

THE PROBLEM

Low-cost air sensors are now widely available to help communities better understand air pollution exposure in their neighborhood and at home.

However, users in the community are often met with technical challenges such as how to maintain, calibrate, and effectively manage and use the data from these sensors.

Despite partnering efforts between researchers and the community to address these issues, they often lack the time and process to effectively work together, resulting in a project that misses the expectations and needs of both.

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FOSTERING
PARTNERSHIPS FOR
ENVIRONMENTAL
JUSTICE COMMUNITY
SENSOR TECHNOLOGY
RESEARCH





ONE POSSIBLE SOLUTION

Research Innovations using Sensor Technology in Environmental Justice (RISE) Communities is a partnership of the Cincinnati Children's Hospital Medical Center and the University of Cincinnati College of Medicine, sponsored by the National Institutes of Health (NIH).

Each year, the program brings together academic-community partnered teams from around the country to:

1. Receive training in use of low-cost sensors, including hands-on workshops, community applications, and research methods to apply data
2. Become part of a community of practice to extend learning beyond training, including connections to other projects across the country
3. Provide dedicated time and training to build trust, develop expectations, and promote sustainability among team members

ALL PROGRAMMING COSTS, INCLUDING AIR QUALITY MONITORS, TRAINING, TRAVEL, LODGING, AND MEALS ARE PROVIDED FREE OF CHARGE TO EACH TEAM

PROGRAM SAMPLE

DAY ONE	TEAM FORMATION <ul style="list-style-type: none"> Defining Roles Developing Shared Mental Models
	PRINCIPLES OF COMMUNITY-ENGAGED RESEARCH <ul style="list-style-type: none"> Benefits and Challenges Ethics Building Trust Environmental Justice Communities
	FIELD TRIP TO COMMUNITY RESEARCH LOCATION
DAY TWO	COMMUNICATING SENSOR RESULTS <ul style="list-style-type: none"> Anticipated Data Use Report Back of Sensor Data Translation of Sensor Data
	RESEARCH METHODOLOGY FOR LOW-COST SENSORS IN EPIDEMIOLOGIC STUDIES <ul style="list-style-type: none"> Establishing research questions and hypotheses Ethics in collecting health data Interpretation of results
	TEAM DEVELOPMENT <ul style="list-style-type: none"> Science of Team Science Communication Strategies Academic-Community Partnerships



THE MONITOR

Each team that attends the in-person training will receive the PurpleAir PA-IISD Air Quality Monitors at no cost. These monitors offer real-time PM2.5 concentrations in a variety of environments, including locations with limited or no WiFi access.

The training will focus on use of these monitors, including in-the-field experiences so that you can establish low-cost monitoring networks in your communities, share your data, and view monitoring results from around the world.