

## Infection Research Initiative Projects Funded in 2018

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[S. aureus/MRSA](#)

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cepacia](#)


[Bacteriophage/Phage  
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### KEY


 Understanding CF Microorganisms

 Improving Detection and Diagnosis













 Optimizing Current Treatments

 The Future of CF Infection

 Evaluating Long-Term Antimicrobial Use

 Developing New Treatments

### *Pseudomonas*

Area of Focus	Project Title	Principal Investigator	Institution
	Development of a multivalent acellular vaccine against <i>P. aeruginosa</i>	Mareitte Barbier	West Virginia University
	Improving <i>P. aeruginosa</i> detection in non-expectorators via breath testing	Jane Hill	Dartmouth College
	Mapping Orkambi impact on pathogen trajectories in patients	Jennifer Bartell	Danmarks Tekniske Universitet
	A novel B-ENaC mouse model of cystic fibrosis lung infection	Robert Ernst	University of Maryland, Baltimore
	Azithromycin-tobramycin antagonism in <i>Pseudomonas aeruginosa</i>	Colin Manoil	University of Washington
	Can <i>Pseudomonas aeruginosa</i> 's evolutionary path be reversed?	Soeren Molin	Danmarks Tekniske Universitet
	Investigation of a Critical Signaling Pathway in <i>Pseudomonas aeruginosa</i>	Michael Gebhardt	Boston Children's Hospital
	Macrolide activity in CF	Pradeep Singh	University of Washington
	Mechanistically Disentangling the Infected, Inflamed Lung in CF	Lael Yonker	Massachusetts General Hospital
	Microbial adaptation of PA lipid A structure in CF airway disease progress	Robert Ernst	University of Maryland, Baltimore
	Novel Host-Pathogen Interactions in the Airway Epithelium	Lina Saleh	University of South Alabama
	<i>P. aeruginosa</i> induced mitochondrial dysfunction in cystic fibrosis epitheli	Ruxana Sadikot	Emory University

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●	Pharmacology of CFTR bicarbonate transport in Cystic Fibrosis	Reddy Madireddi	University of California, San Diego
●	<i>Pseudomonas aeruginosa</i> dynamics in the cystic fibrosis lung	Stephen Diggle	Georgia Tech
●	<i>Pseudomonas aeruginosa</i> adaptation to Cystic Fibrosis chronic lung infection	Wendy Chavez	University of Liverpool
●	Regulation of EF - Tu lysine trimethylation by <i>P. aeruginosa</i> EftM	Debayan Dey	Emory University
●	Regulation of <i>P. aeruginosa</i> virulence by sRNAs during CF lung infections	Giulia Oliva	Harvard Medical School
●	The impact of <i>P. aeruginosa</i> population dynamics on pulmonary exacerbations	Sheyda Azimi	Georgia Tech

### NTM

Area of Focus	Project Title	Principal Investigator	Institution
●	A drug discovery platform for nontuberculous mycobacteria	Tanya Parish	Infectious Disease Research Institute
●	Development of preclinical 'persister' assays for NTM drug discovery	Thomas Dick	State University of New Jersey, Rutgers
●	Discovery of therapeutics to treat nontuberculous mycobacterial infections	Jeffrey North	Creighton University
●	Gallium-NTM: A Phase 1b, Multi-center, Randomized, Placebo-Controlled Study of IV Gallium Nitrate in Patients with CF (Gallium NTM)	Christopher Goss	Seattle Children's Hospital
●	Nitric Oxide for the Treatment of Nontuberculous Mycobacteria	Patrick Flume	Medical University of South Carolina
●	Cross-platform Comparison of Novel Markers of NTM in the CF Airway	Jerry Nick	National Jewish Medical and Research Center
●	Macrophage responses to <i>Mycobacterium abscessus</i> infection in CF	Luanne Hall-Stoodley	The Ohio State University
●	Mechanisms of Intrinsic Drug Resistance in <i>Mycobacterium abscessus</i>	Pallavi Ghosh	Health Research, Inc./ New York State Department of Health
●	Molecular triggers of persistent <i>M. avium</i> infections in cystic fibrosis	Nancy Woychik	State University of New Jersey, Rutgers
●	<i>Mycobacterium abscessus</i> biofilms	Mary Jackson	Colorado State University

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●	Nontuberculous Mycobacteria infection in CF: a new path for therapy	Rabindra Tirouvanziam	Emory University
●	Role of GM-CSF in impaired macrophage clearance of <i>Mycobacterium abscessus</i>	Yinduo Ji	University of Minnesota
●	Subverting antibiotic tolerance mechanisms in <i>Mycobacterium abscessus</i>	Cara Boutte	University of Texas at Arlington
●	Understanding WhiB7-mediated multidrug resistance in <i>M. abscessus</i>	Kyle Rohde	University of Central Florida
●	Xenophagy and clearance of nontuberculous mycobacteria in CF macrophages	Luanne Hall-Stoodley	The Ohio State University

### *S. aureus*/MRSA

Area of Focus	Project Title	Principal Investigator	Institution
●	STAR-ter Staph. Aureus Resistance - Treat Early and Repeat	Marianne Muhlebach	University of North Carolina at Chapel Hill
●	Respiration-dependent lysis and biofilm modulation in <i>Staphylococcus aureus</i>	Jeff Boyd	State University of New Jersey, Rutgers
●	<i>S. aureus</i> adaptation to the CF lung	Alice Prince	Columbia University
●	Selection and Persistence of Small Colony Variant <i>S. aureus</i> in the CF Lung	Daniel Wolter	University of Washington
●	<i>Staphylococcus aureus</i> in Cystic Fibrosis Chronic Rhinosinusitis	Tori Valachovic	University of Pittsburgh

### Multiple Organisms

Area of Focus	Project Title	Principal Investigator	Institution
●	Duel Antimicrobial / Mucolytic Therapeutic for CF	Mark Schoenfisch	University of North Carolina at Chapel Hill
●	Selenocyanate as a novel antimicrobial therapy against CF pathogens	Brian Day	National Jewish Health
●	Predictive Biomarkers for Antibiotic Associated Nephrotoxicity in CF	Pavan Bhatraju	University of Washington
●	Early epidemiology and succession of CF airway microbiota	Jonathan Harris	University of Colorado at Denver



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●	Interbacterial interactions as a driver of evolution during cystic fibrosis	Moraes Marcos de	University of Washington
●	Modulating interspecies interactions in cystic fibrosis respiratory disease	Dominique Limoli	The University of Iowa
●	Monitoring Risk-Adjusted Incidence Rates of MRSA and <i>P. aeruginosa</i>	William Stoudemire	University of North Carolina at Chapel Hill
●	Opportunistic infections in cystic fibrosis	William Swords	The University of Alabama at Birmingham
●	Polymicrobial interactions in the CF respiratory tract	Jennifer Bomberger	University of Pittsburgh
●	<i>P. aeruginosa</i> and <i>S. aureus</i> Proteases and Toxins in CF exacerbations	John Spurzem	University of Mississippi Medical Center

### *Burkholderia cepacia*

Area of Focus	Project Title	Principal Investigator	Institution
●	Antibiotic discovery for <i>Burkholderia cepacia</i> complex	Silvia Cardona	The University of Manitoba
●	<i>Burkholderia cenocepacia</i> inhibition of <i>Staphylococcus aureus</i> biofilms	Deborah R. Yoder-Himes	University of Louisville
●	T6SS-mediated interbacterial competition by <i>Burkholderia cenocepacia</i>	Peggy Cotter	University of North Carolina at Chapel Hill

### Viral

Area of Focus	Project Title	Principal Investigator	Institution
●	Can Virus Infection Trigger CF Airway Disease in CFTR-null Rabbits?	Raymond Pickles	University of North Carolina at Chapel Hill
●	Effect of bacterial short RNAs on viral infection and the CF immune system	Victoria Holden	Dartmouth College



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Impact of Respiratory Viruses on Bacterial Communities in Cystic Fibrosis

Megan  
Kiedrowski

University of Pittsburgh

### Bacteriophage (Phage) Therapy

**Area of  
Focus**

**Project Title**

**Principal  
Investigator**

**Institution**



Center for Innovative Phage Applications and Therapeutics (IPATH)

Steffanie  
Strathdee

University of California, San  
Diego