

# Switzerland, France - Association between long-term occupational exposure to PM10 and allergic diseases in subway workers

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## Overview

### Identification

ID NUMBER  
10.16909-DATASET-47

### Version

VERSION DESCRIPTION

PRODUCTION DATE

NOTES

### Overview

#### ABSTRACT

**Background:** Long-term exposure to ambient particulate matter (PM) in adults increases the risk of allergic diseases exacerbation. We evaluated whether a long-term occupational exposure to subway PM10 is associated with the prevalence of atopic sensitization and allergic diseases (i.e., current asthma, current rhinitis or current eczema) and whether the latter are associated with biomarkers measured in exhaled breath condensate (EBC) of subway workers.

**Methods:** Participants were randomly selected from a 15,000-subway worker cohort. Individual inhaled PM10 mass (iPM10) per shift at work was estimated using a company-specific job-exposure-matrix based on PM10 measurements conducted between 2004 and 2019. iPM10 was modelled as function of PM10 exposure averaged over the participant's employment in the Parisian subway, inhalation rate, and filtration efficiency of the respiratory protection used. Atopic sensitization was tested using skin prick tests. Allergic diseases were assessed using self-administered questionnaire. Associations were assessed using multivariable logistic regression models adjusted for potential confounders.

**Results:** Amongst 287 participants, 39% had an atopic sensitization, 25% a poly-atopic sensitization, 5

#### KIND OF DATA

This repository is meant to share additional material for the article.

All data and biological samples were collected from March through May 2021 according to the study protocol (Guseva Canu I, Hemmendinger M, Sauvain JJ, Suarez G, Hopf NB, Pralong JA, et al. Respiratory Disease Occupational Biomonitoring Collaborative Project (ROBoCoP): A longitudinal pilot study and implementation research in the Parisian transport company. J Occup Med Toxicol. 2021;16(1):22.). The data can not be shared.

#### UNITS OF ANALYSIS

The unit of analysis is the individual. The number of participants is 287.

#### KEYWORDS

Asthma, Atopy, Exhaled breath condensate, Nitrite, PM10 exposure

### Producers and Sponsors

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Name	Abbreviation	Role
Swiss National Science Foundation	SNSF	Grant N° IZCOZ0_177067

## Metadata Production

## METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Center for Primary Care and Public Health (Unisanté), University of Lausanne, Switzerland	Unisanté		Data publisher

## Sampling

### **Sampling Procedure**

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### **Deviations from Sample Design**

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### **Response Rate**

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### **Weighting**

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## Questionnaires

### Overview

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## Data Collection

### Data Collection Dates

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Start	End	Cycle
2004/01/01	2019/12/31	N/A

### Data Collection Mode

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Other [oth]

### Data Collection Notes

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### Questionnaires

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### Supervision

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## Data Processing

### **Data Editing**

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### **Other Processing**

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## Data Appraisal

### **Estimates of Sampling Error**

### **Other forms of Data Appraisal**