



## Post-doctoral Associate position, Nov. 2016

### Protein thiol/redox regulation of tissue fibrosis

**Area of study:** Lung fibrosis is a devastating disease, killing as many people in the US yearly as breast cancer. Our laboratory is addressing the molecular processes that control plasticity of airway epithelial cells and their role in lung fibrosis. We are investigating the actions that oxidants (cysteine oxidations) play in these processes, and notably the role of protein S-glutathionylation, the covalent attachment of glutathione to proteins, which regulates structure/function. We want to discover mechanisms that control the forward S-glutathionylation reactions. We use approaches ranging from thiol redox-biochemistry and redox-proteomics, to RNA Seq, transgenic and clinical-translational approaches.

The post-doctoral candidate will employ redox proteomics to identify S-glutathionylation targets in experimental models of fibrosis, and patients with fibrosis, and determine how these S-glutathionylation events functionally link to persistent airways remodeling, lung function impairment and disease progression. The candidate will investigate how S-glutathionylation functionally affects the epithelial cells and immune responses. This project explores the enzyme that catalyzes the de-glutathionylation reaction, glutaredoxin. We are interested in discovering the protein targets of glutaredoxin in fibrosis, and structural/molecular determinants whereby glutaredoxin catalyses beneficial reactions.

**Training Environment:** The University of Vermont Redox Biology and Pathology Program offers a trans-disciplinary training environment with strong mentoring towards a future career success in science. The environment is friendly, collegial and vibrant. Beautiful Vermont has a lot to offer for outdoor enthusiasts.

The applicant will have strong work autonomy, and opportunities for career advancement to the level of Research Associate. The applicants' opinion will be valued in major decisions concerning research directions and grant submissions.

**Desired Skills and Expertise:** Publication record, with peer-reviewed manuscripts. Strong experience with **cell and molecular biology** and **redox biochemistry**. Preferred applicants are a permanent resident or US Citizen. Enrollment in NIH-funded training programs is possible.

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