

## **TB Research / TB Research Laboratory Equipment**

*The role of toll-like receptor-2 (TLR-2) in production of the CD8 T-cells regulator, IL-15, in response to Mycobacterium bovis (BCG) and Mycobacterium tuberculosis.* Shawn J Skerrett, MD, Amy Bryant, PhD, Dennis Stevens MD PhD, Tanyalak Parimon, MD. Pulmonary Division, University of Washington; \$14,059, 2006

*Regional Tuberculosis Strain Genotyping Service* at Seattle Biomedical Research Institute. Leonard Hudson, MD, Jerry Cangelosi, PhD, and Kathleen Horan, MD; Pulmonary Division, University of Washington; \$10,019; 2005

*Dual block PCR thermocycler for Seattle Biomedical Research Institute's TB Strain Genotyping service;* (equipment to help identify TB strains) Gerard Cangelosi, PhD; \$7,490; 2003

*Analysis software for Seattle Biomedical Research Institute's TB Strain Genotyping service;* Gerard Cangelosi, PhD; \$12,500; 2003

*Equipment for the BL3 tuberculosis containment laboratory at Harborview Medical Center.* David Park, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$27,502

## **TB Program Funding**

*Equipment and furnishings for the new satellite TB service site in downtown Seattle.* Masa Narita, MD. Seattle / King County TB Control Program. Up to \$8,328. 2005

*Primary care tools for the management of TB and latent TB among high risk immigrant communities in Seattle.* J Carey Jackson, MD, MPH, MA, Refugee and Immigrant Health Promotion Program at Harborview Medical Center, \$19,470; 2005

*Consultation and training of TB control program staff in contact investigation and advanced TB management.* Seattle / King County TB Control Program, Linda Lake, Program manager, \$15,250; 2004

*Refugee and Immigrant TB prevention project.* (educational materials for Somali, Bosnian and Russian immigrants) Wendy McDowell; Harborview Medical Center and the Seattle / King County Department of Public Health TB Control Program; \$22,803; 2000

*TB clinic outreach program targeting refugee communities.* J Cary Jackson MD MPH; Seattle / King County TB Control Program and Harborview Medical Center Community House Calls program; \$32,885; 1999

*Construction of a TB isolation room for the International Community Health Services Clinic;* Jerry Klika, Deputy Executive Director; \$20,000; 1998

*Two "See and Touch" Artificial arms for the Snohomish Health District, for staff training in the reading of mantoux skin tests.* \$535, 1997

*Laundry equipment for the Downtown Emergency Service Center, a Seattle shelter serving a population of homeless individuals at high risk for TB infection.* \$7000; 1996

*Development of Slide rulers for more accurate measurement of TB skin test reactions (((\$5000 in 1995; \$8640 in 1996 to the Seattle King County TB program); four "See and Touch" Artificial arms for staff training in the reading of mantoux skin tests (\$704 in 1996); furnishings for rooms in the Charles Hotel designated for patients needing a place to stay while undergoing treatment for TB with the Seattle King County TB program (\$1500 in 1995; \$1000 in 1996)*

*Computer equipment and staffing to develop TB teaching materials and a new TB outreach program for the SeaMar Community Health Centers, \$4350, 1996*

### **TB Advocacy Funding**

Over the past several years the Firland Foundation has worked in concert with the American Lung Association of Washington to enhance TB advocacy efforts throughout the state. The primary focus has been the development and ongoing support for a statewide TB Advisory committee consisting of leaders in the fight against TB. The advisory committee meets regularly to address issues of concern for the state's TB control program. Members of the Advisory committee participate in TB education programs for health care professionals in primary care settings. Funding has also been provided for radio spots designed to increase TB awareness in Washington State.

### **Cedric Northrop Funding**

Since 1991, over \$335,000 has been provided to the Division of Pulmonary and Critical Care Medicine at the University of Washington School of Medicine, to support the Pulmonary Fellowship training program. Many of the pulmonary fellows who received support with Firland funding have continued to focus on tuberculosis research and care in their professional careers.

## Clinical Research in Chronic Lung Diseases

Since 1996, over \$257,000 has been provided for clinical research projects focusing on a broad range of pediatric and adult chronic lung problems. This area of funding addresses our secondary mission of support for medically underserved individuals with chronic respiratory problems. Research studies are usually conducted by fellows and faculty of the Division of Pulmonary and Critical Care Medicine and the Division of Pediatric Pulmonary Medicine at the University of Washington in Seattle. Grants range, on average, from \$5000 to \$20,000. Results of these studies are often presented at international meetings such as the American Thoracic Society and published in refereed journals.

The following list of funded studies is included here to illustrate the typical scope and magnitude of such studies. Whenever possible, links to publications resulting from research funded by the Firland Foundation will be provided in this section.

*Exhaled Nitric oxide in infants during and following respiratory syncytial virus bronchiolitis.* Danny Hsia, MD; Pediatric Pulmonary Medicine, Children's Hospital and Regional Medical Center, \$19,950, 2006

*Asthma and diesel exhaust exposure: understanding the relationship.* Joel Kaufman MD, MPH, Chris Carlsten, MD, Teal Hallstrand MD, Terry Kavanagh, PhD; Environmental and Occupational Health, University of Washington, \$13,285, 2006

*The Effects of exercise, forced exhalation and bronchoconstriction on respiratory solute concentration in exhaled breath condensate.* Teal Hallstrand, MD MPH; Pulmonary Division, University of Washington, \$19,093; 2005

*Anemia and COPD: Prevalence and Clinical Outcomes.* Erik Swenson, MD and David Au, MD; Seattle Institute for Biomedical and Clinical Research, VA Puget Sound Health Care System; Pulmonary Division, University of Washington, \$8000; 2005

*Assessment of functional recovery after acute lung injury,* Catherine Lee, MD, MSc, Leonard Hudson, MD, Division of Pulmonary and Critical Care Medicine, University of Washington; \$7,000; 2004

*Measurement of cysteinyl leukotrienes in exhaled breath condensate in children pre and post extubation.* Jason Debley, MD; Pediatric Pulmonary Medicine, Children's Hospital and Regional Medical Center, \$14,734; 2004

*COPD and hazardous drinking: health behaviors and resource utilization.* Laura Evans, MD, and David Au, MD MS, Health Services Research and Development, VA Medical Center; Pulmonary Division, University of Washington; \$17,000; 2004

*Measurement of exhaled nitric oxide in infants and toddlers via a tidal breathing method: a pilot study.* Jason Debley, MD; Pediatric Pulmonary Medicine, Children's Hospital and Regional Medical Center; \$20,075; 2002

*Accuracy of end-tidal carbon dioxide measurement in predicting arterial carbon dioxide levels in patients with neuromuscular disease.* Louis Boitano, MS RRT, Joshua Benditt, MD, Janet King, MD; University of Washington Medical Center, \$4,990; 2002

*Ibuprofen oral provocation challenge in asthmatic children.* Jason Debley, MD; Pediatric Pulmonary Medicine, Children's Hospital and Regional Medical Center, \$22,046; 2001

*Improving the quality of physician/patient communication for non-English speaking patients with COPD.* Randall Curtis, MD; Division of Pulmonary and Critical Care Medicine; Harborview Medical center and University of Washington; \$24,000; 2001

*A randomized double-blind placebo-controlled trial of oral corticosteroid therapy in cystic fibrosis patients hospitalized for pulmonary exacerbation.* Mark Dovey MD, Moira Aitken, MD, Julia Emerson MD MPH, Ronald Gibson MD, Sharon McNamara MN RN; Pediatric Pulmonary Medicine, Children's Hospital and Regional Medical Center; \$20,000; 2000

*Validation of sputum induction (SI) as a research tool for lower airway sampling in patients with cystic fibrosis.* Moira Aitken, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$10,442, 2000 (paper published in Thorax 2001; 56:306-311)

*King County Lung Injury project* (data extraction for a study looking at management of ARDS in community hospitals); Gordon Rubinfeld, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$20,188; 1999

*Epidemiological studies in cystic fibrosis: survival of women with CF who become pregnant; effect of Stenotrophomonas maltophilia colonization in patients with CF.* Christopher Goss, MD, Gordon Rubinfeld, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$7151, 1999

*The role of inflammatory mediators in exercise-induced asthma,* Teal Hallstrand, MD, Moira Aitken, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$14,507, 1999

*Quality of life in interstitial lung disease.* Jacqueline Chang, MD, Ganesh Raghu, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$7,673; 1998 (abstract presented at ATS)

*Efficacy of sputum induction as a tool for assessing airways inflammation in cystic fibrosis.* Noreen Henig, MD, Moira Aitken, MD; Division of Pulmonary and Critical Care Medicine, University of Washington; \$7,049; 1999

## **Community Agency Funding**

In keeping with the The Firland Foundation's mission of support for medically underserved individuals with TB and other chronic respiratory problems, and for the often under-funded agencies that advocate for them, grant applications that address such care needs are encouraged. Following are examples of projects supported by Firlands over the past several years.

### **Visiting Nurse Services of the Northwest:**

- Oximeters for use by clinical staff to assess respiratory status in homebound patients
- Hoods for TB mask fit-testing
- Teaching materials and implementation of Better Breathers Classes for individuals with COPD

### **Pulmonary clinic, University of Washington Medical Center:**

- Cough Assist devices for temporary use by patients with exacerbations of restrictive lung disease.

### **Seattle Downtown Emergency Service Center:**

- Hygiene supplies for homeless residents at risk for TB infection
- Construction of a ventilated smoking room, to minimize the risk from second hand smoking

### **45<sup>th</sup> Street Clinic:**

- Spirometer for assessment of patients with respiratory symptoms

### **Sleep Disorders Center, University of Washington:**

- Educational items for the new library, and software for research data collection for the center.

### **Pike Place Market Clinic:**

- Pulse oximeter and peak flow meters for assessment of patients
- Respiratory equipment for delivery of inhaled medications to clinic patients.

### **Seattle VA Medical Center:**

- Smoking Cessation materials for patients