Key questions defining research program:

- What are the novel modulators for cigarette smoke-induced DNA damage, cytotoxicity, and pulmonary emphysema?
- What are the common gene expression changes between telomere shortening and cigarette smoke exposure?

Key words describing research program:

- Cigarette smoke
- Chronic obstructive pulmonary disease (COPD)
- DNA damage
- Cellular senescence
- Protein turnover

Titles for shovel-ready research projects:

- Gene Expression Analysis to Identify Common Pathways Between Cigarette Smoke Exposure and Replicative Senescence
- A novel modulator for cigarette smoke-induced COPD

Data sources for shovel-ready research projects:

- RNA seq data using primary human airway bronchial cells (replicative senescence vs. cigarette smoke exposure)
- Whole exome sequencing data (Hum Genomics 2016;10:1)