Toward Disease-Resistant School Communities by Reinventing the Interfaces among Built Environments, Occupants, and Microbiomes

PI: Shuai Li, University of Tennessee Knoxville PG, FY2020

Introduction

- Unhealthy school environments could expose 60 million children and 7 million adults to pathogens, pollutants, and poor classroom conditions in 130,000 schools in the U.S.
- This project aims to engage schools and community stakeholders to co-develop a transformative paradigm to customize school designs, adapt school operations, and recommend social practices to improve school health.

Solution and Intellectual Merit Spatiotemporal Disease-Resistant Design Sampling Sequenci Location in the building **Disease-Resistant Operation** Predictive Monitoring Sensing & Model Built Environment Occupant Microbiome

- Health-promoting school design and operation codeveloped with communities.
- Smart platform for connected decisions and actions to improve school environmental health and sustainability.
- Citizen-centric living laboratory for community engagement, data collection, and solution evaluation.

2021 S&CC Principal Investigators' Meeting April 7-9, 2021

Project Activities

- Community Engagement
- School pathogen monitoring
- Exposure risk modeling
- Intervention development
- Operational cost assessment

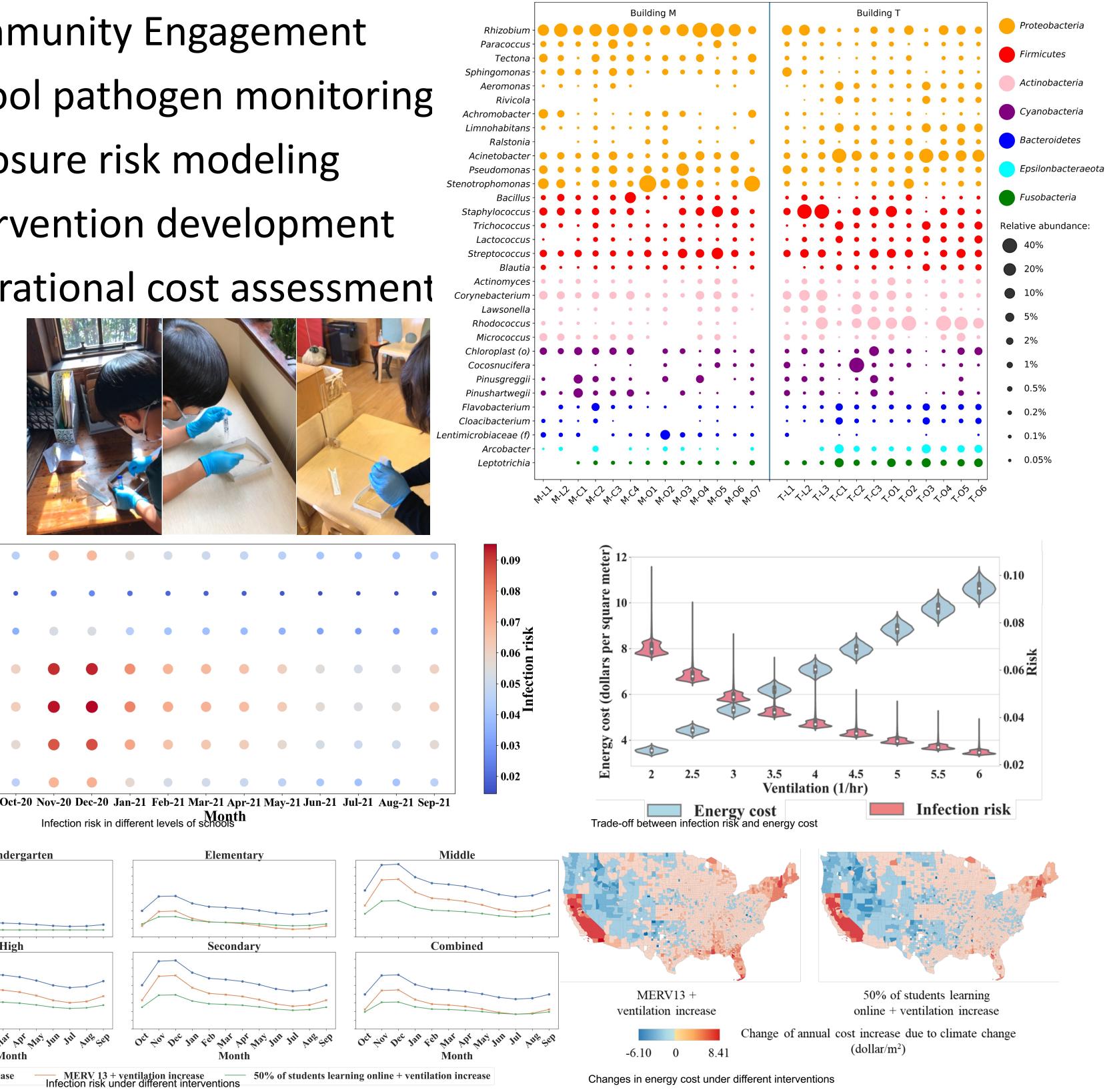




Collaboration

Smart & Connected

Broader Impacts



Healthier and more sustainable school environments for education and community well-being.

Award ID#: 1952140

