UNDERSTANDING THE ROLE OF COMBUSTION PARTICLE POLLUTION AND UPPER AIRWAY DISEASE IN UTAH

This team will tackle a critical Utah problem — understanding how particle pollution affects chronic rhinosinusitis (CRS), a debilitating disease of sinonasal inflammation.

Treating patients with CRS costs $64 billion annually, accounting for 5% of the total U.S. healthcare budget, with an estimated additional $13 billion from lost work productivity. Despite its prevalence and the financial, health, and societal burden, CRS remains an under-researched epidemic with limited effective treatment options.

The project will specifically address the lack of a mechanistic understanding of CRS. The team will develop new knowledge regarding how air pollution affects mucociliary clearance central to the etiology of CRS. Ultimately, this project aims to educate patients with CRS in ways to mitigate exacerbations of their condition.

This project positions the team to submit a successful NIH R01 application to the NIAID (primary) and NIEHS (secondary).

COLLABORATORS

KERRY KELLY
College of Engineering
Chemical Engineering
Project Owner

JEREMIAH ALT
School of Medicine
Department of Surgery

HAMIDREZA GHANDEHARI
College of Pharmacy
Pharm & Pharmaceutical Chemistry

PROJECT INFO
FUNDED PROJECT AMOUNT
$30K