

## STUDENT PUBLICATIONS

### **Nels Olson - Mentor: Edwin G. Bovill**

Scott BT *et al*: Novel isoforms of intracellular platelet activating factor acetylhydrolase (PAFAH1b2) in human testis. *Prostaglandins Other Lipid Mediat* 85:69-80, **2008**

Olson N *et al*: Lipoprotein-associated phospholipase A(2) and risk of venous thrombosis in older adults. *Am J Hematol* 83:524-527, **2008**

### **Timothy J. Phalen - Mentor: Nicholas H. Heintz**

Phalen TJ *et al*: Oxidation state governs structural transitions in peroxiredoxin II that correlate with cell cycle arrest and recovery. *J Cell Biol* 175:779-789, **2006**

### **Jessica Schwartz - Mentor: Sally A. Huber**

Schwartz J *et al*: Myocarditis susceptibility in female mice depends upon ovarian cycle phase at infection. *Virology* 330:16-23, **2004**

### **Jennifer L. Ather - Mentor: Yvonne Janssen-Heininger**

Pantano C *et al*: Nuclear factor- $\kappa$ B activation in airway epithelium induces inflammation and hyperresponsiveness. *Am J Respir Crit Care Med* 177:959-969, **2008**

### **Steven R. Blumen - Mentor: Brooke T. Mossman**

Ramos-Nino ME *et al*: HGF mediates cell proliferation on human mesothelioma cells through a PI3K/MEK5/ Fra-1 pathway. *Am J Respir Cell Mol Biol* 38:209-217, **2008**

Blumen SR *et al*: Unique uptake of acid-prepared mesoporous spheres by lung epithelial and mesothelioma cells. *Am J Respir Cell Mol Biol* 36:333-342, **2007**

### **Maria H. Clough - Mentor: Douglas J. Taatjes**

Clough MH *et al*: Attenuation of accumulation of neointimal lipid by pioglitazone in mice genetically deficient in insulin receptor substrate-2 and apolipoprotein E. *J Histochem Cytochem* 53:603-610, **2005**

### **Peter F. Bove - Mentor: Albert van der Vliet**

Bove PF *et al*: Inflammatory levels of nitric oxide inhibit airway epithelial cell migration by inhibition of the kinase ERK1/2 and activation of hypoxia-inducible factor-1 $\alpha$ . *J Biol Chem*. 283:17919-17928, **2008**

Wesley UV *et al*: Airway epithelial cell migration and wound repair by ATP-mediated activation of Dual Oxidase 1. *J Biol Chem* 282:3213-3220, **2007**

## FACULTY

### **Edwin G. BOVILL, MD**

#### **Professor and Chair**

Gene discovery in venous thrombosis

### **Mark F. EVANS, PhD**

#### **Research Assistant Professor**

Human papillomaviruses (HPV) as markers of cervical disease

### **Nicholas H. HEINTZ, PhD**

#### **Professor**

Mechanisms of initiation and control of cell replication

### **Sally A. HUBER, PhD**

#### **Professor**

Immunopathogenic mechanisms of cardiovascular disease (atherosclerosis, dilated cardiomyopathy); Host defense to infectious disease

### **Yvonne M. W. JANSSEN-HEININGER, PhD**

#### **Professor**

Airway epithelial biology, inflammation and remodeling, redox regulation, and signal transduction

### **Nancy SWORDS-JENNY, PhD**

#### **Research Assistant Professor**

Molecular and genetic risk factors for aging-related diseases (cardiovascular disease, dementia, frailty)

### **Brooke T. MOSSMAN, PhD**

#### **Professor**

Molecular mechanisms of lung injury, fibrosis and mesothelioma by inhaled particles, fibers, and oxidants

### **Douglas J. TAATJES, PhD**

#### **Research Professor**

Cell imaging techniques for study of environmental disease

### **Russell P. TRACY, PhD**

#### **Professor**

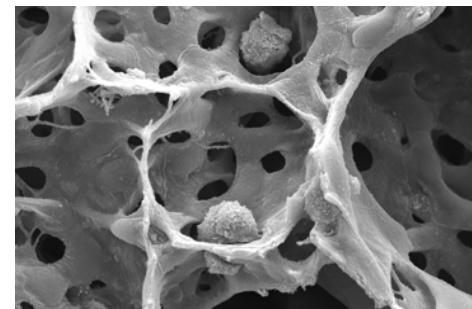
Epidemiologic research of aging-related processes and inflammation using cell-based assays, immunoassays, and molecular-based assays

### **Albert VAN DER VLIET, PhD**

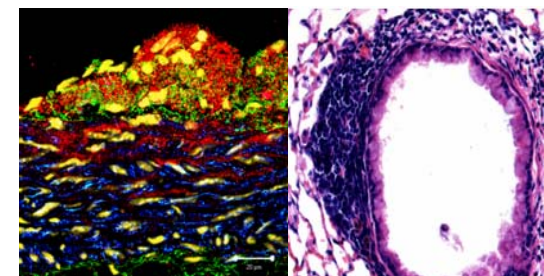
#### **Professor**

Biological and environmental oxidants and airway inflammation: Mechanisms of redox signaling

## MASTER OF SCIENCES IN PATHOLOGY GRADUATE PROGRAM



## INTEGRATIVE AND PRACTICAL STUDIES OF PATHOLOGY



## BASIC RESEARCH AND TRANSLATIONAL METHODS TO UNDERSTAND ENVIRONMENTAL DISEASE



## MASTER OF SCIENCES IN PATHOLOGY GRADUATE PROGRAM

This Program provides an educational and training environment for students interested in future careers in areas of biomedical education, research, and clinical care. The Program offers various specific courses and seminar series and diverse opportunities for research training in various areas of environmental pathology, and is designed towards understanding molecular mechanisms of disease and the use of basic and translational approaches to study animal and human pathology. The Program provides an excellent foundation for individuals who wish to transition into programs offering advanced degrees, such as MD, MD/PhD, or DVM degrees, or pursue other careers in the medical profession such as Physician's Assistance Programs, Nursing Degrees, and Pharmacy Degrees.

For further information and application please contact the University of Vermont, Department of Pathology  
89 Beaumont Avenue, Burlington, VT 05405  
Phone: 802-656-0359; Fax: 802-656-8892  
Email: [pathologymasters@med.uvm.edu](mailto:pathologymasters@med.uvm.edu)  
Web site: <http://www.med.uvm.edu/pathology/>

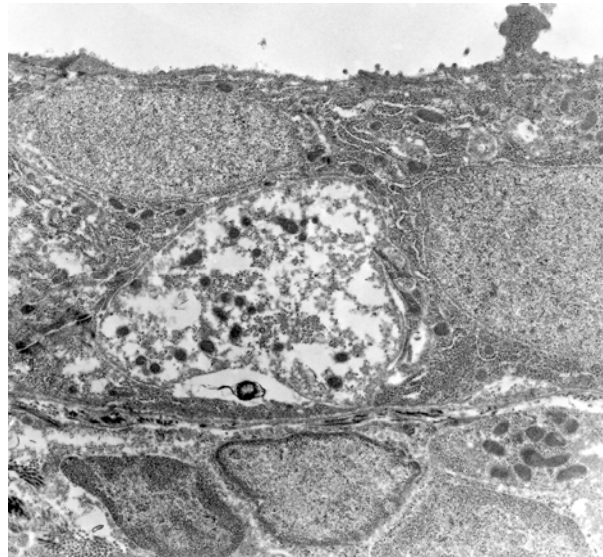
Women and minorities are encouraged to apply.

### SPECIFIC AVAILABLE RESOURCES

Experimental Pathology Laboratory: A multi-user interactive laboratory dedicated to aiding basic and clinical researchers in techniques for human tissue handling, section cutting, specialized staining, immunocytochemistry, *in situ* hybridization, and RNA and nucleic acid extradiation and analysis

Microscopy Imaging Center: A core facility including instrumentation for transmission and scanning electron microscopy, confocal laser scanning microscopy, laser capture microdissection, atomic force microscopy, microinjection, etc.

Other Facilities: DNA/RNA Analysis and Sequencing, Flow Cytometry, Proteomics and Mass Spectrometry, Bioinformatics, Transgenic and Inhalation Facilities, and the Laboratory for Clinical Biochemistry Research



### SUGGESTED COURSES

- **Pathology 101**  
General Overview
- **Pathology 305**  
Molecular Mechanisms of Environmental Disease
- **Pathology 306**  
Techniques & Translational Approaches
- **Cell Biology 301**  
General Cell & Molecular Biology
- **Cell Biology 302**  
General Cell & Molecular Biology
- **Ethics**  
Principles of Conduct in Research
- **Practical Pathology 395**  
Practical Pathology, Hands-on Learning

### AREAS OF EMPHASIS

- Cardiovascular Disease
- Cervical Disease
- Environmental Toxic Gases
- Fibers and (Nano)Particulates
- Lung Pathology
- Molecular Action of Oxidants
- Molecular Imaging Approaches
- Transgenic Models
- Viruses

### FLEXIBLE ENROLLMENT DATES

