HARVARD MEDICAL SCHOOL

MD-PhD

Class of 2016

Spring Dinner

May 24, 2016
Welcome to the Harvard/MIT MD-PhD Program’s Annual Spring Dinner in honor of the MD-PhD Class of 2016! We are especially delighted to welcome the family members and significant others who are joining the graduates, faculty, students and staff to recognize our graduates tonight.

This year, twenty-two students will graduate from our program with both M.D. and Ph.D. degrees. This book showcases the accomplishments of these individuals. Together, they collectively completed 22 graduate and 22 medical degrees, spending over 180 years, or 8.4 years on average per student, since their matriculation into Harvard Medical School. This year’s class of thirteen women and nine men reflects the diversity of graduate training available to MD-PhD trainees at Harvard Medical School. In all, they carried out their graduate studies in 7 different programs located within Harvard University, 2 within Massachusetts Institute of Technology, and 1 at the University of Cambridge. Students pursued their dissertations in a wide range of fields including biophysics, cancer biology, engineering, epidemiology, genetics, health policy, immunology, and neuroscience.

Please spend a moment to read the individual biographies written by each of the students. Many spent their early years in cities and towns across the United States (Arizona, California, Connecticut, Florida, Maryland, Minnesota, New Hampshire, New Jersey, New York, North Dakota and Virginia), as well as across the world (Canada, China, Egypt, and India). They completed their undergraduate degrees at 10 different colleges and universities including Brown University, Columbia University, Harvard University, Massachusetts Institute of Technology, New York University, Princeton University, University of Maryland-Baltimore County, University of Toronto, University of California-Los Angeles, and Yale University. While at HMS, 14 enrolled in the London Health Sciences and Technology (HST) curriculum, while 8 joined New Pathway, representing three of the four societies (2 Castle, 2 Holmes, and 4 Peabody).

While these students are meeting the joint challenges of graduate and medical study, the MD-PhD Program endeavors to create a nurturing and cohesive environment for them. The program is fortunate to be able to provide financial support for the majority of the graduates under the sponsorship of the NIH-Medical Scientist Training Program (MSTP) Grant and other sources, and wishes it could provide full funding for all. Program offerings, including special courses, advising sessions, retreats, dinners, symposia, lunches and poster sessions, help us to bring diverse groups of training together in fulfilling our mission to “educate and inspire the leading physician-scientists of the future.”

We congratulate the 2016 graduates on their numerous achievements and accomplishments towards the completion of the M.D. and Ph.D. degrees and send our most heartfelt wishes for continued discovery, success and happiness into the future.

Best wishes,
The Faculty and Staff of the MD-PhD Program
HARVARD MEDICAL SCHOOL

ANNUAL SPRING DINNER IN HONOR OF THE

MD-PhD

Class of 2016

May 24, 2016

The Joseph B. Martin Conference Center

6:00 PM
Cocktail Reception
Classic Jazz by Tal Shalom-Kobi Trio

7:00 PM
Seating for Dinner in the Rotunda

Welcome and Introduction of Graduates and Mentors
Dr. Loren D. Walensky
Director

Dean’s Champagne Toast to the Graduates
Dr. Jeffrey S. Flier

Dinner

After Dinner Special Remarks
Dr. Loren D. Walensky
Ms. Amy I. Cohen
Dr. Alexander G. Bick
Dr. Wen F. Hu

Formal Group Photo of the Graduates
(in dining room at conclusion of remarks)

The MD-PhD Program welcomes the families and friends of the graduates.

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GRADUATES CELEBRATE MATCH DAY ON MARCH 28, 2016:

1 Back row (L-R) K. Everett, M. Shan, R. Puram, M. Andzelm, A. Hwong, K. Maciag, W. Liu, J. Herman, A. Sekar, V. Venkatachalam, N. Eshel, D. Kim, L. Walensky, Front row (L-R) A. Bick, E. Loeliger, A. Subtelny, A. Cohen, Y. Connor
2 P. Cunningham, K. Everett
3 Friend, A. Subtelny
4 Friend, Y. Connor
5 Friend, R. Puram, J. Herman, Friend
6 A. Bick, A. Sekar, W. Liu
7 K. Everett, M. Shan, A. Sekar, R. Puram, J. Herman, A. Subtelny
8 K. Maciag, K. Everett, M. Shan
9 Friend, V. Venkatachalam, P. Cunningham
10 D. Kim
11 Friend, N. Eshel
12 E. Loeliger, A. Cohen
Class of 2016

Isha Agarwal
Sc.D., Harvard School of Public Health in Epidemiology (2014)
Dissertation: Exploring the associations between diabetes, fibrosis-related biomarkers, and cardiovascular disease
M.D., Harvard Medical School (2016)
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Tahir Ahmed
B.S., New York University (2006)
Ph.D., University of Cambridge (UK) in NIH-GPP (2013)
Dissertation: Selective Neuronal Loss, Microglial Activation and Adult Neurogenesis after Stroke: An in vitro and in vivo analysis of the SDF-1alpha/CXCR4 axis in focal ischemia and endogenous mechanisms of neural repair
M.D., Harvard Medical School (2016)
Residency: Anesthesiology at Beth Israel Deaconess Medical Center, Boston, MA
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Milena M. Andzelm
Ph.D., Harvard University in Immunology (2014)
Dissertation: Functional and genomic analysis of MEF2 transcription factors in neural development
M.D., Harvard Medical School (2016)
Residency: Child Neurology at Boston Children’s Hospital, Boston, MA
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Alexander F. Bagley
B.S., B.S., Massachusetts Institute of Technology (2008)
Ph.D., Harvard University in Biophysics (2014)
Dissertation: Optically-Active Nanomaterials for Diagnostic and Therapeutic Applications in Ovarian Cancer
M.D., Harvard Medical School (2016)
Residencies: Preliminary Medicine at MD Anderson Cancer Center/University of Texas Medical School, Houston, TX
Radiation Oncology at MD Anderson Cancer Center, Houston, TX
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Alexander G. Bick
B.S., M.S., Harvard College (2010)
Ph.D., Harvard University in Genetics (2014)
Dissertation: At the Heart of the Genome: Rare Genetic Variation, Cardiovascular Disease, and Therapy
M.D., Harvard Medical School (2016)
Residency: Internal Medicine at Massachusetts General Hospital, Boston, MA
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Yamicia D. Connor
B.S., B.S., Massachusetts Institute of Technology (2007)
Ph.D., Massachusetts Institute of Technology in HST MEMP (2013)
Dissertation: Novel mechanisms of endothelial-epithelial interactions underlying cancer metastasis
M.D., Harvard Medical School (2016)
Residency: Ob/Gyn at Beth Israel Deaconess Medical Center, Boston, MA
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Neir Eshel
M.Sc., University College London in Clinical Neuroscience (2008)
Ph.D., Harvard University in Neuroscience (2014)
Dissertation: Arithmetic and local circuitry underlying dopamine prediction errors
M.D., Harvard Medical School (2016)
Residency: Psychiatry/Research Track at Stanford University Programs, Stanford, CA
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Kay D. Everett
B.S., Massachusetts Institute of Technology (2007)
Ph.D., Harvard University in SEAS (2014)
Dissertation: Mechanisms and Implications of Fracture in Cardiovascular Stents
M.D., Harvard Medical School (2016)
Residency: Internal Medicine at Brigham & Women’s Hospital, Boston, MA
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Jonathan D. Herman
Ph.D., Harvard University in BBS (2014)
Dissertation: Halofuginone: A Story of How Target Identification and Multi-Step Evolution Informs Malaria Drug Discovery
M.D., Harvard Medical School (2016)
Residency: Internal Medicine/Research Track at New York-Presbyterian Hospital-Weill Cornell, New York, NY
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Sarah J. Hill
A.B., Harvard College (2005)
M.Sc., Oxford University in Biochemistry (2006)
Ph.D., Harvard University in BBS-Genetics (2014)
Dissertation: New insights into BRCA1 function and its role in cancer development
M.D., Harvard Medical School (2016)
Residency: Anatomic Pathology at Brigham & Women’s Hospital, Boston, MA
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Key
BBS: Biological and Biomedical Sciences
GPP: Graduate Partnership Program
HST: Health Sciences and Technology
MEMP: Medical Engineering and Medical Physics
NIH: National Institutes of Health
SEAS: School of Engineering and Applied Sciences
Wen F. Hu  
B.S., Yale University (2008)  
Ph.D., Harvard University in Neuroscience (2014)  
DISSERTATION: Building a Bigger Brain: Centriole Control of Cerebral Cortical Development  
M.D., Harvard Medical School (2016)  
RESIDENCIES: Preliminary Medicine at Brigham & Women’s Hospital, Boston, MA  
Ophthalmology at Massachusetts Eye & Ear Infirmary, Boston, MA  
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Alison R. Hwong  
Ph.D., Harvard University in Health Policy (Medical Sociology) (2016)  
DISSERTATION: Social Ties and Health: An Analysis of Patient-Doctor Trust and Network-Based Public Health Interventions Through Randomized Experiments and Simulations  
M.D., Harvard Medical School (2016)  
RESIDENCY: Psychiatry at University of California, San Francisco, CA  
Page 17

David A. Kim  
B.S., University of Toronto (2007)  
Ph.D., Harvard University in Health Policy (Medical Sociology) (2015)  
DISSERTATION: Social Networks and Health: From Epidemiology to Intervention  
M.D., Harvard Medical School (2016)  
RESIDENCY: Psychiatry at University of California, San Francisco, CA  
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Wendy W. Liu  
A.B., Princeton University (2008)  
Ph.D., Harvard University in Neuroscience (2014)  
DISSERTATION: Dissecting Olfactory and Thermosensory Circuits in Drosophila  
M.D., Harvard Medical School (2016)  
RESIDENCIES: Preliminary Medicine at Beth Israel Deaconess Medical Center, Boston, MA  
Ophthalmology at Massachusetts Eye & Ear Infirmary, Boston, MA  
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Erin M. Loeliger  
B.S., University of Maryland, Baltimore County (2005)  
Ph.D., Harvard University in BBS-Genetics (2014)  
DISSERTATION: Structure-Function Analysis of the Conserved Histone Chaperone Sp6  
M.D., Harvard Medical School (2016)  
RESIDENCY: Anesthesiology at Brigham & Women's Hospital, Boston, MA  
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Karolina Maciag  
Ph.D., Harvard University in Immunology (2014)  
DISSERTATION: Effector functions and regulation of IFNγ-induced immunity to intracellular pathogens  
M.D., Harvard Medical School (2016)  
RESIDENCY: Internal Medicine at Johns Hopkins Hospital, Baltimore, MD  
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Rishi V. Puram  
B.S., B.S., Massachusetts Institute of Technology (2008)  
Ph.D., Harvard University in BBS (2014)  
DISSERTATION: Defining and Targeting Transcriptional Pathways in Leukemia Stem Cells  
M.D., Harvard Medical School (2016)  
RESIDENCY: Internal Medicine at Massachusetts General Hospital, Boston, MA  
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Aswin Sekar  
B.S., University of California, Los Angeles (2007)  
Ph.D., Harvard University in BBS (2014)  
DISSERTATION: A natural allelic series of complex structural variants and its influence on the risk of lupus and schizophrenia  
M.D., Harvard Medical School (2016)  
RESIDENCY: Internal Medicine at Brigham & Women's Hospital, Boston, MA  
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Jing (Meghan) Shan  
B.S., Columbia University (2007)  
Ph.D., Massachusetts Institute of Technology in HST MEMP (2014)  
DISSERTATION: High-throughput Approaches to Sourcing of Human Hepatocytes for Cell-based Therapies  
M.D., Harvard Medical School (2016)  
RESIDENCIES: Preliminary Medicine at Mt. Auburn Hospital, Cambridge, MA  
Ophthalmology at University of Southern California, Los Angeles, CA  
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Alexander O. Subtelny  
Ph.D., Massachusetts Institute of Technology in Biology (2014)  
DISSERTATION: mRNA poly(A)-tail lengths and their regulatory significance  
M.D., Harvard Medical School (2016)  
RESIDENCY: Pathology at Massachusetts General Hospital, Boston, MA  
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Veena Venkatachalam  
B.S., Massachusetts Institute of Technology (2009)  
Ph.D., Harvard University in Biophysics (2014)  
DISSERTATION: Engineering microbial rhodopsins to expand the optogenetic toolkit  
M.D., Harvard Medical School (2016)  
RESIDENCIES: Preliminary Medicine at Brigham & Women's Hospital, Boston, MA  
Radiation Oncology/Brigham & Women's Hospital-Harvard at Massachusetts General Hospital, Boston, MA  
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Isha Agarwal

I was born in Los Angeles, California, grew up on a small island in Egypt, and then moved to a town outside Washington, DC. I attended college at Harvard, where I was fortunate to gain many formative experiences - including working in a chemical biology laboratory and volunteering with community health programs in India, Rwanda, and Cambodia. These experiences instilled in me a lifelong commitment to intellectual inquiry and a passion for improving health in developing countries. After college I joined the MD-PhD Program at Harvard where I decided to pursue a doctoral degree in Epidemiology so that I could become an expert in study design, analysis, and public health implementation. I used large cohort data to draw conclusions on the risk factors of diabetes and cardiovascular disease and studied cost-effectiveness analysis both in the US and overseas. I served as director of research at the Crimson Care Clinic where I developed new studies to investigate health inequalities among Boston’s underserved communities. These experiences shaped my excitement to improve health care quality and access domestically and abroad. I look forward to a career focused on the practice of public health and health systems change in the years ahead. I extend infinite thanks to my husband, family, friends, and mentors who have supported me through my MD-PhD training - I am so excited to share with you the adventures yet to come.
With graduation approaching, looking back at the road up until this point has made me reflect on all the individuals that have been involved in my journey and who have collectively helped me reach this point. I am humbled by the thought that each step has only been possible through the kindness, support and sacrifice of so many people, individuals whose support I will forever be grateful of.

I was born and raised in Brooklyn, New York, the youngest of four children. My dear parents, Rafi and Amatul Ahmed moved to America from the Indian subcontinent in the early 1970's to escape religious persecution simply for adhering to "Love for All Hatred for None", the motto of the Ahmadiyya Muslim Community, a saying that has shaped me into the person that I am today. Their emphasis on faith instilled in me a love for others and an importance on the pursuit of knowledge as a service to mankind, something that has fueled my interest in medicine and my passion for research from an early age.

As an undergraduate at NYU, my interest in the sciences was encouraged by many wonderful and inspiring research mentors who showed me a path of concurrently thinking about the principles of basic science with a goal of improving clinical outcomes. I am particularly grateful to Dr. Elizabeth Kornecki, Dr. Chiye Aoki and Michael Pippenger, mentors who encouraged me to pursue an MD-PhD in Neuroscience and apply for the Marshall Scholarship, opportunities which opened a whole new world of possibilities for me.

As an MD-PhD student through the NIH Oxford-Cambridge program, I spent two years in the lab of Dr. Jean-Claude Baron at the University of Cambridge UK followed by two additional years in the lab of Dr. John Hallenbeck at the National Institutes of Health, where I completed my PhD in neural stem cell regeneration after focal ischemia and stroke. Being able to experience rigorous scientific research in the labs of these two wonderful investigators, as well as personal mentors, was an incredible experience that informed my clinical interests and solidified in me the importance of research coupled with the study of medicine. It also taught me the valuable lesson that it is often the people around you that affect you as profoundly as the work that you are involved in. One of the greatest moments in my journey was marrying my wife Fiona, a fellow PhD graduate from the University of Cambridge, who has been an unending source of love, support and positivity, and whose friendship I will always always cherish.

This June, I will be starting my Anesthesiology residency at Beth Israel Deaconess Medical Center, Boston with an interest in bringing my neuroscience research background to the field of Anesthesiology and Critical Care. This has only been possible through the unending support and guidance of the HMS community, where I have made life-long friends and met so many individuals who share a common goal of serving their fellow man. Throughout this process, I am particularly grateful of Dr. Anthony D'Amico, Master of Holmes Society, who has been there every step of the way and who embodies the true spirit of the Harvard family, and has left a lasting impression on me as well as all of those who have had the privilege of knowing him. It has been a true pleasure to be a part of the HMS family as an MD-PhD student, and I look forward to being a part of this wonderful community throughout the years of training ahead.
I was born in Canada just after my parents emigrated from Poland. We moved when I was two to the U.S. where I grew up in America’s Finest City, San Diego. I then came to Harvard for college and haven’t left yet! As an undergraduate I studied the basic mechanisms of NK cell cytotoxicity in the laboratory of Jack Strominger. He had a tremendous impact on how I thought about scientific research and especially how to think outside the box when generating hypotheses. My mentor in the lab, Jordan Orange, was equally influential, particularly as a role model for how to successfully be a physician-scientist. Working with him solidified my desire to pursue an MD-PhD. During my years at HMS I had a wonderful time both in the HST MD program, which is filled with incredible teachers and students, as well as during my PhD, where I switched gears from immunology to neurobiology and explored basic mechanisms of gene expression in the nervous system. I am very grateful to my PhD mentor, Michael Greenberg, for teaching me how to delve deeply into the most interesting scientific questions and fundamentally how to be a scientist. Most importantly, during my time in the MD-PhD Program I also met my amazing and very supportive husband Dominico, and we have a one-year-old daughter, Zosia. We love Boston and are excited to stay as I continue my training in Child Neurology at Boston Children’s Hospital.

Throughout my time at Harvard, I have had many mentors and friends in the MD-PhD, HST, HMS, GSAS, Strominger lab and Greenberg lab communities who have been invaluable sources of advice and support and I am very grateful to them all. I am particularly thankful for my very first and most important role models, my parents and grandparents. They instilled in me a love of both science and medicine, and were and continue to be a constant source of support and encouragement.
Alexander Bagley

Since my college days at MIT, one of my favorite activities has been taking out a Tech Dinghy and sailing on the Charles. Floating around in the afternoon sun, I see the buildings and neighborhoods that have shaped me over three decades in Boston. To the northeast, the Museum of Science recalls many trips as a child for lightning shows, the planetarium, and skeletons riding exercise bikes, sparking a curiosity and fascination with the natural world.

Nearby stands Mass General Hospital, where as a child I handed my grandfather a rabbit’s foot for good luck as he recovered from open-heart surgery. Years later, it was here that I first saw a beating heart in the operating room and listened to my patients’ hearts as a medical student.

Across the river, MIT’s Great Dome calls to mind some of the happiest years of my life: immersing myself in chemical engineering and biology courses; reaching the pinnacle of my basketball career as an MIT Engineer; discovering my enjoyment of research at the Whitehead Institute; and moving across Main Street to Professor Sangeeta Bhatia’s lab to complete my thesis on the design and application of nanomaterials for detecting and treating ovarian cancer.

Off in the distance is Harvard Square, my wonderful home for six years as a premedical tutor at Winthrop House and the place where I was very fortunate to meet my wife Laura, intriguing her with talk of gold nanoparticles. Standing tall in the west, the flashing neon CITGO sign near Fenway Park symbolizes the region’s decade of sports dominance, which I faithfully support as a lifelong Boston sports fan.

As the sun sets on my time in the MD-PhD Program, I could not be more thankful to the individuals who have made these years so enriching and special: my wife Laura, my parents, grandparents, siblings, mentors, and dear friends. For now, it’s time to sail on to new adventures.
I was born at Lenox Hill Hospital in New York, to the most supportive parents imaginable. As chemical engineers, they checked-over my math homework from arithmetic through differential equations.

My interest in research as a career emerged at Harvard College working in Prof. Howard Stone’s fluid mechanics lab investigating how to pour beer without generating any foam. My principle discovery was that grant money could be used to buy beer for my “experiments.”

Beyond free beer, one unexpected benefit of studying science at Harvard was meeting Sarah, the love of my life, in freshman physics class. We celebrated our wedding in 2015 with many MD-PhD classmates in attendance. I could not ask for a better partner in life or more caring friends to share the occasion with.

For my masters in bioengineering, my research focus shifted to tissue engineering, where I saw firsthand the translational gap between lab experiment and clinical implementation. So after spending much of college adamantly denying that I had any interest in medicine, I was truly fortunate to be accepted by the Harvard/MIT MD-PhD Program.

My PhD research, guided by my incredible mentors Drs. Jonathan and Christine Seidman, defined the contribution of rare genetic variation to human health and disease. My efforts to transform genomic sequencing from a medical curiosity into a routine medical test benefiting everyone was recognized by the Forbes 2015 30 Under 30 in Healthcare award.

I am excited to begin the next phase of my Physician-Scientist training as an Internal Medicine resident at Massachusetts General Hospital. I am truly grateful for the tremendous support of many who have guided my journey, especially MD-PhD Program directors, Loren Walensky and Steve Blacklow; HST directors David Cohen, Rick Mitchell and Matt Frosch; PhD Thesis committee members Thomas Michel, Joel Hirschhorn and Vamsi Mootha and the outstanding MD-PhD administrative office led by Amy Cohen.
Yamicia Connor

Times of change are great opportunities for reflection, yet often overlooked. As I prepare to conclude this eight-year journey, I’m filled with so many emotions – excitement, fear, anticipation – about embarking on the next chapter of my career.

I grew up in Jacksonville, FL. with a wonderful and supportive family. I first moved to Boston to begin college at MIT where I studied chemical engineering and biology. I have wanted to become a doctor since I was a child, but during my time at MIT, my interest in becoming a physician-scientist gradually solidified. Following college, I spent one year working at Merck Research Laboratories in cancer biology prior to enrolling in the HST program at Harvard. For my doctoral work, I returned to MIT to work in the laboratory of Shiladitya Sengupta, where I had the privilege to study cell-cell communication between metastatic tumor cells and the endothelium. After completing my doctorate, I completed a post-doc at St. Jude, studying medulloblastoma.

I’m excited to embark on this next stage of my career and ready to face the challenges it may bring. I’m grateful for all my wonderful mentors over the years, particularly Dr. Sengupta, who have supported me throughout this incredible journey. I would not have been able to accomplish any of this without the love and support of my family -- my parents, brother, extended family, and most importantly my husband, Yonatan, who has been a constant source of support, love, and happiness since we met as undergrads at MIT. Finally, I must thank God, through whom all things come, for my incredibly blessed life, rich in both professional and personal successes. I pray that I can make good use of the educational opportunities afforded by the MD-PhD Program to do His work.
Neir Eshel

I was born in Minnesota to Israeli parents who immigrated to America for graduate school, never expecting to stay. But one thing led to another, and we’re still here! We hopped around from Minnesota to Philadelphia to Washington, D.C., but my sister, parents, and I are a close-knit family, so I always felt at home. It was in high school that the research bug first bit me, when I volunteered at a psychiatry lab at the NIH. One summer in the lab soon became five, and it dawned on me that science—and in particular, neuroscience—was my calling. What could be more fascinating than figuring out the brain? After college, I moved to London, earning a Master’s in Clinical Neuroscience. My time in the U.K. cemented my love for brain research, but more importantly, added a new desire to the mix: becoming a clinician. It was thrilling to watch my professors transition from patient rounds to the lab bench and back again. For me, the MD-PhD Program was a perfect mix: it gave me the skills to contribute to science, and the knowledge to directly help people in need. At first I was terrified at the length of the program, but looking back, I’m so happy I chose this path. It has been an incredible seven years, not only for my career, but personally as well. I met my husband Rowan, a red-headed Medievalist who brings so much laughter, home cooking, and sartorial genius to my life. I’ve made lifelong friends, traveled the world, bought my first house, played beautiful music, lived in a wonderful city. I’m so grateful to my family, my friends, and everyone who’s mentored me along the way—thank you for an astonishing opportunity!
Kay Everett

In reflecting on graduating from the Harvard/MIT MD-PhD Program, I am truly humbled and grateful for the amazing opportunities afforded to me and the incredible support of my family, friends, and mentors who allowed me to realize my dreams.

I was born and raised in the rural town of Brooksville, FL. Thanks to the dedication and inspiration of my parents and several gifted teachers, I had the opportunity to attend college at Massachusetts Institute of Technology where I earned my B.S. in Materials Science and Engineering. Through research experiences, I developed a fascination with biomedical devices. I also thrived on the "mandatory fun" of serving as co-captain of the varsity indoor and outdoor track and field teams.

To pursue research, I completed my Ph.D. in Medical Engineering through the Harvard/MIT Division of Health Sciences and Technology (HST) and the Harvard School of Engineering and Applied Sciences. My thesis, "Mechanisms and Implications of Fracture in Cardiovascular Stents," with Prof. Elazer Edelman, allowed me to impact clinical practice and regulatory science. I also had the opportunity to start the first graduate women’s group at MIT and marry the love of my life.

During my Ph.D., I had my first exposure to patient care – and loved it. Fortunately, HST welcomed me to continue in the M.D. Program. I have truly enjoyed my clinical experiences – both the privilege of helping patients understand their disease and treatment as well as personal connections with patients, classmates, and staff. I will be completing my clinical training in Internal Medicine Residency and applying to fellowship in cardiology, where I hope to continue my clinical and research interests.
I grew up in Yorktown Heights, NY the younger of two brothers. If you had asked me as a high school senior what career path I would choose, doctor or scientist, both would have been on the bottom of my list. But then at Brown University I covered local and national politics at the Brown Daily Herald, studied Molecular Biology, and met my wife, Lily Ornelas. After college, I was a Fulbright Scholar in Cameroon, Central Africa. Working with Professor Wilfred Mbacham at the University of Yaoundé, I discovered my passion for global health and for the fight against malaria, and decided to apply for MD-PhD programs while living in Africa.

In Boston, I have been very fortunate to work with my research advisor Professor Dyann Wirth. In the Wirth lab, I had the opportunity to work to develop a new family of antimalarials based on an ancient Chinese medicine and study the evolution of drug resistance on a genomic level. Dyann has been an amazing scientific mentor and model for how to use basic scientific research to impact the lives of patients worldwide.

I am very thankful for the constant support and advice of my wife, my brother Daniel who knows a thing or two about MD-PhD programs, and my parents Janet and Irving. They each deserve a great deal of the credit for having gotten me this far in my journey and for what I have accomplished during this program. I am truly indebted to the many lifelong friends I have made in Providence, Cameroon, and here in Boston.

After graduation, I will continue on to residency training in Internal Medicine at New York Presbyterian Hospital-Weill Cornell. I am excited to see what is next and figure out how I can help out in the fight against global infectious disease.
Sarah Hill

I grew up in Bismarck, ND with my incredibly supportive parents. They knew they were in for a wild ride when, as a baby, I would rip decorations off the walls to dismantle them and escape my crib for nightly exploratory missions.

They turned my energy and curiosity into something positive by supporting and encouraging my participation in sports, music, and science. I had many early experiences that fostered my desire to be a physician scientist. When I was very small, my father and grandfather would go hunting and then let me ‘dissect’ the pheasants they brought home as mini anatomy lessons. I had several experiences in health care through my seizure disorder and later Wolff-Parkinson-White syndrome, and I was fascinated by my own MRIs and EKGs, always wondering what made these things happen. I went on to compete in science fairs doing most of my experiments in the back of my AP biology teacher’s classroom and storing specimens, like plates of Salmonella, in our fridge at home, which my mother really enjoyed.

This enthusiasm for science continued when I went to Harvard College. I continued to run track and cross country and play in an orchestra. I also found my long term scientific mentor, Dr. David Livingston. David and other lab members set me on a lifelong path to study mechanisms of breast and ovarian cancer. With their guidance, I completed my undergraduate thesis, was accepted to the Harvard MD-PhD Program, and also won a Rhodes scholarship.

Prior to starting at Harvard Med, I spent a year at Oxford as a Rhodes Scholar where I completed an MSc in biochemistry. While in England, I also enjoyed punting on the river Cherwell, golfing all over the UK, and touring Europe.

I soon returned to Harvard and started my MD-PhD studies. I found my clinical specialty on the first day of medical school when I met Rick Mitchell in HST. Spending just half a day with him made me certain I wanted to be a pathologist. I did my PhD in David Livingston’s lab where I continued to focus on breast and ovarian cancer genetics and molecular biology, in particular BRCA1 biology. My thesis work focused on both identifying new, or better understanding known BRCA1 functional pathways and understanding how defects in these pathways, or a lack thereof, might affect tumor sensitivity to different therapeutic agents in different tumor subtypes.

I had a hard time leaving the lab to return to third year and am certain research will be a major part of my life. I annoyed most of my residents and attendings by pointing out the scientific questions with every patient and by dragging them to the pathology department to look at slides; however, I also met quite a few collaborators to work with, and we’re already planning experiments.

Outside of the lab, I enjoyed running marathons. I completed 15 marathons during my time at HMS, seven of them Boston marathons. I hope to keep adding to that number.

I will start my residency in anatomic pathology this July, with the hope of someday running my own research lab focusing on the molecular pathogenesis of breast and ovarian cancer. I have had enormous support in getting to this point, and I especially want to thank my parents, my scientific and clinical mentors, the HST Program, the Harvard MD-PhD Program, and the BBS PhD Program.
Wen Hu

I am first and foremost thankful to my parents, Jinhua and Xiaofang, for their unfailing love and support. They moved across the world to provide me with opportunities they never had, and continually encourage me to pursue my passions.

I grew up in Connecticut, where my piano teacher, Maria Cisyk, inspired me to ask deeper questions about art, science and life. At Yale, through the mentorship of Charlie Greer, I became fascinated with the brain and the beauty of scientific discovery. I also met a fellowship of Christians who have become my closest friends and community for the past decade-plus. They have shown me that there is so much more meaning to life than success and accomplishment.

At Harvard, I completed a PhD in neuroscience studying developmental mechanisms regulating brain size. I am ever grateful to my many mentors, colleagues and friends who have supported me throughout this journey, and especially to Chris Walsh, my thesis advisor, for his wisdom and guidance, both in science and in life. My time in Boston has been filled with many milestones, the most significant of which has been marrying my long-time friend, Wilbur. He encourages me, challenges me and inspires me to grow as a person each and every day.

I will be staying at Brigham & Women’s for internship and Mass Eye and Ear for ophthalmology residency. I’m excited for the years ahead, and hope to see you around!
Alison Hwong

Eight years, 17 countries, 4 broken bones, about 10,000 miles run, and two degrees--what a wonderful ride it has been!

I grew up in New Jersey as the youngest of three children, marveling at how I could play ice hockey and dream of a career in medicine at the same age as my grandmother when she was fleeing a war-torn Shanghai. That is all to say: I've been really lucky.

From Jersey I went on to dissect rat brains in college to study the molecular mechanisms of addiction. But soon I gravitated towards studying the social context of mental health, and so set off for Belgium to research stigma, then to Montana to work in the state’s Mental Health Bureau. I arrived at medical school eager to learn clinical skills, and then realized pairing patient care with health policy research was where the action was at. With the passage of the Affordable Care Act in 2010, we're just getting started.

I am grateful to many people: my parents Beatrice and Corrington for their perspective and enduring support, my sister Connie for travel adventures, Belle Dixon for endless love. My nephew and niece Teddy and Caitlin provided play therapy and comic relief. Early morning bike rides with HUCA kept me rolling. Thanks to my advisors Nicholas Christakis and Jukka-Pekka Onnela, I had the opportunity to research social networks and public health in Honduras. With Lisa Lehmann and the Safra Center for Ethics, I was able to explore concepts of patient-doctor trust. Anne Becker and Joe Newhouse held fast to the vision of the social sciences as integrated with medicine, and Amy Cohen and Loren Walensky made this program possible. Finally, Drs. Ron Arky and Bev Woo in Peabody offered guidance through the years. Tremendous thanks to you all.
David Kim

I grew up in Vancouver, British Columbia, where some of my earliest memories involve my wonderful mother asking about my day at school, and being disappointed by the brevity of my report. Averse to autobiographic mythologizing, then as now.

The past few years have been the most personally, intellectually, and morally formative of my life by far. The feeling is essentially that of my brain and soul only recently having come online. It feels good!

Because we only observe one course of the universe, there is a sense in which we can never know for certain the forces of change in one person’s life. There is another, more important sense, in which the universe tells me that those forces are obviously a small number of unusual people with whom I have come to learn what matters and why. I will single out Adrienne Mendle, Joachim Hero, and Craig Smith for granting me the improbable opportunity to feel, after nine years at Harvard, more idealistic and ambitious than I did when I arrived.
Wendy Liu

I spent my childhood years in Hong Kong. From a young age, my parents encouraged me to be curious and explore the world around me. Growing up, I thought I wanted to become a biologist—because I liked looking at small things through microscopes. I went to Princeton University for my undergraduate education, and there, I was excited to have my first taste of independent research in biology. I worked in the lab of Lynn Enquist studying viruses that invade the nervous system. After the SARS epidemic in Hong Kong, I developed an interest in medicine. Hoping to alleviate the problems of human disease via scientific discovery, I came to Harvard for my MD/PhD training in the HST program. I joined the lab of Rachel Wilson, studying olfactory and thermosensory processing in the small brain of the fruit fly.

Looking back at my last 8 years in Boston, I am deeply grateful for the guidance of my mentors, and the love and support of family and friends. In Boston, I met my husband Wallace, who has been a constant source of joy and encouragement. I am excited to continue to journey with him through all the ups and downs in life. I am thankful for my parents and sister for their unwavering love and care. It was a pleasure to work in the lab of my PhD mentor Rachel, who not only taught me rigorous scientific thinking, but also exemplified genuine generosity and kindness. I thank my clinical mentors, who have modeled compassion and astute judgement in the most difficult situations, as well as my classmates and friends, who have challenged and inspired me to become a better person and a better physician. Finally, I am grateful to God, the giver of all good gifts.

Looking ahead, I am excited to continue my residency training in ophthalmology at Mass Eye and Ear after a year of preliminary medicine at Beth Israel Deaconess Medical Center.
I feel incredibly blessed to stand here before you at the end of this wonderful and transformational chapter of my life, surrounded by such inspiring classmates. It is an honor to be among you! My journey started in Maryland, growing up on the Chesapeake Bay with a wonderfully supportive and energetic family. My parents are some of the most courageous and creative people I know, and they decided to home-school my siblings and myself until we entered college. Thanks to the skills they instilled in me, I went to the University of Maryland, Baltimore County at age 14 where I studied Biochemistry and Philosophy, did research on the structure of HIV-1, and led the Ballroom Dance Club. I am deeply grateful to my undergraduate mentors, Dr. Michael Summers and Dr. Freeman Hrabowski, for always believing in me.

I was absolutely elated when I was admitted to the Harvard/MIT MD-PhD Program, and it has proved to be the greatest adventure! I had the privilege of completing my PhD in genetics in the lab of Dr. Fred Winston studying the conserved histone chaperone Spt6 and its effect on chromatin and transcription regulation. I am deeply grateful for Dr. Winston’s mentorship and guidance throughout my MD-PhD. During my time at Harvard Medical School, I have worked as a resident advisor, competed on the MIT Ballroom Dance Team, and attended as many live theater and Shakespeare productions as is physically possible. Next year, I am excited to continue my journey as a resident in Anesthesiology at Brigham & Women's Hospital!

I would not be standing here today without the support of many wonderful people, especially all of the staff, students, and faculty of the MD-PhD Program, Dr. David Cardozo, Dr. Beverly Woo and the fantastic Peabody Society, Jenny Yang, Jiho Choi, Sunny Park, Xavier Rios, Marie Hollenhorst, and Devarati Mitra. Most importantly, I would like to thank my family who has always been there for me no matter the time of day or the distance between us. I love you more than words can say.
Karolina Maciag

I started the MD-PhD interested in infection and immunity. I am headed to internal medicine residency/infectious disease fellowship – a simple progression that belies the breadth of experiences throughout!

I am grateful to outstanding teachers from grade school onward, particularly Mr. Steuben, Mr. McFaden, and Dr. Lieberman at my public high school. Summer internships in the DC area brought academia and industry within reach. Mentors then and beyond set examples of a life in science well lived, particularly Linda Wolff at NIH, who first encouraged me toward the MD-PhD; Steve Altschuler, Lani Wu and Tom Maniatis at Harvard, in computational biology; and my thesis advisor, Nir Hacohen, who turned me into a bench scientist, and encourages trainees to ask bold questions and to pursue science with joy.

Classmates, labmates, and TA students brought camaraderie, probing questions, and insights. The MD-PhD, Immunology, HST, and clerkship communities have been an outstanding support, particularly David Cohen, Loren Walensky, Amy Cohen, and Linda Burnley.

I am grateful for friends with diverse passions with whom to enjoy, understand, and improve the world; my extended family, mostly in Poland, whose love and support gives me resiliency; my parents, who inspired pursuit of intellectual and physical adventures, and accepted no excuses; my now-grown “baby” brother Robert, who makes me excited for the future; and my partner Matt, for his love, optimism, integrity, humor, and support.

Finally, thank you to Brit Nicholson at MGH for this advice to M3s: “When you feel down... go into a patient’s room for a while. It will make you remember why you’re doing this.”
Rishi Puram

Originally from Minneapolis, Minnesota, I made the trek out to Boston in 2004 for college. As an undergraduate at MIT, I first became excited about biology while working on a drug delivery project in Phil Sharp’s lab. Phil was a wonderful mentor, who fostered my interest in oncology and encouraged me to pursue a career in science. In 2008, I started in the Harvard MD-PhD Program. I joined an incredibly bright and fun group of HST classmates and quickly developed close friendships within the program. After some exploring as a graduate student, I decided to study hematopoietic malignancies in Ben Ebert’s lab. My thesis work focused on understanding the role of the circadian rhythm in acute myeloid leukemia. Over the years, Ben has been an exceptionally supportive and nurturing mentor, who has taught me what it means to be a scientist and how to think critically about important clinical and biological problems. After my research years, I returned back to medical school, where I had an exciting re-introduction to caring for patients. I decided to pursue clinical training in hematology/oncology and will be starting internal medicine residency at MGH in June. As I reflect back on the past 8 years, I realize how blessed I am to be surrounded by best friends who have my back, loving parents and grandparents who have provided me with amazing opportunities, a brother (former MD-PhD student, now ENT resident) who I continually strive to emulate, a sister-in-law who lights up the room, and a beautiful fiancé who always makes me smile.
Having been born in India, raised in Arizona, and gone to college in California, I was woefully underprepared for Boston winters when I arrived here in 2008. Nonetheless, I began to feel at home in Boston very quickly, and have had a wonderful time here over the past eight years.

My parents cultivated a strong dose of curiosity in me right from my days as a toddler, when they encouraged my incessant questioning, and I would spend hours on end investigating and tinkering with items around the house. I am indebted to them for the sacrifices they have made, including in immigrating to America – the experience of having been dual citizens in the literal sense has been an asset as I negotiate my identity as a physician-scientist.

I attended college at UCLA, where my research experiences stoked an appreciation for the power of genomic approaches. My introduction to the field of human genetics came during my year as a research associate at the Translational Genomics Research Institute in Arizona. This experience, coupled with the exposure I had during the first two years of medical school to the notion that studying the genetics of diseases in humans can provide insights into disease mechanisms motivated me to pursue a PhD in human genetics. The outcome of my graduate work, focused on the genetics of schizophrenia and lupus, was happily a strong validation of this decision. I had the great fortune of having Steve McCarroll as my graduate advisor, whom I can't thank enough for being an incredible mentor and for teaching me to think creatively, rigorously, and boldly.

I can't imagine having had a more fun, challenging, and rewarding experience over the past eight years, and I am grateful for the wonderful support I have received from the MD-PhD Program leadership and staff in navigating this path. I look forward to building on the foundation I have had so far and am excited for my next chapter – residency training in internal medicine!
Jing (Meghan) Shan

I was raised in China by four doting grandparents while my parents studied in Germany. It was meant to be a temporary arrangement that ultimately spanned seven uninterrupted years. Time lost with my parents became time gained with my extended family, who cultivated my fascination with both engineering and medicine through gifts of wooden blocks and cotton doll “patients”. While I had to leave these treasures behind when I moved to live with my parents in Canada at the age of ten, both interests stuck with me and expanded over the next 6 years, when I bounced through 5 schools, grew an average of under 4 inches a year, learned 3 musical instruments, skipped 2 grades and met my 1 best friend, before I headed off to college at Columbia University in New York.

It was at Columbia that I first developed a passion for tissue engineering. This brought me to MIT for my PhD work with Dr. Sangeeta Bhatia in liver regenerative technologies. Sangeeta, along with Dr. Wolfram Goessling, personifies everything I had hoped for in a mentor; and for that, I am extremely grateful. I am also thankful for my family and friends who have become like family. Mom and dad made unimaginable sacrifices to empower my dreams and encouraged me to go beyond even the wildest of them. My fiancé, with whom I first met over an MIT problem set on materials strengthening, turned out to be the best kind of strengthener – one who supports without a mode of failure.

These past few years with the MD-PhD Program have been some of the most formative years of my life and I am excited to apply all that I have learned here towards my continued training as a physician scientist.
Alexander Subtelny

I was born in Toronto, Canada to two wonderfully supportive parents who are both humanities professors. For reasons that are not completely clear, I developed an early interest in the sciences: some of my memorable childhood activities included collecting plants in the garden or copying diagrams from my uncle’s anatomy atlas. As I became older and wiser, I realized that medicine represented an ideal combination of thinking scientifically while also getting to know and help people in need.

Soon after entering Harvard College, however, I realized how much I loved organic chemistry. I spent an amazing and very intense summer doing research in organic synthesis, only to realize that I was moving too far away from medicine. Still, my newfound interest in research remained, and I joined the lab of Prof. Jack Szostak at MGH, where I engineered an in vitro translation system to produce drug-like peptides. I received excellent training from Prof. Szostak as well as from a post-doc, Dr. Matt Hartman, who made sure that I understood how molecular biology worked and that I designed experiments properly.

Right after graduating from college, I started in the HST MD program, and then joined the lab of Prof. David Bartel at MIT for my PhD. During my time in graduate school, I developed a method to measure poly(A)-tail lengths of messenger RNAs, and used this method to study the function and regulation of poly(A)-tail length in the context of translation, messenger RNA decay, and microRNA-mediated repression. Dave was the best PhD advisor I could have asked for, and I was lucky to work in a dynamic environment with smart, hard-working peers who also liked to have fun.

I owe so much of this journey to the guidance and support I’ve received from my friends, teachers, advisors and mentors. Above all, I want to thank my family for their unceasing and limitless love and support (and patience!). Having finally graduated, I look forward to starting my residency in Anatomic Pathology next year and to having an interesting and rewarding career in science and medicine!
I am originally from New Jersey, and attended MIT, where I majored in chemistry and biology. As an undergraduate, I enjoyed my experiences both in the lab and as a volunteer on a mobile health clinic, which - coupled with the advice of many fantastic mentors - led me to pursue a career as a physician scientist. Years later, I am glad to report that I am very happy with that decision!

As a Biophysics PhD student, I did my thesis research in the lab of Adam Cohen, where I explored the light-induced conformational gymnastics of microbial rhodopsins using a combination of physics, biochemistry, spectroscopy, and neuroscience. The way in which Adam encouraged us to ignore the barriers between traditional scientific disciplines was inspirational, and I hope to carry that interdisciplinary spirit forward as I pursue research down the road.

The people I have befriended and worked alongside over the past seven years have enriched my life in ways I didn’t think possible. I feel so lucky to have landed in a group of highly accomplished yet humble classmates, and to have met inspiring patients and mentors on the wards who helped me find a clinical home in the field of radiation oncology. I am thrilled to have matched at Harvard Radiation Oncology Program, where I will pursue my residency after completing an intern year in medicine at Brigham & Women’s Hospital.

I wouldn’t be where I am today without the self-sacrifice, love, and encouragement of my amazing parents, Sai and Venkat, who are my main source of inspiration. I am also grateful for the support of my wise older brother, Vivek, and my incredible husband, Matthew.
1 Dr. Jean-Claude Baron (Tahir Ahmed)
2 Dr. David P. Bartel (Alexander Subtelny)
3 Dr. Sangeeta Bhatia (Alexander Bagley & Jing (Meghan) Shan)
4 Dr. Nicholas Christakis (David Kim & Alison Hwong)
5 Dr. Adam E. Cohen (Veena Venkatachalam)
6 Dr. Benjamin Ebert (Rishi Puram)
7 Dr. Elazer R. Edelman (Kay Everett)
8 Dr. Michael E. Greenberg (Milena Andzelm)
9 Dr. Nir Hacohen (Karolina Maciag)
10 Dr. John Hallenbeck (Tahir Ahmed)
11 Dr. David M. Livingston (Sarah Hill)
12 Dr. Steven A. McCarroll (Aswin Sekar)
13 Dr. Kenneth J. Mukamal (Isha Agarwal)
14 Dr. Jukka-Pekka Onnela (Alison Hwong)
15 Dr. Shiv S. Pillai (Ilka Netravali)
16 Dr. Eric B. Rimm (Isha Agarwal)
17 Dr. Christine E. Seidman (Alexander Bick)
18 Dr. Jonathan Seidman (Alexander Bick)
19 Dr. Shiladitya Sengupta (Yamicia Connor)
20 Dr. Naoshige Uchida (Neir Eshel)
21 Dr. Chris A. Walsh (Wen Hu)
22 Dr. Rachel Wilson (Wendy Liu)
23 Dr. Fred M. Winston (Erin Loeliger)
24 Dr. Dyann F. Wirth (Jonathan Herman)
Congratulations from all of us to the MD-PhD Class of 2016!

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