Patients with cystic fibrosis suffer from chronic infection in their airways. Pseudomonas aeruginosa is the most common bacteria found in their lungs and is associated with faster decline in lung function and earlier death. We recently discovered a bacteriophage (virus) that infects Pseudomonas, Pf bacteriophage. This virus turns sputum into a thick goop of molecules called a biofilm that makes infection very difficult to treat. In the laboratory we know that Pf phage makes biofilms more viscous, more adherent, and it helps protect Pseudomonas from both antibiotics and immune cells. I am currently studying the role of Pf phage in patients with cystic fibrosis. We suspect that the presence of Pf phage will be associated with worse clinical outcomes.
Publications

PUBLICATIONS

• **Pf Bacteriophage and Their Impact on Pseudomonas Virulence, Mammalian Immunity, and Chronic Infections.** *Frontiers in Immunology*
  2020; 11: 244

• **Filamentous bacteriophages are associated with chronic Pseudomonas lung infections and antibiotic resistance in cystic fibrosis** *Science Translational Medicine*
  2019; 11 (488)

• **Cystic fibrosis transmembrane conductance regulator modulators: precision medicine in cystic fibrosis** *Current Opinion in Pediatrics*
  Burgener, E. B., Moss, R. B.
  2018; 30 (3): 372–77

• **PF Phage in Chronic Pseudomonas aeruginosa Wound Infections**
  WILEY.2018: A5

• **PF BACTERIOPHAGE IN PATIENTS WITH CYSTIC FIBROSIS (CF) IS ASSOCIATED WITH INCREASED SPUTUM ELASTASE AND PSEUDOMONAS AERUGINOSA LOAD**
  Burgener, E. B., Sweere, J. M., Bollyky, P. L., Milla, C.
  WILEY.2017: S350

• **Clinical characteristics and outcomes of pediatric patients with CMV DNA detection in bronchoalveolar lavage fluid.** *Pediatric Pulmonology*
  Burgener, E. B., Waggoner, J., Pinsky, B. A., Chen, S. F.
  2017; 52 (1): 112-118

• **Molecular and Culture-Based Bronchoalveolar Lavage Fluid Testing for the Diagnosis of Cytomegalovirus Pneumonitis.** *Open forum infectious diseases*
  Tan, S. K., Burgener, E. B., Waggoner, J. J., Gajurel, K., Gonzalez, S., Chen, S. F., Pinsky, B. A.
  2016; 3 (1): ofv212-?

• **Eosinophilic Pneumonitis As Initial Presentation Of Acute Lymphoblastic Leukemia**
  Burgener, E. B., Milla, C. E.
  AMER THORACIC SOC.2016

• **Index of suspicion.** *Pediatrics in review*
  Todd, S., Arora, R., Kannikeswaran, N., Allarakha, I., Sivaswamy, L., Wallenstein, M. B., Burgener, E. B., Klotz, J., Kerner, J. A.
  2014; 35 (10): 439-446

• **Case 3 Lactic Acidosis and Cardiovascular Collapse in a Teen With Ulcerative Colitis** *Pediatrics in Review*
  Wallenstein, M. B., Burgener, E. B., Klotz, J., Kerner, J. A.
  2014; 35 (10): 444–46

• **The impact of the central venous catheter on the diagnosis of infectious endocarditis using Duke criteria in children with Staphylococcus aureus bacteremia** *Pediatric Infectious Disease Journal*
  Bendig, E. A., Singh, J., Butler, T. J., Arrieta, A. C.
  2008; 27 (7): 636-639