Spring 2021

Dean's Report - Spring 2021

Marina K. Holz

DEAN'S REPORT

SPRING 2021


Marina Holz, Ph.D.

Dear students, faculty, staff, alumni and friends:

Spring is a time of renewal, hope and optimism. At the Graduate School of Basic Medical Sciences (GSBMS) at New York Medical College (NYMC) we have risen to the challenges posed by the pandemic. This academic year, our professors continued teaching and advising students, conducting laboratory research and kept our students on track in their educational pursuits. Our extraordinary students, in addition to their classroom and laboratory activities, organized a successful 32nd Graduate Student Research Forum, participated in Ph.D. Student Colloquia and engaged in volunteer activities in the community. I would like to especially thank the GSBMS staff for managing our activities and operations seamlessly and making themselves available to our students remotely and in person, using appropriate precautions. While there is still much uncertainty about the course of the pandemic, we are beginning to observe the positive effects of vaccinations and could tentatively begin to plan for the return of some of our usual educational and student activities in the near future. There are many milestones ahead. At our virtual hooding and awards ceremony, we will celebrate the achievements of our M.S and Ph.D. graduates. This year, we will graduate our first class of M.S. in Clinical Laboratory Sciences – professionals who are trained and licensed to conduct medical laboratory tests and are much sought-after in hospital and industry labs nationwide. The importance of training our future researchers, scientists and health-science professionals, has never been more evident than it is now and we will continue in our efforts undeterred.

Marina K. Holz, Ph.D.
Dean, Graduate School of Basic Medical Sciences
Professor of Cell Biology and Anatomy

32nd Annual Graduate Student Research Forum

The Graduate Student Association (GSA) of the GSBMS hosted the 32nd Annual Graduate Student Research Forum (GSRF) on Tuesday, March 16, 2021, on a virtual format. Due to the restrictions from the pandemic, the GSA decided to host this year's GSRF in Gather Town, a virtual platform for conferences and community gatherings. This is a new and different virtual platform for the GSBMS faculty and students. Avatars represent attendees virtually and the experience resembles an in-person conference from oral presentations to poster presentations.

The virtual GSRF was a great success as students shared their scientific achievements and discoveries through oral and poster presentations. The forum was highlighted by a keynote presentation by alumnus Anton Bennett, Ph.D. '93, who presented "Let the Data Journey Take You Where It May: A Journey Studying Protein Tyrosine Phosphatases in Disease." Dr. Bennett is the Dorys McConnell Duberg Professor of Pharmacology and professor of comparative medicine at Yale School of Medicine, the co-director of the Integrative Cell Signaling and Neurobiology of Metabolism Program and the director of the Biological Biomedical Sciences (BBS) Minority Affairs at Yale University. The day's events were moderated by Victor Garcia, Ph.D. '15, assistant professor of pharmacology, who served as the forum's master of ceremonies.

This year's forum honored Brian Ratliff, Ph.D., assistant professor of medicine and of physiology and director of the Accelerated Master's Program, as the 2021 Honored Faculty Award recipient. Raj K. Tiwari, Ph.D., professor of microbiology and immunology, associate professor of otolaryngology and graduate program director, was also honored at this year's forum as the 2020 Honored Faculty Award recipient. Last year, the award was not formally presented to Dr. Tiwari since the forum was cancelled due to the pandemic. The GSA is grateful to the service and contributions of both honored faculty awardees.

The forum ended with the announcement of winners for the oral and poster presentations. Elizabeth Berry, Ph.D. candidate in cell biology, is this year's oral presentation winner. She presented, "Chronic Morphine Exposure Induces Cell Type Specific Changes in the Intrinsic Electro-Physiological Properties of Mouse Hypocretin/Orexin (H/O) Neurons." Michelle Carnazza, Ph.D. candidate in microbiology and immunology, is the poster presentation winner for this year's forum. She presented, "Coding and Noncoding RNA Determinants of Invasion and Migration in Papillary Thyroid Cancer."

The GSRF was organized by the GSA led by Oshoname Olorife, chair of the GSRF, and Jessica Adams, vice chair of the GSRF, with guidance from John T. Pinto, Ph.D., professor of biochemistry and molecular biology and of medicine, who serves as faculty advisor to the forum. "The virtual 32nd Graduate Student Research Forum was a success due to the efforts of the Graduate Student Association and the GSRF planning committee. It was a privilege to see the research achievements of the student presenters who shared their work with us and listened to the cool science in the keynote address by Anton Bennet, Ph.D. '93. I want to congratulate all the student and faculty award winners, and thank all faculty advisors, staff and students who supported this event," said Marina K. Holz, Ph.D., dean of the GSBMS and professor of cell biology and anatomy.

GSBMS Rolls Out Redesigned Two-year Master's Programs

Last year, the two-year master's programs in the Graduate School of Basic Medical Sciences (GSBMS) underwent a review and revision process. The newly redesigned core structure of the curriculum provides all students with exposure to interdisciplinary topics that are molecular, cellular and system based, while allowing more flexibility for students who may wish to focus on a concentration area to match their evolving interests. The goals of the program are to allow students to become proficient in critically analyzing the scientific literature and be able to effectively communicate research data relative to foundational core concepts. Students who desire to enter a research-based career have the option to enter a research track. The advantages of the new design are three-fold:

- Introducing all master's students to a broader education – The new core curriculum provides foundational principles in the biological sciences including those outside of students' individual disciplines. These include biochemistry, physiology, and cell biology.
- Modernizing the master's programs for students who wish to pursue a career in academia, industry or a professional discipline such as medicine, dentistry, etc. –This is achieved through a broader set of choices in coursework that enhance students' breadth of knowledge, increasing their attractiveness to employers, Ph.D. programs or professional/medical schools.
- Flexibility of timing – Allows students to choose, with the guidance of their program directors, the distribution of rigorous coursework throughout semesters to suit their educational needs and professional goals.

"The introduction of the new master's curriculum in the fall of 2020 has been a tremendous success," said Marina K. Holz, Ph.D., dean of the GSBMS. "The new core curriculum builds a solid foundation while allowing our students to interact and get to know each other more closely as a cohort. At the same time, the curriculum allows for personalization and exploration, which is critical to prepare the students to succeed in their desired professional path."

Thanksgiving Dinner Project

In the spirit of Thanksgiving, Marina K. Holz, Ph.D., dean of the Graduate School of Basic Medical Sciences (GSBMS) and professor of cell biology and anatomy, along with the GSBMS Dean's Office staff, treated students who were away from home and loved ones for the holiday due to COVID-19 to a full Thanksgiving dinner. Many grateful students enjoyed a festive meal, either turkey or vegetarian, complete with sides and dessert, helping to make NYMC their holiday home away from home.

New Faculty: Christopher Whitehurst, Ph.D., M.S.

Christopher Whitehurst, Ph.D. M.S., recently joined New York Medical College (NYMC) as assistant professor of microbiology and immunology. He was born in North Carolina, but his family soon moved to South Carolina where he completed high school and college, obtaining a B.S. degree in biochemistry from Clemson University. He went on to the University of Wisconsin – Milwaukee where he earned an M.S. degree in chemistry under the direction of Michael Reddy . He and his wife, Jane, whom he met at Clemson, then traveled back to North Carolina where he completed his Ph.D. in Biochemistry with Dennis Brown at North Carolina State University. Two children later, Watson and Henry, Dr. Whitehurst started at the University of North Carolina at Chapel Hill in 2006, first as a post-doctoral fellow in the laboratory of Joseph Pagano and then as research assistant professor.

Dr. Whitehurst is a trained virologist, working with both RNA and DNA viruses through his graduate and post-doctoral studies. He currently studies the human gamma herpesvirus, Epstein-Barr Virus (EBV), and specifically investigates ubiquitination/deubiquitination processes regulated by EBV infection.

NYMC Students Receive Touro Fellowship Grants to Support Research

Two New York Medical College (NYMC) students, **Stella Iskandarian**, right, School of Medicine (SOM) Class of 2023, and **Saqlain Javed**, left, an M.S. candidate in the Graduate School of Basic Medical Sciences (GSBMS), are the fortunate recipients of Student Research Fellowship Grants from the Touro College and University System (TCUS) to support their research. The goal of the competitive program is to provide support for high quality, student-initiated summer research projects across TCUS. Read the full article on the Touro Fellowship Grants.

M.D./Ph.D. Candidate Received Trainee Professional Development Award

Roxanna Nahvi, M.D./Ph.D. candidate Class of 2023, in the laboratory of Esther L. Sabban, Ph.D., professor of biochemistry and molecular biology, received a Trainee Professional Development Award from the Society for Neuroscience (SFN). The award recognizes trainees demonstrating scientific merit and excellence in research. Trainee Professional Development Award recipients receive registration for the SFN Global Connectome and year-round access to the TPDA Neuronline Community and professional development resources in the year following their award. Ms. Nahvi presented "Intranasal NPY at High Doses to Females Can Prevent Development of Depressive Symptoms with Single Prolonged Stress PTSD Model" at SFN's Global Connectome virtual event on January 11.

CLS Graduates First Class

Although it seems like only yesterday, it was July 2019 that the inaugural class of the Clinical Laboratory Sciences (CLS) Program began training in their hospital internships and attending classes in the Graduate School of Basic Medical Sciences. Just one year later, while continuing their work on their literature reviews, CLS students were eligible to apply for New York State Provisional Permits to begin working in hospital laboratories, filling the vital role of performing diagnostic tests, leading to improved patient care and treatment outcomes. Even before the COVID-19 outbreak, the demand was strong for these highly trained professionals, and local hospitals eagerly awaited the day that they could bring our students into their ranks as employees. Of the seven CLS students three are concentrating all of their efforts on their literature reviews, while four students are currently working in hospitals while completing the literature review for the Master of Science (M.S.) degree.

This year, the CLS Program has expanded its hospital affiliate ranks, providing students with additional training experiences and options. The clinical rotation sites include BioReference Laboratories, Danbury and Putnam Hospitals (Health Quest Systems), Good Samaritan Hospital, Mount Sinai Hospital, New York Presbyterian/Lawrence Hospital, White Plains Hospital and Westchester Medical Center.

We are looking forward to this spring when, with the completion of their literature reviews, students will be awarded their M.S. degrees and will qualify for the New York State Licensure Exam—and once the pending NAACLS accreditation is complete, the ASCP accrediting exam as well. We proudly congratulate the CLS Program's inaugural graduating Class of 2021 on all of their hard work and achievements!

AMP Rolls Out Student Mentorship Project

Yedidya Benavie

Charanpreet Sasan

Aiden Lui

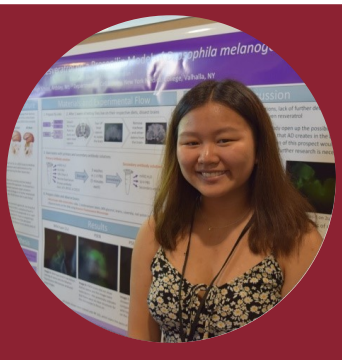
For the past few years, former Acceleterated Master's Program (AMP) student, Yedidya Benavie, M.S. '20, School of Medicine (SOM) Class of 2021, has been reaching out to students in the AMP program, providing them with informal, peer support and advice, to help them through what can often be a stressful and difficult year of preparing for and applying to medical school. Anticipating his departure at the end of this year, Yedidya was hoping to pass this tradition on to others who had successfully gone through the AMP Program. First-year SOM students and former AMP students Charanpreet Sasan, and Aiden Lui, took up the challenge and have initiated the official AMP Mentorship Program. Below, they share their thoughts on this new program.

"As a former AMP student, I relate to the unique challenges of students going through the AMP program at NYMC. During my AMP year, the faculty advisors and my medical student peers were an invaluable source of support, but there was still a need for a mentor who understood the exact challenges I was going through and could provide me with tips on how to best cross hurdles. I reached out to former AMP students and sought their insight and many of my classmates took a similar initiative," explains former AMP student Charanpreet Sasan, SOM Class of 2024. When I learned that there were efforts to formalize this process, I was excited to get on board and help develop an official AMP Mentorship Program at NYMC! My classmate Aiden and I are working with upper-year students and faculty to develop and organize the AMP mentorship program to pair current AMP students with medical students at the school who completed the program. The pairing is highly personalized with both mentors and mentees filling out a questionnaire to help match individuals based on style of learning, goals and personalities. As we launch the program this year, I see this becoming a core component of the AMP program at NYMC. Other than providing support during the AMP years, I hope this program will provide individuals with the space to form friendships and connections that will stay with them as they go through their educational journey. I am excited about this program and I think it demonstrates the generosity of the students at NYMC,"

"A lot of people have gone farther than they thought they could because someone else thought they could." – Unknown

"As a first-generation college student, I was extremely fortunate to have found mentors throughout my high school and undergraduate years. They were foundational in my development and served as a source of guidance when I faced difficult choices. What started as a formalized mentor-mentee relationship eventually grew into a lifelong friendship—one that I knew would continue to impact me in more ways than one," said former AMP student Aiden Lui. When I heard there was an opportunity to help develop a mentorship program for the students of the AMPat NYMC, a program I had completed prior to my matriculation, I was excited to get involved. NYMC's student body is very diverse but one thing that ties us together is our collective desire to help. Whether it is to provide medical or academic assistance, I am extremely fortunate to be part of an institution whose students actively volunteer to help make the community a better place. I am confident in our school's collective ability to be supportive and empathetic mentors, and look forward to seeing how we and our mentees will grow in the years to come.

We look forward to the continuing growth and development of this program and of the relationships of our AMP students across the years, as they move through their medical education. We thank our former AMP students for their generosity to those who follow in their footsteps.



2019 STAR Program Alum Named in Top 300!

Elizabeth Chun, a participant in the 2019 Summer Trainees in Academic Research (STAR) program in the Graduate School of Basic Medical Sciences, was in the top 300 scholars in the 2021 Regeneron Science Talent Search, for her project "Combating Familial Alzheimer's Disease: A Study of Resveratrol's Effects on a Presenilin Model of Drosophila melanogaster," which she worked on under the mentorship of Hannan L. Frances, Ph.D., assistant professor of cell biology and anatomy and of otolaryngology. She was selected from 1,760 applications received from 611 high schools across 45 states, Washington, D.C., Puerto Rico and 10 countries.

Featured Faculty:

Victor Garcia, Ph.D. ’15, assistant professor of pharmacology

After earning his M.S. in pharmacology at the University of Medicine and Dentistry of New Jersey, Victor Garcia came to the Graduate School of Basic Medical Sciences (GSBMS) and completed his Ph.D. in pharmacology. Dr. Garcia returned to NYMC as assistant professor of pharmacology after completing his postdoctoral training at Yale University under the mentorship of NYMC alumnus William Sessa, Ph.D. ’89, the Alfred Gilman Professor of Pharmacology, professor of medicine, vice chair of the Department of Pharmacology and director of the Vascular Biology and Therapeutics Program at Yale School of Medicine. Dr. Garcia’s research explores the relationship between the vasoactive cytochrome P450 (CYP)-derived eicosanoid, 20-hydroxyeicosatetraenoic acid (20-HETE) and its receptor GPR75 through innovative and cutting-edge methods. In fact, Dr. Garcia is credited with the discovery of identifying GPR75 as the 20-HETE receptor while completing his Ph.D. degree working under the mentorship of Michal Laniado Schwartzman, Ph.D., professor and chair of the Department of Pharmacology at NYMC. Moreover, his lab examines the role of the lipid-receptor pairing between 20-HETE and GPR75 in diabetes, metabolic syndrome, obesity, vascular dysfunction/remodeling, hypertension and cardiovascular disease.

At NYMC, Dr. Garcia serves as a Ph.D. mentor and member of various committees including diversity and inclusion as a GSBMS representative and the Course and Program Evaluation Committee. He is also a faculty advisor for students in the Interdisciplinary Basic Medical Sciences Accelerated Master’s Program (AMP), where students take select pre-clinical medical school courses alongside first-year School of Medicine students and are able to complete degree requirements within one year. Currently, his lab is open to students interested in gaining research experience and hands-on research opportunities.

For More Visit:
https://www.researchgate.net/profile/Victor_Garcia69
https://www.linkedin.com/in/victor-garcia-phd/
https://www.nymc.edu/faculty/directory/by-name/garcia-victor/

Featured Alumna:

Amanda Soler, Ph.D. ’19

Before embarking on her Ph.D. studies at New York Medical College (NYMC) **Amanda Soler, Ph.D. ’19** graduated *cum laude* from The College of New Jersey (TCNJ) with a Bachelor of Science in Biology. While at TCNJ, she was awarded a seat in the National Science Foundation (NSF) funded Gateway to Graduate School in Biology Scholar (GGSB) program. Her research focused on cytochrome P450-dependent (CYPs) plant biochemical defense mechanisms. She was awarded the TCNJ Susan Uyhazi Award for Excellence in Biology for her academic and research achievements. Upon graduating from TCNJ, Dr. Soler enthusiastically accepted an offer to NYMC’s Integrated Ph.D. Program.

Dr. Soler settled into the Department of Pharmacology to continue CYPs research. She applied her knowledge to cardiovascular research and the effects of CYP-mediated biochemical mechanisms on large artery stiffness within the metabolic syndrome. She was awarded a National Institutes of Health (NIH) pre-doctoral grant forthis research during her last two years at NYMC. In addition to the NIH-funded pre-doctoral grant, Dr. Soler was awarded various awards and publications. She received an American Heart Association (AHA) Onsite Trainee Poster Award, was the recipient of a Winter Eicosanoid Travel Award, and has been published in the *Journal of Molecular and Cellular Cardiology* and *The American Journal of Physiology-Heart and Circulatory Physiology.*

After earning her Ph.D., Dr. Soler accepted a position in New York City as a forensic biologist (criminalist) at the one of the largest public forensic biology in the world. She is responsible for applying her scientific skills and knowledge to the examination of criminal investigative evidence, preparation of samples sent forward for serological and DNA typing, interpretation of data, formation of detailed reports of findings, as well as acting as an expert witness in the court of law.

Currently, Dr. Soler resides on the Upper East Side of Manhattan with her husband and two dogs, Chive and Kiki. She is a proud NYMC alumna and aspires to teach and be a resource to students who are looking to establish careers in both an academic and non-academic science setting.

NEW YORK MEDICAL COLLEGE

A MEMBER OF THE TOURO COLLEGE AND UNIVERSITY SYSTEM

Graduate School of Basic Medical Sciences

Whether a student aims to discover the next life-changing drug or vaccine, investigate the basic principles of biology, educate the future generation of researchers or manage a science-focused non-profit, we offer M.S., Ph.D. and M.D./Ph.D. programs to meet their goal. Our Accelerated Master's Program offers two years of coursework in just one; and graduates of this program have a distinct advantage when applying to medical school, enjoying an acceptance rate of 85 percent. Our two-year M.S. programs offer options for research training, non-research thesis or project-based internships in industry. The newly launched Biomedical Science and Management Master's track is designed for students interested in pursuing careers in the pharmaceutical, biotechnology, or other biomedical science industries – or in the government and not-for-profit sectors. A new Master of Science in Clinical Laboratory Sciences program trains professionals to work in medical or pharmaceutical laboratories. Our Integrated Ph.D. program focuses on core scientific knowledge and the interrelatedness of the basic sciences while conducting original laboratory research.

GSBMS Facts and Figures

199 STUDENTS (As of Fall 2020)

Academic Programs:

- M.S. Interdisciplinary Basic Medical Sciences (Traditional 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 Master's in six disciplines
- M.S. in Clinical Laboratory Sciences
- Dual degree program
  — M.D./Ph.D. with the NYMC School of Medicine

Number of GSBMS Faculty: 100
GSBMS Tuition: $1,200 per credit

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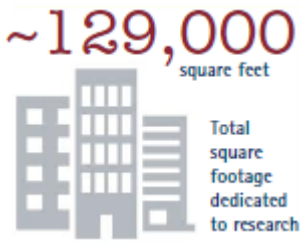
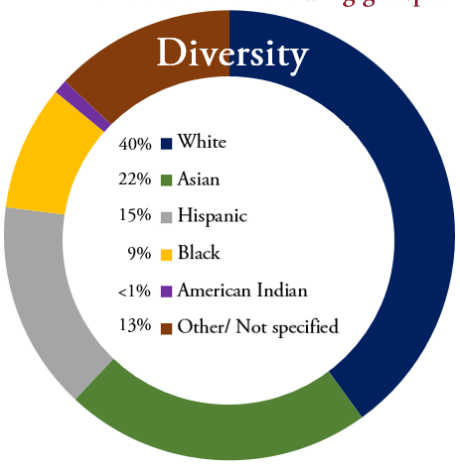


65% FEMALE
35% MALE

GSBMS Diversity Numbers:

- 26% 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:



www.nymc.edu/graduate-school-of-basic-medical-sciences-gsbms/