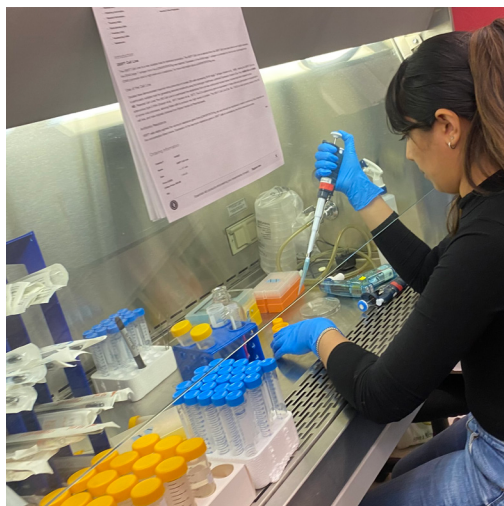
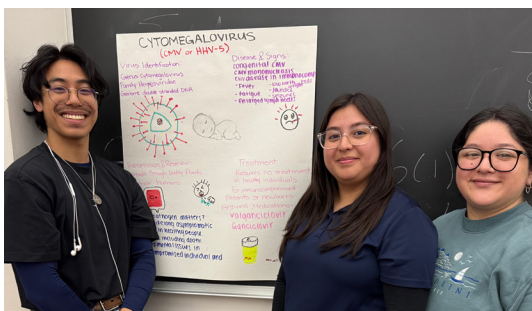
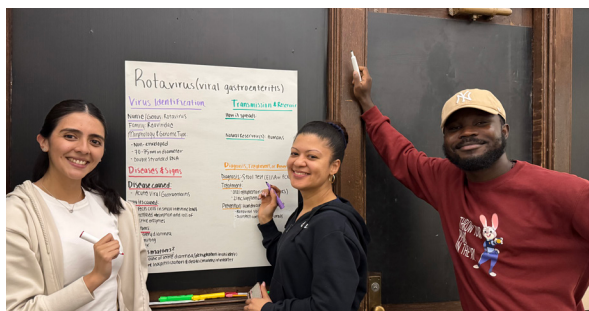


BIOLOGY

DEPARTMENT NEWSLETTER

2025-2026 | Issue #14



In this issue

Letter from the Chair 3

Publications 4-5

Accolades & 5

Invited Presentations

Faculty Spotlight 6

Biology Awards & 7
Scholarships

Student Spotlights 8-11

Where Are They Now 12-13

Inspiring Scientists 14-15

Biology Retreat 16-18

Course Highlight 19

Biology Recognizes 20-21

Senior Editor

Christine Stefano

Contributing Editor

Prof. David Lohman

Graphic Designer

Jordan Jackson

Design Concept

Rychelle McKenzie



ECOLOGY AND
EVOLUTIONARY
BIOLOGY



MOLECULAR, CELLULAR &
DEVELOPMENTAL BIOLOGY



NEUROBIOLOGY

Senior Writer

Marina Milea

Photos

Jason Redman and featured
community members

Department Chair

Prof. David Lohman

B.S. Head Advisor

Dr. Yevgeniy Grigoryev

B.S. M.S. Advisor

Prof. Jay Edelman

M.S. Advisor

Prof. Mark Pezzano

PhD Advisor

Prof. Shireen Saleque

Biotechnology

B.S. Advisors

Prof. Bao Vuong

Biotechnology

M.S. Advisor

Prof. Shireen Saleque

Chief College

Laboratory Technician

Jhonor Morillo

Senior College

Laboratory Technicians

Andrew Blake

Suzhen Chen

Johanny Ramroop

Vitaly Zyhadlo

Senior Staff

Christine Stefano

Yolanda Pitt

Student Assistants

Maosong Chen

Gabriella Ford

Lev Gilinskiy

Iman Hamby

Tanvir Islam

Pei Lian Li

Marina Milea

John Okoh

Daniel Paredes

Rabeya Raimy

Kimiwa Sadat

Ashlie Santana

Ramela Xhaho

Tahiyat Zahra

Biva Zaman



Photo of Biology Department staff

Letter from the CHAIR

The 2025-2026 school year was an exciting one: we enlarged the faculty, added innovative new classes, published dozens of papers, and brought in millions of dollars in external funding for research. Neurobiologist Jennifer Malin started in the fall of 2025 as an Assistant Professor, and we will welcome urban ecologist Nick Dorian in the fall of 2026 followed by Ariadna Morales in the spring of 2027. Ariadna studies the comparative genomics of bats. After years of austerity, CCNY has committed to a multi-year hiring initiative, and we hope to make additional faculty hires in the coming school year.

Prof. Ana Carnaval's lab was particularly productive this year, with seven publications, including one in the Proceedings of the National Academy of Sciences. And again this year, Prof. Rob Anderson was named by Clarivate as one of the world's most highly cited researchers in the field of Environment and Ecology. I was fortunate to join Rob this year as an inductee in the American Association for the Advancement of Science.

We are thrilled that Dr. David Bendich, a generous benefactor, endowed two funds to support student research, and several of our student researchers garnered awards for their work. In addition, the department welcomed Ahalya Bodasing as our first-ever advisor dedicated to Biology and Biotechnology students.

Finally, we are on track to have a new academic major in 2027 catering to undergraduates interested in pursuing pre-health careers: physician assistant, optometry, dentistry, etc. In terms of future doctors, we are thrilled that 11 recent CCNY Biology graduates will be starting medical school this coming fall!

With over 350 undergraduate Biology and Biotechnology majors, 24 master's students, and 16 Ph.D. students, Biology is one of the largest departments at CCNY. We look forward to making the 2026-2027 school year even more productive and transformative by helping our students pursue their dreams.

David J. Lohman, PhD

Professor and Chair of Biology



BRINGING SCIENCE TO LIFE!

The Biology Club's mission is to provide access to information and opportunities to students both on and off-campus. Increase professional networks and collaborations. Learn how to market yourself through professional development events.

Want to get involved as a club e-board leader, club member, or collaborate for an event, email us at

BIOLOGYCLUB@GTEST.CCNY.CUNY.EDU



Beta Beta Beta (Tribeta)

National Biological Honor Society gives students majoring in biology, along with other science majors, opportunities to advance themselves in knowledge, research, and future careers by building a supportive network of peers and professionals in biology.

Since its founding in 1922, more than 200,000 persons have been accepted into lifetime membership, and more than 626 chapters have been established throughout the United States and Puerto Rico.

THE INSTALLATION OF THE CCNY TRIBETA CHAPTER, CHI NU CHI TOOK PLACE ON FEBRUARY 25TH, 2021

WANT TO GET INVOLVED, EMAIL

B3HONOR@GTEST.CCNY.CUNY.EDU

Want to Learn More About Women in Science?

OUR EVENTS AND PROGRAMS INCLUDE:
WOMEN MAKING HISTORY PANEL
WINS MENTORING PROGRAM
CAREER PLANNING WORKSHOPS
MAXIMIZING RESOURCES WORKSHOP
AND SO MUCH MORE...

ccnywins@ccny.cuny.edu

@CCNYWINS

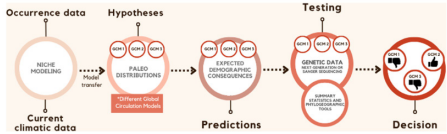
WINS
CCNY
WOMEN IN SCIENCE
Building a better world by improving the individual



Publications

Prof. Robert Anderson

Guevara L, A Zugasti-Mateos, GE Pinilla-Buitrago, MA Leon-Tapia, E Vazquez-Dominguez & RP Anderson. 2025. Which global circulation model works best for my region? Concordance with genetic data for a Neotropical shrew. *Ecography*: e07881. <https://doi.org/10.1002/ecog.07881>



CCNY postdoc and graduate student in the Anderson lab published a study that will help researchers understand the effects of climate change on biodiversity. Linking climatology, genetics, and geography, they used DNA sequence data to determine which climatic model was most realistic for past climates. This approach will help researchers determine which climatic model is most realistic for the region being studied, leading to more accurate estimates of the effect of climate change on biodiversity. The study was jointly funded by NSF, a PSC-CUNY grant, and programs from Mexico.

Johnson BA, GE Pinilla-Buitrago & RP Anderson. 2025. A neighborhood approach for using remotely sensed data to estimate current ranges for conservation assessments. *Ecology and Evolution* **15**: e71631. <https://doi.org/10.1002/ece3.71631>

Prof. Ana Carnaval

Seger KR, R Rebouças, D Baldo, MM Vasconcellos, PCA Garcia, CFB Haddad, AC Carnaval & LB Lourenço. 2025. Miocene marine transgression and climate variation drove diversification of subtropical *Proceratophrys* frogs in the Araucaria Forest. *Zoological Journal of the Linnean Society* **204**: zlaf072. <https://doi.org/10.1093/zoolinnean/zlaf072>

Marcilio-Silva V, A Paz, J Cavender-Bares, MCM Marques, AC Vibrans & A Carnaval. 2025. Synergies and trade-offs between biodiversity conservation, human well-being, and agricultural production: Lessons from the Southern Atlantic Forest of Brazil. *Applied Vegetation Science* **28**: e70047. <https://doi.org/10.1111/avsc.70047>

Vörösmarty CJ, M Trujillo, P Casaccia, A Cak, KH Gardner, DI Greenfield, PM Groffman, A Reinmann, W Solecki, M Serreze, J Waldman, JM Bhatnagar, H Brumberg, A Carnaval, J Cullmann, SP Egendorf, ME Hauber, J Herlan, I Kavouras, CE Mason, P Marcotullio, M McCracken, DA McKay, F Miszlivetz, T Muth, Y Nomura, CA Penick, J Rising, R Toledo-Crow & C Zarnoch. 2025. A Climate BioStress Sentinel System: Identifying climate impacts from the genome to the urbanized biosphere. *Cell Reports Sustainability* **2**: 100558. <https://doi.org/10.1016/j.crsus.2025.100558>

Carnaval A, D Zuppinger-Dingley, A Paz, MJ Santos, A Berger, V Marcilio-Silva, MCM Marques, M Tschol, A Arth, F Rosa, C Pimiento, E Mijts, L Shannon, S Karlsson-Vinkhuyzen, M Paschke, J Krasno, EM Spehn & R Willemin. 2026. Reflections for biodiversity researchers engaging with policy-science interfaces. *The Bulletin of the Ecological Society of America*: e70049. <https://doi.org/10.1002/bes2.70049>

Mascarenhas R, MJ Hickerson & AC Carnaval. 2025. Simulations of life history variation for demographic inference from population genomic data. *Molecular Ecology* **34**: e70155. <https://doi.org/10.1111/mec.70155>

Chaves CJN, AC Carnaval, BSS Leal, JP Santos, ECS Monteiro & C Palma-Silva. 2025. Dispersal ability reduces thermal specialization and prevents climate-driven extinctions in a neotropical rainforest. *Global Change Biology* **31**: e70399. <https://doi.org/10.1111/gcb.70399>

Duarte Ritter C, J Muñoz, AF Machado, JS Albert, CC Ribas, AC Carnaval, CC Ulloa Ulloa, JD Carrillo, H Tuomisto, D Armenteras & JM Guayasamin. 2025. Indigenous territories and protected areas are crucial for ecosystem connectivity in the Amazon basin. *Proceedings of the National Academy of Sciences* **122**: e2418189122. <https://doi.org/10.1073/pnas.2418189122>

Prof. Jay Edelman

Edelman JA & A Sultana. 2025. The dependence of saccadic reaction time on the prior presence of visual targets. *Journal of Vision* **25**: 2915-2915. <https://doi.org/10.1167/jov.25.9.2915>

Gandhi NJ, SJ Heinen, JA Edelman & RM McPeck. 2025. Edward Lowell Keller (1939–2025). *Nature Neuroscience*: 1-2. <https://doi.org/10.1038/s41593-025-02109-8>

Prof. Shubha Govind

Luu T, JR Ramroop, MK Lee, H Kaur, CW McGrail, S Govind & RF Spokony. 2025. Juvenile hormone mimics induce a cellular immune response in *Drosophila melanogaster*. *Micropublication Biology* **2025**: <https://doi.org/10.17912/micropub.biology.001797>

Prof. David Lohman

Braby MF, Pierce NE, Lohman DJ. 2025. Molecular phylogeny of the tribe Luciini (Lepidoptera: Lycaenidae): Systematics and life history evolution. *Systematic Entomology* **50**: 519–539. <https://doi.org/10.1111/syen.12667>

Luan, Y, Y Zhang, J Li, J Zhu, Y Lei, Y Hu, Z Xin, T Xie, J Zheng, Y Lin, J Shen, Y Cao, X You, J Xi, J Wu, W Liu, X Zhang, Y Zheng, DJ Lohman, L Shi, and W Zhang. 2026. Mechanisms of aristolochic acid resistance in specialist butterflies and evolutionary insights for potential protective pathways. *Advanced Science* **13**: e74676.

Leong, J.V., Matos-Maraví, P., Núñez, R., Nunes, R., Liang, W., Braby, M.F., Doleck, T., Aduse-Poku, K., Inayoshi, Y., Hsu, Y.-F., Wahlberg, N., Peggie, D., Mohagan, A.B., Mohagan, D.P., Genaro, J.A., Perez-Asso, A.R., Kunte, K., Martins, D.J., Sáfián, S., Kawahara, A.Y., Pierce, N.E. and Lohman, D.J. 2025. Around the world in 26 million years: Diversification and biogeography of pantropical grass-yellow *Eurema butterflies* (Pieridae: Coliadinae). *Journal of Biogeography* **52**: e15107. <https://doi.org/10.1111/jbi.15107>

This paper was led by former CCNY master’s student Jing Vir Leong. She used molecular phylogenetics and biogeographic evolution to investigate how *Eurema* butterflies obtained their global distribution. Jing recently completed her PhD and is a postdoctoral research scholar in the Czech Republic.



Photo of Dr. Jing Vir Leong

Stambouli BN, ET Vardeman, EJ Kennelly & DJ Lohman. 2025. Untargeted and targeted LC-MS metabolomic analyses of putative chemical defenses in Taenaris butterflies. *Phytochemistry Letters* **69**: 103231. <https://doi.org/10.1016/j.phytol.2025.103231>

Toussaint EFA, FL Condamine, APS de Carvalho, DM Plotkin, EA Ellis, KM Dexter, C Earl, K Aduse-Poku, MF Braby, H Chiba, RJ Gott, K Maruyama, ABB Moraes, CJ Müller, D Peggie, S Sáfián, R Vila, AD Warren, M Yago, JW Breinholt, M Espeland, NE Pierce, DJ Lohman & AY Kawahara. 2025. Global climate cooling spurred skipper butterfly diversification. *Systematic Biology*: syaf029. <https://doi.org/10.1093/sysbio/syaf029>

Yau EYH, EE Jones, TPN Tsang, S Xing, RT Corlett, P Roehrdanz, DJ Lohman, AKC Lee, CWC Hai, S Chowdhury, JK Hill, JAT Badon, CW Gan, Y Basset, I-C Chen, S Benedick, A Jain, TLT Ki, K Kunte, A Nakamura, LV Vu, SA Scriven, AC Hughes & TC Bonebrake. 2025. Spatial occurrence records and distributions of tropical Asian butterflies. *Scientific Data* **12**: 1004. <https://doi.org/10.1038/s41597-025-05333-w>

Dr. Bao Vuong

Sadia N. Rahman, Demetrios Neophytou, Siboney Oviedo-Gray, Bao Q. Vuong, and Hysell V. Oviedo. Non-canonical role of DNA mismatch repair on sensory processing in mice. 2026. *Neuroscience*. 595: p59-72. <https://doi.org/10.1016/j.neuroscience.2025.12.066>

Publications

Segovia EN, T Thavornwatanayong, S Wiantoro, ME Kaczmarek, M Kantorski, K Reyes, BQ Vuong & SM Tsang. 2025. Comparative analysis of bat immunoglobulin constant regions identifies adaptations of bat immunity 9166. *The Journal of Immunology* **214**: vkaf283.2604. <https://doi.org/10.1093/jimmun/vkaf283.2604>

Sible E, BQ Vuong & UA Hasan. 2025. Altered NK cell phenotype in tenofovir-treated chronic hepatitis B patients and identification of genes regulating the mTOR pathway 9203. *The Journal of Immunology* **214**: vkaf283.2636. <https://doi.org/10.1093/jimmun/vkaf283.2636>

Thavornwatanayong T, S Wiantoro, ME Kaczmarek, M Kantorski, E Segovia, K Reyes, BQ Vuong & SM Tsang. 2025. Comparative analysis of bat immunoglobulin constant regions identifies adaptations of bat immunity. *Annals of the New York Academy of Sciences* **1552**: 239-248. <https://doi.org/10.1111/nyas.70048>

In collaboration with bat biologists in Indonesia and the American Museum of Natural History, our study demonstrates the unique evolution of bat antibodies. We identify specific regions of bat antibodies that activate their immune response to pathogens. These studies inform our understanding of how bats harbor spillover viruses, such as SARS-CoV2 and Nipah, and enable us to design pandemic mitigation strategies.

Grant & Fellowship Recipients

Prof. David Lohman has been awarded a Radcliffe Fellowship for the 2026-7 school year while on sabbatical. He will be using advanced optical equipment to study and compare butterfly wing patterns to better understand biomimicry. Much of his work will be done in Harvard University’s Museum of Comparative Zoology. He has also been awarded a Fulbright Research/Teaching Award to Thailand for the summer of 2027.

Prof. Bao Vuong and his collaborators at Memorial Sloan Kettering Cancer Center (Drs. Neil Shah, Alina Markova, and Francesca Gany) are studying how cancer treatment access, continuation, or completion affect immune-related adverse events in cancer patients treated with immunotherapy: I CARE (Immunotherapy Cutaneous Adverse events REsearch). The research will expand our knowledge of the systemic immunobiological changes induced by immunotherapy and/or social determinants of health, such as access to transportation, insurance, legal issues, social work referrals, and supportive care. The project will develop a model to understand the complex interplay between biological and socioecological mechanisms of immune related adverse events, and will establish the foundation for addressing them in cancer care.

New Course Highlights

Prof. Bao Vuong is teaching Health Equity: Biological and Social Determinants of Health (BIO 31141 and SOC 31184). How do social structures and inequalities affect biological processes and human health? This course draws on perspectives in biology and sociology to examine how inequality, the built environment, pollution, climate change, and other human activity affect stress, addiction, immune responses to infectious diseases and cancer, obesity, aging, genetics, and epigenetics. Students learn how government policies, industrial activity, or community activism can affect access to healthcare. Students examine how social inequalities, institutions, and networks impact and shape health outcomes. Topics include the patient-physician relationship, stereotypes in medicine, for-profit medicine, neighborhood effects, and more. Students contribute to improved health equity by designing interventions that address biological and social determinants of adverse health.



Photo of Prof. Vuong teaching

Prof. Shubha Govind is teaching The Innate Immune System. The innate immune system is the first line of defense. It is activated when plants or animals are attacked by microbial pathogens or parasites. Topics include: (a) the organs, tissues and cells that make up the innate immune system; (b) cell and molecular processes underlying the innate immune responses in a range of organisms: from plants, invertebrate animals to vertebrates, including mammals; and (c) strategies that bacteria, viruses and parasites use to dodge or suppress innate immune mechanisms. The class is popular as students are curious about immunity in humans and in many other organisms that lack the adaptive immune system. Undergraduates and Masters students may take this course.

Accolades

Prof. Shubha Govind took over as Panel Chair, Biology and Earth Sciences, for PSC-CUNY grants. This is a 3-year term. The PSC-CUNY Award Program began many years ago as a union initiative, and is an important achievement of our contract, administered jointly by the university and the union.

Prof. David Lohman was elected as a Fellow of the American Association for the Advancement of Science (AAAS).

Dr. Stav Kemeny, an Adjunct Assistant Professor in our department was a recipient of the 2025-2026 City College Academy for Professional Preparation Teacher of the Year award.

Ph.D. student Andrew G. Gaier (Anderson Lab) earned the Horner Award, 2025 from the American Society of Mammalogists (\$500) for the highest-ranking proposal to the Grant-in-Aid of Research program; his grant for fieldwork in Utah supporting his dissertation was funded for \$2500.

Mauricio Diaz (Vuong Lab) participated in the ORCA REU at CCNY (Evolution of G6PC3).

Alisa Fontanez (Vuong Lab) participated in the ORCA REU at CCNY (Identifying a function for hexokinase-3 in immunometabolism).

Cesar Sanchez (Vuong Lab) won a presentation award in immunology at ABRCMS 2025 in San Antonio, TX for his poster “Adaptive evolution of mammalian hexokinase genes”.

Daniel Paredes, a senior double majoring in Biology and Psychology, also a staff member in the main Biology Office, is heading off to Yale University this summer as a Research Technician. He will be conducting research in genetics and stem cell niches alongside Prof. Sumigray and Prof. Greco.



Photo of Daniel Paredes

Invited Presentations

Prof. David Lohman

Lohman, DJ. 2026. Why are butterflies pretty?: Communication and camouflage in a flagship insect group. Aspen Center for Environmental Studies, Colorado, 16 May 2026.

Faculty SPOTLIGHT

Professor Jennifer Malin



Dr. Jennifer Malin joined the City College of New York in August 2025, bringing with her a passion for developmental biology that took root as early as high school. **“I think when most people learn about science, they’re looking at a textbook and they see something that’s a fact,”** Dr. Malin reflects. **“How do we actually know this? Somebody had to ask that question and figure out what this actually means.”** This idea of being at the forefront of answering questions that no one in the research space knows yet set her on a path toward a research career.

Dr. Malin pursued her undergraduate degree in biology at the University of Pennsylvania, where she worked in a lab studying cytochrome maturation in photosynthetic bacteria. Seeking a summer research opportunity, she employed a strategy many students today understand all too well: she reached out to every lab in New York City. Out of all those emails, only two responded. During summers, she worked at Memorial Sloan Kettering in a lab led by Professor Elizabeth Lacy, who introduced her to developmental biology through research on mesoderm specification in mice.

During her PhD at The Rockefeller University, Dr. Malin studied programmed cell death in *Caenorhabditis elegans*. While most researchers at the time focused on apoptosis and caspase-dependent cell death, she investigated cells that die in the absence of caspases (a phenomenon many scientists overlooked at the time). Her work revealed that proteasome activity plays a crucial role in killing these cells, and importantly, some of the genes implicated in

this pathway are mutated in Huntington’s disease and are relevant to injury paradigms. As a postdoctoral researcher, Dr. Malin shifted her focus to *Drosophila*, studying how neural cells acquire their identities and how they find their targets in the brain. Her research addressed two fundamental questions: how cells are specified in the correct numbers, and once specified, how do they navigate to their proper destinations? She discovered that spatial patterning creates domains of stem cells in different sizes, and these differently sized domains dictate the numbers of cells generated. She also found that secreted signals from the highly conserved BMP pathway act as morphogenetic signals, with concentration-dependent effects that cause cells to acquire different fates in very specific numbers. **“People don’t really appreciate the proportionality of things...in the brain, how you set the ratio of different cell types is really important because they’re all talking to different partners,”** Dr. Malin notes.

At City College in the CDI building, Dr. Malin continues to explore these fundamental questions of cell fate specification and neuronal targeting in the *Drosophila* visual system. Her lab investigates how neurons are generated in the right proportions and how they develop the correct shape, size, and positioning to communicate with appropriate synaptic partners in forming functional circuits. By combining classical genetics with cutting-edge techniques such as live imaging and single-cell sequencing, the lab addresses how morphogen signals reproducibly specify cell types in precise numbers.

For students interested in pursuing research or careers in biology, Dr. Malin offers advice grounded in her own experience: there is no single path to success. **“I’ve realized there is no one path. The only way you know what you want to do is by exposing yourself to as many opportunities as possible.”** She emphasizes what she calls **“shots on goal,”** the willingness to try repeatedly without taking rejection as final.

Finding a mentor who believes in you is crucial, Dr. Malin stresses, because scientific careers are challenging and there will inevitably be difficult periods. Having someone who says **“I believe in you, just keep tacking towards the truth and trying new things”** makes all the difference. She also emphasizes that success in science requires high frustration tolerance and a willingness to look at the unconventional. When experiments don’t yield expected results, good scientists ask why rather than giving up. These are the qualities that she believes will sustain a scientific career and lead to meaningful discoveries.

BIOLOGY AWARDS & SCHOLARSHIPS

The Biology Department gives out several awards and scholarships to undergraduate and graduate students every year thanks to the generosity of donors. The folowing recipients earned awards for the 2025-2026 Academic Year:

Marina Milea
Sharon D. Cosloy Undergraduate Research Scholarship
 Established by the Cosloy-Blank family in the memory of Professor Sharon D. Cosloy, former Chair of our department, respected researcher, dedicated mentor, and beloved teacher. The scholarship goes to a Biology or Biotechnology or a student working in a Biology Faculty member’s lab major with a strong academic background, that plans to continue laboratory research.

Datius Mai
The Professor William Stratford Prize
 To a Biology or Biotechnology student demonstrating the greatest proficiency in both coursework in zoology and zoological research.

Ireen Swarna
The Olivia McKenna Award
 To a graduating Biology or Biotechnology senior demonstrating the greatest research proficiency in neuroscience research and academic achievements at CCNY, demonstrating one of the best overall records by a student majoring in biology.

Amani Hayan
The Edmund Baermann Scholarship in Natural Sciences
 To a Biology or Biotechnology sophomore or junior student completing the Biology core with the best performance in their courses.

Mynun Sunan
The Eva J. Lindauer and Ira J. Pell Scholarship
 To Biology or Biotechnology students entering their junior year with a superior academic record. Strong consideration is given to those with a Bronx residence, a demonstrated financial need, and the first generation of their family to attend college.

Angelie Balram
Outstanding Biology Presentation Award
 To a Biology or Biotechnology student with the most outstanding biology research presentation.

Sarah Shameen
Outstanding Service Award
 To a Biology or Biotechnology seniors demonstrating outstanding extracurricular service to the Biology Department, CCNY community, or the City of New York.

Seosamh Radigan
Excellence in Graduate Research
 To Biology or Biotechnology Master’s students with a first authorship on a peer-reviewed paper or conference abstract demonstrating research initiative and independent thinking. Also, to Biology Master’s students who plan and execute an ambitious field project.



The City College
of New York

Student SPOTLIGHT

Sarah Shameen



Sarah Shameen is a senior pre-med student at City College, pursuing a double major in biology and psychology with a minor in theater. Born and raised in New York to parents from Guyana, Sarah chose to attend City College following in the footsteps of her older brother, who graduated from the Grove School of Engineering. Sarah’s fascination with biology stems from her interest in studying life itself, while psychology allows her to explore the mind and human experience beyond the physiological. Through her minor studies, she enjoys writing scripts that blend biological and psychological concepts into educational yet creative works that engage audiences in unique ways.

Sarah’s career aspirations reflect her commitment to both medicine and research. She intends to complete a master’s degree in biotechnology, believing it’s essential to build a strong foundation in research before entering medical school. For her, understanding the research behind medicine is crucial to becoming an effective physician. This drove Sarah to complete an internship at the Montefiore Einstein Comprehensive Cancer Center. There she worked in the molecular pharmacology department on pancreatic cancer research. Studying drug treatments designed to reduce proliferation in specific pancreatic cancer cell lines provided her with invaluable insight into how treatments are developed and tested. At CCNY, the intensive Biotechnology Winter class and CiPASS lab skills workshop allowed her to gain practical research skills on campus.

Beyond her coursework, Sarah now serves as the President of the Biology Club. Through her position, she hopes to raise awareness about the club’s existence, welcome incoming freshmen, and gather ideas about what they’d like to see from the organization to increase engagement. Additionally, Sarah recently earned her EMT certification and is actively searching for EMT positions to gain clinical experience. The tangible, hands-on experience of lab and clinical work is what draws Sarah in, offering something beyond what she can learn from a book. In research specifically, she appreciates the satisfaction of seeing experiments work as expected, as rare as that may be. Following the steps of a protocol, even when challenging, and finally achieving the anticipated result brings a sense of accomplishment that is unparalleled.

Sarah’s motivation is deeply rooted in her family, particularly her mother, a nurse practitioner who works three jobs in the medical field. Seeing her mother work tirelessly across various departments while she volunteers in the ER serves as a continuing source of inspiration. Going into the medical field represents an opportunity to advance the presence of people like her mother in positions of greater authority and decision-making power in healthcare. Sarah’s drive also stems from a desire to challenge expectations: not everyone in her life has believed she could achieve her ambitious goals, and that skepticism has become a powerful motivator. She’s determined to prove through her accomplishments that she’s capable of reaching the goals she’s set for herself.

For students navigating their own paths at City College, Sarah offers straightforward advice: don’t be afraid to speak to professors. She recognizes the stigma and fear that often prevents students from reaching out but emphasizes that **“I don’t think I would have gotten more into research if I didn’t try to take the step forward to speak to professors.”** Once you know what you want, she explains, approaching faculty and others in your field becomes easier. Taking that first step, despite the fear, is often all it takes to discover the opportunities that await.

Student SPOTLIGHT

Thongthai Thavornwatanayong



Thongthai Thavornwatanayong (Ty) a fifth-year doctoral student in the Molecular, Cellular, and Developmental Biology program through the CUNY Graduate Center has spent the past several years navigating the complex world of immunology. Originally from Thailand, Ty moved to Singapore as a young child before spending his teenage years and early adulthood in Florida, where he earned both his bachelor’s and master’s degrees. After completing a degree in biochemistry and molecular biology at Rollins College, a small liberal arts college in Central Florida, Ty worked as a research technician at the Albert Einstein College of Medicine in New York for two years. It was during this time that he realized a PhD was the next necessary step in his career, leading him to the CUNY Graduate Center and eventually to City College, where he has been teaching for the past four years.

Initially on the pre-med track, he soon recognized that his true passion lay in bench science. A master’s degree gave him time to confirm this direction, and his subsequent position at Einstein solidified his commitment to pursuing a PhD. Now, Ty envisions a flexible future, whether in academia or industry, where he has the freedom and funding to pursue the research questions that drive him.

Ty’s research interests have always centered on immunology. During his senior year of college, as he read more literature on infectious diseases and cancer, he began noticing immunology as an essential underlying component in nearly every area of health and disease. His current PhD research focuses on adaptive immunity,

specifically B cells, through two distinct projects. The first is a classical genetics-based study using mouse models to investigate how specific genes function in the B cell process of producing different antibodies through class switch recombination. Ty has identified the target genes and is now in the validation stage, working toward a manuscript. The second project, which he recently completed and published, took a different turn: studying the evolution of antibodies in bats.

Ty started his PhD during the pandemic, a period when bats were frequently in the news due to their association with COVID-19 and other zoonotic viruses. Already interested in immunology, Ty found himself asking: is there something about the bat immune system that makes them reservoirs for viruses that are harmful to humans but seemingly harmless to the bats themselves? Together with collaborators and his PI, Prof. Vuong, they developed a hypothesis. The work ultimately focused on the evolutionary aspects of bat antibodies. The resulting paper, **“Comparative analysis of bat immunoglobulin constant regions identifies adaptations of bat immunity,”** was published in the Annals of the New York Academy of Sciences in October 2025.

What Ty enjoys most about research is the exploration and puzzle-solving it demands. **“If you love puzzles, research makes sense,”** he says. He also appreciates that his work in immunology is evidence-based and applied, with direct implications for health and disease. **“Whatever you discover, you can see where it’s going to go in the future in terms of therapeutics...that’s something I could see with biology that I couldn’t see with other fields.”**

For undergraduates navigating their own paths in science, Ty’s advice is to find what you love, and work hard to make it happen. He acknowledges that discouragement is common—whether from difficult classes or comparing oneself to others—but emphasizes that science needs diversity and people with all kinds of skills. Students should identify their unique strengths and contributions. Ty also stresses the importance of community. Research is inherently collaborative, involving people at all levels working toward a shared goal. **“Be nice to people. Don’t silo yourself,”** he advises. For those serious about research, Ty recommends seeking out lab experience early, even as a volunteer, to build the skills and eligibility needed for future opportunities.

Student SPOTLIGHT

Shania E. Chichester



Shania Chichester, a third-year master’s student in biology is forging a path that extends far beyond her own academic achievements. Originally from Guyana, South America, where she completed most of her schooling and earned her undergraduate degree at the University of Guyana, Shania later migrated to the United States to pursue her master’s degree. As the youngest of five children, she is the first girl in her family to get a bachelor’s, and now the first child in the family to pursue a master’s. **“I think this is motivating my other siblings to better themselves. My sisters are now going back to school because they can see that it’s possible still,”** she reflects.

Shania’s passion for science began early, sparked by National Geographic documentaries her father would have her watch as a child. She was captivated by the discoveries, whether in ecology, cellular biology, or beyond, and always knew science would be her path forward. For the past three years, Shania has been a lab Teaching Assistant in Biology 101 at City College, an experience she deeply values. She finds joy in being in the classroom, sharing knowledge, and witnessing students’ reactions to concepts and experiments they may never have encountered before.

While Shania is currently seeking a new research position (in microbiology, genetics, or immunology), she previously worked in Dr. Bao Vuong’s lab, where she studied NK cells and B cells in the context of hepatitis B virus (HBV). That experience deepened her appreciation for the mechanisms

underlying immune responses. What she enjoys most about research, beyond learning the molecular mechanisms themselves, is the environment it creates: one where she meets people who motivate and challenge her. The sense of competitiveness she’s found in research has driven her to improve.

Shania’s long-term goal is to stand at the front of a lecture hall as a professor. This idea came to her during her undergraduate years in a Biology class observing her professor: **“I remember one day she was lecturing, and the epiphany came to me—this is what I want to do full time,”** Shania recalls. **“If some other student can feel the joy that I had in her class, I think that would be quite the satisfaction for me.”** To reach that goal, she plans to take some time after completing her master’s to gain industry experience before pursuing a PhD.

Much of Shania’s drive comes from her father, who always pushed her toward higher education. **“He always motivated me that you can always go higher... [so now] I want him to see that I can achieve great heights.”**

For students considering similar paths, Shania emphasizes the importance of knowing your goals and breaking them into manageable steps. Long-term goals can feel distant and overwhelming, she explains, and without short-term milestones, it’s easy to lose hope or veer off course. She also stresses the need for students to talk openly about the challenges they face in academia. When reflecting on her own journey, Shania credits every professor and mentor who has come into her life.

Shania also speaks highly of the resources and opportunities available at City College, especially compared to what she had access to in Guyana. **“I came from a third world country where my labs were not afforded certain equipment,”** she explains. **“Here at CCNY, students are so much more exposed. They have so much material they can work with. The syllabi are written with students in mind to give them the skills and experience they will need.”** For students already at City College, Shania’s advice is to persevere. The journey may be difficult, but the support and resources are there to help you succeed.

Student SPOTLIGHT

Jessica Udeogu



Jessica Udeogu is a junior majoring in Biology and minoring in Psychology on the pre-med track. Growing up in New York in a family of nurses, Jessica often accompanied her mother and sisters to the hospital where she witnessed firsthand the impact that healthcare professionals make in patients’ lives. These early experiences sparked her love for medicine, which was further solidified through her coursework in science and biology. Now, as she prepares for medical school, Jessica has shadowed various medical professionals, including internal medicine doctors, OB-GYNs, and anesthesiologists. Observing their work deepened her admiration for the field and strengthened her determination to pursue a career in medicine.

Jessica works as a medical assistant to an OB-GYN, a position she finds particularly meaningful due to its hands-on nature. What she values most about this role is the glimpse it provides into her future as a physician and the opportunity to actively participate in patient care rather than solely observe. She has recently been accredited the National Health Association Certification in phlebotomy so she can discover more opportunities to be involved in direct patient care.

Jessica is also deeply involved in campus life at City College. She serves as Vice President of Women in Science (WINS) and Director of Communication for TriBeta Biological Honors Society. She is also a peer mentor for the Division of Science, a member of the CCAPP program and the pre-health program, and participates in the Einstein College of Medicine’s Mentoring and Medicine program. Through this

program, Jessica visits underserved populations to teach CPR, phlebotomy, health education, and creates engaging science projects to help community members better understand scientific concepts.

When asked about her multifaceted dedication to mentoring others at CCNY, Jessica explains that she is motivated by opportunities to help incoming biology students find their footing earlier than she did. She recalls struggling to establish herself during her first year at City College. She is eager to ease that transition for others.

Jessica is currently conducting research at the Hospital for Special Surgery, where she is contributing to a literature review examining demographic reporting of race, ethnicity, and gender in randomized controlled trials of regional anesthesia for total joint arthroplasty surgeries done in the US. Jessica hopes to pursue more research opportunities with a focus on neuroscience. What is special about research to Jessica is the collaboration it breeds: **“you get to work in a team whose sole purpose is to come up with a solution to a problem that is affecting the community.”** She believes that having people from all backgrounds collaborating on health solutions yields the best outcomes, and she is excited to contribute her unique viewpoint to the medical community.

When reflecting on her success, Jessica offers advice that may sound familiar but holds deep truth: **“I attribute my successes to my failures.”** From difficult exams, to seeking out labs for research experience, or finding doctors willing to let her shadow in NYC, each “failure” ultimately brought her closer to finding the right fit. **“Don’t be afraid to fail,”** she reiterates, **“because then you miss so many good opportunities to learn and grow.”** Jessica points to the supportive spirit within the Biology Department as part of what made taking those risks possible. The supportive atmosphere where faculty, staff, and students all know each other and genuinely want to help one another succeed, gave her the confidence to reach out, fail, and try again.

Outside of academics and medicine, Jessica finds balance through creative expression. During her freshman year, she participated in City College’s 2023 production of The Gentlemen of Verona as a dance captain. She continues to take dance classes and engage in theater, embracing the arts as a way to recharge while maintaining the discipline and passion required for her scientific pursuits.

Where Are They Now FEATURE

Jazmin Morales



Jazmin Morales grew up in Astoria, Queens, surrounded by science from an early age. Her father, Jorge Morales, completed his PhD in Biology at CCNY/CUNY working with fruit flies in the lab of Prof. Shubha Govind. After completing his doctorate, Jorge became a full-time research associate overseeing CCNY’s microscopy facility. A young Jazmin could often be found in the lab beside him, scrawling names onto vials with the unsteady handwriting of a five-year-old. That early exposure planted a seed: today, Jazmin is a sixth-year doctoral candidate in the Neuroscience program at Brandeis University, where she studies circular RNA in the *Drosophila* brain, the same model organism her father once worked with.

Jazmin initially began her undergraduate career at Syracuse University. Accustomed to the diversity of New York City, , she struggled being one of few Hispanic students pursuing science With the support of CCNY’s CCAPP office and her family, she transferred to City College. This is a decision she credits as transformative. **“City College is phenomenal for research. It’s impossible not to want to get into research when you’re being led by such amazing people.”** At CCNY, she would go on to double major in Biotechnology and Jewish Studies, won first place in her category (medicine) at the CSTEP conference, and participated in the MARC/RISE program.

The defining relationship of her undergraduate years was with her mentor, Prof. Christine Li, in whose lab she studied a *C. elegans* orthologue of the APP protein implicated in Alzheimer’s disease. **“If it wasn’t for her, I don’t think I would be anywhere I am today,”** Jazmin says. When Jazmin expressed interest in neuroscience despite having

taken few courses in the field, Prof. Li was unequivocal: **“That’s silly. You should absolutely do what interests you. Whatever you need to learn, you’ll learn it there.”** She was right. Jazmin went on to be accepted into the Neuroscience PhD program at Brandeis University.

At Brandeis, Jazmin joined the Kadener lab, where her work centers on circMBL, the most abundantly expressed circular RNA in the fruit fly brain. Circular RNAs were long dismissed as genetic noise, but new roles for them are being uncovered constantly. Jazmin’s research seeks to understand the molecular mechanisms behind what circMBL is doing: how it regulates its own gene products, where it is expressed within specific neuron populations, and whether circular RNAs may play a role in Alzheimer’s disease (a question that has followed her since her undergraduate years)! Her PhD has taken her as far as Germany to learn cutting-edge techniques for her thesis.

Looking ahead, Jazmin envisions a potential future in industry or startups working still on the bench. For now, her immediate goal is to complete her PhD and to pay forward the support that carried her this far. That commitment to mentorship is already evident: for two years at Brandeis, she served as a mentor for the Posse Foundation, which recruits students with extraordinary leadership potential from diverse backgrounds and places them at partner universities like Brandeis on full-tuition scholarships. **“I like molding young minds,”** she says warmly.

Her advice to undergraduates is both practical and hard-won. **“Luck favors the prepared.”** Her main advice mirrors that of many PhD candidates: find and choose your mentors carefully. Find a research field that genuinely excites you, as opposed to just a box to check. It is difficult to cope with failures in research if you are not passionate about the question you’re trying to answer. **“Don’t let science consume everything. Balance is important,”** she notes. **“I don’t think I would have made it all the way through if it was just science, science, science.”** Above all, she emphasizes community. **“Talk to other students. Ask questions!”**



Where Are They Now FEATURE

Dr. Jisselly Sanchez Salcedo



Jisselly Sanchez Salcedo, MD, is an inpatient adult psychiatrist and Assistant Professor of Psychiatry at Covenant HealthCare College of Medicine at Central Michigan University. Originally from New York, she graduated from the City College of New York with a BS in Biology in 2013 before moving to Michigan to pursue medical school, and she has since remained committed to serving the Great Lakes Bay region. In her academic role, Jisselly actively trains residents and medical students while continuing her scholarly work, including the recent case report titled “Bupropion for Treatment of Depression and Narcolepsy in a Postpartum Patient.” Jisselly is also deeply involved in advocacy, particularly in suicide prevention—she is a member of the Suicide Prevention Coalition of the Great Lakes Bay Area. She is also in line to becoming the

next President of the Saginaw County Medical Society, reflecting her dedication to physician leadership and community engagement. On a personal note, Jisselly and her family are joyfully welcoming their second child this September. She shares, **“I am incredibly grateful for this exciting season both professionally and personally.”**



Inspiring Scientist FEATURE

Marina Milea

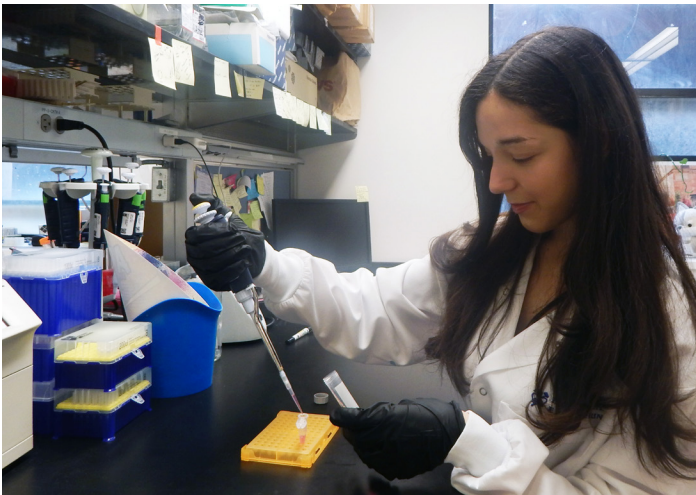


Marina Milea, a junior biology major with a minor in chemistry at City College, is on her way to becoming a research scientist. Growing up in New York City, a daughter of Afghan and Romanian immigrants, Marina was surrounded by poetry, intellectual curiosity, and diverse communities. These qualities now shape the way she approaches research: a desire to learn continuously, take methodological risks, and a sense of urgency to make a difference. Previously pre-med, she discovered her love for the lab during an internship at the Institute of Cancer Research (London) in her senior year of high school.

Marina’s return to the lab came through an unexpected opportunity: through CUNY’s Spring Forward Program, she began working as an R&D intern at Anew Material, a startup developing petrochemical- and VOCs- free nail polish inspired by biopolymers found in nature.

Throughout her first year of college, Marina learned to navigate a diagnosis of a rare form of endometriosis, an experience that would shape not only her personal journey but also her research direction. Marina became drawn to the idea of how disease manifests at the cellular level, and how new techniques in single-cell RNA sequencing and genomics hold the potential to reveal genetic patterns in understudied illnesses. It was this growing fascination that led her to apply to Columbia University’s IICD Summer Research Program, an opportunity she was connected with through the S. Jay Levy Fellowship at City College.

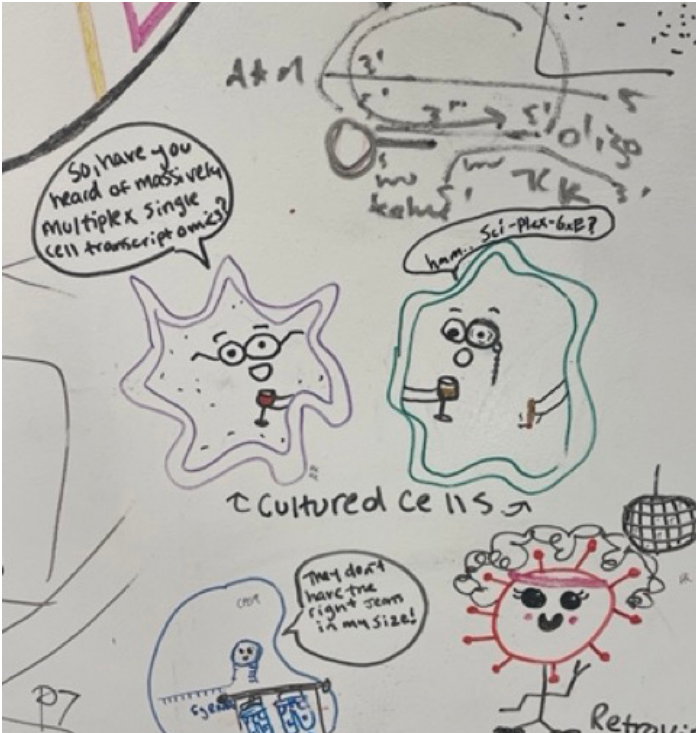
At Columbia, Marina found herself at the intersection of two disciplines for the first time. Co-mentored by the Azizi Lab in computational cancer biology and the McFaline-Figueroa Lab in chemical genomics, she discovered what she describes as a **“deeply satisfying fluidity”** working with both methods in tandem. Marina has continued this work as her undergraduate honors research, co-mentored by Professor Levitt, now as a full-time Research Technician in both labs. She is currently developing methods to engineer more cytotoxic T cells for glioblastoma (brain cancer) immunotherapy, and recently contributed to validation experiments for a study on regulatory kinases that improve T-cell-mediated killing of glioblastoma multiforme. The resulting preprint, **“Mapping kinase-dependent tumor immune adaptation with multiplexed single-cell CRISPR screens,”** was posted on bioRxiv earlier this year. Marina describes this as the most rewarding moment in her research journey thus far: **“I felt like I could finally call myself a scientist after seeing a research project through from beginning to end.”** Since beginning her honors research, she has been awarded CCNY’s Sharon D. Cosloy Award in Biology (2025) and the national Goldwater Scholarship (2026).



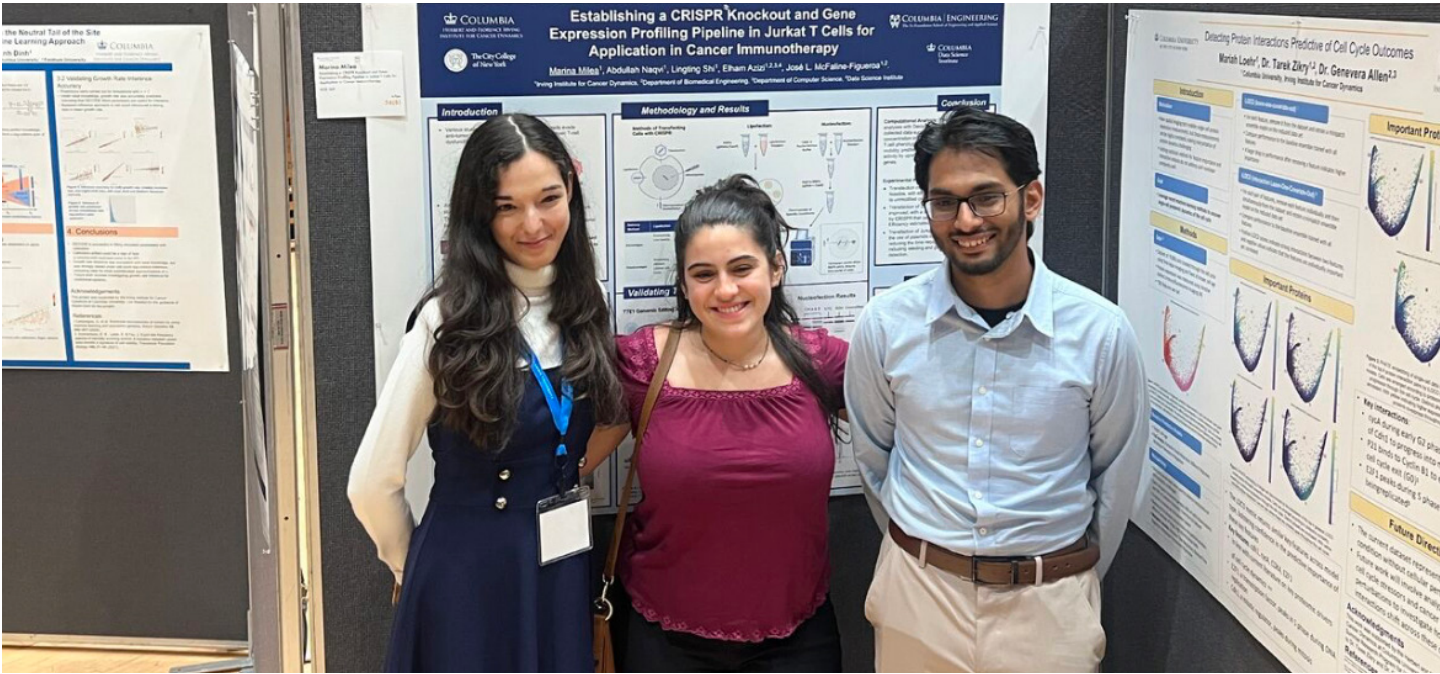
Much of Marina’s motivation to give back to the City College community stems from the support she received during her own challenging times. As Vice President of TriBeta Biological Honor Society, she has shared over 200 research opportunities with students, working to demystify the path into research for those just starting. Working with

Inspiring Scientist CONTINUED

former Dean of Science Dr. Susan Perkins, she designed and delivered twelve seminars for first-year STEM students transitioning to college. She has tutored ~180 students at the Artino Math Center in Calculus & Statistics. Marina also founded City College’s Chronic Illness Support Group. Outside of academia, she writes for Endo Scholar, a blog that compiles endometriosis resources, research, and poetry.



For students who have faced setbacks, Marina’s advice is to resist the urge to focus on what you are not doing, and instead channel your energy into what you can do. **“In the years I could not pursue research, I taught, I took harder classes, I applied for every fellowship and scholarship I could,”** she says. **“Eventually it paid off, and now I am doing the work I dreamed of doing since my first year.”** She also encourages new students to seek out the guidance of senior students in their field. **“They are an untapped source of information that could save you a lot of stress.”** Looking ahead, she aims to pursue a PhD in cellular and molecular biology or genomics, hoping to unite research, teaching, and scientific communication in her future career. This summer, she will be joining a lab in MIT’s Biology Department to undertake a new research project.



Harlem in The Woods BIOLOGY RETREAT

From Oct 10 to Oct 13, 2025, a group of Biology Department students, alumni and faculty attended a retreat at the AMC Corman Harriman Outdoor Center in Harriman State Park, NY. The event was supported by the CCNY Outdoor Initiative, and organized by Prof. Ana Carnaval. The participant list included 14 students and 6 faculty members or invited speakers.

- The retreat had multiple purposes, including:
- to promote new links to nature, to self and to others
 - to experience and learn about the natural ecosystems that surround our college
 - to share academic and professional advances and challenges faced in the last year
 - to brainstorm solutions, new ideas and solutions for the year to come

This was achieved through a combination of abundant time spent outdoors with crafting, conversations about art and science, and informal research-focused presentations.



Greeting the lake on arrival

The first night, Prof. Carnaval led an ice-breaker. Laying a large piece of paper and markers of different colors on the floor of the camp’s library, every participant was asked to write one word representing what they were looking for at the retreat. It was fun - and perhaps not surprising - to see that the terms chosen by the students and faculty fell into one of two groups: either representing an element of nature (examples included the words *tree*, *butterflies*, *nature*), or of well-being (*breathe*, *peace*, *connection*, *beauty*, *contentment*, *myself*, *disconnect from phone*). Every participant was invited to talk about their word and how they would seek that goal over the following days. To break the silence, they were asked to do so while drawing on the paper (crafting, allows the mind to speak more freely!) The result was a mural of words and images of plants, animals, geometric structures, cartoon characters, and abstract paintings that we hung on the wall to remind us throughout the weekend.



Ice-breaker project

The following day was packed. After a land acknowledgement led by Prof. Carnaval, Prof. Andrew Reinman (Hunter Geography and ASRC) visited to talk about his studies of the ecology of the forests of New England, which followed a group hike of the forest. Postdoctoral student Hanna Makowski also gave an oral presentation about her research on sugar maples and co- led the hike. During the walk, the group heard about and witnessed the many interesting features of these natural habitats: how to identify common trees and shrubs, the impact of deer grazing, beaver logs, leaf color changes and their drivers, local ferns and their roles. In the afternoon, there was a visit from an artist residing in the Tri-State area whose paintings are devoted to portraying this shared gift of nature. Susan Taylor brought her recent painting “No one can own the sky” and talked about her inspiration and technique, later reading and discussing two topics with the students and faculty: the contributions of Leonardo da Vinci to the merging of art, sciences and nature, and the poem “In Praise of Mystery: A Poem for Europa” by U.S.

Harlem in The Woods CONTINUED

Poet Laureate Ada Limón, which flew on NASA’s spacecraft on its mission to Jupiter’s Moon Europa. This conversation provided a unique opportunity for science students to acknowledge and incorporate sensibility, creative writing and art into their views of and work with nature, recognizing how interconnected these topics are to those we study. The day finished off with the best way to connect people: singing around a bonfire, under a starry sky.



Informal talks



Trail walks with Prof. Reinmann



A chat with artist Susan Taylor



Bonfire



Canoeing

The last full day, started off with meditation and yoga, and a student suggested creating new poses representing the animals and plants that the group studied—that was a success. There were sea anemone poses, sugar maple tree poses, lizard and frog poses. This was an awesome way to get ready for breakfast. Biology Department alumn, Connor French addressed the group that morning, sharing his experiences as a newly hired computer scientist in the private sector. Connor now works for a company that uses genomic data to create solutions to rare diseases. This generated lots of interest from students who are curious about the private sector, while providing useful comparisons to students in the academic path. In the afternoon, part of our group went back to the lake for more kayaking, while others took on a new trail to walk along the ridge of the Appalachian Trail segment that runs near the lodges. That gave participants new opportunities to enjoy the gorgeous views and creatures – including a salamander that the group cheered for. Later that day, a large block of time was dedicated for structured presentations in the library – where students were able to share what they have been working on, talk about challenges in their research or academic lives, ask for and give suggestions. That working slot was concluded with a book swap, getting everyone excited about some new readings (not scientific, by the way). With the arrival of the rain, participants kept the bonfire going for a bit, before going inside for board games and pumpkin carving. Again, the art had animals galore: cats, frogs, butterflies... and bats!



Morning yoga



Talk by Connor French

Harlem in The Woods CONTINUED

At the end of the stay, all participants were encouraged to reflect on how successful they were on achieving their goal for the retreat – and the response was tremendous. All students mentioned how transformative the weekend was, and asked for another retreat next year. Here is a testimonial shared by Corina Vernon, Biology Ph.D. student participant.

“I am extremely appreciative to City College for putting together this retreat. It was not only informative but also inspiring-- sparking new ideas and interests and optimism for my own research. I enjoyed the opportunity to spend time with other students in the Biology program. In particular, the hiking together each day provided time and space for a combination of mingling and longer discussions [...] Being included in this weekend in the woods was a great way to feel more connected and integrated with the CCNY Biology Department.”

“The brainstorming , collaboration, and networking opportunities available at a retreat are invaluable; it’s uncommon for us to gather for an extended amount of time, WiFi-less and unstructured, for discussions on research progress and obstacles, career aspirations, and feedback on new ideas just beginning to form. As a grad student, I am so focused on the narrow scope of my research question, but it’s immensely helpful to be reminded of the questions and findings of other researchers, and the ways all our work can connect.”



Pumpkins!



A hike though the mountain ridge

A word of thanks

Prof. Carnaval thanks CCNY, the Outdoor Initiative and their fearless implementors Ashley and Akasha for making this possible.

“Spending a few nights in the woods and connecting with nature and each other is completely transformative to our students, and to our faculty. Our department will be thrilled to keep this effort going forward, and expanding our collaboration with the Appalachian Mountain Club at Harriman State Park to involve more students.”

In Praise of Mystery: A Poem for Europa

Arching under the night sky inky
with black expansiveness, we point
to the planets we know, we

pin quick wishes on stars. From earth,
we read the sky as if it is an unerring book
of the universe, expert and evident.

Still, there are mysteries below our sky:
the whale song, the songbird singing
its call in the bough of a wind-shaken tree.

We are creatures of constant awe,
curious at beauty, at leaf and blossom,
at grief and pleasure, sun and shadow.

And it is not darkness that unites us,
not the cold distance of space, but
the offering of water, each drop of rain,

each rivulet, each pulse, each vein.
O second moon, we, too, are made
of water, of vast and beckoning seas.

We, too, are made of wonders, of great
and ordinary loves, of small invisible worlds,
of a need to call out through the dark.

Written by U.S. Poet Laureate:
Ada Limón

“In Praise of Mystery: A Poem for Europa” by U.S. Poet Laureate Ada Limón

Course HIGHLIGHT

Dr. Stav Kemeny’s students engaged in a science communication project, preparing posters on microbial pathogens for the Spring 2026 **Biology 24900 : Microbiology for Healthcare Professionals** class.



Dr. Michael Samms



Dr. Michael Samms, an Adjunct Professor in the Biology Department at City College, has spent over three decades immersed in CCNY’s biological sciences; first as a passionate researcher and now as a dedicated educator. Originally from Kingston, Jamaica, Michael migrated to the United States in 1976, settling in Brooklyn. He attended Adelphi University on Long Island, where he earned a bachelor’s degree in biology. Aspiring to become a physician, Michael spent 14 years working as an ER associate at Winthrop University Hospital before deciding, at 31 years old, to return to school and pursue his educational goals.

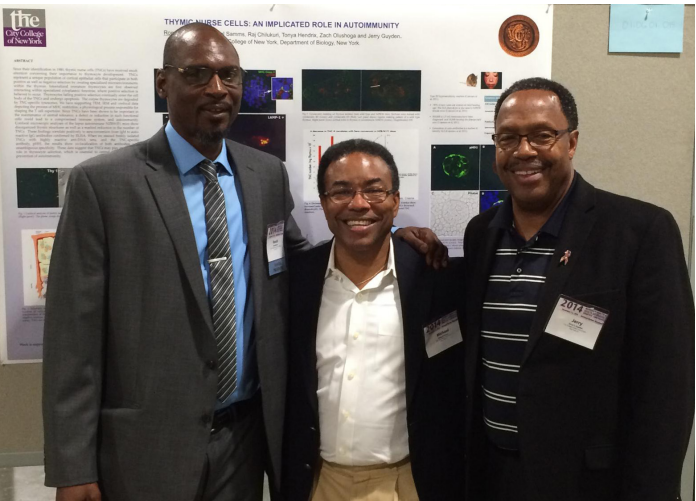
A friend told him about City College. During what was supposed to be a brief visit to get his program signed, he ran into Dr. Jerry Guyden, a graduate advisor in the biology department. What started as a quick encounter turned into a three-hour conversation and a friendship that has lasted decades. Michael went on to take a course with Professor Linda Mantel, then Chair of the biology department, and impressed her so much that she helped him get into the master’s program at City College. From there, he transitioned into the PhD program through the CUNY Graduate Center.

Michael started his doctoral research working with Dr. William Boto on HIV research, an experience that took him to Africa in 1996 and 1997 on a research grant. It was there, studying HIV-1 and working to identify individuals with a specific genetic deletion linked to susceptibility to the disease, that he realized his deep desire to become a research scientist with translational relevance.

After leaving Dr. Boto’s lab, Michael joined Prof. Guyden’s lab, where he focused on T cell developmental states. Graduate school came naturally to Michael. His ability to generate ideas and design experiments to test them made research feel intuitive. For Michael, science extends far beyond any single discovery. **“If you understand the micro world, you can extrapolate that into the larger picture,”** he reflects. **“The cells teach us amazing things. Science is all encompassing.”**



Over the course of his academic career, Michael has published 11 papers and given roughly 40 presentations at national and international symposiums. His first major manuscript demonstrated for the first time how thymic epithelial cells not only select thymocytes but also induce death in potentially auto-reactive cells and clear them from the thymus, a mechanism that had never been described previously. The paper helped put the lab on the map and has been widely referenced in the field. Michael, along

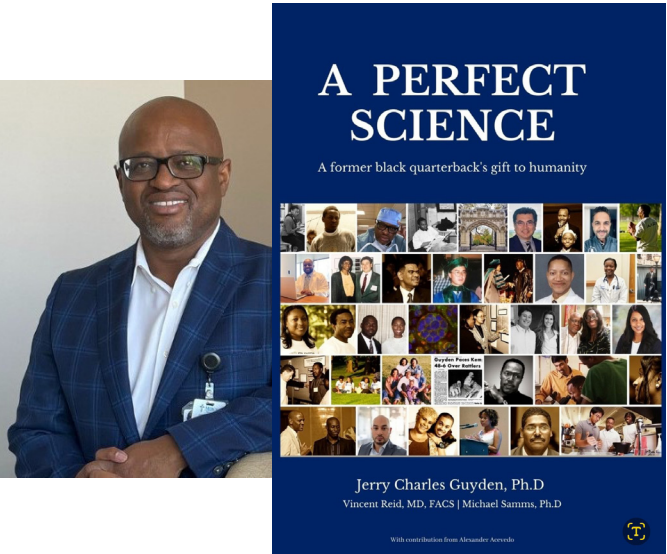


with his mentor Prof. Guyden and fellow lab member Dr. Vincent Reed, authored a book titled *A Perfect Science: A Former Black Quarterback’s Gift to Humanity*, published in 2013. The book tells the stories of the young people who came through their lab at City College and the careers they went on to build. **“The title refers to the students,”** Michael explains. **“It is not the biological sciences that we do. It’s the science of navigating young people into their purpose.”**

Today, Michael teaches Human Anatomy and Physiology at City College. In the past he has taught Genetics, Human Biology, Cell and Molecular Biology, and graduate-level courses throughout his extensive teaching career at the institution.

What motivates Michael most in his work is, without question, his students. Walking into a classroom full of young people with dreams and aspirations, his greatest commitment is to never dim that light. Throughout his career, Michael has trained roughly 35 students in the lab, many of whom have gone on to become doctors, scientists, and leaders in their fields. He takes pride in setting high standards while also recognizing that every student has unique strengths. **“You have to find ways to optimize the performance of those individuals, because everybody in that space has a particular thing that they’re unique about,”** he reflects.

Michael extends his mentorship outside of City College to mentoring young African American men in the District of Columbia, many of whom come from difficult socioeconomic backgrounds. Michael works with these young men to help guide them toward brighter futures. Every one of them has gone on to live a fulfilling life. **“Sometimes that’s all people need, to know that someone else believes in their abilities.”**



In honor of a beloved colleague, **Prof. Jerry Guyden**—one of Dr. Samms’s mentors—who passed away this year, we are sharing photos of them together. Professor Guyden was an immunologist whose research focused on thymic nurse cells, and he served on the City College of New York biology faculty for decades. He was also the principal investigator of a major National Institutes of Health RCMI (Research Centers in Minority Institutions) grant for many years. This grant was instrumental in supporting numerous research and training initiatives within the department and had a lasting impact on generations of students and faculty. Our next issue will have a full feature about Professor Guyden.



