ARLG
Antibacterial Resistance Leadership Group

October 2024
Q4 Newsletter

Welcome to the ARLG Newsletter! Here, you will receive important updates from ARLG regarding recent events, grants, publications, and the committees that help us work toward our mission: to prioritize, design, and execute clinical research that will impact the prevention, diagnosis, and treatment of infections caused by antibiotic-resistant bacteria.

Get Involved with ARLG

ARLG continuously accepts proposals for clinical studies designed to prevent, diagnose, treat, or eradicate antibiotic-resistant bacterial pathogens. We also award grants and fellowships to qualified investigators. If you are interested in getting involved with ARLG, apply now or contact us for more information.

Submit a Proposal **Contact Us**

News

ARLG Fellow David Roach, MD Named Innovator of the Year at IDWeek 2024!

IDEA incubator

The Antibacterial Resistance Leadership Group (ARLG) is thrilled to announce that Dr. David Roach has been recognized as the 2024 Innovator of the Year at IDWeek, hosted by the Infectious Diseases Society of America (IDSA). Dr. Roach's groundbreaking innovation, BADLOCK, also earned him the People's Choice award during the event's highly competitive "Shark Tank"-style IDea Incubator competition.

BADLOCK is a low-cost, paper-based diagnostic tool designed to rapidly identify bacterial species from blood cultures in just one hour. This innovative approach holds significant potential for improving diagnostic capabilities in infectious disease care, particularly in resource-limited settings.

Dr. Roach's invention also won the "Innovation in Diagnostic Technologies for Unknown Pathogen Identification Application Award," underscoring the potential impact of his work in the fight against bacterial resistance.

Learn more about BADLOCK and Dr. Roach's inspiring work here.

Learn more

ARLG Members Honored by IDSA at IDWeek 2024

The Infectious Diseases Society of America (IDSA) recognized 10 exceptional leaders for their contributions to the field of infectious diseases during IDWeek 2024. Among the honorees were two ARLG members whose work has significantly advanced research and care in infectious diseases.

Pranita Tamma, MD, MHS, a member of the ARLG Gram Negative Scientific Subcommittee, and Protocol Principal Investigator for the ARLG PHAGE trial, was awarded the prestigious Oswald Avery Award for Early Achievement in recognition of her groundbreaking research and leadership in combating antimicrobial resistance.

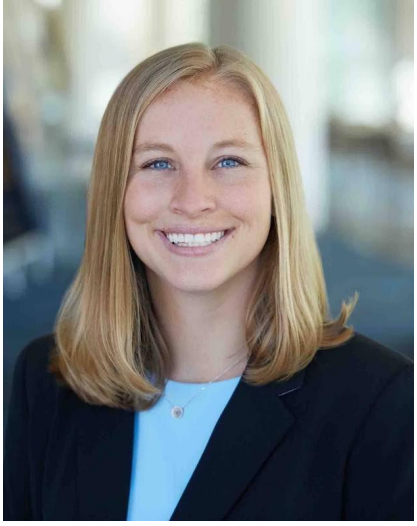
Kimberly E. Hanson, MD, MHS, FIDSA, Chair of the ARLG Diagnostics Subcommittee, and Protocol Principal Investigator for the ARLG Pneumonia Direct Pilot study, was honored with the Society Citation Award for her contributions to diagnostics in infectious diseases. Dr. Hanson shares this recognition with two other esteemed colleagues, Michelle D. Collins-Ogle, MD, FAAP, FPIDS; and William G. Powderly, MD, FIDSA, for their outstanding achievements in the field.

IDSA President Steven K. Schmitt, MD, FIDSA, applauded the awardees, stating, “These outstanding leaders have not only made critical improvements to the fight against infectious diseases — they’ve inspired younger generations of scientists to enter this vitally important field.”

ARLG congratulates Drs. Tamma and Hanson for these well-deserved accolades and their dedication to advancing the fight against infectious diseases.

Learn more

ARLG Spotlight - Emily Lydon, MD



Emily Lydon, MD
Clinical Fellow
Department of Medicine,
Division of Infectious Diseases
University of California San Francisco

Emily Lydon, MD recently received an ARLG Early Stage Investigator (ESI) Seed Grant to support a research project developing metagenomic sequencing-based diagnostic tests for lower respiratory tract infections in lung transplant recipients.

Solid organ transplant recipients, especially lung transplant patients, are highly vulnerable to lower respiratory tract infections (LRTIs) due to lifelong immunosuppression. Current diagnostic tests cannot reliably differentiate true infections from incidental pathogen carriage, often leading to unnecessary antibiotic use and related complications. Dr. Lydon's research seeks to use metagenomic sequencing to develop advanced diagnostics that more accurately distinguish LRTIs from colonization and assess the effects of antibiotics on the lung microbiome.

Read more

Events

IDWeek 2024

IDWeek
Advancing Science, Improving Care

IDWeek 2024 brought together the Infectious Diseases Society of America, the Society for Healthcare Epidemiology of America, the HIV Medicine Association, the Pediatric Infectious Diseases Society, and the Society of Infectious Diseases Pharmacists, all united in advancing infectious disease research.

Many of ARLG's top leaders and experts are featured, discussing the latest antibacterial resistance topics.

Robert Bonomo, MD, FIDSA, Delivers the Maxwell Finland Lecture

Robert Bonomo, MD, FIDSA delivered this year's Maxwell Finland Lecture! Dr. Bonomo is a Distinguished University Professor of Medicine, Pharmacology, Molecular Biology and Microbiology, Biochemistry, and Proteomics at Case Western Reserve University School of Medicine. His research focuses on understanding antibiotic resistance, specifically the genetic and amino acid sequence determinants of enzymes that inactivate ß-lactams (the ß-lactamases). The topic of Dr. Bonomo's lecture was "Beta-lactamase Inhibitors: Advancements, Challenges, and Opportunities."

The Maxwell Finland Lecture honors the work of the first president of IDSA whose career included pioneering studies of antibiotic therapy and treatments for pneumonia. Invited Finland lecturers make significant contributions to areas like bacterial pathogenesis, antimicrobial agents, emerging infections, and hospital-acquired infections.

Meet-the-Professor with Jessica Howard-Anderson, MD, MSc and Toshimitsu Hamasaki, PhD

ARLG Innovations Working Group members, Jessica Howard-Anderson, MD, MSc and Toshimitsu Hamasaki, PhD, presented at a Meet-the-Professor event at IDWeek 2024 on October 18th! Drs. Howard-Anderson and Hamasaki discussed "Clinical Trials Based on Benefit-Risk: An Open DOOR" with focuses on how to integrate DOOR (Desirability of Outcome Ranking) in registrational antibacterial trials and how to conduct DOOR analyses with a dataset. Dr. Howard-Anderson, former ARLG Fellow, is an Assistant Professor of Medicine at Emory University School of Medicine and is the interim Hospital Epidemiologist at Emory University Hospital Midtown. One of her research interests is using novel methods of analysis like DOOR to better understand clinical outcomes of patients infected with multidrug-resistant organisms. Dr. Hamasaki is a Professor in the Biostatistics Center and the Department of Biostatistics and Bioinformatics at the George Washington University Milken School of Public Health. His research interests include design, monitoring, analysis, and reporting of clinical trials. Learn more about the DOOR method of analysis here.

Joseph E. Smadel Lecture Presented by Kimberly Hanson, MD, MHS

ARLG Diagnostics Subcommittee Chair, Kimberly Hanson, MD, MHS, presented the Joseph E. Smadel Lecture at IDWeek 2024! This lecture pays tribute to the work of Dr. Smadel whose research and contributions to medicine helped bridge the gap between the laboratory and clinical care of infected patients. The Joseph E. Smadel Lecture honors people whose work has made a significant impact in public health, and this year's focus was fungal diagnostics. The title of Dr. Hanson's lecture was "Advances and Challenges in Fungal Diagnostics." Dr. Hanson specializes in the diagnosis of opportunistic viral, fungal, and mycobacterial diseases, and she is Director of the Transplant Infectious Diseases Service at the University of Utah Hospital and Huntsman Cancer Center.

ESCMID Global 2025

ESCMID Global

Join leading experts in infectious diseases and clinical microbiology at ESCMID Global, taking place April 11-15, 2025, in Vienna, Austria! This premier event offers five days of keynote lectures, oral sessions, workshops, symposia, meet-the-expert sessions, and poster presentations, showcasing the latest innovations in the field. Don't miss the chance to contribute—submit your abstract by **November 11, 2024, at 17:00 CET**. Register now to be part of the world's top gathering for infection research!

Read more

ARLG Grand Rounds

Date	Title	Presenter
October 4, 2024	There must be more to nontuberculous mycobacteria (NTM) than just *Mycobacterium avium*	Charles L. Daley, MD, Professor of Medicine, National Jewish Health, University of Colorado

	complex (MAC)	School of Medicine, and Icahn School of Medicine, Mt Sinai. Chief, Division of Mycobacterial and Respiratory Infections, National Jewish Health, Denver, CO

View Replay

Study Milestones

View recent ARLG study updates

ESCAPED	**E**merging ***S****taphylococcus* ***a****ureus* and **C**urrent **A**ntimicro bial **P**atterns in **E**mergency **D**epartments	Enrolling
MeChaTeBla	Mechanistic and structural characterization of the interaction of a novel antibiotic with clinically relevant β-lactamases	Published
SCENE	**S**creening for **C**olonization with Resistant **E**nterobacterales in **N**eutropenic Patients with H**e**matologic Malignancies	Manuscript in Progress

Go to the ARLG Studies page for more milestones and updates!

Learn More

New Publications

View the following recent ARLG publications.

Ono D, Cmolik A, Bethel CR, Ishii Y, Drusin SI, Moreno DM, Vila AJ, Bonomo RA, Mojica MF; The Interaction of the Azetidine Thiazole Side Chain with the Active Site Loop (ASL) 3

Drives the Evolution of IMP Metallo-β-lactamase against Tebipenem; Antimicrob Agents Chemother. 2024;68(8):e0068724. doi:10.1128/aac.00687-24.

Kwon J, Pelletiers W, Galloway Peña J, van Duin D, Ledbetter L, Baum K, Ruffin F, Knisely J, Bizzell E, Fowler, Jr. VG, Chambers H, Pettigrew MM on behalf of the Antibacterial Resistance Leadership Group; Participant Diversity in United States Randomized Controlled Trials of Antibacterials for Staphylococcus aureus Infections, 2000-2021; Clin Infect Dis. 2024 Jul 15;79(1):141-147. doi: 10.1093/cid/ciae049.

Kinamon T, Waack U, Needles M, Rubin D, Collyar D, Doernberg SB, Evans S, Hamasaki T, Holland TL, Howard-Anderson J, Chambers H, Fowler, Jr. VG, Nambiar S, Kim P, Boucher HW, Gopinath R; Exploration of a Potential DOOR Endpoint for Hospital-Acquired Bacterial Pneumonia and Ventilator-Associated Bacterial Pneumonia Using Six Registrational Trials for Antibacterial Drugs; Clin Infect Dis. 2024 Jul 15;79(1):60-69. doi: 10.1093/cid/ciae163.

Weston G, Giri A, Komarow L, Ge L, Baum KR, Abbenante E, Gallagher JC, Jacob JT, Kaye KS, Kim AC, Huskins WC, Zervos M, Herc E, Patel R, van Duin D, Doi Y; Clinical Outcomes in Patients Infected with Ertapenem-Only-Resistant Enterobacterales versus Multi-Carbapenem-Resistant Enterobacterales; J Antimicrob Chemother. 2024 Aug 1;79(8):1929-1937. doi: 10.1093/jac/dkae186

Jacobs MR, Abdelhamed AM, Good CE, Mack AR, Bethel CR, Marshall S, Patel R, van Duin D, Fowler VG, Rhoads DD, van den Akker F, Six DA, Moeck G, Uehara T, Papp-Wallace KM, Bonomo RA; Argonaut-III and -V: Susceptibility of Carbapenem-Resistant Klebsiella pneumoniae and Multidrug-Resistant Pseudomonas aeruginosa to Bicyclic Boronate β-Lactamase Inhibitor Taniborbactam Combined with Cefepime; Antimicrob Agents Chemother. 2024;68(9):e0075124. doi:10.1128/aac.00751-24

Boutzoukas AE, Mackow N, Giri A, Komarow L, Hill C, Chen L, Doi Y, Satlin M, Arias C, Wang M, Mora Moreo L, Herc E, Cober E, Weston G, Patel R, Bonomo RA, Fowler V, van Duin D, for the Antibacterial Resistance Leadership Group; Increased Mortality in Hospital- Compared to Community-Onset Carbapenem-Resistant Enterobacterales Infections; J Antimicrob Chemother. Published online September 5, 2024. doi:10.1093/jac/dkae306