NIAID / IDSA Infectious Diseases Research Careers Meeting 2019

The Infectious Diseases Society of America (IDSA) and the National Institute of Allergy and Infectious Diseases (NIAID) are pleased to welcome you to the eighth annual Infectious Diseases Research Careers Meeting. This two- and one-half-day meeting for ID fellows, residents, and medical students is designed to help foster the next generation of infectious diseases physician scientists.

THURSDAY, JUNE 6 **Bethesda Marriott**		
Registration and Welcome Reception begins at 5:00 pm		Hart, Dirksen & Russell Foyer
5:30 – 6:00 pm	**Welcome and Speaker Introductions** Cynthia Sears, MD, FIDSA *President, Infectious Diseases Society of America*	Congressional Ballroom
6:00 – 7:00 pm	**Keynote Address** **From AIDS to Zika: A Reflection on a Career at the National Institutes of Health** **Anthony S. Fauci, MD, FIDSA** *Director, National Institute of Allergy and Infectious Diseases*	
7:00 – 8:30 pm	Dinner with the Faculty	

We ask that attendees please leave two (2) seats open at their tables during dinner for faculty members to join them.

FRIDAY, JUNE 7 Bethesda Marriott		
6:00 – 7:00 am	Breakfast	Hart, Dirksen & Russell Rooms
7:00 – 7:30 am	**Why are 3 million children dying every year of infectious diseases? Wading upstream in the nexus of policies and global health** **Eran Bendavid, MD, MS** *Stanford University* I entered infectious diseases using Spock-like reasoning: the easily-avertable burden of death and disability from infectious diseases among the world's poor is greater than from any other diseases category. Surely, malaria, tuberculosis, and measles are poised to fade away, right? The reasons I found for the resounding "Not-so-fast"s were not technological in nature, and my pursuit of understanding kept me swimming further and further upstream towards those policies and environments that enable the continuation, and those that enable the cessation, of disease transmission. I will talk about how one goes about finding answerable and policy-actionable questions in this messy world.	Congressional Ballroom
7:30 – 8:00 am	**Liquid Biopsy for Infectious Disease: Microbial cell-free DNA sequencing for pathogen detection** **David Hong, MD** *Karius Dx* The use of high-throughput DNA sequencing and genomics has revolutionized medicine. These technologies have been incorporated into routine use for the evaluation of genetic diseases, for prenatal diagnosis, and to guide cancer treatment. I'll describe how we are currently using microbial cell-free DNA sequencing to non-invasively detect pathogens – even in deep-seated infections.	
8:00 – 8:30 am	**Se Hace Camino Al Andar** **David Kimberlin, MD, FIDSA** *University of Alabama at Birmingham* In my talk, I will provide a brief overview of how I ended up in Pediatric Infectious Diseases as well as academic medicine. I will discuss the type of research that I perform, and the highly collaborative nature of the work itself. I will present the aspects that I find most rewarding, as well as the most challenging. My hope is that this will set a good foundation for a series of questions from the audience thereafter.	
8:30 – 9:00 am	**Whittling Away at Infectious Risks of Immunosuppression while Enhancing Life** **Camille Kotton, MD, FIDSA, FAST** *Massachusetts General Hospital* Immunosuppression conveys a significant risk of infection with major morbidity and mortality. Optimal evaluation and management prior to immunosuppression, as well as after immunosuppression has begun, enhances overall outcomes. Optimal prevention of infection both individually and programmatically is key to best practices. Vaccination is a key part of prevention. Many patients are warned to avoid some of their pleasures in life such as travel, pets, and favorite foods. Understanding risks and benefits is key in discussions with patients. I will discuss my career trajectory and evolution, with highlights of the adventures along the way.	
9:00 – 9:30 am	**The Science of Malaria Elimination in Africa** **Miriam Laufer, MD, MPH** *University of Maryland* Malaria has evolved along with humans for millions of years. This talk will provide an overview of some of the recent approaches that our laboratory has used to outsmart the malaria parasite, in the hope of being able to eliminate *P.*	

	falciparum infection in sub-Saharan Africa.	
9:30 – 9:45 am	Break	Hart, Dirksen & Russell Rooms
9:45 – 10:15 am	**Eradicating Polio: The Critical Role of Research** **Walter Orenstein, MD, FIDSA** *Emory University* I had dreamed of becoming a pediatric nephrologist and spending my life in San Francisco. But because of a service obligation, I applied to the Epidemic Intelligence Service (EIS) of the Centers for Disease Control and Prevention (CDC) and was accepted and entered the EIS Class of 1974. I volunteered to work on smallpox eradication in India, which changed my life. I saw a terrible disease with a 30% case-fatality rate disappear before my eyes as a result of a vaccine and I decided to become a vaccinologist. The focus of my work has been on implementation science, specifically the evaluation of how best to use existing vaccines to maximize impact on disease burden. I devoted a major effort to assessing vaccine effectiveness in observational studies and determining the role of vaccine failure versus failure to vaccinate in disease persistence. A major focus of my career has been on eradicating polio. Polio meets the four criteria to be considered a candidate for eradication: 1) humans are necessary for disease persistence; 2) sensitive and practical diagnostic tool; 3) effective intervention to stop transmission; and 4) proof of success in a large geographic area. Polio incidence caused by the three wild polioviruses has decreased by more than 99% and only 3 countries are considered endemic. However, there are impediments to achieving eradication and research is playing a big role in developing solutions to overcome those impediments including development of new genetically stable polio vaccines that do not revert to neurovirulence, enhancing virus detection through environmental surveillance, detecting immune deficient persons who chronically shed virus and developing antiviral drugs to treat them, reducing cost of vaccines, enhancing measurement of accountability of vaccination teams, and more. Eradication of polio would be the gift of the generation which achieves it to all future generations.	Congressional Ballroom
10:15 – 10:45 am	**Adaptation, Evolution, and Random Mutations: Lessons Learned from Bacteria in an ID Research Center** **Connie Price, MD** *University of Colorado* The Infectious Diseases specialty is the most dynamic and evolving of medical disciplines. Many of us are drawn to the field because of its broad-based nature and the constant introduction of new challenges presented by emerging threats. By developing a set of skills applicable to a variety of topics, an ID research career can adapt, evolve- even mutate- to limitless possibilities that address some of the hottest topics in medicine.	
10:45 – 11:15 am	**Applying systems-based approaches to prospective studies of malaria-exposed individuals** **Tuan Tran, MD, PhD** *Indiana University School of Medicine* My prior experiences conducting field studies in malaria-endemic areas influenced my lab's current research, which focuses on understanding the mechanisms of host tolerance to *Plasmodium* infection in malaria-exposed individuals. By applying systems-based approaches that integrate blood transcriptomics, antibody profiling by protein arrays, multiplex cytokine analyses, and multi-parameter flow cytometry to prospective cohort studies conducted in malaria-endemic communities, we seek to determine correlates of naturally acquired protective immunity against malaria. The presentation will highlight recent work that has revealed a relationship between the tumor	

	suppressor p53 and control of malaria-induced inflammation in humans.	
11:15 am – 12:30 pm	Lunch	Hart, Dirksen & Russell Rooms
12:45 – 1:30 pm	Transport to NIH and security clearance. **Buses will leave the Marriott promptly at 12:45 for travel to NIH**. Please arrive early enough to ensure that you are on board. Meeting participants will need to go through the NIH security check individually—**please be prepared to present a government issued ID**. The buses will clear security and then transport participants across campus to the NIH Clinical Center.	
1:30 – 4:30 pm	**NIAID Campus Lectures** **Groups have been assigned to attend the following four sessions. See next section for location of sessions and group assignments.**	NIH Clinical Center (Building 10)
4:45 pm	Transport to Marriott. B**uses will leave NIH promptly at 4:45 from the NIH Clinical Center**.	

NIAID CAMPUS LECTURES NIH Clinical Center (Building 10)
1:30 – 4:30PM

Group	1:30 – 2:15PM	2:15 – 3:00PM	3:00 – 3:45PM	3:45 – 4:30PM
A	**NIH Clinical Center Tour,** Meet Dr. Henry Masur outside of the FAES Classrooms	**Influenza Classroom #1 and #2** Dr. Matthew Memoli	**Ebola Classroom #4** Dr. Cliff Lane	**Immunodeficiency Diseases Classroom #6 and #7** Dr. Steve Holland
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Directions to the FAES Classrooms:

From the South Lobby of Building 10, go to your right. Walk straight. When you see the Masur Auditorium on your left then turn right and go through the glass doors. Continue down the hallway. When you see the FAES Bookstore on your right then turn right and walk down the stairs. The FAES classrooms will be at the bottom of the stairs.