Faculty Biographies

Eran Bendavid, MD, MS

Eran Bendavid is an infectious diseases physician and an Associate Professor of Medicine at Stanford University. His scholarship includes assessing the population health impacts of political, economic, and natural environments in in low- and middle-income countries. His work straddles empirical analysis and construction of disease and policy models in order to make better decisions and policies for population health and the reduction of disparities. He has been involved in shaping World Health Organization policies on HIV management, the design of deworming campaigns in Sub-Saharan Africa, and studying the health impacts of armed conflict. His recent areas of interest focus on improving the empirical foundations of climate change's health impacts.

Why are 3 million children dying every year of infectious diseases? Wading upstream in the nexus of policies and global health

James Horton, MD

Dr. Horton attended Duke University for college and medical school graduating in 1977. He trained in internal medicine at University of Florida and in infectious disease at Ochsner clinic and University of Colorado. He has practiced Infectious Disease in Charlotte NC since 1984. He is on the faculty at Carolinas Medical Center teaching University of North Carolina-Chapel Hill medical students and the residents in internal medicine. His division has been an AIDS Clinical Trials Subunit to UNC-Chapel Hill as well as a tuberculosis research subunit to Duke. He has participated in numerous clinical trials on HIV/AIDS, tuberculosis, sepsis and more recently the cutaneous microbiome around skin abscesses. He has served on the guidelines committee for the Infectious Diseases Society of America (IDSA) and as chair of the IDSA guidelines committee. He received the Watanakunakorn clinician award from the IDSA and the teaching award UNC-Chapel Hill Medical School in 2015.

David Hong, MD

I obtained my MD from Northwestern University Medical School and then headed west to Stanford University School of Medicine for my General Pediatrics residency, Chief Residency year, and Pediatric Infectious Diseases fellowship. My main research interests focused on host-pathogen interactions particularly in respiratory viruses. I initially worked on novel adjuvants for influenza vaccine and then studied respiratory syncytial virus and why children get repeated infections with RSV. After fellowship, I stayed at Stanford as a Clinical Associate Professor of Pediatric Infectious Diseases and also served as chief of

pediatric infectious diseases at the Stanford-affiliated Santa Clara Valley Medical Center. Four years ago, I had the opportunity to join an infectious disease diagnostic startup called Karius where I am currently Vice President of Medical Affairs and Clinical Development. Karius uses next-generation sequencing of microbial cell-free DNA in plasma to identify pathogens.
Teaching natural killer cells to cure

Liquid Biopsy for Infectious Disease: Microbial cell-free DNA sequencing for pathogen detection

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.

David Kimberlin, MD, FIDSA

Dr. David Kimberlin holds the Sergio Stagno Endowed Chair in Pediatric Infectious Diseases at the University of Alabama at Birmingham, where he is Vice Chair for Clinical and Translational Research and Co-Director of the Division of Pediatric Infectious Diseases. Dr. Kimberlin also is the Principal Investigator for the Collaborative Antiviral Study Group (CASG). Funded continuously by NIH/NIAID/DMID since the early 1970s, the CASG is a network of pediatric academic medical centers that evaluates antiviral therapeutics in rare diseases with a large unmet medical need, including neonatal herpes simplex virus (HSV) infections, congenital cytomegalovirus (CMV) disease, congenital Zika syndrome, neonatal and infantile influenza infection, and neonatal enteroviral sepsis syndrome. The number of participating academic medical centers varies by study, but generally ranges from 25 to 50 across the United States, the United Kingdom, and Peru. Studies conducted by the CASG have led to new drug indications and label changes for acyclovir, valganciclovir, and oseltamivir, and non-CASG studies conducted by Dr. Kimberlin also have led to label changes for valacyclovir. Dr. Kimberlin also is Editor of the 2021 AAP *Report of the Committee on Infectious Diseases (Red Book)*, and was Editor of the 2015 and 2018 editions and Associate Editor for the 2009 and 2012 editions.

Se Hace Camino Al Andar

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.

Camille Kotton, MD, FIDSA, FAST

Camille Nelson Kotton MD, FIDSA, FAST is a graduate of the Pritzker School of Medicine, University of Chicago, and did internal medicine residency at the Hospital of the University of Pennsylvania, then infectious disease fellowship in the combined program at Massachusetts General Hospital and Brigham and Women's Hospital. She is the clinical director of the Transplant Infectious Disease and Immunocompromised Host Program at the Massachusetts General Hospital, and Associate Professor of Medicine, Harvard Medical School, Boston, Massachusetts. She was chair of The Infectious Disease Community of Practice of The American Society of Transplantation (2012-2018). From 2007-2013, she was the president of The Transplant Infectious Disease Section of The Transplantation Society. Highlights of her time as president include the development of international guidelines on CMV management after solid organ transplant, published in Transplantation (2010, 2013, 2018). Her clinical interests include cytomegalovirus, donor-derived infections, zoonoses, and travel and tropical medicine in the transplant setting.

Whittling Away at Infectious Risks of Immunosuppression while Enhancing Life
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.

Miriam Laufer, MD, MPH

Dr. Laufer is a pediatric infectious disease specialist, with a primary research interest in malaria and global child health. She has conducted research, clinical care and professional education in resource-limited countries in Africa and Asia, and has dedicated nearly two decades to working in Malawi. She and her research team use clinical and laboratory research to develop and evaluate interventions to decrease the burden of malaria in sub-Saharan Africa. She currently serves as Principal Investigator for clinical trials, epidemiological studies and a Fogarty training grant, that support her collaboration with colleagues throughout the US, Europe and Africa.
Her current research focuses on malaria during pregnancy and its impact on infants, the interaction between HIV and malaria and identifying reservoirs of malaria transmission. Her laboratory at the University of Maryland explores the application of molecular epidemiology tools to address critical issues related to malaria pathogenesis, disease burden and drug resistance.

The Science of Malaria Elimination in Africa

Walter Orenstein, MD, FIDSA

Walter A. Orenstein, MD, is a Professor of Medicine, Epidemiology, Global Health, and Pediatrics at Emory University. From 2008 through 2011, Dr. Orenstein was Deputy Director for Immunization Programs at the Bill & Melinda Gates Foundation. His primary focus at the foundation had been on polio eradication, measles control, and improving routine immunization programs. Prior to 2004, Dr. Orenstein worked for 26 years in the Immunization Program at the Centers for Disease Control and Prevention. From 1988-2004, he was the Director of the United States Immunization Program. He is a former Assistant Surgeon General of the USPHS. Dr. Orenstein successfully developed, promoted, facilitated and expanded new vaccination strategies to enhance disease prevention.

Dr. Orenstein has authored and co-authored numerous books, journals and reviews. Dr. Orenstein co-edited *Plotkin's Vaccines*, 7th edition in 2018 – the leading textbook in the field. He is a past Chair of the WHO's Poliomyelitis Technical Consultative Group. He served as the Chair of the National Vaccine Advisory Committee (NVAC) from 2012 to 2016. He is also currently a member of the WHO's Strategic Advisory Group of Experts (SAGE) on Immunization Polio as well as Measles and Rubella Working Groups. He is currently the Chair of WHO's Immunization and Vaccines Related Implementation Research Advisory Committee (IVIR-AC). Between July 1, 2016 and June 30, 2018, Dr. Orenstein was the President of the National Foundation for Infectious Diseases (NFID).

Dr. Orenstein's research focus has been on assessment of vaccine effectiveness in observational studies, methods to overcome vaccine hesitancy, ways to enhance uptake of recommended vaccines, and ways to facilitate polio eradication and sustain that eradication. In addition, Dr. Orenstein is the Principal Investigator for an NIH funded Center of Excellence for Influenza Research and Surveillance (Emory-UGA CEIRS), with a focus on better understanding pathogenesis, immune responses to vaccines and infection, and viral surveillance in animal populations.

Eradicating Polio: The Critical Role of Research

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.

Connie Price, MD

Connie Savor Price, MD is the Chief Medical Officer (CMO) at Denver Health and a Professor of Medicine in the Division of Infectious Diseases at the University of Colorado School of Medicine. Prior to becoming the CMO, she served as the Chief of Infectious Diseases and the Medical Director of Infection Control and Prevention at Denver Health for 13 years. Her research and clinical interest focuses in healthcare epidemiology and methods to prevent and rapidly detect new emerging and antimicrobial resistant infections. Dr. Price has a track record of successful federal funding as a Principal Investigator from the National Institutes of Health, the Department of Defense, and the Agency for Healthcare Research and Quality. She is active in the Infectious Diseases Society of America, served in an elected position on the Board of Directors of the Society of Healthcare Epidemiology of America, and as past chair of the American Society for Microbiology section on Healthcare Epidemiology. Dr. Price has recognized expertise in outbreak management and has served as a consultant to public health authorities around the world on control of emerging infections, specifically MERS and SARS, as well as Ebola preparedness, and is the Executive Director for HHS Region 8 Ebola and Special Pathogens Treatment Center.

Adaptation, Evolution, and Random Mutations: Lessons Learned from Bacteria in an ID Research Center

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.

Tuan Tran, MD, PhD

I immigrated to the United States from Vietnam with my family when I was two-years-old. We settled in Florida, where I grew up a few miles from the beach. After gaining research experience in renal physiology in high school and as an undergraduate at the University of Florida, I enrolled in the Medical Scientist Training Program at Emory University. During my first year of medical school, I happened upon an inspiring but thought-provoking malaria lecture by the late Robert Desowitz that

prompted my switch to malaria research. I eventually completed my doctoral studies on the *Plasmodium vivax* reticulocyte binding proteins in the laboratory of Mary Galinski. I then trained in Internal Medicine at the Johns Hopkins Hospital and Infectious Diseases at NIAID. While at NIAID, I also studied naturally acquired immunity to *Plasmodium falciparum* malaria in the laboratory of Peter Crompton. After fellowship, I started my own malaria immunity laboratory at the Indiana University School of Medicine in Indianapolis, where I also attend on the Infectious Diseases consult service at the VA Medical Center.

Applying systems-based approaches to prospective studies of malaria-exposed individuals
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.