Respiratory Institute

Cleveland Clinic

Staff Research Interests, Publications, and Grants 2013-14
Introduction

As part of its mission to deliver outstanding patient care, the Respiratory Institute of the Cleveland Clinic is firmly committed to supporting research that advances our understanding of disease pathogenesis, facilitates the introduction of novel technologies and therapeutic agents, improves outcomes, and optimizes patient safety and the quality of care. Many of our staff members are actively engaged in research activities that span the spectrum from laboratory-based investigation to translational research, epidemiologic studies, clinical trials, and quality improvement projects. These research activities encompass virtually all areas of pulmonary and critical care medicine; major themes include acute lung injury, asthma, alpha-1 antitrypsin deficiency, sarcoidosis, idiopathic pulmonary fibrosis, lung transplantation, pulmonary vascular disease, advanced bronchoscopic techniques, lung cancer, sleep, and neuromuscular disease. Members of the Respiratory Institute participate in many of the major NIH-sponsored collaborative clinical trials networks including ARDSNet, Idiopathic Pulmonary Fibrosis Clinical Research Network, Prevention and Early Treatment of Acute Lung Injury (PETAL), Long Term Oxygen Treatment Trial (LOTT) for COPD, and the Clinical Trials in Organ Transplantation.

This robust and well-funded research enterprise, in conjunction with our high volume, nationally recognized clinical programs, provides fellows with a wealth of opportunity to participate in research projects during their training. To complement the “hands-on” component of research training, all fellows attend an introductory course in clinical biostatistics. Additional opportunities exist for fellows wishing to pursue more advanced course work in biostatistics and clinical research. Our goal is to equip fellows with the skills necessary to pursue a career that includes basic or patient-oriented research, either as a primary investigator or as a collaborator. For those fellows who ultimately follow a purely clinical pathway, this training is no less valuable as it teaches a critical approach to the medical literature and facilitates a greater understanding of the scientific underpinnings of patient care.
Research Interests
**Aboussouan, Loutfi**
My research interests are in neuromuscular disease and in sleep medicine. From a neuromuscular perspective, I have been interested in the role of non-invasive ventilation in patients with ALS and its impact on survival, quality of life and rate of decline of lung function. More recently, I have been evaluating determinants of adherence to noninvasive ventilation that may be specific to the neuromuscular disorders (such as bulbar or cervical involvement). Other interests have included modeling the course of recovery of lung function in patients with diaphragm impairment.

Collaborative projects at the intersection of sleep and pulmonary medicine have been particularly rewarding. These include evaluations of exhaled nitric oxide or end-tidal CO2 in patients with sleep apnea, with a particular focus on elements of the polysomnogram as potential determinants (such as apnea-hypopnea index, event and inter-event duration). New objective measures of CPAP adherence allow us to accurately assess determinants of compliance with my main interests centering on pulmonary parameters such as hyperinflation. The overlap syndrome (COPD and sleep apnea) is another area of research that combines sleep and pulmonary medicine. Tolerance of noninvasive ventilation or CPAP in such patients has been a topic of recent interest.

**Almeida, Francisco**
Research interests include minimally invasive techniques of staging and diagnosis of lung cancer and other intrathoracic malignancies, quality of lung cancer staging, quality of diagnostic and therapeutic bronchoscopic procedures and bronchoscopy education. Current projects include: the role of EBUS in the diagnosis of lymphoma, safety of general anesthesia for EBUS, role of rigid bronchoscopy dilation for tracheal stenosis, safety of diagnostic and therapeutic bronchoscopy in airway carcinoid, EBUS for the diagnosis and treatment of bronchogenic cysts.

**Aronica, Mark A.**
Our lab focuses on the role of the Extracellular Matrix in asthma. The ECM was once thought to be inert scaffolding, having only a mechanical role in supporting and maintaining tissue structure. However, ECM has been shown to influence the distribution, activation status and survival, as well as adhesion of inflammatory cells and can act as a reservoir for inflammatory mediators and growth factors. The organization of the ECM induced by chronic inflammation may lead to alterations in airway structure and function, a process that has been referred to as remodeling in humans. This is of particular relevance in the asthmatic airways, in which the profile of ECM proteins is altered. Hyaluronan (HA) is an important component of the ECM normally found in adult tissues in small amounts but is present in higher amounts during wound healing. We utilize cell culture models, animal models of asthma, and correlate our findings with human samples to investigate the role of hyaluronan synthases and hyaluronan binding proteins as it relates to HA Synthesis and turnover in the lung and how this impacts inflammation, remodeling, and fibrosis.

**Budev, Marie**
The Cleveland Clinic lung and heart lung transplant program is active in a diverse group of innovative research programs including both multicenter and single center studies. There are many opportunities for fellow research in lung transplantation since it’s a relatively new field with many unanswered questions. Below are areas of research
interest for our team at this time some of which fellows can participate in and also we encourage independent fellow projects as well.

One of the key areas of interest for our transplant team is the area of antibody mediated rejection and we were the leading participate in multicenter NIH funded study HLA Antibodies After Lung Transplantation (HALT I) study evaluating long-term outcomes after early development of donor-specific HLA antibodies (DSAs) following lung transplant and the potential benefit of preemptive DSA depletion. Future funding for HALT II focused on treatment of DSA and AMR is currently awaiting funding. Internally, with both our thoracic pathology and immunology partners we are focusing on the long term outcomes of allograft that develop DSA and the variations in the pathology of AMR. In the same arena, we are collaborating with Washington University in St. Louis on this NIH-sponsored trial to determine whether down regulation of autoimmune responses by depletion of autoantibodies to self-antigens prior to lung transplant will prevent primary graft dysfunction and reduce the risk of bronchiolitis obliterans syndrome and further work by our own labs looking at immune mechanism of rejection are continuing.

A second area of interest in for our group is cytomegalovirus infection (CMV) and chronic lung allograft dysfunction (CLAD) and we will begin work in the Lung Transplant Clinical Trials Network (LT-CTN) CTOT – NIAID multicenter clinical trial in organ transplantation study which address two of the most important and current graft-limiting problems, cytomegalovirus infection (CMV) and chronic lung allograft dysfunction (CLAD) and aims to gain a better understanding the risks, phenotypes, and mechanisms of CLAD to reduce rates of long-term graft loss.

Additional studies that lung transplant program staff are leading or taking part in include:

- A prospective study of the incidence, prevalence and risk factors for neurocognitive impairment in a cohort of lung transplant recipients.
- A multicenter trial assessing gastroesophageal reflux as a contributor to chronic lung allograft rejection
- A single center prospect investigation to determine the utility pCLE (Probe based confocal laser endomicroscopy) an optical tool, that allows in vivo, microscopic imaging of lung tissue during standard bronchoscopy looking for rejection after transplant

**Choi, Humberto**

My research interest is focused on lung cancer, particularly in the areas of biomarkers, preoperative evaluation, prediction of clinical outcomes and advanced diagnostic bronchoscopy. I work in collaboration with Cerebrovascular Research Center from the Department of Biomedical Engineering.

Current and future projects include:

- Blood and urine biorespository
- S100B protein as a biomarker for detection of brain metastasis
- Quantitative CT scan analysis for preoperative evaluation of the patient with lung cancer being considered for lung resection.
- Heart rate recovery as a predictor of cardiopulmonary complications after lung resection surgery
- Analysis of clinical outcomes in patients with metachronous second primary lung cancer
Culver, Daniel
My research mainly focuses on sarcoidosis and interstitial lung disease. Fellows might be involved in either clinical or experimental research. Prospective clinical research projects that may be feasible include use of corneal confocal microscopy in sarcoidosis, screening for small fiber neuropathy in chronic sarcoidosis, validation of an instrument screening for small fiber neuropathy and the relationship of chronic sarcoidosis to cardiovascular disease using CT and biomarkers.

Duggal, Abhijit
My research interests are focused on the clinical epidemiology and outcomes associated with critical illness. My current projects include
1. Prognostic factors and outcomes associated with the development of refractory hypoxemia in Acute Respiratory Distress Syndrome (ARDS).
2. Variables associated with the use of non-conventional “rescue” ventilatory and non-ventilatory strategies in patients with refractory hypoxemia
3. Short and long term outcomes in patients with chronic respiratory diseases undergoing invasive mechanical ventilation
4. Epidemiologic characteristics of critical illness associated with viral pandemics

Dweik, Raed
Dr. Dweik’s research program draws on the strengths of the Department of Pulmonary and Critical Care Medicine in the Respiratory Institute (RI) and the Department of Pathobiology in the Lerner Research Institute (LRI). The overall goal of the Dweik lab is to understand lung physiology and pathology through the study of systemic and exhaled biomarkers. The strength of our research comes from its true translational nature and immediate clinical relevance. While our main area of interest is the pathobiology of pulmonary circulation (pulmonary hypertension), our work also covers lung physiology as well as the full spectrum of lung diseases that involve the airway (asthma), and the parenchyma (berylliosis-CBD).

Pulmonary Circulation: We have been conducting translational research in the area of nitric oxide (NO) biology and pulmonary vascular disease for the past 17 years and our current work is focused on the role of NO and the lung matrix (particularly Hyaluronan) in normal lung physiology and in the pathophysiology of pulmonary vascular and airway diseases.

Exhaled Breath Analysis: With each breath we exhale, thousands of molecules are expelled in our breath. Each individual has a “breath-print” that can tell a lot about his or her state of health. Our breath analysis laboratory continues to be at the cutting edge of this new field. Our most recent work focuses on the utility of exhaled breath analysis in the identification and monitoring of lung (pulmonary hypertension, asthma, etc.) and systemic (heart, liver, GI, kidney, etc.) disease.

Erzurum, Serpil
The Erzurum lab studies airway Inflammatory diseases such as asthma, and pulmonary vascular diseases including pulmonary hypertension. Studies encompass basic science projects in the laboratory, translational projects with human samples, and clinical research trials.

Hatipoglu, Umur
• Mechanical ventilation
Monitoring of work of breathing by utilizing CVP waveform
CVP waveform monitoring during weaning
Tidal volume variation during unconventional mechanical ventilation

- IgE mediated asthma
  - Variability of total IgE over time in asthmatic patients

- Quality of care metrics
  - Factors that determine pneumonia readmissions in tertiary care center

- Interstitial lung disease
  - Clinical monitoring of interstitial lung disease

Heresi Davila, Gustavo
My research focuses on pulmonary arterial hypertension, particularly in the areas of biomarkers and prediction of clinical outcomes.

There are several potential projects based on our large PH database, for example we are looking into novel clinical predictors of outcome and at the clinical features of patients with borderline pulmonary pressures.

We collect blood samples and we are measuring several novel biomarkers of the disease, like CRP, chemokines and HDL-cholesterol.

We are interested in the role of insulin resistance in pulmonary vascular disease. We have a funded project to begin shortly where we will perform a detailed metabolic profiling of patients with idiopathic PAH.

Highland, Kristin
My area of research interest is rheumatic lung disease, with a focus on interstitial lung disease and pulmonary hypertension in this group of patients. I am also very interested in the pulmonary complications seen in scleroderma. Currently I am looking at clinical outcomes following lung transplant for CTD-lung disease.

Hite, R. Duncan
The overall goal of my research activities is translational research in critical care medicine, and includes the following general areas:

- Cellular/Molecular: studies investigating mechanisms of surfactant injury triggered by acute lung inflammation. In particular, we focus on upregulation of secretory phospholipases and phospholipase-mediated surfactant depletion and dysfunction. Specific diseases of interest include acute lung injury, asthma and more.

- Clinical Trials: Studies are focused on observational interventional studies focused on acute lung injury, sepsis, pneumonia, delirium and more. Current active studies include NIH-funded multicenter trials on ALI (including the ARDS Network), sepsis and pneumonia. The Cleveland Clinic has submitted an application to be a primary site for the NIH-funded PETAL Network which will focus on prevention and early treatment of ALI, and I will serve as the PI if selected. I have had extensive previous experience with studies sponsored by
the pharmaceutical industry, but no trials are currently active due to large number of NIH-funded studies. Involvement in these activities provides excellent opportunities and resources for small ancillary studies that take advantage of databases and clinical samples from each trial.

- Quality Improvement: Projects designed to determine optimal approaches to the delivery of care to patients in the ICU using rapid cycle approaches that combine with available Institute statistical and IT resources. Projects in the past have included prevention of VAP, ICU sedation, delirium management, ventilator management, weaning, palliative care and more.

Khatri, Sumita
Research interests include air pollution and health (asthma), health disparities in outcomes and delivery of care for asthma, bronchial thermoplasty for asthma, biomarkers of asthma and airway inflammation, vocal cord dysfunction and asthma.

The USEPA has recently completed an in-depth air quality study on the characteristics and sources of particulate matter (soot) pollution in the area. We are currently collaborating with them on an epidemiologic health study evaluating particulate matter (PM) pollution and presentations for acute asthma (data on acute MI is also available). Geographic information systems (GIS) is used to estimate individual exposures to air pollution prior to their presentations for asthma to determine whether there are patterns of exposure related to such presentations. Ancillary studies from this collaboration are possible.

The Asthma Care Paths have created an opportunity for collaboration in the care of asthma not seen before here at Cleveland clinic. This allows us to get a sense of prior practice patterns, and evaluate how having a more protocolized approach may help patients with asthma and change outcome metrics across the institution. Further, high risk individuals and groups with asthma exist in our community, and best practices for the breaking down of barriers for the care of asthma need to be implemented and evaluated for efficacy.

The Bronchial Thermoplasty and Registry Study proposes the formation of a 3-year registry with evaluation of clinical, physiologic, biologic, and imaging results that may predict clinical response to bronchial thermoplasty in patients with severe refractory asthma.

Dr Claudio Milstein (Voice Center) has a large patient experience with vocal cord dysfunction and breathlessness. We are planning on writing up the Cleveland Clinic Speech Center/Asthma Center experience with these patients, looking for research questions as well.

Mazzone, Peter
Research focus in the lung cancer program would relate to an area of lung cancer that we as pulmonologists play a major role in. These are many, and there are many unanswered questions in these areas, leading to the possibility of a wealth of research. There are opportunities for both clinical and translational research projects.

1. Epidemiology
   - prediction of the risk of developing lung cancer (clinical, genetic, molecular)
- gender differences
- health care disparities
- presentation

2. Primary Prevention
- smoking cessation
- chemoprevention

3. Secondary Prevention (lung cancer screening)
- imaging programs
- biomarker development and validation (risk, diagnosis, evaluation of nodules)

4. Diagnosis and Staging
- lung nodule management (imaging advances, biomarker development and validation)
- bronchoscopic advances

5. Pre-operative Evaluation of the Lung Resection Candidate
- algorithms, other forms of exercise testing
- development of risk predictor indices
- guidelines assessment
- interventions (pulmonary rehab, smoking cessation, etc.)

6. Follow-up Post Curative Intent Treatment and Tertiary Prevention
- no defined protocols for follow-up – imaging, biomarker development and validation
- outcomes research – surgery, chemo/XRT
- quality of life
- chemoprevention

Mehra, Reena
The research focus of our group involves exploring pathways mediating the relationship between sleep disordered breathing and cardiac electrophysiology as well as cardiovascular disease from a clinical trials and epidemiologic perspective. For over 10 years, we have led and administered several NIH funded and foundation grant projects including a de novo analyses of electrophysiologic signals in large-scale epidemiologic cohorts, the Sleep Heart Health Study and Outcomes of Sleep Disorders in Older Men study, involving thousands of participants with the goal of investigating relationships of sleep apnea and nocturnal cardiac arrhythmias. Our team has also conducted a parallel randomized controlled trial evaluating the effects of sleep apnea treatment on biomarkers of oxidative stress. Recent research efforts have focused on honing in on underlying pathophysiologic mechanisms linking sleep apnea and paroxysmal atrial fibrillation and investigating the longitudinal relationships of polysomnographic and electrophysiologic markers with the development of incident atrial fibrillation. Students, residents and fellows have worked with our research team on various projects including clinical trials design in sleep apnea, predictors of positive airway pressure adherence, prevalence of newly diagnosed insulin resistance in a sleep apnea clinical trial, relationship of central versus obstructive apnea and incident atrial fibrillation and the impact of sleep apnea treatment on biomarkers of systemic inflammation and vascular function. There are opportunities for fellows to examine hypotheses of interest capitalizing on existing clinical and epidemiologic datasets.

Mehta, Atul C.
1. Endobronchial Volume Reduction
2. Bio-absorbable Endobronchial Stents
3. Diseases of the Central Airways
**Mireles-Cabodevila, Eduardo**

Research interests and projects are:

1. Mechanical ventilation: application, nomenclature, patient-ventilator interaction, prolonged mechanical ventilation.
   a. I work with simulators to assess ventilator and mode performance.
   b. I am working on improving the delivery of mechanical ventilation by establishing algorithms that can be used for decision support.

2. Neuromuscular disease: Respiratory muscle involvement, optimizing care, respiratory and ventilator support, diaphragmatic pacing.
   a. I am working on how to improve respiratory care of this patients, in and outside the hospital.

   a. I am doing research on the effect of simulation in education and patient outcomes.

**Olman, Mitchell**

Our lab works on key aspects of lung injury repair leading to fibrosis. We have ongoing projects that span the gamut from basic biology (with cells and tissue and proteins), to animal models of lung injury and fibrosis, to translational and purely clinical. At the current time we have projects related to mechanotransduction (sensing of matrix stiffness) in fibroblasts and macrophages to blood coagulation and thrombosis in clinical ILD. I am happy to meet with any interested fellow to discuss specifics.

**Scheraga, Rachel**

My research interests as part of Dr. Mitchell Olman’s lab are focused on the lung biology of idiopathic pulmonary fibrosis (IPF) and acute lung injury. Specifically, I am studying the role of the transient receptor potential vanilloid (TRPV4) channel in the macrophage. We hope to determine the function of this channel in the macrophage as it could be a potential drug target to treat IPF and other lung diseases.

**Southern, Brian**

My research focus is fibroblast/myofibroblast signaling in idiopathic pulmonary fibrosis (IPF). Specifically, I am interested in what signals drive fibroblast/myofibroblast activation and accumulation in areas of ongoing fibrosis in the lung.

Our lab has developed a novel system that allows us to study the fibroblast-matrix interactions in normal and fibrotic lung tissue. With this model, we have shown that fibroblasts preferentially adhere to fibrotic lesions, become immotile, and differentiate into myofibroblasts. Myosin II appears to be a critical molecule which can perform different functions depending on whether the fibroblast is interacting with normal or fibrotic lung. I am currently working on better defining this mechanism and exploring ways to manipulate myosin II activity to interrupt the fibroproliferative cycle.

Opportunities are always available in Dr. Mitch Olman’s laboratory for fellows interested in basic science or translational research in IPF.
**Stoller, James**
Research interests regard alpha-1 antitrypsin deficiency, health care delivery of respiratory care services, the impact and outcomes of education, leadership development activities, and optimal educational strategies (e.g., in simulation, etc.). The experience of collaborating with me will offer experience perspectives on clinical research design as well as the mechanics of writing, submitting, and editing research papers.

I am also absolutely available to fellows to help them prepare reviews of clinical issues and on academic mentorship issues.

**Tonelli, Adriano**
Research interests include the study of systemic vascular function and hemodynamics including invasive and non-invasive cardiac output determinations in pulmonary vascular diseases. I am particularly interested in the study of pulmonary hypertension in patients with liver diseases. In addition, I am attracted to perform electro or echocardiographic studies in patients with a variety of lung diseases.

**Valapour, Maryam**
In my research I focus on the study of public policies as they relate to organ transplantation. My current projects fall under two major categories: 1) study of US lung transplant policies and their impact on US transplant allocation, clinical practice and outcomes; and 2) study of policies of informed consent in organ donor and recipient populations. Currently I serve as the Senior Investigator for Lung Transplant for the Scientific Registry of Transplant Recipient (SRTR). In this role, I work with a team to analyze the US lung transplant data to answer questions about how to best allocate organs to improve the efficiency of the US lung transplant system; and study outcomes for US transplant candidates and recipients. This year, we will initiate projects to study various patient outcomes in the Cleveland Clinic lung transplant program.

**Zein, Joe**
Research interests include airway diseases. I have been involved in a project analyzing the SARP database to investigate the role of aging on asthma control. The goal is to describe asthma severity and control during the life course of individuals, as well as the role of gender and the hormonal milieu. I am also interested in cost effectiveness, clinical decision analysis and the cost of illness.
Selected Publications
2013-2014
**Aboussouan, Loutfi**

*Journal Publications:*


*Book Chapters:*


**Alappan, Narendrakumar**

*Journal Publications:*


**Almeida, Francisco**

*Journal Publications:*


**Aronica, Mark**

*Journal Publications:*


**Ashton, Rendell**

**Journal Publications:**


**Budev, Marie**

**Journal Publications:**


**Choudhary, Chirag**

*Journal Publications:*


**Choi, Humberto**

*Journal Publications:*


*Book Chapters:*


**Cicenia, Joe**

*Journal Publications:*


**Book Chapters:**


**Culver, Daniel**

**Journal Publications:**


**Duggal, Abhijit**

**Journal Publications:**


**Dweik, Raed**

*Journal Publications:*


**Book Chapters:**
Ramaswamy A, Dweik RA, Mehta AC. Pleural diseases. In: Stoller JK, Nielsen C, Buccola J, Brateanu A, eds. The Cleveland Clinic Foundation Intensive Review of


**Erzurum, Serpil**

**Journal Publications:**


**Book Chapters:**

**Farag, Hany**
*Journal Publications:*

**Farha, Samar**
*Journal Publications:*


**Fernandez, James**
*Journal Publications:*

**Garcha, Puneet**

**Journal Publications:**


**Book Chapters:**


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**Gildea, Tom**

**Journal Publications:**


**Book Chapters:**


**Guzman, Jorge A.**
Journal Publications:


Book Chapters:

Hatipoğlu, Umur
Journal Publications:


Heresi Davila, Gustavo
Journal Publications:


**Highland, Kristin**

*Journal Publications:*


Highland KB, Culver DA. Pulmonary manifestations of sarcoidosis. In: Dellaripa P, Fischer A, Flaherty K, eds *Pulmonary Manifestations of Rheumatic Disease* 2014; 95-121

Highland KB, Siver RM. Pulmonary manifestations in mixed connective tissue disease. In: Dellaripa P, Fischer A, Flaherty K, eds *Pulmonary Manifestations of Rheumatic Disease* 2014; 73-82


**Hite, R. Duncan**

*Journal Publications:*


**Hsieh, Fred**

*Journal Publications:*


Visconte V, Tabarroki A, Rogers HJ, Hasrouni E, Traina F, Makishima H, Hamilton BK,
Liu Y, O'Keefe C, Lichtin A, Horwitz L, Sekeres MA, Hsieh FH, Tiu RV. SF3B1 mutations are infrequently found in non-myelodysplastic bone marrow failure syndromes and mast cell diseases but, if present, are associated with the ring sideroblast phenotype. *Haematologica*. 2013 Sep;98(9):e105-e107.

Hsieh FH. Additional insights into epithelial secreted phospholipase A2 group x in asthma. *Am J Respir Crit Care Med*. 2013 Jul 1;188(1):2-3.


**Kapoor, Aanchal**

*Journal Publications:*


**Book Chapters:*


**Kotloff, Robert**

*Journal Publications:*


**Book Chapters:***


Afessa B, Peters SG, and Kotloff RM. Non-infectious pulmonary complications of


Books:

Khatri, Sumita
Journal Publications:

Book Chapters:

Lang, David
Journal Publications:


**Machuzak, Michael**  
*Journal Publications:*  


**Book Chapters:**  

**Mazzone, M.D., Peter**  
*Journal Publications:*  


**Book Chapters:**


**Mehra, Reena**

**Journal Publications:**


May A, Mehra R. Obstructive Sleep Apnea: Role of Intermittent Hypoxia and Inflammation. *Semin Respir Crit Care Med* (in press)


**Book Chapter:**
Walia HK, Mehra R. Evaluation and Monitoring of Respiratory Function. Editor: Chokroverty

**Mehta, Atul**

**Journal Publications:**


**Books, Entire:**

**Book Chapters:**


**Mireles-Cabodevila Eduardo**

**Journal Publications:**


**Book Chapters:**

**Moghekar, Ajit**

**Journal Publications:**


**Newton, Lisanne**

**Journal Publications:**

**Olman, Mitchell**

**Journal Publications:**


Olbrych, Thomas
**Journal Publications:**

Parambil, Joseph
**Journal Publications:**


**Book Chapter:**

Pichurko, Bohdan
**Journal Publications:**

Reddy, Anita
**Journal Publications:**

Sahoo, Debasis
**Journal Publications:**

Sasidhar, Madhu
**Journal Publications:**


Scheraga, Rachel
Journal Publications:


Sethi, Sonali
Journal Publications:

Book Chapter:

Southern, Brian
Journal Publications:


Stoller, James
Journal Publications:


**Book Chapters:**


**Whole Book:**


**Suri, Anu**
*Journal Publications:*

**Talliercio, Rachel**
*Journal Publications:*

**Tolle, Leslie**
*Journal Publications:*

**Tonelli, Adriano**
*Journal Publications:*
Bauer SR, Tonelli AR. Beyond the evidence: treating pulmonary hypertension in the ICU. *Critical Care*. [Epub ahead of print]


Sahay S, Tonelli AR. Pericardial effusion in pulmonary arterial hypertension. Pulmonary Circulation 2013:3; 467-477.


Tonelli AR, Dweik RA. Why patients who die of worsening pulmonary arterial hypertension are not on parenteral prostacyclin analog treatment? J Heart Lung Transplant. 2014 Feb;33(2):221.


Alkukhun L, Bair N, Dweik RA, Tonelli AR. Subcutaneous to Intravenous Prostacyclin...


**Book Chapters:**


**Tsuang, Wayne**

**Journal Publications:**


Valapour, Maryam

**Journal Publications:**


Zein, Joe

**Journal Publications:**


Grants
2013-2014
# FEDERAL GRANTS AND CONTRACTS

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<th>National Institutes of Health (NIH)</th>
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<td>Asthma Inflammation in Research (AIR) (P01) (HL 103453)</td>
<td>Mark A. Aronica, MD</td>
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<td>Immune Mechanisms of Rejection in Human Lung Allografts (R01) (HL 056643)</td>
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<td>Treatment of Anti-HLA Antibodies to Prevent BOS after Lung Transplantation (R34) (HL 105412)</td>
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<td>Lung Transplant Clinical Trials Network (LT-CTN) (U01 AI113315)</td>
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<td>Idiopathic Pulmonary Fibrosis Clinical Research Network (U10) (HL080413)</td>
<td>Daniel A. Culver, DO</td>
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<td>Genetic Risk for Granulomatous Interstitial Lung Disease (R01 HL114587)</td>
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<td>Microbial Induction of Sarcoidosis CD4+ T Cell Dysfunction (R01) (HL 117074)</td>
<td>Daniel A. Culver, DO</td>
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<td>Treating Sarcoidosis Patients with Nicotine</td>
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<td>Hyaluronan Matrices in Vascular Pathologies (P01) (HL107147)</td>
<td>Raed A. Dweik, MD</td>
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<td>Asthma Inflammation Research (AIR) (P01) (HL103453)</td>
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<td>Pulmonary Vascular Complications of Liver Disease (R01) (HL 113988)</td>
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<td>Novel Therapeutics for Alcoholic Hepatitis - Cleveland Translational Component (U01) (AA021890)</td>
<td>Raed A. Dweik, MD</td>
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Airway Redox Biochemistry as a Determinant of Asthma Phenotype During Adolescence (U10) (HL109250)  
Raed A. Dweik, MD

Nitric Oxide in Pulmonary Hypertension (R37) (HL 060917)  
Serpil C. Erzurum, MD

Clinical and Translational Science Award (CTSA) (2UL1) (TR000439-06)  
Serpil C. Erzurum, MD

KIA-The Effects of Ckit Inhibition by Imatinib in Asthma (U01) (HL102225)  
Serpil C. Erzurum, MD

Asthma Inflammation Research (AIR) (P01) (HL103453)  
Serpil C. Erzurum, MD

Airway Redox Biochemistry as a Determinant of Asthma Phenotype During Adolescence and Adulthood (U10) (HL109250)  
Serpil C. Erzurum, MD

Pulmonary Vascular Right Ventricular Axis Research Program (R01) (HL 115008)  
Serpil C. Erzurum, MD

Severe Asthma Research Program Capitated - SARP (U10) (HL109086)  
Serpil C. Erzurum, MD

Redefining Pulmonary Hypertension Through Pulmonary Vascular Disease Phenomics: Data Coordinating Center (DCC)  
Serpil C. Erzurum, MD

Aggressive Antibiotic Therapy on Antimicrobial Resistance in Patients with Pneumonia Requiring Mechanical Ventilation (HHSN2722001000043C)  
R. Duncan Hite, MD

Ganciclovir/Valganciclovir for Prevention of Cytomegalovirus Reactivation in Acute Lung Injury (U01) (HL 102547)  
R Duncan Hite, MD

Vitamin C Infusion for Treatment in Sepsis Induce Acute Lung Injury (UM1) (HL 116885)  
R Duncan Hite, MD
Prevention and Early Treatment of Acute Lung Injury Clinical Trials Network (PETAL)  
R Duncan Hite, MD

T-Cell Epitope Characterization in Cockroach Allergy (U19) (AI100276)  
David M. Lang, MD

Validation of a Multigene Test for Lung Cancer Risk (RC2) (CA148572)  
Peter J. Mazzone, MD

Cut-Point Optimization for Risk Test (CPORT) (R01) (HL108016)  
Peter J. Mazzone, MD

Development of a Multi-Gene Test for COPD and Lung Cancer (LC-COPD) (R01) (HL108016)  
Peter J. Mazzone, MD

Ambrisentan and Tadalafil Therapy in Pulmonary Hypertension Associated with Scleroderma (P50) (HL 084946)  
Omar A. Minai, MD

Role of FAK-Related-Non-Kinase in Lung Fibrosis (R01) (HL 085324)  
Mitchell A. Olman, MD

Deranged Coagulation and Fibrinolytic Cascades in Idiopathic Pulmonary Fibrosis (R01) (HL 103553)  
Mitchell A. Olman, MD

Long Term Oxygen Treatment Trial (LOTT) in Patients with COPD (N01) (HR 76184)  
James K. Stoller, MD

Simvastatin in the Prevention of COPD Exacerbations (U01) (HL 074422)  
James K. Stoller, MD

Vascular Dysfunction in Pulmonary Arterial Hypertension (CTSA KL2) (TR-000440)  
Adriano R. Tonelli, MD

ARDS Clinical Center (N01) (HR 56168)  
Herbert P. Wiedemann, MD

Trial of Aromatase Inhibition in Lymphangioleiomyomatosis (TRAIL) (W81XWH-10-1-0885)  
Joseph G. Parambil, MD
PROFESSIONAL SOCIETY GRANTS

**Alpha One Foundation**

Effect of Alpha-1 Antitrypsin Deficiency Training on Detection Rate  
**Principal Investigator**  
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**American Heart Association**

Transplant and Preparation Center (CMREF)  
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**Howard Hughes Medical Institute**

Effector Cell Development and Lineage Commitment in Allergic Inflammation (2008ECA)  
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**Partnership for Cures and LUNGevity Foundation**

Identification of Lung Cancer through the Analysis of Exhaled Breath  
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INDUSTRY AND OTHER SOURCES

**Project Title**  
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Functional Assessment of End-Stage Lung Disease in Patients Undergoing Lung Transplantation  
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Decision Making for Emphysema Patients Considering Lung Transplantation (DECIDE)  
Marie M. Budev, DO

Lung Transplant and Cognitive Impairment  
Marie M. Budev, DO

Prevalence of Erectile Dysfunction in Lung Transplant Recipients  
Marie M. Budev, DO
Ghrelin, Adipokines and Biologic Markers in Primary Graft Dysfunction after Lung Transplantation

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STX-100 in Patients with Idiopathic Pulmonary Fibrosis

Daniel A. Culver, DO

Intravenous Infusion of Human Placenta-Derived Cells (PDA001) for Stage II or III Sarcoidosis

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Registry of Patients with Sarcoidosis Associated Pulmonary Hypertension

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RIP2 Kinase Inhibition in Sarcoidosis

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Lysophosphatidic Acid Receptor Antagonist in Patients with Idiopathic Pulmonary Fibrosis

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Effects of ARA 290 on Corneal Nerve Fiber Density and Neuropathic Symptoms of Subjects with Sarcoidosis

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FG-3019 in Patients with Idiopathic Pulmonary Fibrosis

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S100β Levels in Neurosarcoidosis

Daniel A. Culver, DO

Idiopathic Pulmonary Fibrosis Prospective Outcomes Registry

Daniel A. Culver, DO

AirWave for the Assessment of Correct Endotracheal Tube Placement

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Registry to Evaluate Early and Long-Term Pulmonary Arterial Hypertension Disease Management

Raed A. Dweik, MD

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Raed A. Dweik, MD

Macitentan in Eisenmenger Syndrome to Restore Exercise Capacity

Raed A. Dweik, MD
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Richard Krasuski, MD (Raed Dweik, MD Co-Investigator)

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Richard Krasuski, MD (Raed Dweik, MD Co-Investigator)

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