars once more.

Story by Mrunmayi Joshi '25, ADHC

On the slope between Eberhardt Hall and Bleeker Street, first-year Dorman Scholars plant shrubs, grasses and other vegetation.

Honors College Summer Program Creates Interdisciplinary Research Pipelines

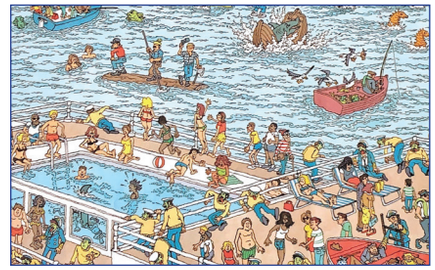
There's a formula for summer fun. For most undergraduates, it includes shore town getaways, hikes and Netflix. At NJIT, research is the missing variable. It's become a summer tradition, as much a part of the culture as pizza and bagels.

At the Albert Dorman Honors College, the eight-week Honors Summer Research Institute (HSRI) offers individualized training rarely found elsewhere. The goal of the program is to ensure that undergraduates can develop proof-of-concept prototypes, learn the ropes of peer review and prepare to eventually pitch their research to gain funding. Core to HSRI's effectiveness is its interdisciplinary framework where students have a front-row seat to various academic disciplines, allowing participants to think differently about their own projects. It's a sort of pipeline that pumps undergraduates into prestigious fellowships and academic programs across the world.

The HSRI culminates every summer at the Undergraduate Research and Innovation (URI) Summer Research Symposium and award ceremony where scholars present their summer work. This year, two students from HSRI, Elizabeth Kowalchuk and Nishita Vootukuru, were awarded honorable mentions in their categories, and an additional seven were invited to join the NJIT student chapter of the National Academy of Inventors.

Story by Rory Pasquariello, Office of Strategic Communications and Marketing
Edited for this publication by Jacob Swanson '25, ADHC

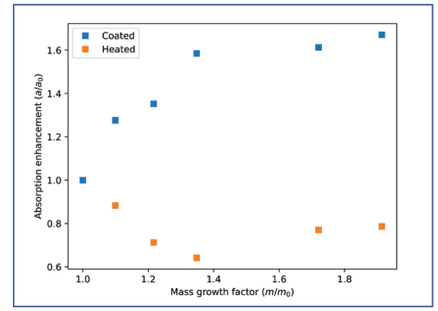
SUMMER 2021 HSRI PARTICIPANTS



The Impact of Clutter on Multiple Object Search

Elizabeth Brogna and Sophie Jedrysek, Class of 2024

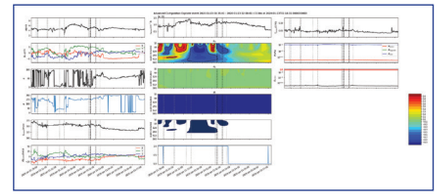
To better understand the extent to which clutter impedes visual search, we studied individuals' performances while looking for targets in *Where's Waldo* images. Our data showed that high clutter significantly impedes search, especially the speed at which participants complete the given task.



Enhanced Light Scattering and Absorption by Processed Soot Aerosols

Egor Demidov, Class of 2023

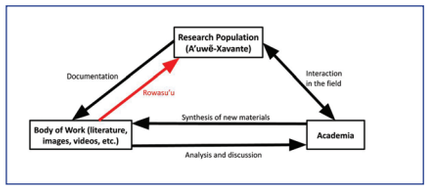
Understanding changes carbon soot undergoes in the atmosphere is essential for predicting climate change. We coated soot with various chemicals and measured its optical properties. We observed a decrease in heat absorption, which contradicts existing models.



Analysis of Flux Rope Events and Their Effect on Earth's Magnetosphere

Manal Desai, Class of 2024

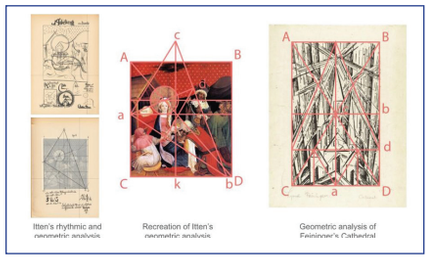
I gathered magnetic field data from various near-Earth spacecrafts to examine flux ropes, identified by a numerical method. By looking at magnetic field data parameters, strong flux rope events from the Advanced Composition Explorer spacecraft were selected for continued analysis.



Indigenous Data Sovereignty and Accessibility Using Rowasu'u

Pia Kapoor and Jada Evans, Class of 2022

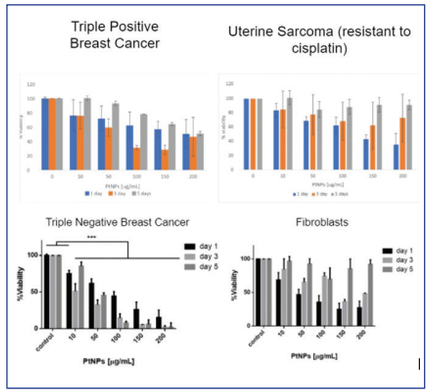
A'uwẽ Xavante Indigenous communities in Brazil have been the subject of research for decades without access to or ownership of data created about them. We aimed to return data through the Rowasu'u digital archive, protecting sensitive documentation while making it accessible to Indigenous individuals with limited computer and Portuguese-language literacy.



Bauhaus Medievalism: Gropius' Medieval Ideals and Their Manifestation in Bauhaus Pedagogy

Elizabeth Kowalchuk, Class of 2023

To understand the effect of invented ideas of the Middle Ages on the Bauhaus, I conducted a literature review tracking medieval thought through the 19th and early 20th centuries. I then conducted a geometric analysis on a key visual medievalism used by the Bauhaus' founder, Walter Gropius.



Targeted Platinum Nanoparticles as Treatment for Triple-Negative Breast Cancer

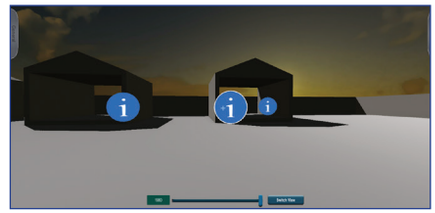
Ashish Kokkula, Class of 2024

I studied how platinum nanoparticles affect triple-negative breast cancer. Using triple-positive breast cancer and uterine sarcoma, I confirmed that platinum nanoparticles follow a similar mechanism to a current platinum-based drug, cisplatin. Additionally, I found that a treatment's effectiveness depends on the cell's speed of replication.

Temperature Entrainment of Cyanobacterial Circadian Clocks

Sahitya Kulkarni, Class of 2024

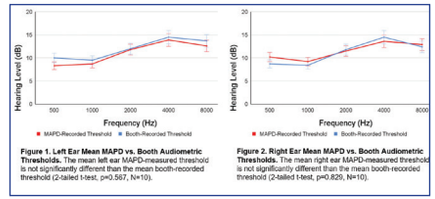
I studied the temperature entrainment of cyanobacterial circadian clocks to determine if there was a cycle length beyond which proper entrainment no longer occurs. In order to determine this, we exposed the separate clock protein samples to 12-hour cycles, 14-hour cycles and 16-hour cycles.



Unity for Spatial Research

Jason Kurzer, Class of 2022

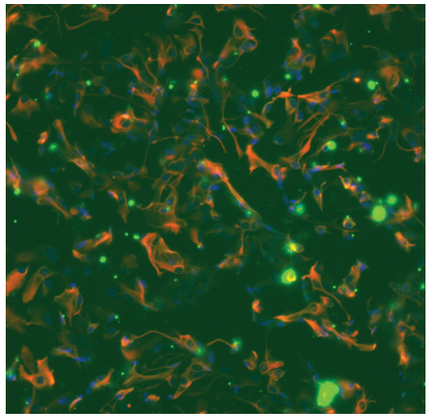
SpatioScholar is a temporospatial toolset developed in the game engine Unity that allows researchers to interact with 3D simulations of extinct or extant spaces. I modified the 3D annotation system into "information bubbles," creating a more user-friendly approach for end users.



Pure-Tone Audiometric Clinical Testing of the Mapping Auditory Processing Disorder (MAPD) Application

Stuti Mohan, Class of 2024

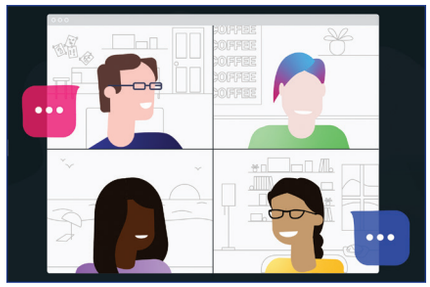
I conducted noninferiority testing of MAPD against a standardized procedure in order to test MAPD's clinical potential. The results showed an insignificant difference between the audiometric thresholds determined by each procedure, moving MAPD closer to FDA approval.



The Effect of Microglial NLRP3 Inflammasome on Astrocyte Piezo1 Expression and IL-1ß Levels

Seejal Padhi, Class of 2024

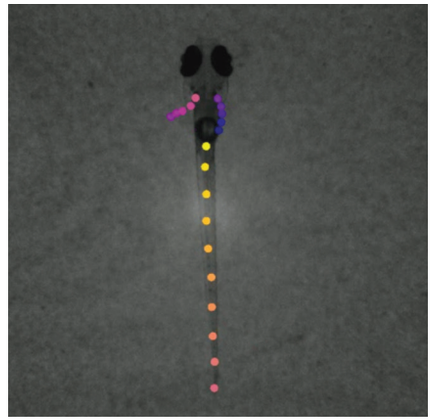
My research focused on the relationship between microglial NLRP3 inflammasome and astrocyte Piezo1, and their effect on Interleukin-1B release post-injury. A stretch injury model mimicked the mechanical forces caused by a traumatic brain injury, which we then analyzed to observe acute and long-term changes.



An Exploration of Intern Socialization During Remote Internships

Reesha Ghandi, Class of 2023

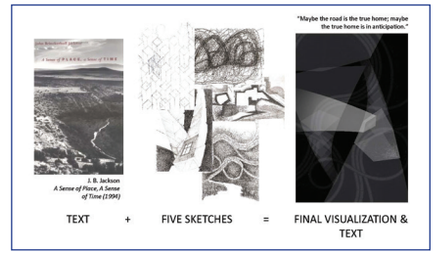
Since the start of the COVID-19 pandemic, remote interns have not had the same socialization that they would have had in an in-person workplace. This research focused on exploring how interns socialize and build relationships with co-workers, both in remote and collocated settings.



The Role of Dmrt3a in Rhythmic Pectoral Fin Movements in Zebrafish

Nikitha Pappachen, Class of 2022

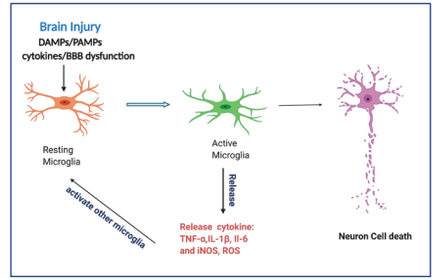
I studied the behavioral effects of silencing the Dmrt3a gene in Zebrafish pectoral fins. We used DeepLabCut, a software tool with machine learning and tracking capabilities, to analyze the data and understand the role of Dmrt3a in limb locomotion.



Visualizing Space and Place: Lessons for the Young Architect

Dhruvi Rajpopat, Class of 2024

I researched, understood and interpreted how space is transformed into a significant place by adding memories, experiences and intentions. I cultivated a thoughtful and critical way of understanding a fundamental architectural concept and redefined the way I approach the design process.



Neuronal Cell Death in Repeated Low-Level Blast-Induced Traumatic Brain Injury

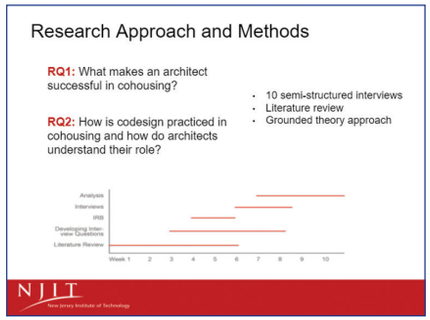
Sheetal Padhi, Class of 2024

My research investigated the impact of repeated low-level blast-induced injury (rLLB) on neural cell death. We stained the hippocampus of the rat brain with NeuN (neuron marker) and Iba1 (microglia marker) to examine the neuronal changes following rLLB in a 24-hour and a 30-day time point.

Visual Memory and Shifting Ability in Chess Players

Ruchi Shah, Class of 2024

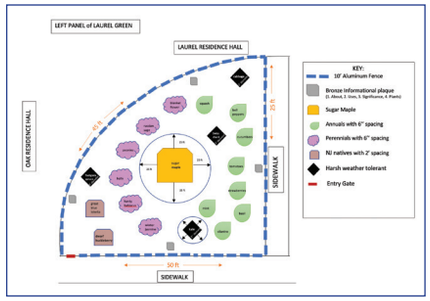
This research investigated the relationship between visual working memory and shifting skills, and chess ability and length of time playing chess. The results showed that people who played chess have slightly better visual working memory and faster shifting ability than those who do not, but the data is inconclusive.



The Challenges of Cohousing From the Architect's Perspective

Jacob Swanson, Class of 2025

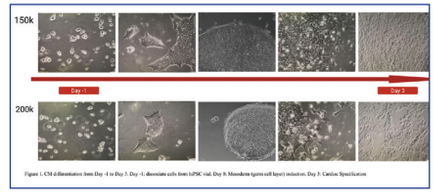
I explored the use of participatory design methods to build community bonds in the development process of cohousing, a community-oriented living arrangement. Preliminary work suggested mechanisms of productive conflict, design questions as values questions, and workshops as events build a sense of solidarity among future residents.



A Food Forest to Combat a Hot Planet

Shafia Talat, Class of 2022

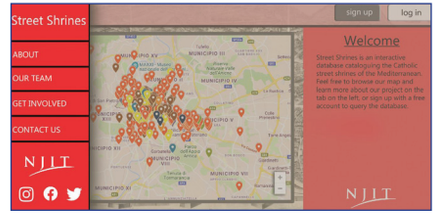
To promote awareness of carbon sequestration as a strategy to battle climate change, I proposed establishing a food forest on NJIT's campus. I focused on creating a blueprint, building a website and creating community affiliations.



Effects of Osteopontin on Cardiomyocytes as Related to Myocardial Infarction

Nishita Vootukuru, Class of 2022 (NJMS Accelerated Program)

I investigated the role of the protein Osteopontin (OPN) in heart attack recovery with human stem cells differentiated into cardiomyocytes (heart cells). If OPN is shown to promote growth and proliferation of cardiomyocytes, then OPN may be used to repair the damaged tissue from a heart attack.



Interface Implementation of the Edicole Sacre Database

Meredith Westrich, Class of 2024

The Edicole Sacre database contains recent and thorough data about the street shrines in Rome. StreetShrines.njit.edu acts as an interactive, dynamic tool to access the database without creating a permanent publication. The site also allows for users to search and query the database.

Venture for America Recipient

Parth Agrawal '21 was awarded a two-year fellowship with Venture for America, a nonprofit organization that places recent graduates at startups in small cities to boost economic mobility and foster the next generation of entrepreneurs. The biomedical engineering graduate is working with a startup in Cleveland, Ohio, and has deferred his medical school admission. His journey started when the Albert Dorman Honors College sent out a request during the pandemic for design submissions for face shields. Agrawal, with some of his friends, started a volunteer organization called The CommonHealth Project that worked to create and distribute face shields.

For 20 weeks, they were able to distribute 1,000 face shields weekly to different health care departments in need. Agrawal enjoyed his experience contributing to those in need during a difficult time, and was glad he was able to partake in the experience. Agrawal said, "It's what I love about entrepreneurship. It can be a catalyst that turns into real civic support."

Goldwater Recipients

Sreya Sanyal '22, a senior double majoring in biology and history, received the 2021 Barry M. Goldwater Scholarship. Our nation's most prestigious undergraduate research scholarship, the Goldwater Scholarship provides up to $7,500 per year, networking and support for students pursuing research careers. She is working on intricate research regarding affordable antiviral therapies for COVID-19 to help the disparity between the infection rate and number of vaccinated individuals. To continue this research, Sanyal plans to "characterize the formulation through various mechanistic studies, then rest the dosage toxicity and, finally, evaluate the drug's cellular efficacy."

Sanyal is applying to M.D./Ph.D. programs to become a medical researcher exploring cancer biology and clinical treatments. She wants to spend 75% of her time conducting research and the rest of the time with patients looking at the efficacy of cancer treatments.

Abdul-Rahman Azizogli '23 was selected as a 2021 Barry M. Goldwater Scholar, one of only 409 undergraduate students in the natural sciences, engineering and mathematics disciplines across the nation. Azizogli is currently a third-year student majoring in biology with minors in applied mathematics and applied physics. Working with scientists at the Baylor College of Medicine and Public Health Institute at New Jersey Medical School, Azizogli is investigating the interactions of viral nonstructural proteins in COVID-19. The pandemic "inspired [me] to start a COVID-19 computational modeling project with my friends in order to contribute to the research into SARS-CoV-2 from home."

Azizogli's interest in medicine and drugs stemmed from his experience as an EMT and being able to see the effects of drugs/medicine on his patients. Azizogli plans to pursue a career in computational biology to analyze drug interactions and develop therapeutic interventions.

Fulbright Recipients

Kaylin Wittmeyer '21 was awarded the Fulbright U.S. Student Program Scholarship, the U.S. State Department's flagship program to promote mutual understanding and cultural exchange. Wittmeyer is pursuing a graduate certificate in digital creature animation at Sheridan College in Ontario, Canada, where she is studying fantastic creatures and characters for film, games and television.

In Canada, Wittmeyer is honing her technical skills, such as building a musculoskeletal system for the characters, drawing and animating clothing and hair and more. Looking at animation as more than a replication of life, Wittmeyer sees it as a form of art that should push boundaries to make fantastic creatures come alive. She hopes to work in feature animation as an animator, story artist or texture artist. Her long-term career goal is to "become a creative director or director for a studio, where I can shape the story of a film or television show and create stories that will leave lasting impression on audiences."

Current senior **Joseph Torsiello '22**, majoring in applied physics and mathematics, received the Fulbright Canada-MITACS Globalink Scholarship to research neutrinos at the University of Montreal in the summer of 2021. Fulbright Canada's mission is to identify the brightest students in the U.S. and Canada and engage them in academic exchange. Torsiello spent the summer looking at neutrinos (also known as ghost particles), which are chargeless, almost massless subatomic specks. Specifically, he searched for the neutrinoless double beta decay, which was thought to occur in isotopes such as Xe-136. Observing this decay would imply exciting physics beyond the Standard Model.

By determining the particles that come forth from the decay, Torsiello was able to develop new ways of tagging these particles. Torsiello is fascinated by neutrinos as they "are exotic and yet all-around us," and is curious as to whether "there is a use for neutrinos in human applications." Torsiello is applying to Ph.D. programs in particle physics.

National Science Foundation Graduate Research Fellowship Recipient

Daniela Bushiri '21 graduated summa cum laude from NJIT in 2021 with a B.S. in chemical engineering and a minor in applied mathematics. She received the National Science Foundation Graduate Research Fellow scholarship, which recognizes and supports outstanding STEM graduate students with three years of postgraduate funding. Bushiri came to the United States from Congo, via South Africa, through a United Nations program for refugees. In Congo and South Africa, she saw many electrical shortages due to an unstable coal-reliant grid.

When she came to NJIT, Bushiri wanted to "look into ways to improve our systems to provide energy to a growing population." She explored the field through research as a McNair Scholar, as well as internships in the energy industry. Bushiri is now attending Columbia University, where she is continuing her research on alternative energy as a Ph.D. candidate in chemical engineering.

Boren Recipient

Samuel Carlos '22 was awarded a 2021 National Security Education Program David L. Boren Scholarship to study Mandarin language in Taiwan in spring 2022. The Boren Scholarship funds study abroad in world regions critical to U.S. interests.

Carlos is the first Highlander to obtain three degrees during his undergraduate career. After coming into NJIT with 103 credits, he was on a fast track to graduate very soon. However, Carlos wanted to learn more and decided to pursue a third degree with the encouragement and support of Dean Louis Hamilton. Since his first two majors were computer science and applied mathematics, Carlos decided he wanted to venture out into a different field for his third major, so he chose a Bachelor of Arts in history. Carlos said he "didn't want to be just looking at equations and algorithms all day." Carlos brings a valuable transdisciplinary perspective to his work as a software developer and has completed internships at Amazon, Facebook and Google.

Edited by Sheetal Padhi '24, ADHC

Dorman Scholars Class of 2021

Roberto Adamson - Electrical Engineering major

A recent graduate and off to great things, Roberto Adamson is not short of accomplishments. He was named the "Outstanding Senior" at the Department of Electrical and Computer Engineering, with a 4.0 GPA. Adamson engaged in hands-on experience working with smart and connected devices at a study abroad program with INNOV@INSA in Lyon, France, funded by the ADHC Dean's Fund and a travel prize from the Office of Global Initiatives. According to Adamson, "What intrigues me about AI, automation and control systems is the ability of machines to make smart decisions in less time than it would take a human, and to have the power to learn and adjust to new information more efficiently than we could." Aside from AI, Adamson is also a competitive soccer player and helped to bring the Highlanders to their first championship at the ASUN Conference in 2019. He is now on his way to pursuing a master's degree in electrical engineering at Eidgenössische Technische Hochschule (ETH) in Zurich, Switzerland.

Bhoomi Davé - Biology major

A native Newarker with dreams of becoming a physician, Bhoomi Davé found her passions for research fulfilled at NJIT. Her research focused on the opioid epidemic, as she worked with a local addiction center to assist physicians in conducting clinical trials to find alternatives to prescribed opioids. "My town and some of my high school peers were struck heavily by [the opioid epidemic]. I wanted to help alleviate the burden of substance abuse and center my research endeavors around it," said Davé. She also applied her skills at NJIT's BioSMART Lab with the chemistry department chair, Wunmi Sadik, to design a wearable device that can detect quantifiable pain levels using biomarkers in the blood from a wound site. Such a device would not only help physicians better diagnose their patient's pain levels and decide on treatments other than opioids, but it would also help assault victims support their case during a criminal investigation. Now, after completing her degree at NJIT, Davé is at Drexel University College of Medicine following her dreams.

Jonpierre Grajales - Applied Physics major

Research is a cornerstone of student life at NJIT, as Jonpierre Grajales will tell you. In fact, the plentiful hands-on research opportunities are what led him to NJIT in the first place. Working under physics professor John Federici in his Additive Manufacturing Lab (ADDLAB), Grajales was able to evaluate prehistoric fossilized amber using terahertz time-domain spectroscopy, which is a cutting-edge imaging technique. "I gained practical experience with very sophisticated equipment and worked with a great group of professionals that were truly excellent mentors for me," he said. Drawing on this experience, he was selected for a National Science Foundation Research Experience for Undergraduates at Penn State in Summer 2021. He plans to pursue a doctoral program and continue research. In addition, Grajales also hopes to continue outreach initiatives for K-12 students and their families, as he did at NJIT, and give back to the NJIT community as much as he can!

Nitya Shah - Biology and Mathematical Sciences double major, Applied Statistics minor

Nitya Shah has always loved science and research, so it's no surprise that she dived right into the Barden Lab at NJIT. Under the supervision of biology professor Phil Barden, she studied social parasitism in ants, examining whether the evolution of the parasite's size, shape and structure are driven by whether they specialize in kidnapping one type of host or many. Shah was not only awarded an Honors Summer Research Fellowship for her research, but she also presented her research at a national entomology conference and at NJIT's Dana Knox Research Showcase, where she won first place for both presentations. "NJIT taught me how scientific research truly works, and I developed important skills that I will be using throughout my professional career," she said. She is currently pursuing her Ph.D. in biostatistics at the University of Minnesota School of Public Health.

Emily Jensen - Mathematical Sciences major, Business minor

Emily Jensen loves math. She was set on pursuing a career in actuarial science, and credits NJIT's math program for helping her prepare for the actuarial exams and providing her with a strong foundation to learn more advanced actuarial concepts. However, there's a lot more that she took away from NJIT. "I now know that having an upbeat attitude and a positive outlook is much more important than any of my inherent math abilities. This type of optimistic mindset has given me a greater capacity to learn and more self-confidence than I could have ever expected," she said. Jensen carried this optimistic attitude and skill set into an internship at Prudential, where she automated documentation processes. She is now working as an actuarial associate at Prudential and joining a six-year rotational program, allowing her to experience different roles across Prudential's actuarial department.

Daniil Ivanov - Biochemistry major

Writing was a hobby for Daniil Ivanov and, after coming to NJIT, he found himself right at home at *The Vector* student newspaper. Starting out covering local New Jersey politics and elections, Ivanov rose through the ranks to become senior staff writer, focusing on interviewing others and telling their stories. Throughout his time at *The Vector*, he was able to build a close network of friends and colleagues who would stand by him and whom he would support. In his junior year, Ivanov landed the role of managing editor of *The Vector* after a difficult election. But it didn't stop there. With his new position, he focused on helping new writers unlock their full potentials and producing high-quality work. It didn't matter the hour or the day; if the paper needed him, he was there. Finally, as he stepped up to the role of editor-in-chief, Ivanov saw the hardiness and dedication of his team as they put forth superb content in the midst of a global pandemic. He feels joy when he "sees someone reading the paper or someone mentions an article in the paper. At the end of the day, *The Vector* — and journalism as a whole — is about telling stories."

Katherine Ji - Biology major, Applied Mathematics minor

Student research is a hallmark of NJIT, as Katherine Ji will tell you. As a sophomore, she did her research on the effects of total sleep deprivation using fNIRS. Ji's interest was piqued when one of her professors mentioned the cost-effectiveness of fNIRS in comparison to EEGs and fMRIs. Given that sleep deprivation is a growing concern throughout the country, not to mention a daily hassle for college students, Ji got to work. She collected hemodynamic and psychological data from 20 college students when they were well-rested and also when they were sleep deprived. She concluded that sleep deprivation can have a negative effect on cognitive function. Through this experience, Ji said that she "found lots of purpose in doing research, even if you don't totally reach your goal." Ji is currently in her first year of medical school at Rutgers New Jersey Medical School.

Samantha Swider - Chemical Engineering major

Samantha Swider is no stranger to the professional world. Over the last two years, she has had three co-ops: at Johnson & Johnson, NeoStrata and Infineum. Now she's at Merck, where she works as an operations specialist in a new vaccine manufacturing facility with responsibilities such as assisting in startup, assuring all products manufactured in the facility adhere to cGMPs and other regulations, managing the shop floor and working with a variety of teams to make improvements to the facility. She credits her success to advice her adviser gave her all the way back in her first year. "My adviser ... encouraged me to pursue research, co-ops and internships from my first semester," she said. This emphasis on her career and building her resume helped Swider to enhance her educational experience. "I would say, for any undergraduate student, school is an amazing vehicle to educate you in your field, but it cannot replace research or industry experience. You will get so much more out of your classes when paired with these types of opportunities to enhance your education!"

Edited by Nazia Shaheed '22, ADHC

Albert Dorman Future Leader Award

Owen Bussler '21 was an electrical engineering major who is now working with Audible in Newark. For the past two years, Bussler led our First-Year Retreat, a full-day event with approximately 200 participants. He also organized the Honors Senior Banquet, working with our partners across campus to make sure that we could safely have the event outdoors this past May. This was one of the first large receptions held by the university. Bussler has served as a teaching assistant for the Honors First-Year Seminar for the past year, served on the Student Senate and been engaged in countless other volunteer and service activities.

Dorman Honors Scholar Exceptional Service Award

Laura Gould '21 completed her B.S. in architecture and is attending graduate school in Urban Planning at Hunter College. Through her own work and working with a number of organizations, Gould was responsible for the production and distribution of over 5,000 face masks. She co-founded ProtectNJ, working with local nonprofits to help them navigate the pandemic safety protocols, provide them with face masks and help them continue to meet the needs of the community.

Joan Dorman Prize in Community Education and Development

Paul Bosin '21 was a business major and is planning to attend law school. Bosin is also a U.S. Army veteran. He is presently working as a law clerk in an environmental law firm in Texas. Bosin was instrumental in getting the Urban League's Newark Kids Code up and running during the pandemic. Bosin worked with the Newark Kids Code and the Newark Public Schools to connect 56 Newark middle and high school students with 52 Dorman Scholars to teach Scratch coding activities.

Joan and Albert Dorman Community Education Grant

The Center for Science, Medicine, and Entrepreneurial Outreach (CSMEO), co-founded by Dorman Scholars Kamiya Patel, Jeena Kataria and Varun Pai, offers presentations and mentorship to local middle and high school students from disadvantaged communities, and communities underrepresented in higher education and STEM disciplines. CSMEO's goal is to represent a broad range of STEM-related career opportunities to encourage greater interest in STEM disciplines at an early age.

Newark Mayor's Honors Scholars Program in Its Third Year

Mayor's Honors Scholars pose with ADHC administration: (left to right) Lauren Kawakami, associate dean of enrollment; Okyere Boateng '24; Dequan Marshall '24; Samantha Augustin '23; Oluwaseyi Ikujuni '25; Burçak Özlüdil, associate dean; Louis I. Hamilton, dean; Kiaja Jones '23; Samara Augustin '23; Yorquiria Maldonado Mejia '25; Priestly Ogbonna '24; Joshua Dadzie '25; Tamara M. Bacsik, assistant director, curricular, development and advising.

Newark Mayor Ras J. Baraka with scholars from the program

ALBERT DORMAN HONORS COLLEGE
TWENTY-FIFTH ANNIVERSARY

Honors College 25th Anniversary Celebrates Past, Looks to the Future

To honor its 25th anniversary, the Albert Dorman Honors College at NJIT held a live, online celebration. Reflecting on the anniversary of the college that he endowed, NJIT alumnus Albert Dorman '45, '99 HON revisited his remarks from its inauguration in 1995.

"I said to these brilliant, young students, 'Learn to manage controversy so that it may lead to consensus. ... Pay homage to our different beginnings, but concentrate on our potential common ending,'" said Dorman. In 1995, Dorman also challenged students to "make it a lifelong duty to help define and achieve important social as well as scientific goals and to help inform an unscientific segment of the body politic."

Looking back on those words, Dorman said, "I'm proud to say that almost all of these students and graduates have followed those remarks." He added that "particularly in these days ... it's so important for us to find common goals, to reach common aims that are good for all."

Joining the celebration were current students, professors, administrators, board members, alumni and generous benefactors such as Dorman, who, with his wife Joan, also endowed two faculty fellowships. Through a virtual tour of the college by students, videos and the words of Dean Louis I. Hamilton and NJIT President Joel S. Bloom, founding dean of the college, the event captured what students and alumni love about the institution.

Dorman, Bloom and Hamilton noted the contributions of many others over the years, including the founder of the preceding Honors Program, Richard Sher, and previous and current members of the Honors College Board of Visitors like former Chairs Stephen Cordes '72, Paul Kastner '73 and Dick Sweeney '82, '18 HON, Chair Richard Schatzberg '93 and Vice Chair Mike Smith '95.

Students shared their favorite classes and projects, and Bloom and Hamilton reflected on the past and the future, with all expressing admiration and gratitude for Dorman, who earned a bachelor's in mechanical engineering at NJIT at the age of 19 and rose to become founding chairman and CEO of the global engineering firm AECOM.

When asked about their most memorable experiences, the current students cited courses that taught them how to use 3D modeling, start a publication and speak publicly, and community service projects that enabled them to create a garden in Newark, teach their passions to middle school and high school students and crochet hats, scarves and blankets for local shelters. Making personal connections is at the core of the ADHC. Bloom said the college was centered on developing human capital: "At the end of the day, to build an effective organization, to build an effective learning organization, to build an effective honors college, it takes face-to-face human engagement," Bloom explained.

Hamilton described the college as a place that offers a rich and creative education that connects technical expertise and liberal arts, and serves society by addressing its most critical issues. And today, that's home to about 700 students, including 139 who arrived last fall. Collectively, they delivered 40,000 hours of community service during the 2020-21 academic year.

Written by Andrew McMains, Office of Strategic Communications and Marketing

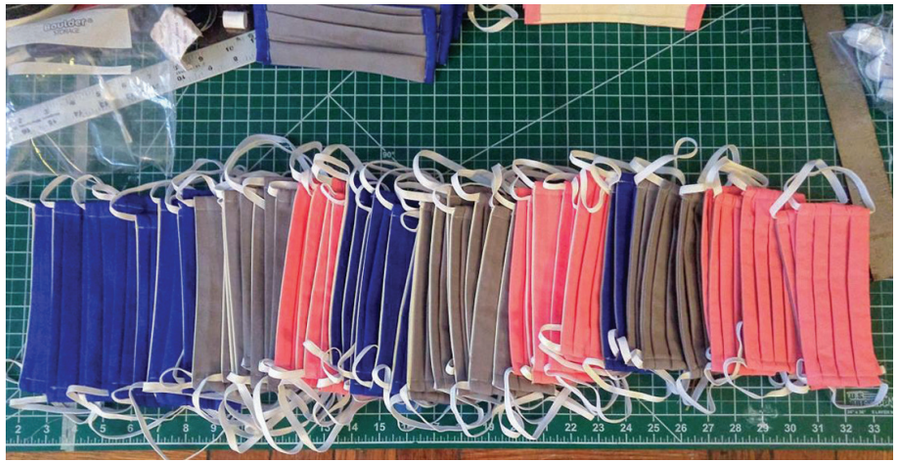
PLEASE SUPPORT THE DEAN'S FUND FOR STUDENT DEVELOPMENT!
SCAN THE QR CODE TO DONATE

Dean's Fund Financial Report

The Dean's Fund for Student Development is funded through the generosity of alumni and friends of Albert Dorman Honors College. It enables scholars to engage in co-curricular educational activities that transform their careers. Many of our Goldwater Scholars' first independent research experiences and first research conferences were funded through the Dean's Fund. Many of our Fulbright Scholars first studied internationally with the support from the Dean's Fund. The fund supports applied-learning experiences and our commitment to building a more sustainable campus and strengthening our community, by funding pandemic response projects and the pollinator garden on the Honors Green. Thank you for your support!

Photo: Xavier Reyes '22, Dorman Scholar

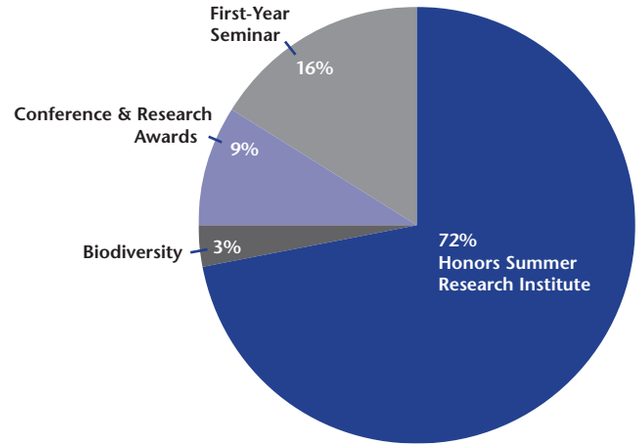
Nineteen percent of the Dean's Fund directly supports the Honors First-Year Seminar, such as the native planting on the Honors Green, hosting distinguished speakers and providing a common reading, all introducing our commitment to sustainability and fostering campus biodiversity.



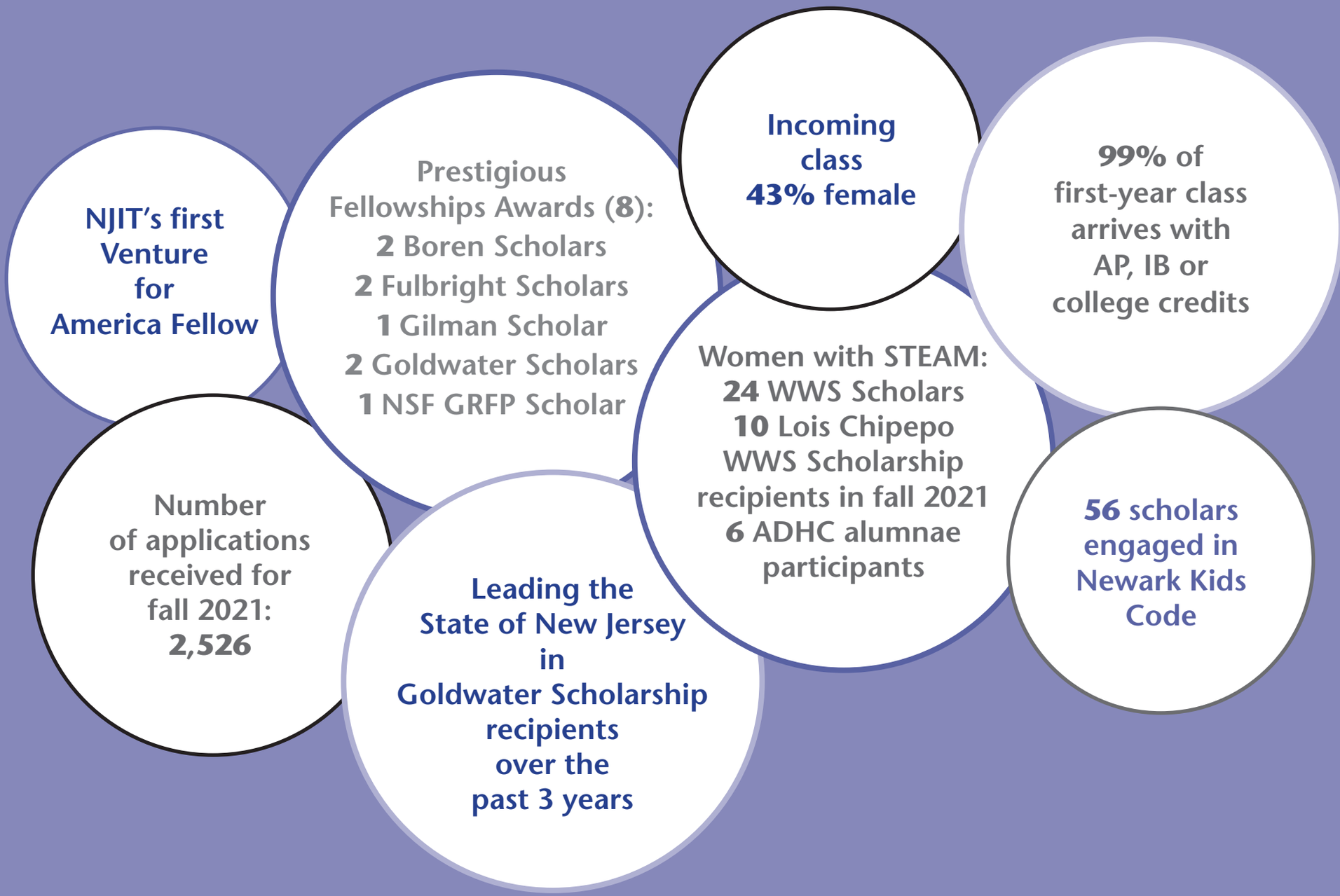
Laura Gould '21 was responsible for the production and distribution of over 5,000 face masks. These efforts were supported by the Dean's Fund for Student Development.

STUDENT DEVELOPMENT EXPENDITURES

$35,000 IN EXPENDITURES



ADHC By The Numbers



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