

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

Helen Boucher Awarded IDWeek 2022 Maxwell Finland Lecture



ARLG investigator, Executive Committee Member, and Innovations Working Group Chair, Helen Boucher, MD, FACP, FIDSA, presented this year's Maxwell Finland Lecture during [IDWeek 2022](#) in Washington, D.C. Her presentation, "Running to Stand Still: Progress and Perils with AMR", highlighted the key drivers of antimicrobial resistance and the potential incentives of drug and diagnostic development to treat and detect antimicrobial-resistant infections.

[Dr. Boucher](#) is the director of the Tufts Center for Integrated Management of Antimicrobial Resistance and the director of the Infectious Diseases Fellowship Program at Tufts Medical Center.

The Maxwell Finland Lecture is awarded annually to experts who have contributed to the areas of bacterial pathogenesis, antimicrobial agents, emerging infections, and hospital-acquired infections. Dr. Boucher's lecture is available OnDemand now through March 2023.

ARLG Mentee Spotlight: Maria Fernanda Mojica

Maria Fernanda Mojica, MSC, PhD
Senior instructor
Dept. of Molecular Biology and Microbiology
Case Western Reserve Univ. School of Medicine



About my role in the ARLG

I received an Early Stage Investigator (ESI) Seed Grant to define the mechanisms of resistance to a novel carbapenem, by providing fundamental biochemical and microbiological information about the interaction of this carbapenem with relevant β -lactamases.

Receiving the ESI Seed Grant bolstered my confidence and reinforced my desire to continue on the academic path. It has been a terrific learning experience on all fronts. Being the PI of a grant trained me in the administrative duties you are seldom aware of when you are not in that position. This award also helped me transition to a faculty position. In my role as an operational representative, I work to reinforce the importance of ethical clinical research practices in all stages of the project lifecycle, from planning to execution, participate in literature reviews, and develop and implement tools to be used at the operational level.

About my research

Antimicrobial resistance (AMR) is a major public health threat that requires coordinated efforts to counteract its spread and development. These efforts include antimicrobial stewardship, developing novel agents, and global surveillance of resistance mechanisms.

In line with these efforts and the ARLG's scientific agenda and mission, this project evaluates a novel carbapenem, against the most common β -lactamases in the United States. It also assesses the efficacy of this agent, combined with different β -lactamase inhibitors, as potential treatments for infections caused by multidrug-resistant Gram-negative bacilli.

Why is this research important?

β -lactams are the cornerstone of antibiotic therapy, and β -lactamases are the main resistance mechanisms to these antibiotics. Antimicrobial resistance is a natural process; hence, the emergence of β -lactamases with improved characteristics that confer better chances of survival to the bacteria is expected.

In this scenario, the development of β -lactamase inhibitors has been instrumental in preserving the efficacy of otherwise obsolete molecules. By studying the mechanism by which these enzymes interact with β -lactams, we can design sturdier β -lactams and, importantly, more efficient inhibitors.

[Read More](#)

2022 Bartlett ARLG Fellowship Deadline

Don't miss your chance! The Dr. John G. Bartlett ARLG Fellowship is currently open for submission, but the **December 31 deadline** is just around the corner.

This opportunity includes salary for up to two years, mentoring from ARLG senior leaders, and training in epidemiology or statistics from the [Duke University School of Medicine Clinical Research Training Program](#) or an equivalent program at another institution. Fellows also receive training in confidentiality, patient safety, and regulatory affairs as well as access to [ARLG's Biorepository](#) bacterial strains to support research initiatives.

Fellows interested in training with leading infectious diseases experts for a career in AMR research can get more information at arlq.org/fellowships. Use the "Apply Now" button to submit your application before the **deadline on December 31**.

[Learn more](#)

From Data to Delivery ARLG Has You Covered

As part of our mission to support research and combat the threat of antimicrobial resistance, ARLG provides resources that may help researchers improve their data, access specific bacterial strains, or secure funding for innovative study ideas. Learn more about each type of resource below.

Concept Proposal

ARLG accepts proposals for novel clinical studies that require funding or other resource support. Investigators who have some external funding available may submit requests for partial funding.

Proposed studies must prioritize gram-negative infections, gram-positive infections, and/or diagnostics. Ideal candidates for concept proposals:

- Have the potential to transform medical practice by improving use of antibiotics

- and/or impacting antibacterial resistance
- Would be unlikely to occur without ARLG support.

ARLG Study Data Request

ARLG advances clinical research and scientific knowledge by sharing final data generated from NIH-supported studies with researchers to help further their study initiatives. The data can include information from single or combined studies.

Data Analysis Request

Researchers with a novel research idea can request to have the Statistical Data Management Center (SDMC) perform an analysis on data from an ARLG study or studies.

Bacterial Strain Request

ARLG's Laboratory Center manages a biorepository of clinical study isolates and well-characterized gram-positive and gram-negative bacterial isolates from published manuscripts. Researchers can request bacterial isolate strains to develop diagnostic tests and novel antimicrobial compounds or to conduct studies evaluating mechanisms of resistance.

Get more information about these resources and how to request them.

[Learn more](#)

STAR Study Summary Now Available!

A lay summary of results has been posted for the Short-course Therapy and the Antibiotic Resistome (STAR) research study.

The goal of the STAR study was to learn more about the side effects and duration of antibiotic treatment for community-acquired pneumonia (CAP) in children. Because CAP is one of the most common serious infections in children, it is typically treated with 10 days of antibiotics. Researchers would like to learn whether shorter treatment plans are as effective. If so, this could potentially help decrease and combat the problem of antibiotic resistance.

SUMMARY OF RESULTS

The Antibacterial Resistance Leadership Group (ARLG) funds, designs, and conducts clinical research that will help prevent, diagnose, and treat infections caused by bacteria that are resistant to antibiotics. The ARLG, along with the team of study doctors, scientists, and researchers, are pleased to describe the results from a study focused on antibiotic review strategies in community hospitals to prevent overuse of antibiotics.

What is the study title?
Short-course Therapy and the Antibiotic Resistome (STAR)

MANUSCRIPT OF PRIMARY RESULTS OR CLINICAL STUDY REPORT
Comparison of the Respiratory Resistome in Children: Resolving Short- vs. Standard-course Treatment for Community-Acquired Pneumonia and Gastrointestinal Microbiome Disruption and Antibiotic-Associated diarrhea in Children Receiving Antibiotic Therapy for Community-Acquired Pneumonia

IS THE STUDY REGISTERED WITH CLINICALTRIALS.ORG?
NCT02891915

WHY WAS THIS RESEARCH CONDUCTED? WHAT IS THE RATIONALE?
Due to the increased use of antibiotics, antibiotic resistance is a public health issue. CAP in children is often treated with 10 days of antibiotics. Researchers would like to learn whether shorter treatment plans are as effective. If so, this could potentially help decrease and combat the problem of antibiotic resistance. CAP is one of the most common serious infections in children. Diarrhea is a common side effect of antibiotics and a common reason why people stop using antibiotics as prescribed. Researchers are interested in learning about the specific microorganisms in the gut associated with diarrhea in children receiving antibiotics for CAP.

WHAT IS THE PURPOSE OF THE RESEARCH?
Pneumonia is an infection that inflames the air sacs in the lungs. Symptoms can include chest pain, cough, fever, and difficulty breathing. Pneumonia is caused by a range of bacteria and viruses and infection can be mild or severe and sometimes can be fatal. The STAR study focused on community-acquired pneumonia (CAP), meaning it is an infection in the community setting (not from the hospital). The goal of the STAR study is to learn more about the side effects and duration of antibiotic treatment for CAP. The first manuscript studied the impact of antibiotic duration (5 days vs. 10 days) on microorganisms in the respiratory tract and antibiotic resistance. Resistance is when bacteria develop the ability to defeat the drugs designed to kill them. The second manuscript focused on the microorganisms in the gut and diarrhea in children receiving antibiotics for CAP.

[Read More](#)

ARLG at IDWeek 2022

On October 19, IDWeek 2022 officially kicked off another great event that featured 140 scientific sessions on a variety of interesting subjects. Many of ARLG's top leaders and experts were on hand discussing the latest AMR topics.



You can view sessions, abstracts, or exhibits you may have missed with [OnDemand access](#) available now through March 2023.

Be sure to see this year's Maxwell Finland Lecture delivered by ARLG investigator, Executive Committee Member, and Innovations Working Group Chair, Helen Boucher, MD, FACP, FIDSA. Use the ARLG guide to find more exciting sessions and posters you won't want to miss.

[Learn more](#)

ARLG Grand Rounds 2022

Tune in for ARLG's 2022 upcoming Grand Round Series. This year will feature an exciting variety of speakers and topics. Don't miss the next event:

Date	Topic
November 4, 2022 4:00-5:00 PM ET	Considerations for the Clinical Use of Phage Therapy, a Report from the ARLG Phage Task Force

You can check out ARLG's event page for ongoing updates about each session and how to attend.

[Learn more](#)



Study Milestones

View recent ARLG study updates.

DOTS	Dalbavancin as an Option for Treatment of S. aureus Bacteremia	>50% Enrolled
REPORT-ABC	Rapid REPORT ing of Antimicrobial resistance from Blood Cultures	Analysis Complete Manuscript Submitted
SCENE	Screening for Colonization with Resistant Enterobacterales in Neutropenic Patients with Hematologic Malignancies	Analysis Complete
MASTER RADICAL	Master Protocol-Rapid Diag nostics in Categorizing Acute Lung Infections	75% Enrolled
RADICAL 510(k)	Rapid Diagnostic in Categorizing Acute Lung Infections	Study Design

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

[Learn More](#)



Recent Publications

View the following recent ARLG publications.

Anesi JA, Lautenbach E, Thom KA, Tamma PD, Blumberg EA, Alby K, Bilker WB, Werzen A, Ammazalorso A, Tolomeo P, Omorogbe J, Pineles L, Han JH. Clinical Outcomes and Risk Factors for Carbapenem-resistant Enterobacterales Bloodstream Infection in Solid Organ Transplant Recipients. Transplantation. 2022 Jul 19. doi: 10.1097/TP.0000000000004265. Online ahead of print.

Moore K, Lautenbach E, Blumberg EA, Han J, Heun Lee D, Clauss H, Hasz R, Bilker WB,

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Howard-Anderson J, Hamasaki T, Dai W, Collyar D, Rubin D, Nambiar S, Kinamon T, Hill C, Holland TL, Doernberg SB, Chambers HF, Fowler VG Jr., Evans SR, Boucher HW; on behalf of the Antibacterial Resistance Leadership Group. Improving Traditional Registrational Trial Endpoints: Development and Application of a Desirability of Outcome Ranking (DOOR) Endpoint for Complicated Urinary Tract Infection Clinical Trials. *Clin Infect Dis*. 2022 Aug 29;ciac692. doi: 10.1093/cid/ciac692. Online ahead of print.

Jiang J, Chen X, Xu X, Fowler VG Jr., van Duin D, Wang M. Carbapenemase-Encoding Gene Copy Number Estimator (CCNE): a Tool for Carbapenemase Gene Copy Number Estimation. *Microbiol Spectr*. 2022 Aug 31;10(4):e010002. doi: 10.1128/spectrum.01000-22. Epub 2022 Jul 5.

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Kwon J, Kong Y, Wade M, Williams DJ, Creech CB, Evans S, Walter EB, Martin JM, Gerber JS, Newland JG, Hofto ME, Staat MA, Fowler VG, Chambers HF, Huskins WC, Pettigrew MM; on behalf of the Antibacterial Resistance Leadership Group. Gastrointestinal Microbiome Disruption and Antibiotic-Associated Diarrhea in Children Receiving Antibiotic Therapy for Community-Acquired Pneumonia. *J Infect Dis*. 2022 Sep 21;226(6):1109-1119. doi: 10.1093/infdis/jiac082.

Shrestha R, Luterbach CL, Dai W, Komarow L, Earley M, Weston G, Herc E, Jacob JT, Salata R, Wong D, Anderson D, Rydell KB, Arias CA, Chen L, van Duin D, for the MDRO Investigators. Characteristics of Community-acquired Carbapenem Resistant Enterobacterales. *J Antimicrob Chemother*. 2022 Sep 30;77(10):2763-2771. doi: 10.1093/jac/dkac239.

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