

Assistance Agreement Quarterly Report Summary

Date of Report: April 30, 2000

Agreement No: R82806301

Title: **Baltimore Supersite: Highly Time and Size Resolved Concentrations of Urgan PM_{2.5} and its Constituents for Resolution of Sources and Immune Responses**

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Institution: Department of Chemistry and Biochemistry, University of Maryland, College Park, MD

Research Category: Particulate Matter Supersites Program

Project Period: January 15, 2000 to December 31, 2003

Objectives of Research: Our primary objectives will be to i) provide an extended, ultra high-quality multivariate data set, with unprecedented temporal resolution, designed to take maximum advantage of advanced new factor analysis and state-of-the-art multivariate statistical techniques; ii) provide important information on the potential for health effects of particles from specific sources and generic types of sources, iii) provide large quantities of well characterized urban PM for retrospective chemical, physical, biologic analyses and toxicological testing, iv) provide sorely needed data on the sources and nature of organic aerosol presently unavailable for the region, v) provide support to existing exposure and epidemiologic studies to achieve enhanced evaluation of health outcome-pollutant and -source relationships, and vi) test the specific hypothesis listed below.

Progress Summary/Accomplishments: Subcontracts have been issued to all of the Baltimore Supersite coPIs, the External Science Advisory Committee (ESAC) has been assembled and the first teleconference has ben scheduled. The ESAC members are as follows: **Professor Jonathan Samet**, Professor and Chair, Department of Epidemiology, Johns Hopkins University; **Dr. Joseph L.**

Mauderly, DVM, Senior Scientist and Vice President, Lovelace Respiratory Research Institute, and Director, National Environmental Respiratory Center; **Dr. Debra Laskin**, Dept. of Pharmacology & Toxicology, Rutgers University; **Dr. Raymond M. Hoff**, University of Maryland, Baltimore Campus, UMBC/JCET; **Professor Thomas Cahill**, Atmospheric Sciences (LAWT/Hoagland), University of California at Davis; **Dr. Lawrence Cupitt**, US EPA; **Dr. Robert Frank**, Dept Environmental Health Sciences, Johns Hopkins School of Public Health; and **Robert K. Stevens**, Florida Dept. Environmental Protection.

Professor Hopke has participating in a teleconference on April 10th regarding harmonization of AQ across the Supersites and has begun work on the project QAPP. A draft data acquisition/data management plan has been prepared.

We have begun making improvements to the University of Maryland Semicontinuous Elemental Analysis system (SEAS). Dr. Christopher Kidwell has been hired for this purpose. We have hired Senior Research Scientist to handle the day-to-day operation of the Baltimore Supersite, a part-time administrative assistant, and signed on a Graduate Research Assistant who will work on the project.

Publications/Presentations: We have had 7 seminars from various Baltimore Supersite coPIs and collaborators, and collaborators at the Pittsburgh Supersite. We attended the Supersite Awards Meeting at the Air and Waste Management Association Meeting (January 27th), the Supersites contractor's meeting in March 22-23; and the Eastern Supersites Meeting held on April 12, 13, in Baltimore. Dr. Ondov presented a seminar on the Baltimore Supersite at the Maryland Department of Environment in January.

Future Activities:

1. We will hold our first formal PI teleconference in May.
2. We plan to hold our first ESAC meeting by Teleconference in June.
3. Joe Mauderly, ESAC committee member will visit and present a seminar on May 23.
4. Lance Wallace, EPA collaborator, will visit UMCP to discuss collaboration and present a Seminar, tentatively, on May 22.
5. Kathy Squibb and John Ondov will visit Dan Costa at RTP to discuss collaborations. We hope to visit with several other EPA collaborators.
6. We plan to put up our static Web site in May
7. We are interviewing candidates for the position of Analytical Chemist and hope to make a decision in by the end of June.
8. We expect to place orders for several pieces of Equipment and complete plans for the layout of sampling equipment and the trailers, by end June.
9. All subcontracts should be executed with in the next two weeks.
10. The Baltimore Supersite project will initiate its 12-month field study in June/July, 2001.

Supplemental Keywords: Single Particle Mass Spectrometry, ROS, Cytokine, Receptor Modeling