



California Firefighter Cancer Research Study (CAFF-CRS) Biomarkers of Acute Exposure Substudy

RESEARCH LEADERSHIP

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BACKGROUND

- Researchers at UC Davis, UCLA, UC Irvine, and LACoFD are collaboratively leading research that aims to **study cancer causes and reduce cancer risk in California firefighters**
- Our multi-disciplinary research team include scientific experts **across the cancer control continuum**
- Research oversight is provided by a **firefighter community advisory board** consisting of members of California fire departments participating in the research

PROPOSED RESEARCH

- The **Biomarkers of Acute Exposure Substudy** will examine biomarkers of exposure and early effect in firefighters associated with acute occupational exposure to known or suspected carcinogenic agents
- Research **participation is voluntary** and **all data gathered is confidential**
- There is **no financial cost** to participate in this research study
- Study participation consists of completing questionnaires and biological specimen collection (e.g. blood) at time of enrollment and one year follow up

STUDY ENDPOINTS

- Specimens will be used to measure **biomarkers of exposure** from the fireground such as:
 - heavy metals
 - persistent organic pollutants including PFAS
- Specimens will also be used to measure **biomarkers of effect** including:
 - DNA methylation, mutational signatures, mutational frequency
 - RNA transcriptomics
 - Markers of immune dysfunction
 - Markers of inflammation
- Research results will be **reported back** in individual and aggregate form to participants
- Firefighter participants will benefit by learning about their personal cancer risk factors and receiving **recommendations for risk reduction**

FUNDING SUPPORT

- CAL FIRE
- University of California Office of the President
- International Association of Fire Fighters