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IN THIS EDITION

MSTP Directors' Welcome	Pages 1-4
Meet the Entering Class of 2021.....	Pages 4-7
Introducing Erin Wrabel.....	Page 7
Connections Between MSTP Lit Club and ASPIRE Program.....	Pages 8-9
Interview with OSU MSTP Alumna Dr. Na Tosha Gatson.....	Pages 9-13
MSSO Board Member Statements.....	Pages 14-15
Awards, Honors, Publications and Life Events.....	Page 16

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Thank you to our fantastic leadership for your support!



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MSTP Directors' Welcome: Dr. Mallampalli

Background and Training

I had wanted to be either a physician or a professional tennis player since I was twelve years old. Even though I played tennis several hours daily in high school, I eventually came to the realization that this dream was not going to happen. Hence, I shifted to medicine and was fortunate to have attended the University Wisconsin Medical School in Madison, WI. There, at a tertiary care university hospital, I was fascinated by clinical exposure to a broad spectrum of unusual disease. I also spent a summer doing research in cancer immunology with a surgical oncologist studying lymphocyte proliferation in response to autologous tumor antigens. I really enjoyed this first experience in basic research but also shadowing surgeons in the OR. I chose my internship and residency at Hennepin County Medical Center (HCMC)/University of Minnesota in Minneapolis, MN because it complemented my medical school training with an intense experience managing critically ill patients, patients with substance use disorders, and



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MSTP Directors' Welcome: Dr. Mallampalli (Continued)

patients from an underserved population. In fact, there were so many overdoses among patients in the region that HCMC had a dedicated toxicology ICU. Not surprisingly, I further immersed myself in basic research in toxicology as chief medical resident that impacted my desire to pursue fellowship training in pulmonary and critical care medicine at the University of Iowa. After completing clinical training, I embarked on a NIH T32 funded research fellowship at Iowa in the pathobiology of acute respiratory distress syndrome (ARDS), a disease that afflicts ~ 150,000 patients yearly with a ~ 30% mortality rate. ARDS is currently an unfortunate sequela of COVID-19. At Iowa, I was blessed to have met my wife Anne, we raised four children, and I stayed on faculty, where I trained as primary mentor for several talented clinical fellows, graduate students, and undergraduate trainees.

I am fortunate to have many wonderful opportunities in academic medicine- training, administration, scientific discovery, and translation of research into the clinic. I was recruited to the University of Pittsburgh in 2009 to serve as the director of the Acute Lung Injury Center of Excellence and later as Chief of Pulmonary, Allergy, and Critical Care where opportunities in my research program expanded to entrepreneurial activities. We serendipitously discovered a pro-inflammatory orphan ubiquitin-related protein, called Fbxo3, that by using in silico design led to the synthesis and testing of a new genus of anti-inflammatory compounds. By the time I left Pittsburgh in 2018, we had nearly completed investigational new drug enabling studies, met with the FDA, and shortly after arrival to OSU received FDA approval for Phase 1 studies in the clinic for our lead compound. While I am energized by the commercial aspect of biomedical research (e.g. building a patent fence around IP, starting a company, and licensing), I think of the potentially transformative impact that scientific discovery has for us as physician-scientists that might lessen the severity of suffering of our patients with critical illness.

My thoughts on the OSU MSTP from the first several months and vision.

I am truly fortunate to have met such a brilliant, motivated, and thoughtful cadre of MSTP students. They are a cohesive group indeed with organized leaders who care about each other. I have listened to several seminars on the incredible cutting-edge science here at OSU with the students driving the projects, publishing in top tier journals, and supported by an elite group of mentors. I am especially grateful for partnering with a spectacular team – Dr. Bumgardner and Dr. Gur whom I have learned a lot from, and from Ashley Bertran, who is an indispensable part of our team. We are thrilled to welcome Erin Wrabel to our team. The MSTP vision broadly is to recruit, train, and develop these diverse brilliant minds that go on to become physician and surgical-scientist leaders in academia, industry, or the greater public health community. We want our OSU MSTP graduates to become our “ambassadors” in post-graduate programs, who in turn, will uniquely exceed the traditional milestones in medicine. Most importantly, our trainees will never forget the ideals of medicine: improving patient-oriented care through scientific discovery, training the next generation of investigators, and living to their full potential as health care providers.

Fun Facts, Interests Outside of Medicine

I am a fairly low-maintenance person, and I truly enjoy the small things in life. What brings me joy is playing a challenging and contentious game of scrabble with my wife (Anne), having a glass of wine with friends, and playing cards (bridge) with family. Anne makes our home a warm and welcoming place to host guests, and I have enjoyed the various gatherings that we have had at our home over the years. I look forward to spending time with our grown children. Additionally, I am a lifetime Minnesota Vikings fan, and you will find me cheering on my favorite team every week during football season.

MSTP Directors' Welcome: Dr. Bumgardner

Background and Training

While I certainly have a strong background in science and medicine, I also very much enjoy the arts and social sciences. I have a great appreciation for different cultures and languages in part because of my Asian heritage and my father's career as a Foreign Service Officer in the U.S. State Department. I love speaking foreign languages, learning about various cultures including associated history, art, architecture, and poetry. That has translated to enjoyment of meeting people from all over the world, traveling and tasting a variety of foods. In high school I participated in the French Club and particularly enjoyed our culinary adventures. In college, I considered a career in international relations but ultimately majored in Biology and minored in French at the College of William and Mary in Williamsburg, Virginia. I am a firm believer in a liberal arts education in college so students are exposed to a wide variety of subjects and potential careers. My first research experience culminated in a senior Honor's thesis based on a year long research project focused on the adhesive properties of Huntington's disease fibroblasts. I was accepted to medical school at the University of Virginia in Charlottesville, Virginia—Thomas Jefferson's University—another institution of higher education steeped in history and nestled in beautiful Shenandoah Valley near the Blue Ridge mountains. I started medical school thinking that I wanted to go into Family Practice. I took advantage of an opportunity to start medical school early by working with a family practitioner in rural Virginia. This turned out to be an incredible experience with a wonderful family practitioner who modeled great bedside manner, compassion and enjoyment of people. During the first year of medical school I was captivated by immunology and virology and this fascination permeated the rest of medical school. I decided upon transplant surgery as my career path after an exciting third year clerkship in surgery with many impressive role models and the realization that I could incorporate my interest in immunology as part of my career in transplant surgery. From Virginia I traveled quite a ways to pursue General Surgery residency training at the University of Minnesota based on their reputation in transplantation and surgeon-scientist training. I immensely enjoyed my residency training in Minneapolis and St. Paul Minnesota. I met so many wonderful people who remain colleagues today. I learned how to enjoy really cold weather. My research training during residency included earning a doctoral degree. My primary research mentor, Nancy Ascher MD PhD, was recruited to the University of California San Francisco (UCSF) to build a liver transplant program. When I finished my residency I pursued transplant surgery fellowship training position at UCSF. This gave me the opportunity to enjoy the cosmopolitan environment and the West Coast with all of its natural beauty. After I completed fellowship, I headed to the Ohio State University for my first faculty position where there was a well developed clinical transplantation program with faculty leaders in transplant surgery and in transplant immunology—an environment that I thought would be conducive to beginning a surgeon-scientist career. In contrast to all the traveling I experienced during my childhood and throughout my education, my move to Columbus, Ohio would become my longstanding home base. I met my husband at OSU and we raised our two boys here. Both of us developed our academic surgery careers at OSU where we continue to enjoy fulfilling professional and personal lives.

My thoughts on the OSU MSTP from the first several months and vision.

In the first several months of leading the MSTP I have gained an appreciation for the amazing care and commitment of the students to each other and to the program, their enthusiasm for the physician scientist career path and their impressive research accomplishments. I am also very grateful for the amazing leadership team that we have. Our vision for the MSTP is to recruit a diverse group of students who are passionate about medicine and science, facilitate

MSTP Directors' Welcome: Dr. Bumgardner (Continued)

development of their full physician scientist potential in a supportive environment, promote placement of our students into top tier research intense residencies and sustain their careers by instilling confidence and skills for continued professional growth and success.

Fun Facts, Interests Outside of Medicine

Our family likes to travel and enjoy the outdoors. I also love art museums, arts and craft fairs, and theatre. For many years my husband and I owned horses and competed in equestrian sports at the annual Columbus based Quarter Horse Congress. I look forward to a future vacation taking an equitour in the Loire valley visiting old chateaux in France! My current hobby is weekly piano lessons.

Meet the Entering Class of 2021

Serifat Adebola

"I grew up in Lagos, Nigeria, where I spent most of my early childhood before moving to the United States at the age of 18. This background gave me the privilege of experiencing healthcare across two very different systems as a patient, a family member, and a volunteer, all of which solidified my desire to pursue a career as a physician. I attended the New York City College of Technology (CUNY) in Brooklyn, NY, where I received a Bachelor of Science in Biomedical Informatics and an Associate degree in Chemical Technology. While in college, I joined the Louis Stokes Alliances for Minority Participation program as a research scholar and pursued research across different disciplines ranging from genetics to immunology. After graduating, I spent two years as a post-baccalaureate fellow at the National Cancer Institute (NCI), Bethesda, Maryland, under the mentorship of Dr. Grégoire Altan-Bonnet. During my time at the NCI, my research focused on better understanding the impact of immune cell subtypes on resistance to immunotherapy. Through my research and clinical experiences, I became interested in further understanding what drives the pro and anti-tumorigenic functions of the immune system in cancer. Outside of the lab and classroom, I enjoy singing, cooking and I love to travel and experience different cultures and FOOD! I recently picked up painting (definitely not the next Picasso)"

Jeremy Beales

"I grew up in Roosevelt, Utah, a rural town of about 6,000 people. Growing up, I spent a lot of time playing music (piano and violin), reading (mostly fiction), and exploring outdoors. After graduating from high school, I attended BYU, where I studied bioinformatics and minored in computer science. The short version of how I ended up here at OSU in the MSTP is that I realized that I wanted to have a career where I could have a positive impact on patients during their difficult times and also advance science to give hope to patients whom medicine cannot currently adequately help.

In addition to being a student, I really enjoy cooking (Thai and Indian food are both favorites). I also spend a lot of my free time reading or listening to audiobooks. I find that I mostly gravitate toward nonfiction books about health, longevity, philosophy, psychology, finance, and similar topics. I recently came across Stoicism (the philosophy), so I've been reading a number of books about Stoic philosophy. Spanish is another one of my interests, and I'm working on my medical Spanish by volunteering at La Clínica Latina. I'm excited to have a chance to learn here at OSU during the next eight years.

Fun fact: I'm growing three different types of basil (plus other things) in a small garden, and I've only killed about half my plants so far, so things are going well."

Meet the Entering Class of 2021 (Continued)

Alexander Efanov

"I was born in Moscow, Russia and moved to Columbus, Ohio in 2006. I attended The Ohio State University for my undergraduate training, and received a bachelor's degree in biochemistry. During that time, as a member of Dr. Hamdy Awad's lab, I studied the difference in pathophysiology of spinal cord injury after open and endovascular aortic repair in mice and dogs. The goal of our research was to use these animal models to discover a working therapeutic that would prevent paralysis in patients after aortic aneurism surgery. My research experience taught me the power of translational research and its capability to improve patients' lives. For this reason, I decided to pursue a career as a physician scientist. Currently, I am interested in studying neurodegenerative disorders and their relationship to cellular senescence in the brain. Outside of school, I enjoy going out for a jog and reading Russian literature."

Seraph Lin

"I was born in Taichung, Taiwan, and immigrated to Los Angeles with my family when I was two years old. I attended the University of California, Irvine, where I earned a Bachelor of Music in Piano Performance in 2013. After graduation, I was a professional musician for many years. Due to some personal experiences during this time, I decided to change careers from music to medicine. I was a postbaccalaureate fellow at the National Cancer Institute from 2017-2020, where I conducted research in the lab of Dr. Ludmila Prokunina-Olsson, studying genome-wide association study-identified genomic regions associated with bladder cancer risk. Specifically, I characterized the isoforms of the APOBEC3 enzymes and their potential as therapeutic targets. Outside of work and school, I love spending time with my two rescue pups, playing video games, building LEGO sets, and making music!

Fun fact: I have a massive collection of ultra spicy hot sauces (and when I say spicy, I mean the sort of spice levels that will make grown men cry with a single drop.)"

Ellyssa Sherman

"I've lived in Texas, New York, Pennsylvania, and Maryland before coming to Columbus, Ohio. I went to the University of Maryland for my undergraduate studies in nutrition and this is where public health took a special place in my heart. I also attended Thomas Jefferson University for my master's in microbiology and immunology (degree pending my final thesis defense) and completed research at the University of Pennsylvania. It was at Penn that I worked with Dr. Aimee Payne, my inspiration for pursuing a physician scientist career. My research investigated B cell tolerance checkpoint fidelity among pemphigus vulgaris patients. I hope to continue my research training in adaptive immune processes, but with a focus in T cell biology. Outside of all the medical school things, I am most likely found snuggling and playing with my chihuahua, Sage, or seeing plays, ballets, and visiting museums with my partner."

Meet the Entering Class of 2021 (Continued)

Delaney Villarreal

"I grew up in Omaha, Nebraska with my two sisters and brother. I attended the University of Nebraska-Lincoln (UNL) for my undergraduate education. My undergraduate major was in Microbiology, with a minor in Biochemistry. I began my journey in research when I was a Junior in high school. I joined a neuroscience lab focused on the interaction of drugs of misuse and concurrent HIV infection with neurodegenerative diseases. I stayed in this lab for three following summers. The passion and excitement of this lab impressed upon me the importance of laboratory science in medicine. Since then I have explored labs in other areas of study, including psychology, cancer, and Zika virology, through the NIH INBRE program at UNL. I believe that all of these labs helped shape my interests and passions. My current research interests are more along the lines of treatment optimization using pharmacology, immunology, and other multi-disciplinary techniques. Outside of the classroom, I enjoy playing in the professional school orchestra, exercising, and finding new foods! It is my first time moving away from home, but I am really enjoying exploring Columbus and the various opportunities at OSU.

Fun Fact: I love to snow ski and skied the Black Diamond tour (all the black/double black runs) at Steamboat Springs."

Kun Xing

"I was born in Wellington, New Zealand and then shortly after proceeded to move all across the world! My family's moves took me to Rochester, Beijing, Ft. Lauderdale, the middle of nowhere Virginia, and Washington, DC. We finally settled in Northern Virginia and I graduated from McLean High School in 2016 and then went on to Cornell University to pursue a degree in chemistry. Following an interest in aging, I joined the lab of Dr. Sylvia Lee investigating the genetic mechanisms of age-related neurodegenerative disorders in *C. elegans*. After two years at Cornell, I decided to transfer to the University of Pennsylvania to follow an interest in health policy -- not to escape the upstate New York weather! In between the transition, I joined the lab of Dr. Sanchita Bhatnagar at the University of Virginia studying triple-negative breast cancer. In May 2020, I graduated from Penn with a degree in Biology and a concentration in Mechanisms of Disease. At Penn, I conducted research on CAR-T therapy for glioblastoma multiforme and was actively involved with Puentes de Salud, a Spanish-speaking free clinic in Philadelphia, and Shelter Health Outreach Program, a student-run organization providing health care resources to the Philadelphia homeless community. After graduation, I joined the lab of Dr. Thomas Gonatopolous-Pournatzis at the National Cancer Institute developing a combinatorial CRISPR screening platform for genetic interactions. These experiences reinforced my interest in both research and in health equity and motivated me to pursue training as a physician-scientist. I am excited to see what contributions I can make to patient care and research here at tOSU!

Outside of the classroom and the lab, I am an avid painter, a novice ballroom dancer, a frequent composter, and a lover of food. I enjoy trying new restaurants in the search for the best crab dip in the United States. So far, Jimmy's Famous Seafood in Baltimore, MD takes the cake!"

Meet the Entering Class of 2021 (Continued)

Kayla Young

"Hey y'all! I grew up in Hampton, Virginia and was raised there until it was time for baby bird to leave the nest for college. I graduated from MIT in 2018 with a B.S. in Biology. During my time in undergrad I was mentored by silly, brilliant scientists and had the opportunity to work on a number of research projects, one of my favorites being the simulation of amyloid-fullerene interactions to investigate the inhibitory properties of fullerene nanoparticles on beta-amyloid peptide aggregation seen in patients who suffer from Alzheimer's disease.

After graduation I landed my first big girl job at a biotech company in San Francisco where I learned more techniques for engineering microbial genomes, particularly in filamentous fungi. I later returned to Boston and entered the microbiome world as a research associate at the Children's Hospital. There, my primary focus was characterizing microbiota of the female reproductive tract (FRT) and investigating mechanisms by which strain-specific interactions in the FRT drive health and disease states.

My current interests lie in too many things, but I would like the chance to further explore neurodegenerative diseases and other brain things, as well as the microbiome.

Whenever I have time to indulge in my hobbies, I love to dance, cook, go on hikes (in more of a pedestrian than a proficient sense), learn a new craft, read, sing (badly), and occasionally luxuriate in the simple pleasure of laying down and doing absolutely nothing.

Fun Fact: I am near-sighted in one eye and far-sighted in the other. When I lived in California, my optometrist told me since my prescription was so *ahem* unique that my contact lenses were considered medically necessary under my insurance so I got what would have been more than \$1000 worth of contacts for free!"

Introducing Our New Program Coordinator – Erin Wrabel

For those of you I've talked to, it has been a pleasure getting to know you over the last several months. I transferred from the College of Engineering, and prior to that, I worked as the M2 Coordinator. It's been great working in the College of Medicine again, while seeing some familiar faces.

I graduated from Ohio State with a B.A. in Speech and Hearing Sciences and am currently studying to receive my MBA from Ohio State's Fisher College of Business. Since starting at Ohio State back in 2016, I've acquired several skills from my positions that have helped me with my transition to the MSTP Team and will continue to aid in my efforts to improve the position and program.

Outside of the office, I spend most of my time on schoolwork. Personally, I enjoy traveling with my husband, Cameron, reading, hanging out with my family, going to concerts, and camping. Since I'm from NE Ohio, I'm an avid Cleveland Sports fan, unfortunately.

Though our COVID-19-related protocols are constantly being reevaluated, I am still available as a resource and advocate to all of you. If you ever need to stop by my office or contact me via email, please do not hesitate to do so. I look forward to working with all of you in the MSTP Community.



Connections Between MSTP Lit Club and ASPIRE Program

Aaron Thomas and Daniela Jimenez-Harrison

Why did we create the literature club?

The MSTP “Lit Club” was created alongside the MSTP’s Anti-Racism Action Plan as a response to the murders of Breonna Taylor, George Floyd and shootings of unarmed Black men like Jacob Blake. The subsequent protests and calls for racial equity and challenges to our nation’s engrained white-supremacy moved our program to act. We wanted to create an opportunity to foster interracial-dialogue and learning through literature. We purposefully choose books that not only highlight the stories and lived experiences of racial minorities, but also across all genders, sexual orientations, nationalities, and class statuses.



Why is literature so important to lived experiences?

“You are the expert of your life” – any conversation or learning objective that is about any person/group of people should be centered on those people. This is what literature does, it allows us to tell our own stories, in our own words, with our perspectives and our lived truths. The stories of marginalized communities have often been told from an ahistorical perspective. Reading serves to inform a better understanding of our fellow classmates, administrators, neighbors, partners, and future patients.

What have we taken away from our sessions?

Prior to creating and joining this literature club, I never ventured far from the authors I knew and never thought to use literature to expand my worldview. However, following the events mentioned above, I wanted to make a change in how I learn about the past and current struggles of diverse communities. Over the past year and a half, I’ve been alarmed by how little I knew about specific groups and what they’ve overcome. Gaining a better understanding through reading has inspired me to continue to seek out new information and stories. Moreover, our book discussions help broaden my interpretations of each story. I’m always amazed by how much each of us can learn from one another, it sometimes seems like we’ve read completely different books. We each bring our own experiences and knowledge of specific subjects and it’s just as gratifying and beneficial to hear these as it is to read each book.

What is our vision for the future?

Our vision for the future is that our fellow classmates will begin attending! We’ve had a steady crew of the same 5-6 people, but we would love to see more folks participate. We also hope that these conversations we are having, surrounding the literature, continues outside of the lit club and into the homes and hearts of our community!

Connections Between MSTP Lit Club and ASPIRE Program (Continued)

What are the implications for future physician scientists?

As future physician scientists we have a responsibility to support a diverse population of patients in the clinic and through our research. One of our goals for this literature club is to inspire an empathetic approach in our careers through reading the stories and understanding the perspectives of marginalized groups. Listening to and understanding the needs of our patients and target communities is an important skill that needs to be fostered over time. This is especially important when it comes to working with patient groups who have traditionally been harmed or neglected by the medical and scientific communities. We hope that our discussions begin to develop this skill, so our patients and fellow physicians benefit in the future. Moreover, we hope to include undergraduate students in the ASPIRE program in more of our sessions so that these important conversations are had even earlier in students' education.

Meet OSU MSTP Alumna Na Tosha N. Gatson, MD, PhD, FAAN!

Could you tell me about your background?

I was born in a small town in Northeast Indiana to a young mother and father who encouraged me from a young age (4 yo) to become a physician. I grew up as a middle child with one older and two younger siblings. My parents always noted my eagerness to investigate things and as a child my idea of a perfect gift would be a microscope, telescope, or a science kit. I was destined to leave that small town and be a big city girl! Shortly after starting my undergraduate education, I married and started a family. Our three children are my greatest accomplishments; I will never outdo myself there! Everything about being a mother and a wife prepared me for the level of skill, emotional intelligence, diplomacy, and inner peace needed to complete the MD/PhD program. I could not have done it without my family.



Why did you choose OSU for your MD/PhD?

The director of the MD/PhD program at that time was Dr. Allan Yates. Dr. Yates identified me early on as a future mentee coming through the post-graduate medical pathways program – and the offer of friendship and support by Ashley Bertran and Christine Kerr welcomed me *into* the program. The tremendous roar of my cheerleaders and sponsors (Dr. Allan Yates, Dr. Bruce Biagi, Muntaquima Furqan, Dr. John Stang, Dr. Quinn Capers III, Dr. Virginia Sanders, Dr. Mike Caliguri, Dr. Kevin Hackshaw, and an outside

mentor Dr. Charles Thomas, to name a few) is what brought me *through* the program. They saw something in me that was larger than I had imagined and pushed me to be **uncommon** in common times.

Are there any memorable or pivotal moments you recall from your training at OSU?

I recall the moment that I successfully defended my PhD thesis. I recall the warm handshakes, the smiles, the smell of picked over cold-cuts, and then the calm. I recall going back to my cheerleaders with a heart of thanksgiving and learning something very powerful:

Interview with OSU MSTP Alumna Dr. Na Tosha Gatson (Continued)

1. Everything *before* that day had already prepared me for all things to come *after* that day. I was already victorious.
2. I learned that in addition to *standing wide* and *leaning in*, I'd have to also **dig deep**.
3. Finally, I could own my share of invincibility. Invincible because now I could accept the fact that any journey worth accomplishing would be peppered with leaps and fails. And, if my leaps were twice as high as my fails, I would arrive at that place a better version of myself with a story to tell.

How did you decide to pursue neurology?

My graduate research was focused on the impact of pregnancy on central nervous system (CNS) autoimmune diseases. I became enthralled with neuro-immunology and the potential to better understand how systemic immune cues might influence CNS disease outcomes. Ultimately, I used my understanding of neuro-immunology to apply to the science of neuro-oncology.

As the first Black graduate of the OSU MD/PhD program in 2009, what was it like to accomplish this milestone?

I selected the Molecular Virology, Immunology, and Medical Genetics (MVIMG) pathway within Integrated Biological Sciences. Having completed such a rigorous program, while managing a family, I felt a great sense of accomplishment on graduation day. However, meeting this challenge over a period of declining race relations with burdening public, judicial, and health care policies which disproportionately targeted Blacks was not lost on me. As a Black woman I had to remain socially alert, recognizing that my graduate student status did not shield me from a society that valued power and made assumptions based on race. This was the private struggle of rare birds, unsung and quietly kept. I am honored to have blazed a trail of footprints that chronicle my runs, walks, pauses, skids, tip-toes, backtracks, and leaps that tell a story of emotional intelligence and endurance. A lasting excellence.

During your neurology residency at OSU, you completed a NIH funded enfolded post-doctoral fellowship. What was this experience like?

I was the first recipient of the prestigious NIH/NINDS R25 research support within the OSU Dept of Neurology. This was a one-year enfolded fellowship focused to identify serum-based factors that influenced oncolytic viral targeting of glioma cells. I owe thanks to Dr. E. Antonio "Nino" Chiocca, Dr. Balveen Kaur, and Dr. Mike Racke. This experience was outstanding and fueled my interest in clinical and translational neuro-oncology research.

What motivated you to pursue your neuro-oncology fellowship at the University of Texas MD Anderson Cancer Center (MDACC)?

MDACC was ranked #1 in the nation for cancer care, and I was very interested to train under world renown leaders in brain tumor care such as Drs. A. Yung, C. Conrad, R. Sawaya, M. Gilbert, F. Lang, J. Weinberg, and A. Heimberger. After interviewing, I found that I loved the city and would work hard to identify my future niche and contribution to the field. Furthermore, understanding that up to 36% of systemic cancers ultimately involve the CNS, it was important to be exposed to diverse cancer types. MDACC allowed for a unique design of the 2nd year of fellowship allowing for expanded training across tumor programs. I was fortunate to work closely with lymphoma, melanoma, breast, palliative, and neurosurgery teams outside of medical neuro-oncology. I was grateful for such an expansive training experience. Finally, I met my life-long career mentor, Dr. Vinay Puduvalli, who continues to guide my steps in the field.

After neuro-oncology fellowship, you joined Geisinger Health and served numerous roles, including Director of the Division of Neuro-Oncology, Assistant Dean of Equity and Inclusion, and ranked up to Associate Professor of Medicine. Describe these leadership experiences?

I served both the clinical and academic (Geisinger Commonwealth School of Medicine [GCSOM]) enterprises. Leading as the Director of the Neuro-Oncology Division and my appointment to Assistant Dean of Equity and Inclusion were educational and humbling.

Interview with OSU MSTP Alumna Dr. Na Tosha Gatson (Continued)



I had the opportunity to teach and learn as I developed amazing programs with awesome professionals. Excellence rang from the administrative staff, medical trainees, physicians, and researchers up to the board of directors. Prior to taking on any leadership roles, I was afforded specialized leadership training within Geisinger/GCSOM as well as through the American Academy of Neurology (AAN)! I was proud to establish Geisinger as a location for brain tumor excellence and helped to bring about the new Social Justice Curriculum at GCSOM and helped to promote belongingness within the Geisinger Health system. For my efforts, **I was awarded the Innovator of the Year Award for 2021!**

What does your work entail day to day?

I am a physician scientist focused in the areas of neuro-oncology and neuro-immunology. The services that I provide to both the patients and to my oncology colleagues is as follows:

1. Neuro-oncology care: Longitudinal medical care for brain and spinal cord tumor patients, both primary and metastatic tumors, malignant or benign.

2. Cancer neurology care: Care for cancer patients with neurological signs and symptoms that are secondary to their cancer or cancer therapies. This includes, but is not limited to neuropathy, headaches, seizures, tremors, movement disorders, and changes in cognition, mood, sensation, strength, vision, gait, speech, language, sleep, or sexual function.
3. I lead research development within Neuro-Oncology at my current institution (Banner MD Anderson Cancer Center, Phoenix, AZ) and continue to drive ongoing research as adjunct Associate Professor at Geisinger. I enjoy population science, brain tumor imaging, research equity within neuro-oncology.
4. I lead the emerging subfield within neuro-oncology called The Neuro-Oncology of Women (NOW). As women make up more than 60% of all intracranial and spinal cord tumors – it is equitable that increased awareness for women's tumors be given special consideration for response to therapies, pregnancy or exogenous hormone exposure risks, and providers better understand sex and sexuality in women with cancer. NOW also emphasizes issues of gender affirmation and cross-sex hormones during transitioning in transgender patients. I am proud of the niche I have been able to carve for myself and value what I've added to the field.

You have previously described how most medical curricula are not designed social justice in mind. What changes do you think need to be made in the culture of medical leadership to create an environment that divorces itself from performative and accomplishes real social justice?

Understanding that real change comes with power – the power to change policy is paramount. This is NOT taught effectively at any level within our medical or graduate education. Here is how: [continued]

Interview with OSU MSTP Alumna Dr. Na Tosha Gatson (Continued)

1. Reduce opportunities for unconscious or subconscious bias:

- Require a diverse array of human model simulators for CPR, IV access, lumbar puncture and other medical procedures. Currently, most simulators are the color and build of an athletic white male? *(Certainly not the norm presenting for acute medical care)*. Why are they not designed with real patients in mind? Black, thin, brown, short, obese, female, mastectomy, amputee, implants, surgical scarring, etc... could all be designed as part of the simulator series of real people. These adaptations might better represent true medical procedural challenges.
- I have never been trained in my career to evaluate and identify most pathognomic dermatological signs on a dark brown or black-skinned patient. Not a single dermatology lecture with clear axillary freckling on a black baby; skin cherry angiomas or a malignant nevus on a dark complected patient. Are they exempt?
- “Netter is Better” – except at providing images of brown skin flaps that have been reflected and pinned back to expose the carefully dissected cardiac chambers.
- Sample case scenarios tended to include unnecessary information about a patient such as, “47-year-old Black male presents with chest pain and shortness of breath....” Is it important that the patient is Black, or does it start to bias our learners before considering the main and most critical issue... **CHEST PAIN** and **SOB**?

Teach our learners and educators how to be best physicians and not subconsciously how to treat a dominant majority?

2. Empowering communities to get involved in legislation and community development

projects that impact their lives.

- Where railroad, traffic lights, speed bumps, schools, grocery stores, gardens, pharmacies, clinics and hospitals, parks, coal/mineral plants, waste storage, and landfills are placed.
- How to safely police communities – ensuring police are protecting in areas where they currently live, eat, shop, and drive.
- How their children are educated and pathways for safe arrival and return from school.

Improving community involvement in legislation and policy development will positively impacts vulnerable communities and improve those living issues that become SOCIAL DETERMINANTS OF HEALTH: (safety, justice, food insecurity, jobs, education, access to health care, stress reduction...). The inability to be heard when community policies are being drafted in destructive and lends these vulnerable populations to failure on multiple levels. *If we fail as medical students, educators, and scientists to recognize and change these primary barriers to health equity (Policy and Power), we will not make inroads to helping vulnerable communities. We then fail at both medicine and science. Medicine and Science should be designed to benefit everyone.*

You’ve described a term called the “other syndrome” as the idea that good health maintenance is taught from a dominant perspective and medical pathology “others” brings up race as construct. What does this phenomenon say about the perspectives and comfort zones within medicine? How do you see what you describe as willful ignorance and subconscious reinforcement of the ‘other syndrome’ throughout the culture of medicine? How can we address this?

Much of this is related to how we are trained from our youth all the way through our graduate, vocational, technical, and/or professional training. In America, it is comforting to say, “I don’t see color.” However, seeing color might be more subconscious than what meets optics. Imagine the scenario where you open the mail and a Christmas greeting card presents a Black Santa Claus, three Black Kings, or a Black Jesus! Each of us would at least look at the envelope to see

Interview with OSU MSTP Alumna Dr. Na Tosha Gatson (Continued)

who sent it! *(laughs)* As if something were amiss. While there is arguably no one alive who has seen either person – we all seem to at least know which color to expect in a photo or drawing of either. This example is culture-specific, but the concept applies to across many cultures, religions, etc... We DO see color, and when color is attached to a pathology, then we learn these things together. Exclude ethnicity, race, religion, sex, age, gender, orientation, physical or mental disability where it is not needed to support medical decision-making in medicine. Good health should be afforded to all, at least in theory and education.

With regards to a Bernard Shaw quote you mentioned, (*"The reasonable man adapts himself to the world: the unreasonable one persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man."*), you describe how this idea of being unreasonable is crucial when confronting systems and processes involving racism and inequity in medicine. What advice would you give to MD/PhD trainees today about being unreasonable and what it looks like to be unreasonable in ways that move us forward?

Recognize, confront, and rout out inequitable teaching and medical practices. Do not be forced to choose an inequitable position when designing a plan of care or research experiment. Consider all sides of the conundrum – and fight to unlearn biases that might limit your judgement. Be both an MD and a PhD – with the medical skill to dissect the tissues and the investigative ability to inspect the issues. Never choose one over the other for we, as MuDPhuDs, are of a clever and unique breed. Unreasonable, even. Outside of social justice, there are challenges in our careers where we are called to feel as though we must divorce ourselves from one degree or the other. However, career filled with patients and no lab does not mean you have abandoned the PhD. Alternatively, a career in the lab does not reject the MD. I have elected to work with patients and collaborate with basic science and translational laboratories in the area to design and run clinical trials/research from my desk and clinic rooms.

What do you feel is the most rewarding aspect of your role as a physician-scientist?

My potential to offer patients a chance to live *as well as possible* for *as long as possible*. We all have the terminal condition called *Life*. There is no cure, and each day brings us closer to our terminal prognosis. Prognostication involves an assessment of how we expect our patients to live and various aspects of their dying. As a brain cancer specialist, I've learned that Life's prognosis does not have to be poor. We can all choose to live well up through the end. Life is frequently chided as being "too short." Life is NOT short. From birth to death, LIFE will be the longest thing we ever do. Recognizing what *is* truly short in this LONG LIFE is the true blessing. Time with family, career, and functioning speech, movement, thought, and emotion are all short. I strive to extend those short things for my patients with a therapy called **living**. It's the only treatment for the condition of Life, as there is no cure.

Is there anything in your professional training you would change if you could go back?

Not a moment. My wins out number my fails and I have no complaints. I am who I am. I am built for anything that comes my way. In the end, I will be grateful that I treated myself with kindness, understanding, family, and use of my mind, body, and smile to make someone else's *life* a bit more manageable.

What advice do you have for MSTP students who are thinking about their careers and exploring what they want to do?

Be COMPLETELY UNREASONABLE in how to bridge research to meet the human condition. Never reason with ignorance – **you'll both be wrong.**

MSSO Board Member Statements

Akila Venkataramany: President

I am a fourth year MSTP student and am currently in the second year of my PhD with Dr. Dawn Chandler and Dr. Timothy Cripe at Nationwide Children's Hospital. Though I was always interested in medicine, my research experiences in high school and college exponentially grew my abilities to critically think about what is unknown in science and medicine. This motivated me to pursue MD/PhD training and identify my broad clinical and scientific interests, which currently lie in pediatric diseases and therapeutics. At NCH, my research focuses on RNA alternative splicing in Ewing sarcoma and the development of RNA- and viral-based technologies against oncogenic splicing events. Following my MSTP training, I hope to be a pediatric oncologist and do research at the intersection of basic science and therapeutics.



For the last two years, I have served as the MSSO President, and I have been on MSSO Board for the past three years. The MSSO Board has been a valuable opportunity for me to engage with my peers, the MSTP leadership, and OSUCOM community. Furthermore, I have really enjoyed supporting our student body and working together to advocate for an inclusive atmosphere and the continued improvement of our training program!

Jasmine Tuazon: Vice President

Hello everyone! My name is Jasmine, and I'm a G2 in the Oestreich Lab at OSU. I have always wanted to work at the interface of science and public health, and being a physician scientist brings me closer to both those fields and enables me to pursue evidence-based solutions for health disparities. In my future career, I envision myself working with children and pregnant women and finding ways to integrate my immunologic and epigenetic training into more equitable healthcare for them.

Why serve on the MSSO Board: Our MSTP community is very important to me, as everyone here has been incredibly reliable over the past 4 years I have been in the program. I joined the MSSO board because I wanted to advocate for the most sensible ways to streamline our training and ensure a greater proportion of our student body was represented in major decisions for our MSTP.



Aliyah Bennett: Treasurer

My name is Aliyah (pronounced ah-lee-ah) and I am very grateful for the opportunity to serve as treasurer on the 2021-2022 MSSO Board. I am a third year in the program and in Dr. John Gunn's lab studying Salmonella, biofilms, and biofilm inhibitors. My goal is to have a career in infectious disease and medical education. I am originally from New York City but have had the opportunity to live, work, and play in multiple cities. I currently live with my two geriatric Shih Tzus, Pepper and Mimi, and love putting them in their stroller and taking them on walks through the Park of Roses.



MSSO Board Member Statements

Daniela Jimenez-Harrison: Social Committee Chair

Hello everyone! My name is Daniela Jimenez-Harrison, and I am a 5th year in our program. My interest in becoming a physician scientist began during a summer research opportunity studying metacognition in Alzheimer's Disease patients. Being diagnosed with an untreatable neurodegenerative disease creates an unimaginably heavy burden for patients and their caretakers, but the amount of positivity and hope I saw was inspiring. It was upsetting to know that there wasn't much to do for this patient population without understanding the underlying disease process. After working as a tech in lab with both a PhD and MD mentor and watching how they worked together to create clinically relevant translational research project, I knew this was the path I wanted to take. Moving forward in my career, I hope to support diverse at risk populations clinically while directing my research to improve patients' quality of life.



One of the many reasons I chose to do my training at Ohio State was my interactions with the current students and staff. I ran to become social chair of MSSO because I hoped to foster more interactions between the students in our program. It is my hope that by creating strong bonds, my peers and I will feel supported and uplifted as we continue this long journey to our goals and dreams.

Jack Hedberg: Secretary

Hello MSTP community! My name is Jack Hedberg, and I'm a third year in the program in the labs of Dr. Elaine Mardis and Dr. Kevin Cassady investigating oncolytic virotherapy for CNS malignancies using mouse models and computational biology. I want to contribute to making medicine community-centered, addressing historical and ongoing injustices in the field, and empowering patients by creating options in situations where options are often structurally withheld. I also want to apply my love for biochemistry in settings where creative and logical thinking interweave to work on major biomedical challenges of our era, such as the heterogeneity of cancer. The humanity, exploration, vulnerability, and wonder which fundamentally connect medicine and research is what draws me to MD/PhD training. I joined the MSSO board because the collective inspirations, experiences, and genuine kindness of the students here inspires me as our program's greatest strength; I want to advocate for environments that allow us to benefit from this and support one another as a community.



Life Events, Awards, Honors, Publications

Recent F30/F31

- Matt Lordo

COM Achievement Awards

- Academic: Alexia Martin
- Leadership: Kylene Daily
- Leadership: Tiffany King, PhD
- Leadership: Akila Venkataramany
- Professionalism: Ansel Nalin, PhD
- Professionalism: Megan Pino
- Professionalism: Max Yano, PhD
- Research: Kevin Blum, PhD
- Research: Lisa Dorn, PhD
- Research: Brian Hansen, PhD

MSTP Leadership and Academic Achievement Awards

- Russell Ault, PhD
- Alex Hartlage, PhD
- Eileen Hu, PhD
- Bella Lee
- Alexia Martin
- Kun Xing
- Alexander Efanov
- Jeremy Beales

Improving learner and provider knowledge and confidence in caring for survivors of sexual assault: Daily/Mackey-Alfonso/Greenwald

- <https://medicine.osu.edu/news/improving-learner-and-provider-knowledge>

2021 Impact Factor Award Winners (MSTP peer nominated award for compassion and service to other students/the community)

- Christopher Ayoub
- Ariunaa Bayanjargal
- Aliyah Bennett
- Jerry Cui
- Becca Glowinski
- Jack Hedberg
- Eileen Hu, PhD
- Aaren Kettelhut
- Tiffany King, PhD
- Matt Lordo
- Steven Sher
- Wesley Wang

Life Events, Awards, Honors, Publications

Recent publications (April 2021 onwards)

Zbinden JC, Mirhaidari GJM, **Blum KM**, Musgrave AJ, Reinhardt JW, Breuer CK, Barker JC. "The Lysosomal Trafficking Regulator (LYST) is Necessary for Normal Wound Healing" *Wound Repair Regen.* 2022 Jan 30;(1):82-89. Doi:10.1111/wrr.12984. Epub 2021 Nov. 27. PMID:34837653

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Yu-Chun Chang, Junlang Li, Gabriel Mirhaidari, Jacob Zbinden, Jenny Barker, **Kevin Blum**, James Reinhardt, Cameron Best, John Kelly, Toshihiro Shoji, Tai Yi, Christopher Breuer. "Zoledronate Alters Natural Progression of Tissue Engineered Vascular Grafts". *FASEB J.* 2021Oct.35(10):e21849. Doi:10.1096/fj. 202001606RR. PMID: 34473380

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Rachel Brown, Fatima Barbar-Smiley, MD, MPH; Cagri Yildirim-Toruner, MD; Monica I. Ardura, DO, MSCS; Stacy P. Ardoin, MD; Shoghik Akoghlanian, MD. Reintroduction of Immunosuppressive Medications in Pediatric Rheumatology Patients with Histoplasmosis: A Case Series. *Pediatric Rheumatology.* 2021. 10.1016/j.bbr.2021.113471. Online ahead of print. PMID: 34280459

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Life Events, Awards, Honors, Publications

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Life Events, Awards, Honors, Publications

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Life Events, Awards, Honors, Publications

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Upcoming Dates:

MSTP Second Look: Thursday, April 7, 2022

OSUWMC Trainee Research Day: Thursday, April 7, 2022