

Massachusetts Infectious Disease Society

2023 Maxwell Finland Awards for Research Fellow Excellence

BCH



Geoffrey Guenther MD MPH

BIDMC



Noah Boton MD

BMC (Adult)



Jemma Benson MD

BMC (Ped)



Mine Duzgol MD

BWH



Wilfredo Matias MD

MGH



Jodian Pinkney MD

Tufts



Majd Alsoubani MD

UMass



Qadija Qadri DO

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Infectious Disease Society
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1) **Geoffrey Guenther, MD MPH, Boston Children's Hospital (Pediatric ID)**

Dr. Guenther first became interested in infectious diseases during his service with the Peace Corps, as the most significant health challenge in his small host community in Benin was malaria. He began performing clinical research on malaria with a research group in Malawi during his Pediatrics residency and has continued working in this field and with this group ever since. Dr. Guenther is currently working on an observational study examining whether malaria or other parasitic diseases play a role in less severe illness from COVID-19 or affect the efficacy of the COVID-19 vaccine. He is also investigating how the real-world performance of malaria rapid diagnostic tests is affected by factors such as age, parasite levels, season, and presenting symptoms, and what factors predict when a child with asymptomatic malaria infection will develop symptomatic infection. His goals are to continue to develop as a clinical researcher with a continued focus on malaria and to develop skills as an educator. When he graduates next

year, he will seek an academic faculty position combining patient care, research, and teaching at home and abroad, all to improve care for patients from under-resourced communities.

2) Noah Boton, MD, Beth Israel Deaconess Medical Center

Dr. Boton completed an Internal Medicine residency at the University of Michigan before starting his fellowship in Infectious Diseases at Beth Israel Deaconess Medical Center. He is completing the fellowship's Antimicrobial Stewardship Scholar Track and pursuing a career in clinical ID and antimicrobial stewardship. His clinical research focuses on *C. difficile* infection (CDI). In one project, he performs a retrospective cohort study evaluating clinician interpretation of discordant testing results for diagnosing CDI. This investigative and quality improvement project bridges the efforts of the hospital's stewardship and infection control/hospital epidemiology programs, and the results will help influence institutional guidelines and provider education. He is also working with a multi-institutional team to develop a survey for the Emerging Infections Network (EIN) evaluating clinician preferences for managing CDI following the 2021 IDSA and SHEA Focused Update Guidelines.

3) Jemma Benson, MD, Boston Medical Center

4) Mine Duzgol, MD, Boston Medical Center (Pediatric ID)

"Is the evolution of streptococcus pneumonia serotype 35B from asymptomatic carriage to virulent pathogen related to resistance to complement? Evaluation of 35 strains in children from 2006-2021" My research study aims to unravel any dynamic relationship between antimicrobial resistance and complement binding activity in *Streptococcus pneumoniae* serotype 35B strains, before and after the introduction of PCV13. There has been a noticeable shift in serotype distribution of *Streptococcus pneumoniae* after vaccine introduction. 35B, one of the most common virulent strains in children, has emerged as a significant pathogen, despite not being in

the vaccine. The introduction of PCV13 led to the emergence of a novel sequence type, ST156, which exhibits capsular switching between multidrug-resistant vaccine serotypes (e.g., 9V, 14, 19A) and 35B. I aim to evaluate whether there are any changes in complement binding activity between antimicrobial-resistant strains associated with ST156 and sensitive strains of 35B over the years. Understanding these dynamics is crucial for comprehending immune evasion strategies employed by these strains and implications for disease severity. The knowledge gained from this study could inform the development of targeted interventions, such as novel vaccines/ immunomodulatory strategies, to combat the rising threat of antimicrobial-resistant strains. Ultimately, these insights may improve public health strategies and reduce the burden of invasive pneumococcal diseases.

5) Wilfredo Matias, MD MPH, Brigham & Women's Hospital

Dr. Wilfredo Matias is currently a fellow in the Massachusetts General Hospital and Brigham and Women's Hospital Infectious Diseases Fellowship Program and a post-doctoral researcher at the MGH Center for Global Health. His research broadly aims to apply epidemiologic methods to understand the epidemiology of infectious diseases in globally underserved settings and evaluate interventions to combat these, all with the goal of advancing global health equity. He actively engages in research efforts with global partners in the US, Haiti, and the Dominican Republic. Most recently, in the US, he applied seroepidemiologic methods to identify COVID-19 disparities and evaluated the accuracy of COVID-19 tests in Massachusetts. In Haiti, he conducted a seroepidemiologic survey of cholera and evaluated the field effectiveness of oral cholera vaccines. In the Dominican Republic, he is currently developing a research initiative to evaluate and optimize the HIV care cascade among high-risk populations.

6) Jodian (Jodi) Pinkney, MD, Massachusetts General Hospital

Dr. Pinkney's research broadly aims to understand the vaccine decision-making process and improve vaccine confidence among reproductive-aged women in racial and ethnic minority groups, including pregnant individuals in the US and the Caribbean. In the long term, she aims to develop tailored, culturally competent interventions that achieve equitable uptake of maternal vaccinations, with the ultimate goal of eliminating maternal deaths related to vaccine-preventable diseases. She is also interested in developing interventions that address the social determinants of health and reduce disparities in health outcomes related to infectious diseases. Recently, she conducted a large retrospective study examining racial disparities in the incidence of periprosthetic joint infection, highlighting the role that the disproportionate burden of comorbidities among minorities and societal factors play in perpetuating disparities for this condition.

7) Majd Alsoubani, MD, Tufts Medical Center

Majd Alsoubani is an attending physician at Tufts Medical Center in Boston, MA. She has a Masters' degree candidate in clinical and translational science from Tufts University. She is a member of the Stuart B. Levy Center for Integrated Management of Antimicrobial Resistance. Her main research interest is focused on transplant stewardship and *Clostridioides difficile* infection in immunocompromised hosts.

8) Qadija Qadri, DO, UMass Memorial Medical Center

Dr. Qadija Qadri is a second-year fellow at UMass Chan Medical School and holds a Doctor of Osteopathic Medicine (D.O.) degree from Des Moines University College of Osteopathic Medicine. Her clinical interests lie in infection control and stewardship. Dr. Qadri is currently working on two research projects. The first focuses on adults diagnosed with invasive *Haemophilus influenzae* infections at the medical center, where there has been a notable increase in invasive *H. influenzae* infections. A retrospective review was conducted to understand the clinical characteristics of those patients. Whole genome sequencing of isolates

thus far has suggested that the current H. influenzae B (Hib) vaccine offered to children may not play a role in reducing these infections in adults. This study aims to understand the emergence of more invasive strains and changes in the host immunity or the upper respiratory tract microbiome in relation to the COVID-19 pandemic. She is also involved in a multicenter randomized observer-blinded trial assessing the efficacy of a Lyme disease vaccine. Her primary role as a co-investigator is in the consenting process for participants enrolled in the study.