The University of Vermont
LARNER COLLEGE OF MEDICINE

Post-doctoral Associate positions, May 2017
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 redox-proteomics and metabolomics, to RNA Seq, transgenic and clinical-translational approaches.

The post-doctoral candidate will employ redox proteomics to the 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 glutathionylation reaction, Glutathione S-transferase P (GSTP). The Post-doc candidate will work to discover the protein clients of GSTP in fibrosis, and structural/molecular determinants whereby GSTP induces protein S-glutathionylation.

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 will 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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