

Search [HOME](#) | [ABOUT RePORT](#) | [FAQs](#) | [GLOSSARY](#) | [CONTACT US](#)[QUICK LINKS](#)[RESEARCH](#)[ORGANIZATIONS](#)[WORKFORCE](#)[FUNDING](#)[REPORTS](#)[LINKS & DATA](#)[Home](#) > [RePORTER](#) > Project Information[MyRePORTER](#)[Login](#) | [Register](#)[System Health:](#) [GREEN](#)

## Project Information?

[Back to Query Form](#) [Back to Search Results](#) [Print Version](#)

1R01ES026171-01A1

Project 38 of 230

[DESCRIPTION](#) [DETAILS](#) [RESULTS](#) [HISTORY](#) [SUBPROJECTS](#) [SIMILAR PROJECTS](#) [NEARBY PROJECTS](#) [BETA](#) [LINKS](#) [NEWS AND MORE](#)**Project Number:** 1R01ES026171-01A1**Title:** A COHORT STUDY OF AIR POLLUTION, LUNG CANCER, AND COPD IN LOS ANGELES COUNTY**Contact PI / Project Leader:** [CHENG, IONAC](#)**Awardee Organization:** CANCER PREVENTION INSTIT OF CALIFORNIA

### Abstract Text:

PROJECT SUMMARY/ABSTRACT While air quality has improved over the past decades, air pollution is ubiquitous and the absolute number of people affected is a major public health concern. In 2013, the International Agency for **research** on Cancer classified outdoor air pollution and particulate matter (PM) as carcinogenic **to** humans and a cause of lung cancer. This recent classification calls for prompt **action to** address the gaps in the epidemiologic literature on the role of air pollution in increasing the risks for lung cancer and chronic obstructive pulmonary disease (COPD), two of the top four causes of death in the United States. Thus, we designed the following aims, leveraging the rich environmental, lifestyle, neighborhood, molecular, and surveillance data of the long- standing Multiethnic Cohort (MEC) Study. We propose in Aim 1 **to** quantify and characterize the associations between estimated exposure **to** airborne particulate matter (PM2.5, PM10) and lung cancer risk among 112,023 California (CA) MEC participants with 3,057 lung cancer cases. In Aim 2 we will quantify and characterize the associations between PM2.5, PM10, and risk of COPD among 46,000 CA MEC participants with Medicare data, including 11,508 COPD cases. In Aim 3 we will investigate the relationships between PM2.5, PM10, and serum levels of the **inflammatory marker**, C-reactive protein, already available in 7,566 CA MEC participants. In each of these aims, we will also assess the extent **to** which these PM-associations are modified by co-pollutants (e.g., NO2 and NOx traffic markers), individual-level (e.g., race/ethnicity, gender, smoking status), and neighborhood-level (e.g., socioeconomic status, ethnic enclave) factors. The strengths of this proposal include: (1) it represents one of the first prospective air pollution and lung cancer and COPD study **to** include sizeable numbers of Africans and Latinos (n=80,489); (2) it addresses the complexity of air pollution assessment by evaluating three separate measures of estimated air pollutants having different advantages and functionalities; (3) it leverages multiple measures of exposures over the same periods **to** provide a greater depth in understanding exposure patterns and associations with risk; and (4) it incorporates a molecular epidemiology component. Through this work, we expect **to** increase our understanding of the burdens of lung cancer and COPD associated with air pollution exposure and **to** identify differences in associations among important subgroups.

### Public Health Relevance Statement:

PROJECT NARRATIVE This application will address the role of air pollution and risks of lung cancer and chronic obstructive pulmonary disease among California participants of the Multiethnic Cohort Study, using high-quality data on air pollution, health behaviors, neighborhood factors, C-reactive protein, and disease surveillance.

### Project Terms:

1,3-Butadiene; Address; Affect; African; Air; Air Pollutants; Air Pollution; Airborne Particulate Matter; ambient air pollution; American; Area; Aromatic Polycyclic Hydrocarbons; Benzene; Biological; Biological Markers; C-reactive protein; California; cancer risk; Carcinogens; Cause of Death; Characteristics; Chemicals; Chronic Obstructive Airway Disease; Classification; cohort; Cohort Studies; County; Data; Data Quality; design; Development; Diesel Exhaust; Disease; disorder risk; Dose; Engine Exhaust; Epidemiology; ethnic difference; ethnic diversity; Ethnic Origin; exhaust; Exposure **to**; **factor C**; follow-up; Foundations; Gasoline; Gender; Goals; Health; Health behavior; Health Priorities; **Histology**; Human; improved; Individual; **inflammatory marker**; International Agency for **research** on Cancer; Knowledge; Latino; Life; Life Style; **lifestyle factors**; Link; Literature; Los Angeles; Malignant neoplasm of lung; Measures; Medicare; Molecular; Molecular Epidemiology; **Motor**; Neighborhoods; Occupational Exposure; Participant; Particulate; Particulate Matter; Pattern; pollutant; Population; prospective; Public Health; Quality Control; Questionnaires; **Race**; racial and ethnic; **research Infrastructure**; response; Risk; Role; Serum; sex; Smoking Status; Socioeconomic Status; Staging; Subgroup; surveillance data; trafficking; ultrafine particle; United States; Woman; Work

Download Readers:

[About RePORT](#) | [FAQs](#) | [Glossary](#) | [Contact Us](#) | [Site Map](#) | [Data Access Policy](#) | [Accessibility Statement](#) | [Privacy Statement](#) | [Disclaimer](#) | [FOIA](#) | [Help Downloading Files](#)

The RePORTER database is available to all public users at <http://exporter.nih.gov/>. As the data are available for bulk download, the RePORTER system reserves the right to block IP addresses that fail to adhere to instructions in the system's robots.txt files or submit requests at a rate that negatively impacts service delivery to other users. RePORTER reserves the right to terminate any automated query to the RePORTER application that negatively affects service delivery to other users.

[Office of Extramural Research](#) | [National Institutes of Health](#) | [U.S. Department of Health and Human Services](#) | [USA.Gov – Government Made Easy](#) | [Grants.Gov](#)

Page Last Updated on October 18, 2016  
This site is best viewed with Internet Explorer (8.0 or higher) or Mozilla Firefox (11.0 or higher).

NIH...Turning Discovery Into Health®