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GSBMS Dean's Report

NYMC Publications

Fall 2024

Dean's Report- Fall 2024

Marina K. Holz

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**Marina K. Holz, Ph.D., M.P.H. '23,
Dean, Graduate School of
Biomedical Sciences**

**Dear students, faculty, staff,
alumni, and friends:**

We are excited to welcome our new students, and to see the familiar faces of our continuing students, faculty and staff. This year, we are welcoming large cohorts of our Master's and Ph.D. students who come from diverse backgrounds and work towards achieving ambitious professional goals. We are pleased to report that our pre-professional programs — Accelerated Master's Program (AMP), Clinical Laboratory Sciences Program (CLS) and the Dental Linker Program (DLP) are thriving. We are also continuing to expand our array of linkage agreements for our pre-medical and pre-dental students. I wish you a meaningful fall holiday season, and much success in your studies and professional pursuits.

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Welcome New GSBMS Students

With clear skies and a gentle breeze, the beautiful weather set an inviting tone for the GSBMS luncheon welcoming this year's incoming students on the MEC Plaza. The luncheon celebrates new Master's and Ph.D. students and provides the opportunity for students in all GSBMS programs to connect and socialize with each other, faculty and staff outside of labs and lecture halls. The luncheon is the culmination of several separate orientation sessions with presentations by faculty and representatives from administrative departments across the college, as well as meet and greet sessions conducted by returning students. Dean Holz would like to thank the faculty, staff and our returning students for their contributions in welcoming the incoming class.



[View the photos](#)

Full House- AMP and CLS Programs See Record Enrollment



The Accelerated Master's Program (AMP) Welcomes 29 New Students

The Accelerated Interdisciplinary Biomedical Sciences Program (AMP) has grown this year to include 29 new students, the largest cohort to date. This class is also notable for holding the highest metrics, (undergraduate GPA and MCAT scores) of any AMP class since the founding of the program in 2007.

An academic enhancer, the AMP allows

students the opportunity to enroll in both the first-year medical school curricula and in graduate school courses in preparation for attending medical school. More than half of this year's class will participate in the highly successful Conditional Admittance Agreement or the Guaranteed Interview Agreement, with the goal of attending NYMC School of Medicine next year.

[Read more about the NYMC SOM Agreements for GSBMS students](#)

Clinical Laboratory Sciences Program Welcomes 12 New Students

The Clinical Laboratory Sciences (CLS) Program, which started in 2019, is fully enrolled. Students in the CLS Program spend an intense two semesters working in hospital internships during the day and taking classes in the evening. This allows most to begin working under a temporary license in their new career as a clinical laboratory scientist at the end of their first year. Students gain full licensure upon completion of their literature review under faculty supervision towards their master's degree and the state licensing exam in their second year. This program boasts an 87.5 percent M.S. graduation rate at three years and has helped fill the many vacant laboratory positions in hospitals and other clinical laboratories. There is currently a shortage of CLS professionals and students in this program have often been offered positions during their hospital internships even before completion of their program. The CLS is growing in popularity as news of this program spreads, with applications rising every year. Several applications for fall 2025 have already been received for these limited seats.



Carol Carbonaro, Ph.D. '89, SM, MLS^{CM} (ASCP), director of the CLS Program says: "This year has given the Clinical Laboratory Program several reasons to celebrate. With the entry of the current class, we have reached full capacity for the first time since our inception five years ago, a clear indication that word about our excellent program is spreading. In support of our plans for continued growth, we have been provided with a

new laboratory in the Department of Pathology, Microbiology and Immunology for use by our students during our Introduction to Clinical Laboratory Sciences course. Finally, we are proud to share that our program has been awarded the American Society of Clinical Pathologists (ASCP) Medical Laboratory Science Program Director Educational Grant. This award will provide our students with the opportunity to train using state-of-the-art equipment currently seen in hospital laboratories. We excitedly anticipate continuous growth in the coming years."

[Read more about the CLS program](#)

GSBMS Pens Conditional Admittance Agreement with Western Atlantic University School of Medicine



The Graduate School of Biomedical Sciences has established a new Linkage Agreement with the Western Atlantic University School of Medicine (WAUSM), a private allopathic medical school. This agreement offers conditional admission to WAUSM for current GSBMS master's students and graduates from most GSBMS master's programs, provided they meet specific performance benchmarks. WAUSM features a preclerkship campus in Freeport, Grand Bahama, where students spend 20 months before moving to the U.S. for clerkships and residency, ultimately earning a Doctor of Medicine (MD) degree. This new partnership is added to the many medical program linkage

agreements available to GSBMS students.

Conditional admittance and guaranteed interview agreements are in place with several of our affiliate institutions for accelerated (AMP) and two-year master's program students. This year, more than half of current AMP students have taken advantage of these agreements with NYMC SOM. Benchmark-Conditional Admittance and/or Guaranteed Interview Agreements are offered for:

- New York Medical College School of Medicine
- Touro College of Medicine
- New York College of Podiatric Medicine
- Touro College of Osteopathic Medicine, New York
- Touro University California College of Osteopathic Medicine
- Touro College School of Health Sciences, New York, Physician Assistant Program
- Western Atlantic University School of Medicine

[Read more about Medical Program Agreements](#)

Dental Linker Program Success

The Dental Linker Program began in 2018 as a partnership between the Touro College of Dental Medicine (TCDM) and the GSBMS, creating a one-year masters program for a limited number of candidates, identified by TCDM as having outstanding traits and the potential to excel as dental students given the specialized training in critical thinking and learning strategies provided through the DLP.



DLP Success Stories

Udday Dutta, D.D.S., '24

"I started the Dental Linker Program in the summer of 2019. This program has elevated me on so many different levels. The program showed me that I was capable of so much more than I originally thought, and it pushed me to constantly improve. I am so grateful to this program and its extraordinarily caring faculty for taking me to where I am at in my dental career today. The Dental Linker Program gave me the tools that I needed to truly be prepared for dental school, and it gave me a pursuit of excellence which I carried throughout my time at the Touro College of Dental Medicine. From dental school I was accepted into the General Residency Program at St. Barnabas Hospital, which was my first choice. This whole journey began with the Dental Linker Program that I had hoped to get into. This whole journey began with the Dental Linker Program who instilled in me a work ethic that I continue to use to this day. I cannot thank the Dental Linker Program and its amazing faculty enough for everything that they have done for me."





Sean Trzaska, D.D.S., '24, TCDM Clinical Excellence and Professionalism Award Recipient

"During my time in the Dental Linker Program, I delved deep into the intricacies of science, honing my skills and expanding my knowledge under the guidance of esteemed professors. Armed with this comprehensive education, I entered dental school with confidence, building upon the strong foundation laid during my master's studies. Now, as I embark on the next phase of my career, I am eager to apply the expertise gained to make meaningful contributions to the field of dentistry. My journey from the linker program through dental

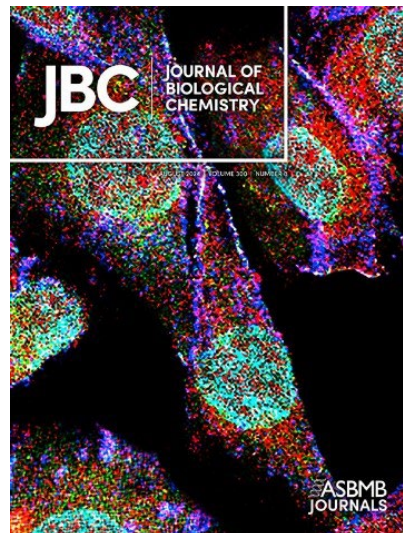
school has equipped me with the tools and passion necessary to thrive in this noble profession, and I am excited to see where this path leads me next."

[Read more about the DLP](#)

Accolades

Dr. Holz Appointed to JBC Editorial Board

Marina K. Holz, Ph.D., M.P.H. '23, GSBMS dean, professor of cell biology and anatomy, and interim chair of the Department of Biochemistry and Molecular Biology, was appointed to a five-year term on the editorial board of the *Journal of Biological Chemistry*, published by the American Society for Biochemistry and Molecular Biology (ASBMB). Dr. Holz, who is a fellow of ASBMB, was also elected to the membership committee of the ASBMB for a three-year term.



Valerie Romeo-Messana Named GSBMS Associate Dean of Admissions

Valerie Romeo-Messana, has been named associate dean of admissions in the GSBMS. With 15 years of service in the management of admissions operations in the GSBMS, she will continue to lead the GSBMS admissions function and take on additional responsibilities in the general academic administration and oversight of the Dean's Office operations and personnel in her new expanded role.

Grant News

Malik Bisserier, Ph.D., assistant professor of cell biology and anatomy and of physiology, received a \$40,000 grant from the American Thoracic Society for "LSD1 as a Target for Restoring Endothelial Cell Function for PAH."

Mitchel Cairo, M.D., professor of pediatrics, medicine, cell biology and anatomy, and of pathology, microbiology, and immunology, received a \$200,000 grant from the Pediatric Cancer Foundation for "Reducing the Burden of Oncologic Chemotherapy and Radiation Exposure Utilizing Targeted Immunotherapy in Children, Adolescents and Young Adults with Lymphoma"; a \$56,959 grant from Kadmon Corporation for "KD025-218, A Phase 2, Open-label, Multicenter Study to Evaluate the Safety and Efficacy of Belumosudil in Black or African American, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander Participants with Chronic Graft Versus Host Disease (cGVHD) After At Least 2 Prior Lines of Systemic Therapy"; and a \$5,000 grant from Alex's Lemonade Stand Foundation for a student researcher for "Investigating the Effects of Targeted Chimeric Antigen Receptor Natural Killer Cells Armored with Tumor-Attracting Chemokine Receptors Combined With a Novel Immunomodulator in the Treatment of Osteosarcoma."



Victor Garcia, Ph.D., assistant professor of pharmacology, received a \$85,000 grant from Orion Biotechnology Canada Limited for "Orion Biotechnology: Investigating GPR75 blockade in diet-induced obesity and beyond."

Chioma Okeoma, Ph.D., professor of pathology, microbiology, and immunology, received a \$97,364 grant from the National Institutes of Health for "ProteinSimple Jess System for Protein Analysis at NYMC."

Marcello Rota, Ph.D., associate professor of physiology, received a \$300,000 grant from the American Heart Association for "Sympathovagal Balance Conditions of Manifestation of Cardiometabolic Syndrome."

Christopher Whitehurst, Ph.D., assistant professor of pathology, microbiology, and immunology and of biochemistry and molecular biology, received a \$222,750 grant from the National Institutes of Health for "Targeting EBV's Deubiquitinating Activity for Therapy."

Dazhong Xu, Ph.D., associate professor of pathology, microbiology, and immunology, and **Marietta Lee, Ph.D.**, professor emeritus of biochemistry and molecular biology, received a \$206,198 grant from the National Institutes of Health for "The role of DNA Polymerase Delta 4 in Lung Carcinogenesis Induced by Genotoxic Carcinogens."

NYMC Honors the Class of 2024 at 165th Commencement Ceremonies



[Video >](#)

The NYMC community buzzed with excitement and anticipation as the GSBMS Class of 2024 marked their achievements in the biomedical sciences.

[Read more >](#)

[View the photos >](#)

[View the videos >](#)

[View the GSBMS Ceremony Highlights](#)

Meet the New GSA Board

Rahim Hirani, GSA President

The Graduate Student Association (GSA) is an integral component of the Graduate School of Biomedical Sciences. Officers are elected annually and participate in a diversified program including student advocacy on a variety of social, academic and professional issues relevant to the graduate student members.



Officers

- **President:** Rahim Hirani
- **Vice President:** Sara Muharremi
- **Chair of the Graduate Student Research Forum:** Madison Spears
- **Vice Chair of the Graduate Student Research Forum:** Jermaine Cail
- **Chair of Community Building:** Neha Ali
- **Treasurer:** Johalmo Lemus
- **Secretary:** Grace Solomon
- **Faculty Advisor, GSA:** Carl I. Thompson, Ph.D., Department of Physiology
- **Faculty Advisor, Forum:** John T. Pinto, Ph.D., Department of Biochemistry and Molecular Biology

Program Ambassadors

- **PhD:** Yolanda YuBing Shen and Comfort Williams
- **AMP:** Jack Rosenthal
- **BMS:** Rebecca Juste

All graduate students are members of the GSA. Founded by former student and professor emeritus of physiology, [Edward J. Messina, Ph.D.'73](#), the GSA provides students with the opportunity to meet other graduate students and provides graduate students with a unified voice with which important issues concerning them can be addressed and brought to the school's attention. The GSA also supports student led community service, outreach activities and organizes the annual Graduate Student Research Forum (GSRF).

[Read about the GSA's 2024 GSRF](#)

FACULTY FEATURE

Developing New Therapeutic Strategies Against a Deadly Disease; Malik Bisserier, Ph.D., Assistant Professor of Cell Biology and Anatomy and of Physiology



[Malik Bisserier, Ph.D.](#), joined NYMC from the Cardiovascular Research Institute at the Icahn School of Medicine at Mount Sinai in New York City in 2022. Since coming to NYMC, Dr. Bisserier has been conducting vital research on Pulmonary Arterial Hypertension (PAH).

PAH is a deadly disease with no cure, and current treatments offer only limited symptom relief. In the United States, the long-term prognosis of PAH patients remains poor, with a high mortality rate of almost 50 percent over three years. Heart-lung transplantation, the only definitive cure, carries significant risks, with post-transplant survival rates of only 54

percent at five years. Furthermore, the limited availability of organs results in higher waiting-list mortality for PAH patients, significantly surpassing that of other diseases, underscoring the importance of developing new therapeutic strategies. However, much about this disease remains unknown. In his time at NYMC, Dr. Bisserier's lab has identified new proteins and genes that are unregulated in the disease and are now further investigating their roles to uncover how they contribute to disease pathogenesis, progression, and severity using a translational approach. The aim is to bridge the gap between bench and bedside by working with patient-derived cells and tissues, as well as in vivo models of the disease, to allow the development and testing of innovative therapeutic strategies, including small compounds and gene therapy. Ultimately, the goal is to improve patients' lives by providing new treatment options. "The support I've received from both the faculty and administration at NYMC has been incredible. The collaborative and nurturing environment here has significantly contributed to the success of our lab, helped us advance our research on Pulmonary Arterial Hypertension, and opened new doors for future discoveries. We currently have open positions for potential Ph.D. students interested in joining our team."

[Read more about Malik Bisserier](#)

ALUMNI FEATURE

Pirouettes and Pipettes

Tara Jarboe, M.S.'19, Ph.D.'24

"The end product is this beautiful thing that seems so effortless, but the training is not that at all—it's structured and regimented," says Tara Jarboe, M.S.'19, speaking of ballet. Like many dance professionals, Jarboe, a fifth-year Ph.D. candidate in the Graduate School of Biomedical Sciences, began her training early at the age of six, embarking on a path that involved rigorous ballet lessons every day throughout middle school and high school. But when her mother's cousin was diagnosed with pancreatic cancer and she saw how fast the disease progressed, she knew she wanted a career in cancer research.



Like many young ballet dancers who aspire to have professional careers, Jarboe had to decide whether to pursue ballet after high school or go to college because of the physical strain that ballet imposes on the body and the constraints that arise as the body matures. Ultimately, Jarboe went to Wake Forest University in Winston-Salem, North Carolina, as she always planned. She received her Bachelor of Science in chemistry and double-minored in biology and dance. After college, she knew it was now or never if she wanted a professional ballet career. For five years, her career blossomed. Jarboe was a dance instructor at the Mill Ballet School in Lambertville, New Jersey, as well as a dancer and assistant rehearsal director at the Roxey Ballet Company. She played leading roles, including the Snow Queen from *The Nutcracker*, Frida Kahlo, and was also featured on National Geographic's Instagram account.

As dancing became harder on her body, Jarboe decided to go to NYMC in 2017 for her master's in microbiology and immunology. After graduating, she became an adjunct professor at Manhattanville College in 2020 while pursuing her Ph.D. in microbiology and immunology at NYMC. Her dissertation, with the help of her mentors Raj K. Tiwari, Ph.D., professor of pathology, microbiology, and immunology and associate professor of otolaryngology; and Xiu-Min Li, M.D., M.S., professor of pathology, microbiology and immunology; focuses on how the natural compound berberine is able to remodel fatal anaplastic thyroid cancer properties to make it more amenable to therapy.

"It is so important to me that information is passed onto the future generations so that ideas and education can continue with good integrity," says Jarboe. "I feel like that with dance, and I also feel like that with teaching science." A teacher at heart, Jarboe wants to stay in academia feeding the minds of the next generation and contributing to the world of cancer research.

GSBMS Facts and Figures

249 STUDENTS
(As of Fall 2024)

Academic Programs:

- M.S. Interdisciplinary Biomedical Sciences (General 2-year and Accelerated)
- M.S. and Ph.D. in Biochemistry and Molecular Biology
- M.S. and Ph.D. in Cell Biology
- M.S. and Ph.D. in Microbiology and Immunology
- M.S. and Ph.D. in Pathology
- M.S. and Ph.D. in Pharmacology
- M.S. and Ph.D. in Physiology
- Biomedical Science and Management (BSM) Master's in six disciplines
- M.S. in Clinical Laboratory Sciences
- Dual degree program
— M.D.-Ph.D. with the NYMC School of Medicine

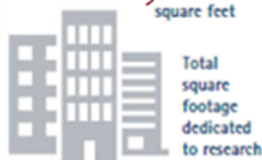
\$1,280
TUITION PER CREDIT



CAMPUS SIZE **54** ACRES



~ 126,000
square feet



Total square footage dedicated to research

97 FACULTY MEMBERS

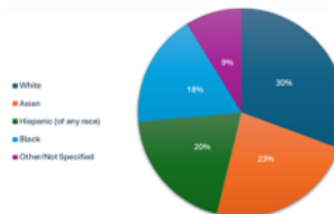


66% FEMALE
34% MALE

GSBMS Diversity Numbers:

- 34% of GSBMS students self-reported as part of a group currently underrepresented in the sciences

GSBMS students self-reported as members of the following groups:



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