

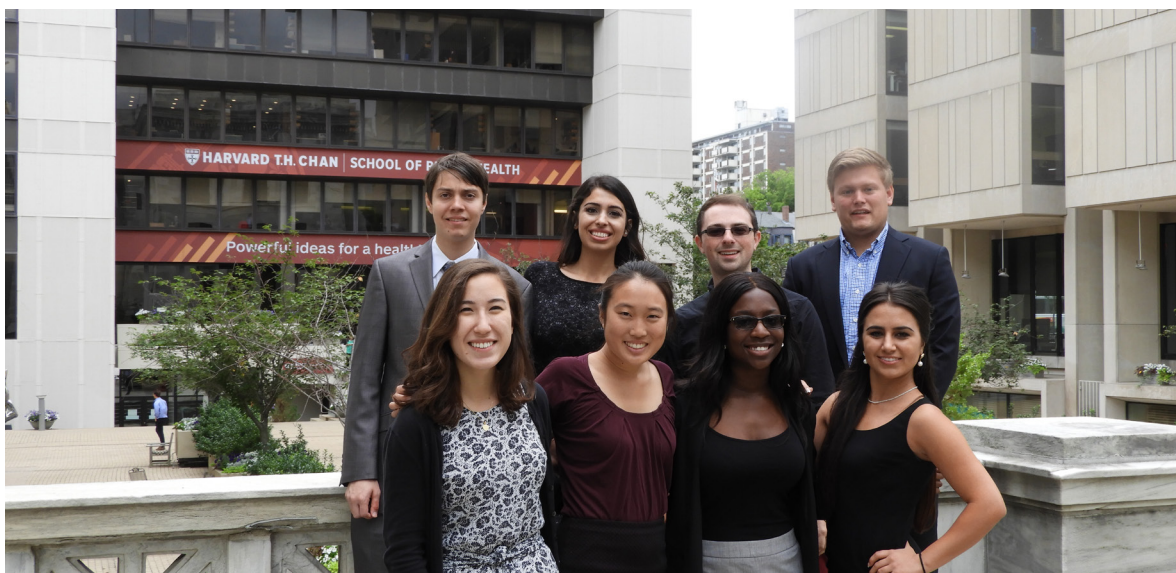
Epicenter

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2017-2019 GINGER Fellows with Dr. Charles Rotimi (pictured center), Director of the Center for Research on Genomics and Global Health and Senior Investigator within the National Human Genome Research Institute at the NIH.



2017 Summer Program in Epidemiology and Biostatistics cohort.

Global Initiative for Neuropsychiatric Genetics Education in Research

a program of



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FOR PSYCHIATRIC RESEARCH
AT BROAD INSTITUTE

The [Global Initiative for Neuropsychiatric Genetics Education](#) in Research [GINGER] welcomed its first cohort of Research Fellows to Boston from July 24 to August 2. The GINGER program, which aims to prepare a new generation of global neuropsychiatric genetics researchers, is a collaboration between the Department of Epidemiology at the Harvard T.H. Chan School of Public Health and the Stanley Center for Psychiatric Research at the Broad Institute of MIT and Harvard. By providing junior researchers from East and South Africa the skills to become independent investigators in global mental health, GINGER hopes that countries which have historically been excluded from such research can instead serve as active and equal participants and help close gaps in knowledge about mental health in African populations.



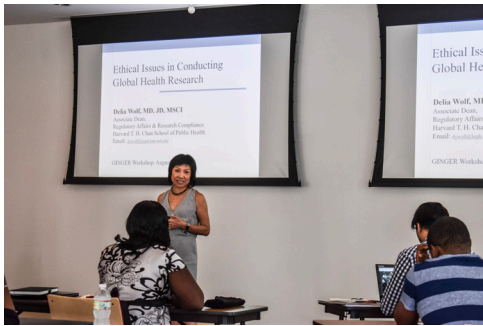
GINGER Fellows pictured with Dean Michelle Williams and Dr. Atalay Alem from Addis Ababa University

The GINGER Program is a two-year training program comprised of in-person skills workshops in Boston and abroad, virtual coursework and onsite training workshops at collaborating institutions in East and South Africa. This summer was the first in-person workshop of the two-year program and introduced the fellows to fundamental concepts and skills in epidemiology, neuropsychiatry, genetics, statistics, and bioinformatics. Our inaugural cohort of 17 fellows includes clinical psychiatrists, geneticists, epidemiologists, pharmacologists and public health professionals. For many, this workshop served as their first introduction to neuropsychiatric genetics research.

Faculty from the Department of Epidemiology were instrumental in the workshop's instruction. On day one, GINGER Research Fellows received a warm welcome and primer on "Hippocratic Uses of Epidemiology" from department chair [Dr. Albert Hofman](#). [Dr. Deborah Blacker](#) presented on "Assessment Methods for Psychiatric Research", [Dr. Peter Kraft](#) taught gene-environment interaction and [Drs. Karestan Koenen](#) and [Elise Robinson](#) shared findings from their research on PTSD and Autism respectively. Dr. Koenen also led a discussion on ensuring equitable and productive research collaborations. GINGER Director [Dr. Lori Chibnik](#) and Associate Director Dr. Bizu Gelaye covered a variety of topics in biostatistics, genetics, and epidemiology. Donald Halstead led the fellows through an afternoon writing workshop and [Dr. Delia Wolf](#) closed the two weeks by presenting on ethical considerations for global health research. Finally, the fellows were left inspired after a morning spent with [Dean Michelle Williams](#) who shared stories about her personal life and career progression with the fellows, focusing on the importance of managing a healthy balance between their personal professional lives.



Dr. Albert Hofman presenting at the Summer GINGER Workshop



Dr. Delia Wolfe presenting at the Summer GINGER Workshop

Other highlights from the workshop included lectures by experts in the field of global mental health who shared career guidance and research advice. Dr. Charles Rotimi, currently serving as the Director of the Center for Research on Genomics and Global Health (CRGGH) and Chief and Senior Investigator in the Metabolic, Cardiovascular and Inflammatory Disease Genomics Branch of the National Human Genome Research Institute, shared his story of growing up as a young child in Nigeria and what led him to spearheading genetics research on the African continent.

Finally, we didn't want to pass up this opportunity to show off our city! For many of the fellows it was their first time in the United States and a trip to the US in the summertime – especially Boston – could not be complete without a baseball game. After a brief tutorial on the rules of the game, the fellows almost unanimously declared that their favorite part of baseball was singing Sweet Caroline in the 8th inning at Fenway Park.



GINGER Research Fellows enjoyed watching the Red Sox defeat the White Sox during a game at Fenway Park.

After returning home, the GINGER team asked the fellows to reflect on their time in Boston including what they took away from the workshop and what surprised them. Dr. Nathaniel McGregor stated that a major lesson for him is that each fellow should “have the confidence and constant willingness to speak up if we have something to say because people are listening....” Dr. Benyam Worku mentioned his surprise that “so many apparently separate disciplines can contribute to and support each other. This experience helped me to bring a much more comprehensive way of looking at neuropsychiatric disorders which actually changed my teaching and my clinical work for the better.”



GINGER Research Fellows collaborate on in-class exercises during the Summer 2017 Workshop.

The GINGER Program would like to thank members of the Department of Epidemiology for helping make the first summer workshop a success, special thanks goes to David Vaughn, Jiyoung Won, Alan Berkeley, Eric DiGiovanni and Megan Marchese, as well as Drs. Albert Hofman, Karestan Koenen, Deborah Blacker, Elise Robinson, Peter Kraft, Delia Wolf and Donald Halstead. The GINGER Program Team would also like to recognize the impact Dean Michelle Williams had on the fellows and thank her for her continuous support. The collaboration demonstrated between the departments of epidemiology, biostatistics and with GINGER partners at the Broad Institute represents a fundamental value of the GINGER Program – effective collaboration.



2017-2019 GINGER Research Fellows: (Name and Research Interest)

Addis Ababa University, Ethiopia

Abebe Ejigu Hailu | Depression & Bipolar
Dr. Benyam Dubale | PTSD & Catatonia
Melkam Kebede | Schizophrenia
Abigiyah Tilahun | Mental Health, non-specific

KEMRI-Wellcome Trust Institute, Kenya

Dr. Symon Kariuki | Schizophrenia & Epilepsy
Dr. Linnet Ongeri | PTSD

Moi University, Kenya

Dr. Felicita Omari | Depression & Bipolar
Dr. Jackline Walumbe | Depression & Bipolar

Stellenbosch University, South Africa

Dr. Nathaniel McGregor | Schizophrenia

University of Cape Town, South Africa

Dr. Celia van der Merwe | Schizophrenia
Dr. Nastassja Koen | Trauma & PTSD
Lerato Majara | Schizophrenia
Dr. Shareefa Dalvie | Trauma & PTSD
Dr. Michelle Hoogenhout | Autism & Developmental

Makerere University, Uganda

Allan Kalungi | Depression & Bipolar
Dr. Emmanuel Mwesiga | Cognition
Dr. Benedict Akimana | Mental Health, non-specific



As the program grows, we welcome any interested parties to contact the GINGER team to find out ways to be involved at: ginger@hsph.harvard.edu.

2017 Summer Program in Epidemiology & Biostatistics



The Summer Program in Epidemiology and Biostatistics has welcomed 52 students since its inception 6 years ago. The program has grown from a weekend long event into a full 5 week program that incorporates Epidemiology and Biostatistics courses, Kaplan GRE prep, professional development sessions ran by Harvard staff members, and faculty led lectures and research projects. Each year we hope to expand the program and its impact on the students, and this could not be done without the continued support from the Department of Epidemiology, the MIDAS Center for Communicable Disease Dynamics, and grant support from the National Institutes of Health, and the National Science Foundation.

If you are interested in getting involved with our program in any capacity please feel free to email us at harvardepisummer@hsph.harvard.edu.

Meet the 2017 Interns



Ariana Beattie

Ariana Beattie is a recent graduate of the University of Illinois at Urbana-Champaign, where she received a Bachelor's degree in Community Health. She is a native of Nagasaki, Japan and New Orleans, LA, but is currently based in Chicago. She is passionate about public health and epidemiology, particularly immigrant health, interpersonal intimate partner violence, and gun violence. She was a research assistant with the Social Epidemiology Research Group at Illinois for two years and an intern at the Champaign-Urbana Public Health District, where she worked with the WIC program. In previous summers, Ariana has also worked in HIV prevention in Ho Chi Minh City, Vietnam and addiction research in Sioux Falls, SD. In October, Ariana will begin working as a Public Health Advisor for Public Health Solutions in New York City as a Public Health Associate Program (PHAP) Fellow with the CDC. She plans to pursue a PhD in Epidemiology after her two years with the CDC.

Hailing from a small town in southeastern Indiana, Winston Kunkel made Brookville his home for the first eighteen years of his life. From working on the family swine farm during the summer to umpiring youth baseball, he can always be found outdoors when at home. After high school, he decided to go to Xavier primarily for the education rooted in the Jesuit tradition (the basketball tradition also helped). In his first year, Winston came into Xavier undecided not only on his major but also on his career aspirations. After taking calculus II during his first semester and declaring actuarial science his major he landed an internship opportunity at Ameritas Life Insurance Corp. in Cincinnati. As the summer wore on, however, the monotonous 9-5 routine was a vast change of pace from working on his family farm. Consequently, he then turned to his love of mathematics, and declared the subject a major his first week back at Xavier junior year. He also turned to his passion for Alternative Breaks, an organization dedicated to bringing awareness to social justice issues. As a result, he sought out summer research programs in a field that his mother and now oldest brother work in—health-care and the disparities in accessibility to necessary care. After seeing the Harvard program in epidemiology, he knew he had to apply. His other brother who was recently diagnosed with Ankylosing Spondylitis, an autoimmune arthritis that affects a few million people in the United States, also gave him the motivation to study the very diseases that have directly affected his family. Winston is incredibly excited to not only participate in the Summer Program in Epidemiology but also to escape the midwestern bubble to explore the eastern United States. Although he still is undecided in his career aspirations, he wants to be able to impact as many lives as possible while doing something he loves, and this program will allow him to explore just that.



Winston Kunkel

Yesenia Navarro came from the University of Washington, where she dedicated her undergraduate career trying to explore the intricacies of public health. Yesenia majored in Human Evolutionary Biology and Anthropology of Globalization with a dual degree from the University of Washington Honors College.

During her time as an undergraduate, she participated in a research study that moved her interest and passion specifically to Epidemiology. She gained some research experience working on Food Aversions for Pregnancy Sickness in women of Bangladesh, under the supervision of Dr. Darryl Holman. Her time alongside Dr. Holman was instrumental in creating and sustaining a longtime passion and fascination for research. She soon discovered from this pivotal point in her life that she wanted to focus her research for the prevention of disease.

She had a complex role because she understood her initial passion for public health, but she also felt torn about using her research to help her community. She connected with others over shared cultural experiences and similarities in identity formation and she saw this as the basis of her academic career. Her ultimate goal is to help communities of Latinx origin through her research and work. She was then encouraged by a personal growth within her, to pursue Infectious Disease Epidemiology as her primary academic trajectory. Yesenia exceeded her goals once she graduated by being accepted to the T.H Chan School of Public Health Summer Epidemiology Program

It was within this summer program that she learned it is through the field of Epidemiology, that bridges together the implementation of statistical strategy with community-level interactions that control and prevent the spread of disease. She is passionate about understanding the mechanisms and determinants of community health outreach as an integral aspect of prevention, treatment, and long-term care. Her recent research interests include HIV/Tuberculosis prevention and clinical trials. She is also particularly eager to learn how to use novel statistical methods in the context of clinical research.



Yesenia Navarro



Tendai Tevera

Tendai Tevera is an undergraduate student studying Biology at Virginia State University. Her road to health science is rather unconventional as she spent more than half of her life focused on the arts, however after witnessing how disease impacted her close friends and family she changed the trajectory of her academic career. She developed a passion for serving her community through public health, but with family based across the globe in places like Zimbabwe and New Zealand she realized that she had to expand her reach. Diving into research was the perfect way to do this as findings from research could help millions of people not just in her immediate environment but around the world. Never letting go of her artistic background, Tendai spends her free time singing, drawing and making music and has been accepted into and participated in several prestigious auditioned choral groups both at her current educational institution and in her hometown Germantown Maryland.

Robert Tumasian is a senior Applied Mathematics major at the State University of New York, College at Geneseo. His research interests include infectious disease modeling, pharmaceutical risk assessment, and statistical genetics. He has developed a true passion for biostatistics, bridging his two greatest interests: mathematics and medicine. Robert serves as an Assistant Resident Director and is currently conducting research pertaining to machine learning and algorithms, specifically investigating neural networks and support vector machines. He is determined to improve his computing skills in Python and R. His goal is to obtain his PhD in Biostatistics from the T.H. Chan School. He is interested in becoming a Professor of Biostatistics and a Biostatistician at a pharmaceutical company. The Summer Program in Epidemiology allowed him to discover new fields in public health, explore the research process, and build lifelong relationships. He is incredibly grateful for the opportunity.



Robert Tumasian

Veronica was born and raised in Milpitas, California where she is a senior at UC Berkeley studying Public Health. She is interested in environmental epidemiology and its related social nuances.

Veronica has had the pleasure to be a part of YWCA's Student Leadership Board for the last couple years and host over 300 local high school students for our annual Shadow Day event. As part of the Be a Scientist program, she had the opportunity to help a cohort of middle school students design, develop, and conduct a science experiment that they were interested in. The students were creative, confident, thoughtful, and gave me lots to learn. During her time at Harvard she has learned about the considerations that go into conducting a meta-analysis, and her recent participation at the Madsen Lab has given her the knowledge about the considerations that goes into a study even before data collection occurs. Some of her hobbies include listening to and writing music (especially country pop), outdoor adventures, and roller skating. She is very excited about the new experiences senior year will bring! Harvard's Summer Program in Epidemiology gave Veronica great insight about research, graduate school, and beyond.



Veronica Wang



John Wetmore

John Wetmore is a recent graduate of Macaulay Honors College at CUNY Hunter College (Class of 2017), with majors in psychology (a concentration in behavioral neuroscience) and classical studies as well as a minor in chemistry. During his undergraduate career, John was very active in the fields of education and research.

As a Leadership Council member and Senior Health Educator with Peer Health Exchange, John worked with communities directly affected by health disparities. In this role, he recruited and trained volunteers to become competent health educators who conduct workshops in New York City classrooms. Additionally, he himself taught high school students about topics such as sexual health, substance use, and mental health and wellness. Furthermore, as a research assistant in the Rat Environmental Enrichment Laboratory at Hunter College, he not only administered behavioral tasks to rats using the radial arm and open field mazes, but he was also able to cryo-

section brains, image brain slices using confocal microscopy, and utilize software to process those images. Being able to apply all of the biochemical principles and experimental methods he has learned throughout the entirety of his undergraduate career, he has found conducting research to be such a rewarding experience.

Overall, it was these experiences in education and research that drastically changed his undergraduate experience and career goals from medicine to biostatistics and epidemiology. He sees a career in these subjects as the perfect blending of his interests in medicine and public health as well as of his background in scientific research and statistics. Through the Harvard Summer Program in Epidemiology and Biostatistics and studying the prodromal symptoms of Parkinson's disease, John found a passion for studying neuro-psychiatric epidemiology. While he spends the coming academic year in Spain as a Fulbright English teaching assistant fellow, John will continue to study Parkinson's disease in the field of neuroepidemiology at the Centro Nacional de Epidemiología in Madrid. Afterwards, he plans to return to the U.S. to pursue a PhD in epidemiology.

Victoria is a first-generation recent graduate from the University of California, San Diego with a Bachelor's of Science in Public Health and a minor in Psychology. She was originally a pre-medical undergraduate and chose a major in Public Health in order to approach medical situations from a different perspective on health care. However, her experience as a research assistant at UCSD's Moores Cancer Center and the Global Health Institute led to a greater interest in the preventative side of health care at a larger community level rather than the treatment of individuals who were already unhealthy. After being an undergraduate teaching assistant for Epidemiology and Environmental and Occupational Health in the Department of Family Medicine, she was encouraged to consider a career where she would be able to apply what she



Victoria Zolfaghari

learned from her classes and couple it with the study methods she learned about in her research to establish correlations between certain health behaviors and chronic diseases. Through the Harvard Summer Program, she was inspired by Dr. Kreatsoulas to pursue a PhD after being introduced to the Adverse Childhood Effects (ACE) study during a lecture. As a result, she now wants to get her PhD in Epidemiology to focus on research regarding childhood trauma and the relative health effects that occur during adulthood as a result of such experiences. From her research, her goal is to find successful interventions for children experiencing various forms of trauma to prevent negative health outcomes such as drug abuse, improper brain development, cancer and suicide. Victoria hopes to implement these interventions both on a national and global scale to prevent morbidity and mortality among children at risk.



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