

UGSP Quarterly Newsletter

Winter 2017

Assembled and written by the UGSP Newsletter Committee
Kevin McPherson and Brian Ho

Introduction: UGSP and NIH Recruitment

The National Institutes of Health's Undergraduate Scholarship Program (UGSP), was created to enable young, aspiring physicians and scientists to pursue careers in biomedical research. One of the original goals of the program is to recruit these scholars to careers at the NIH. Currently, the NIH has been able to recruit three UGSP alumni: **Andrea Apolo, MD, Freddy Escorcia, MD, PhD, and Sadhana Jackson, MD.**



Andrea Apolo, MD, is a Chief Investigator and Head of the Bladder Cancer Section at the Center for Cancer Research in the National Cancer Institute (NCI). Andrea is committed to improving the survival rates and treatment of patients who are diagnosed with genitourinary tumors. Her research focuses on the development of clinical trials which test new pharmacological drugs for urological cancers. She was recently named a NIH Lasker Clinical Research Scholar.

Freddy Escorcia, MD, PhD, is an Assistant Clinical Investigator in the Molecular Imaging Program in the Center for Cancer Research in the National Cancer Institute (NCI). As a trained radiation oncologist, Freddy's research focuses on developing targeted radionuclide technologies which provide an orthogonal mode of killing cancerous tumor cells that is complementary to small molecule and chemotherapeutic ways.



Sadhana Jackson, MD, is an Assistant Clinical Investigator within the Neuro-Oncology Branch of the Center for Cancer Research in the National Cancer Institute (NCI). Her research focuses on developing an effective approach to transiently penetrate the blood brain barrier to improve chemotherapeutic delivery of pharmacological agents.

UGSP Summer Experience 2017



The NIH UGSP Summer Internship Program culminates in Summer Poster Day. At Summer Poster Day, scholars share research with each other and the wider NIH community. Above are the UGSP Scholars who participated in the UGSP Summer Internship Program. Below is a list of UGSP Scholars who presented their work at Summer Poster Day 2017.

Anila Afzal

Crispr/Cas9-mediated Mutagenesis for Studying Hair Cell Regeneration in Zebrafish

University of Maryland, Baltimore County (Maryland)

Preceptors: Dr. Shawn Burgess, Dr. Alberto Rissone, Dr. Jason, Sinclair, Dr. Lisha Xu

Megan Andres

Identification of SOX11 as a novel oncogene in Neuroblastoma

University of North Georgia (Georgia)

Preceptors: Dr. Carol Thiele, Dr. Deblina Banerjee

Alejandro Anaya

Using single-molecule fluorescence in situ hybridization (smFISH) to study mammalian cochlear development

University of California, Santa Cruz (California)

Preceptors: Dr. Matthew Kelley, Dr. Michael Kelly, Dr. Weise, Chang, Dr. Elizabeth Driver

Duy Phan

Understanding the architecture of the central pacemaker in the mammalian hypothalamus

Johns Hopkins University (Maryland)

Preceptor: Dr. Samer Hattar

Nia Byrd

A Case Study Approach of Coping Styles and Mental Health in Caregivers of Children with Severe Genetic Illnesses

University of Michigan (Michigan)

Preceptor: Dr. Laura Koehly

Brian Ho

Virus hunting: Screening for novel and existing human enteric viruses hiding in Phosphatidylserine (PS) Vesicles

Florida International University (Florida)

Preceptors: Dr. Marianita Santiana, Dr. Sourish Ghosh, Dr. Nihal Altan-Bonnet

Chase Morgan

IQGAP3 and Ras: An investigation of isoform specificity in signaling

Columbia University (New York)

Preceptors: Dr. Andrew Hedman, Dr. David Sacks

Nicholas Munyan

Comets, Cancer and C: Evaluating the Role of DNA Damage Induced by Pharmacologic Ascorbic Acid

University of Maryland, College Park (Maryland)

Preceptors: Dr. Pierre-Christian Violet, Dr. Mark Levine

George Mwinnyaa

HIV Incidence Estimation of East London, South Africa on Samples From Emergency Room Visits

Johns Hopkins University (Maryland)

Preceptors: Ms. Anna Eisenberg, Mr. Reinaldo Fernandez, Dr. Oliver, Laeyendecker, Dr. Thomas Quinn

Diana Nguyen

Effect of CHCHD2 and CHCHD10 Loss on the Mitochondrial Proteome

Clemson University (South Carolina)

Preceptors: Dr. Derek Narendra, Dr. Xiaoping Huang

Nancy Ortega

Effects of Gulf War Neurotoxicants on Oligodendrocytes

University of San Francisco (California)

Preceptors: Dr. R. Douglas Fields, Dr. Dipankar Dutta

Luis Perez Valencia

Screening an Ebola Virus Glycoprotein Peptide Library for Induction of Lymphocyte Apoptosis

Connecticut College (Connecticut)

Preceptors: Dr. Daniel Chertow, Dr. Jason Kindrachuk, Ms. Eliana Jacobson

Leana Ramos

Investigating the interaction between the AcrZ small protein and the AcrAB-TolC multidrug efflux pump

St. Thomas University (Florida)

Preceptors: Dr. Gisela Storz, Dr. Mona Wu Orr

Mia Rosenfeld

Investigating epigenetic biomarkers of lung cancer

University of North Carolina Wilmington (North Carolina)

Preceptors: Dr. Ana Robles, Dr. Delphine Lissa, Dr. Curtis Harris

Nicholas Verdini

Development of an IL7R CAR T-cell therapy for pediatric T-cell acute lymphoblastic leukemia Emmanuel College (Massachusetts)

Preceptors: Dr. Terry Fry, Dr. Haiying Qin

Beverly Wu

The Role of CHCHD2 and CHCHD10 in Mitochondrial DNA Maintenance

University of Maryland, Baltimore County (Maryland)

Preceptor: Dr. Derek Narendra

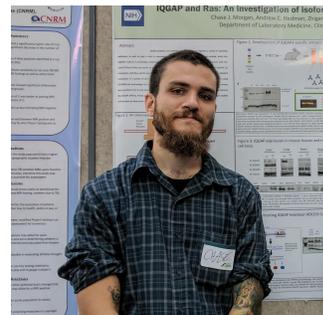
Current UGSP Scholar and Payback Profiles



Ashley Thompson currently attends Converse College, a small, women's liberal arts college in Spartanburg, SC where she is a senior. She has spent two years studying the molecular weight distribution of polyhexamethylene biguanide, a biocide in contact lens solutions, in order to analyze its efficacy. After her summer at the NIH, Ashley plans to roll straight into her payback, during which she hopes to study either cancer epidemiology, or the causes neurodegenerative disorders.

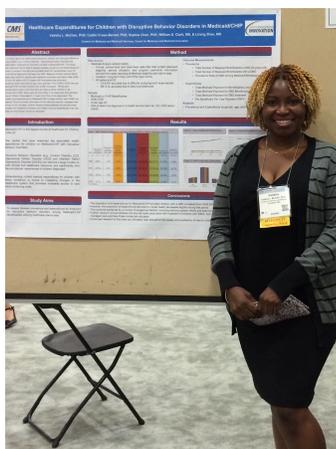
Chase Morgan grew up in New Jersey, just outside of New York City, where he initially attended Bergen

Community College. He eventually transferred to Columbia University, graduating with a degree in Biochemistry. For Chase, being a UGSP payback fellow has provided opportunities to develop guide the direction of his own project. He currently studies the role of scaffold proteins in mammalian signal transduction in the laboratory of David Sacks, MB, ChB.



UGSP Alumni Spotlight Interviews

Vetisha McClair, PhD



Originally from Chicago, Illinois, Vetisha completed her Bachelor of Science (BS) degree in Psychology with a minor in Chemistry from Howard University in Washington, DC. From Howard, she completed a Master of Science (MS) degree in Counseling Psychology from the University of Illinois at Urbana-Champaign in 2007, and a PhD in the same discipline from the same university in 2010. For the last five and a half years, Vetisha has worked as a Social Science Research Analyst for the Center for Medicare and Medicaid Innovation, a job offer she received while she was serving her payback as a postdoc in the National Institute of Mental Health (NIMH).

In what area did you conduct research at the NIH and with whom (PI and/or postdoc advisors)?

In my postdoc I worked in the Genetic Epidemiology Research Branch at NIMH. My PI was Kathleen Merikangas, PhD. My research focused on

utilizing epidemiological techniques to study the utilization of mental health and substance abuse services.

What advice would you give to new UGSP scholars?

The most advice I would give to UGSP scholars is to use your payback time to network, or if you are not good at networking, use the time to work to improve your networking skills. Your time at NIH will be relatively short in the grand scheme of things. However, you can make connections for your career and personally that can be long-lasting.

How did your time at the NIH impact your career outlook or perspectives?

My time at NIH greatly impacted my career. When I started my postdoc, I was sure that I would go back to a clinical position after payback. I knew definitively that I was not interested in academia, so I figured that I could have a small research program while in a clinical position. It wasn't until my payback that I considered a career in government research and healthcare policy. During my postdoc at NIMH intramural, my PI also worked with extramural staff members at NIMH. I got to see more of what they do on the extramural side, and it really appealed to me.

What important things did you learn during your time at the NIH?

I learned how to be more self-directed in terms of my research progress. I also learned to be a better advocate for myself. You can go through your payback time doing lab tasks and data collection activities, but honestly, these things are not going to help you, especially if you are in your postdoc. You need publications! You have to advocate for yourself and prove your worth to the team such that you are included in research teams. As a postdoc, try to assist and be included in the work of the postdocs and staff scientists that are writing papers. Particularly, ask if you can write some of the paper, or at the very least, help with the formatting so you can learn more about the process of peer-review journal submission. If you are a postdoc, try to collaborate with other members of the lab to get more publications while you're there.

Did you do a postbac or a postdoc payback at the NIH? Would you do it differently if you could (i.e., if you did a postbac payback would you do a postdoc payback and vice versa)?

I did my payback as a postdoc. UGSP [postbac payback] was my back-up plan if I did not get into graduate school. However, I got into a program that I really liked, with funding, so I deferred. I went through my time in graduate school knowing that I had a service commitment to NIH after graduation. I generally forgot about it, except for periodically having to send in paperwork confirming that I was still in school. It wasn't until close to graduation when my other classmates were stressing over applying to postdocs and teaching positions that I really realized how great having that service commitment was. I am very happy that I did UGSP payback as a postdoc. For me, it definitely worked out for the best.

What are some of your current goals for the new year in terms of your career?

I have been in my current position for over five years. In the next year, I am looking for more avenues for advancement, either in my current agency or elsewhere in HHS. I have also started a new research team with my colleagues focused on opioid use. I hoping to get out at least two papers this year on this topic.

What current research or scientific endeavor are you embarked on?

I currently serve as a research evaluator at the Centers for Medicare and Medicaid Innovation (CMMI). CMMI was funded by the Affordable Care Act to serve as an incubator of healthcare service innovation and payment. In our center, we test new models of healthcare service and payment. Each model requires rigorous testing and evaluation to assess outcomes. I lead the evaluations of our mental health focused models.

Teneisha McIntyre, BS

Originally from the Fayetteville/Fort Bragg area of North Carolina, Teneisha completed her Bachelor of Science (BS) degree in Psychology from Howard University in Washington, DC in 2012. From Howard, she enrolled in a PhD in School Psychology at Howard University and will enter the dissertation portion of her degree for graduation in Spring 2018 and completion of her adjoined internship in Spring 2019. For the last five years, Teneisha has been working different internships -- both in schools and in clinical settings -- as part of her PhD program.



In what area did you conduct research at the NIH and with whom (PI and/or postdoc advisors)?

I did research in the Pediatric Neurological Disorders Laboratory with Susan Swedo, MD, and Audrey Thurm, PhD, in the National Institute of Mental Health (NIMH).

What advice would you give to new UGSP scholars?

I would tell new UGSP scholars to take advantage of every opportunity you can find at the NIH -- career fairs, talks, and poster presentations -- you never know what you can discover. It is very easy to get bogged down in the lab and forget that you are part of something bigger at the NIH. As a UGSP scholar, you should not only get to know other UGSP scholars, but also IRTAs in different labs.

What important things did you learn during your time at NIH?

The one salient thing that I noticed at the NIH was that everything comes full circle. That is, I was able to observe postdocs in lab, and I was always in awe about everything that they knew, but that UGSP really was monumental in helping me get to that level. By just sheer comparison to my graduate school classmates my first couple of years in my PhD, I was prepared for things that others were not, all because of my time at the NIH.

Did you do a postbac or a postdoc payback at the NIH? Would you do it differently if you could (i.e., if you did a postbac payback would you do a postdoc payback and vice versa)?

I did my payback as a postbac. I originally got my acceptance to my PhD program during my senior year of undergrad, but I decided to do my payback then and defer my acceptance. I would still do a postbac payback because I was so young in my career at that point that taking the time off really helped me in so many ways. Just from a postbac perspective, I was able to secure letters of recommendation, graduate funding, and obtain advice on next steps in my career. Things don't always go as planned, and I was able to handle that gracefully during my time at the NIH. I also gained skills to reinforce my work ethic and how to schedule around research (which is one of the main components of graduate school).

What are some of your current goals for the new year in terms of your career?

I am currently in the data collection phase of my PhD, so I am focused on going into resource centers to finish the survey portion of my dissertation. Therefore, I would like to finish my dissertation, graduate, and obtain a postdoc in the DMV area, ideally in a clinical setting using cognitive behavioral therapy with

patients who have autism, ADHD and anxiety. Finally, I hope to sit for the EPPP (the Examination of Professional Practice of Psychology). I am also still open to different avenues of research.

What current research or scientific endeavor are you embarked on?

As mentioned, I am currently working on my dissertation. It's funny, because every time I hear someone mention dissertation, I hear a thunder clap (*laughs*). My dissertation focuses on resiliency factors for children living in "disorganized neighborhoods." I am specifically focused on looking at mentorship and social efficacy: how do we structure positive racialized messages and how do students take those and perceive themselves as students? These are some of the questions my dissertation will focus on.