Project Summary

Participating Faculty

1. Lead PI
Name: Marlene Camacho-Rivera  Department: School of Medicine
Rank: Assistant Medical Professor  Campus: CCNY

2. Additional PI
Name: Akira Kawaguchi  Department: Computer Science
Rank: Professor  Campus: CCNY

Project Title:
Tackling the grand challenge of urban asthma: linking data analytics and wearable sensors to enhance patient-centered asthma management in The Bronx, New York

Summary (200 words maximum):
This project aims to address issues of asthma, which remains one of the nation's most salient public health challenges, with nearly twenty-six million American diagnosed to be asthmatic. While there is no cure today, most asthmatics can control their symptoms through trigger identification and avoidance, and appropriate pharmacotherapy. Identifying the distinct triggers of asthma is particularly difficult in the urban setting as people are exposed to multiple triggers as they move about the city and interact with the surrounding built and natural environment. The goal of this effort is: To design and test a smart service system capable of providing a real time, user-friendly messaging format to identify potential sources of asthma trigger exposure that can then translate complex exposure data collected from sensors and provide it to patients in a real-time, user-friendly format. Mobile web platform/app will be coupled with advanced data analytics to track an individual's movement in four dimensions -- X, Y, Z spatial dimensions plus time. Results from this work will then be used to identify and characterize e-messages that promote asthma trigger avoidance, based on project-developed “lab on a chip” sensors that will be integrated with the existing web platform/app and sensors.