**STUART B. LEVY CENTER FOR INTEGRATED MANAGEMENT OF ANTIMICROBIAL RESISTANCE AT TUFTS (Levy CIMAR)**

The Stuart B. Levy Center for Integrated Management of Antimicrobial Resistance at Tufts (Levy CIMAR) is a collaborative and cross-disciplinary initiative with a mission to deliver new and innovative solutions to combat AMR. Partnering Tufts Medical Center (TMC) and Tufts University’s (TU) schools of Medicine, Veterinary Medicine, and Arts & Sciences (as well as members from Engineering, Nutrition, and Drug Development) under a single umbrella, Levy CIMAR is a network of ~45 faculty from TMC and TU and a growing network of affiliated members from other institutions that is uniquely poised to lead AMR research, drug discovery, patient care, and education.

Levy CIMAR believes that to effectively fight AMR, scientists and clinicians must take a “One Health” approach to understanding disease transmission and the mechanisms by which we can stop it. One Health prioritizes the relationships among people, animals, the environment, and the foods we all consume as critical avenues by which drug-resistant microorganisms spread from one to another. Our team includes experts in fields critical to addressing AMR through One Health, including microbiology, infectious disease, veterinary medicine, engineering, epidemiology, global health, drug development, and policy.

We believe that together we can preserve the effectiveness of existing antimicrobial drugs and establish a much-needed pipeline to develop new ones.  The Levy CIMAR is organized around four central research areas: 1) Multidrug Therapies: Using Combination Chemotherapies to Cure Otherwise Untreatable Infections; 2)  Surveillance: Predicting and Preventing Public Health Emergencies Using AMR Data from Our Environment, Communities, and Healthcare Settings; 3) Stewardship: Optimizing the Use of Antimicrobials in Humans, Animals, and the Environment; 4) Education: Raising AMR Awareness Through Academics and Community Outreach.

The Levy CIMAR a collaboration of Tufts Medical Center and the Tufts University Office of the Vice Provost for Research (OVPR) Research and Scholarship Strategic Plan (RSSP).

**Leadership:
Ralph Isberg, PhD – Director –** **ralph.isberg@tufts.edu**Dr. Isberg has been an acknowledged leader in the field of bacterial pathogenesis for over 30 years, with particular emphasis on pneumonic and diarrheal diseases.  He has a major interest in identifying strategies for eliminating drug resistance in nosocomial pathogens, focusing on *Acinetobacter baumannii*.  Among his awards was election to the National Academy of Sciences in 2009

**Cheleste Thorpe, MD – Director *ad interim* –** **cthorpe@tuftsmedicalcenter.org**
As a practicing ID physician and scientist, Dr. Thorpe’s research includes translational work assessing the impact of antimicrobials on human gastrointestinal microbiota and metabolome, with a specific focus on treatment of C. difficile infection.  She is interested in how microbial communities shift in response to disease and antibiotic treatments, and how those shifts may predispose to colonization with antibiotic resistant organisms or have other deleterious impacts. She is also interested in host-pathogen interactions with a particular focus on Shiga toxin-producing *E. coli.*

**Brian Noonan, PhD – Executive Director –** **bnoonan@tuftsmedicalcenter.org**

Dr. Noonan is an experienced leader of interdisciplinary research teams both in academia and industry. He works closely with our faculty to develop grant proposals and is in charge of our outreach to pharma and philanthropy. Dr. Noonan’s research interests include the discovery of vaccines and anti-microbial agents targeting important pathogens and the use of immunomodulatory biologics to control cytokine induction in sepsis.

**Bree Aldridge, PhD – Associate Director –** **bree.aldridge@tufts.edu**

Dr. Aldridge leads a multidisciplinary research group coupling quantitative single-cell measurements and mathematical modeling with the goal of shortening and simplifying treatment regimens against tuberculosis, which remains a threat to global health, killing ~2 million people every year. The causative agent of tuberculosis, *Mycobacterium tuberculosis,* is thought to infect one third of world’s population, sickening ~10 million people a year. Despite efforts to simplify treatment strategies, tuberculosis still requires months of multi-drug therapy to cure. The Aldridge Laboratory at the Tufts University School of Medicine merges engineering and molecular approaches to develop quantitative descriptions of the determinants of mycobacterial stress tolerance and virulence.

 **John Leong, MD, PhD –** **john.leong@tufts.edu**Dr. Leong is Edith Rieva and Hyman S. Trilling Professor and Chair of the Department of Molecular Biology and Microbiology at Tufts University School of Medicine. His research focuses on the interaction of pathogenic *Escherichia coli*, *Borrelia burgdorferi* (the Lyme disease spirochete) and *Streptococcus pneumoniae* with host immune and epithelial cells in order to understand the infectious process and develop novel therapies to prevent or treat these infections.

**David R. Snydman, MD, FACP, FIDSA, FAST –** **dsnydman@tuftsmedicalcenter.org**

Dr. Snydman has 35 years of experience in observational and interventional studies in translational research, including trials that resulted in FDA licensure of a biologic product. He has worked on epidemiologic aspects of antibiotic resistance for decades, focusing on hospital-acquired infections, anaerobes, *C difficile*, and MRSA. His current research is focused on the transmission of antibiotic resistance and *C. difficile* among nursing home patients and in health systems, as well as the impact of antimicrobial stewardship. Dr. Snydman is Vice Chair for Research in the Department of Medicine and Emeritus Chief of the Division of Geographic Medicine and Infectious Disease at Tufts Medical Center.