

**Harvard Medical School
Curriculum Vitae**

Date Prepared: May 10th, 2018
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Place of Birth: Bogotá, Colombia

Education

7/85 – 6/91	M.D.	Medicine	Universidad Nacional de Colombia, Bogotá, Colombia
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Postdoctoral Training

7/94 – 6/95	Intern	Internal Medicine	New York University School of Medicine, Brooklyn Hospital Center, Brooklyn, NY
7/95 – 6/97	Resident	Internal Medicine	University of Miami School of Medicine, Jackson Memorial Hospital, Miami, FL
7/97 – 6/98	Clinical Associate	Clinical Research	National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH, Bethesda, MD)
6/98 – 7/02	Clinical Fellow	Pulmonary and Critical Care Medicine	Johns Hopkins University, Baltimore, MD
7/02 – 6/05	Sr. Clinical Fellow	Pulmonary and Critical Care Medicine	NHLBI, NIH

Faculty Academic Appointments

7/05 – 6/08	Assistant Professor	Medicine	University of Pittsburgh, Pittsburgh, PA
7/08 – 6/10	Lecturer	Medicine	Harvard Medical School, Boston, MA
7/10 – 02/17	Assistant Professor	Medicine	Harvard Medical School
3/17 –	Associate Professor	Medicine	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

7/05 – 6/08	Assistant Professor	Pulmonary and Critical Care Medicine	University of Pittsburgh Medical Center, Pittsburgh, PA
7/08 -	Associate Physician	Pulmonary and Critical Care Medicine	Brigham and Women's Hospital, Boston, MA

Major Administrative Leadership Positions

Local

2013 – Director, Interstitial Lung Disease (ILD) Program
Pulmonary and Critical Care Medicine,
Brigham and Women’s Hospital

National

2010 – 2014 Director, Pulmonary Fibrosis Program
Lovelace Respiratory Research Institute,
Albuquerque, NM

Committee Service

Local

2009 – 2013 Organizing Committee – Idiopathic Pulmonary Fibrosis Patient Symposium
2009 – 2013
Brigham and Women’s Hospital and Beth Israel Deaconess Medical Center
Organizer and member

2010 - Herlihy Registry for Interstitial Lung Disease
2010
2010 -
Brigham and Women’s Hospital
Co-Founder
Principal Investigator

2012 - Organizing Committee, Let’s Tee it Up: Pulmonary Fibrosis Golf Tournament
2012
2012-
Brigham and Women’s Hospital
Co-Founder
Member

National

2013 Annual New Mexico Idiopathic Pulmonary Fibrosis conference
2013
New Mexico Thoracic Society
Organizer

2015 Scleroderma Lung Study II
Data Safety Monitoring Board
National Heart, Lung and Blood Institute
Member

Professional Societies

1997 - American Thoracic Society
Member

1997 - American College of Chest Physicians
2013
Member
Fellow

2014 - Latin American Thoracic Association
2014-
Member
Member, Interstitial Lung Disease Subcommittee

2014-
Senior Advisor, Latin American Registry of Interstitial Lung Disease

2015 - Colombian Respiratory Society
Member

2015 - European Respiratory Society
Member

Grant Review Activities

2013 Pulmonary Grant Review Panel
Federal Drug Administration (FDA), Office of Orphan Products Development

2013
Ad hoc member

2014	Peer Reviewed Medical Research Program Discovery Award–Illnesses Related to Radiation Exposure 2014	Department of Defense (DOD) Congressionally Directed Medical Research Programs (CDMRP) <i>Ad hoc</i> member
2014	NHLBI Small Business Innovations Grants (SBIR) – Respiratory Sciences 2014	NIH <i>Ad hoc</i> member
2015	Peer Reviewed Medical Research Program Discovery Award – Focused Program Award 2015	Department of Defense Congressionally Directed Medical Research Programs (CDMRP) <i>Ad hoc</i> member
2015	American Lung Association Grant Review Committee C 2015-	Nationwide Research Programs of the American Lung Association <i>Ad hoc</i> member
2015	Peer Reviewed Medical Research Program Investigator Initiated Research and Technology/Therapeutic Development – Pulmonary Fibrosis Award 2015	Department of Defense Congressionally Directed Medical Research Programs (CDMRP) <i>Ad hoc</i> member
2015	R13 Conference Grant Application Review Scientific Review Group 2015/10 ZHL1 CSR-S 2015	National Heart, Lung and Blood Institute Special Emphasis Panel <i>Ad hoc</i> member
2017	NHLBI Program Project Grant Special Review Committee	<i>Ad hoc</i> member
2017	Special Emphasis Panel NHLBI Biorepository: Scientific Opportunities for Exploratory Research (R21)	<i>Ad hoc</i> member

Editorial Activities

Ad hoc Reviewer

American Journal of Respiratory and Critical Care Medicine
American Journal of Cell and Molecular Biology
American Journal of Lung Cellular and Molecular Physiology
Chest
European Respiratory Journal
Federation of American Societies Experimental Biology (FASEB)
Journal of Clinical Investigation
PloS One
Nature Medicine
Thorax

Other Editorial Roles

2009 -	Editorial Board Member	American Journal of Respiratory and Critical Care Medicine
2010 -	Editorial Board Member	Chest
2015 -	Associate Editor	Revista Americana de Medicina Respiratoria

Honors and Prizes

- 2013 Brigham and Women's Hospital Chair's Research Award
2016 Elected Member of the American Society for Clinical Investigation

Report of Funded and Unfunded Projects

Funding Information

Past

- 2008 - 2013 Syndecan-2 and Clinical Progression of Idiopathic Pulmonary Fibrosis
NHLBI K23 HL087030
Role: Principal Investigator
The specific aims of this proposal are: 1) To determine whether syndecan-2 levels are indicative and predictive of disease development and progression. 2) To determine which matrix metalloproteinases (MMPs), increased in idiopathic pulmonary fibrosis (IPF), regulate syndecan-2 shedding. 3) To determine the effects of syndecan expression and shedding on chemokine and growth factor bioavailability. The proposed research will offer insight into the role of syndecan-2 in IPF disease progression.
- 2008 - 2013 Surrogate Biomarkers of IPF Progression
NHLBI P50 HL0894932
Role: Co-investigator
The overall goal of this project is to translate basic knowledge in antigen recognition, mechanisms of allergy and tolerance, and high-throughput genomics and proteomics to 1) improve our understanding of allergic and fibrotic diseases and 2) use this knowledge to design interventions to prevent or ameliorate these pathogenic processes.
- 2010 - 2014 Idiopathic Pulmonary Fibrosis Clinical Research Network
NHLBI U10 HL080413; U10 HL080413
Role: Site Principal Investigator
The purpose of this national clinical research consortium is to test novel therapies for patients affected with Idiopathic Pulmonary Fibrosis. Prednisone, Azathioprine and N-acetylcysteine: a Study That Evaluates Response in IPF (PANTHER-IPF) will study the effectiveness of n-acetyl-cysteine (NAC), alone and in combination with prednisone and azathioprine, in preventing the loss of lung function in people with IPF.
- 2010 - 2015 Phase II Study of Inhaled Carbon Monoxide for the Treatment of Idiopathic Pulmonary Fibrosis
NHLBI U01 HL105371
Role: Principal Investigator
This grant proposal responds to a Request for Applications seeking proof-of-concept trials of novel interventions with high potential for modifying current treatments. The therapy we will test, inhaled carbon monoxide, is entirely novel and ideally suited to treatment of Idiopathic Pulmonary Fibrosis. A positive finding from our clinical trial will open the door to using a completely novel and potentially disease-modifying therapy for IPF and other lung diseases.
- 2012 - 2015 *Ex-vivo* therapeutic use of Carbon Monoxide to rescue donor lungs of marginal quality
Center for Integration of Medicine and Innovation (CIMIT) Grant
Role: Principal Investigator
The goal of this project is to demonstrate that carbon monoxide can rescue marginal donor

lung function using an *ex-vivo* perfusion system.

2013 - 2015 *Ex-vivo* therapeutic use of Carbon Monoxide to rescue donor lungs of marginal quality
New England Organ Bank Grant
Role: Principal Investigator
The goal of this project is to demonstrate that carbon monoxide can rescue marginal donor lung function using an *ex-vivo* perfusion system.

Current

2013 - 2018 Distinct and Overlapping Pathways of Fibrosis and Emphysema in Cigarette Smokers
NHLBI P01 HL114501
Role: Principal Investigator, Project 4 / \$211,926
The pathogenesis of chronic obstructive pulmonary disease (COPD) and IPF is poorly understood. In this program project we have integrated the expertise of investigators from the COPD and IPF communities, both basic and translational, to better understand the pathogenesis of these chronic lung diseases, and hopefully identify new molecular targets in the treatment of these dreadful diseases in the future.

2015 - 2018 Clinical and Molecular Profiles of Smokers with Subclinical Interstitial Lung Disease
NHLBI R01 HL15024
Role: Principal Investigator / \$321,698
In this proposal we aim to define clinical and molecular determinants that predict development and longitudinal progression of subclinical interstitial lung disease (ILD) detected by computed tomography over a 10-year mean follow-up period. We hypothesize that select clinical and molecular features that portend a poor prognosis in IPF patients predict development and progression of subclinical ILD in smokers.

2016 - 2017 Autoantibody Reduction Therapy in Patients with Idiopathic Pulmonary Fibrosis (ART-IPF)
NHLBI R01 HL105371
Role: Site Principal Investigator/ \$35,186 (Principal Investigator: Steven Duncan)
This study is being conducted to determine if rituximab provides beneficial effects for IPF patients. The goal of this research is to study how well rituximab will work in IPF in terms of reducing autoantibodies, and slowing disease worsening, compared to placebo.

2016 - 2018 Molecular imaging of angiogenic activity in pulmonary arterial hypertension
NHLBI R01 HL119960
Role: Co-Investigator (PI: Paul Yu)
In this proposal we will validate the utility of a novel positron emission tomography (PET) probe for the diagnosis and management of human PAH. We will refine quantitative methods for analyzing serial studies, to support the concept that probe activity is closely linked to disease progression or regression and that imaging could help identify pre-morbid disease, guide tailored therapy, and/or provide a criterion for evaluating the potential of new drugs.

2016 - 2019 Clinical Genetics and Screening for Pulmonary Fibrosis
NHLBI R01 HL130974
Role: Co-Principal Investigator/ \$494,271 (Contact Principal Investigator: Benjamin Raby, Co-Principal Investigator: Gary M. Hunninghake)

The goal of this proposal is to demonstrate the value of genetic testing for diagnostic and prognostic evaluation of patients with, or at risk for, IPF. Recent studies also demonstrate that genetic testing may be a critical factor that can help guide early detection. We hypothesize that specific, known genetic variants confer variable prognosis in patients with pulmonary fibrosis (PF), and that targeted genetic testing will aid in patient counseling, early disease detection, and ultimately, earlier initiation of medical therapy.

2016 - 2021 Phase II Study of Safety, Tolerability and Efficacy of Pirfenidone in Patients with Rheumatoid Arthritis Associated Interstitial Lung Disease

Investigator Initiated Study - Genentech/Roche

Role: Principal Investigator

This investigator initiated, industry sponsored, international multicenter clinical study will test the safety, tolerability, and efficacy of oral pirfenidone in patients affected with Rheumatoid Arthritis associated interstitial lung disease. Patients will be treated with pirfenidone or placebo for 52 weeks; efficacy will be determined by measuring changes over the study period. Exploratory endpoints will include imaging and molecular biomarkers.

2017-2021 Autoantibody Reduction Therapy in Patients with Acute exacerbations of Idiopathic Pulmonary Fibrosis (STRIVE-IPF).

NHLBI U01 HL105371

Role: Site Principal Investigator

This study is being conducted to determine if rituximab provides beneficial effects for acute exacerbations in IPF patients. The goal of this research is to study how well rituximab will work in IPF acute exacerbations in terms of reducing autoantibodies, and improving survival, compared to placebo.

2017-2021 Novel role of RIPK3-dependent necroptosis pathway in lung and kidney fibrosis

NHLBI R01 HL133801

This study is being conducted to determine the novel role of RIPK3-dependent necroptosis pathway in the development of lung and kidney fibrosis.

Role: Co-Investigator (PI: (M. Choi/A. Choi)

Report of Local Teaching and Training

Teaching of Students in Courses

Teaching prior to current Harvard appointment

2006 – 2007	Pulmonary Course Fourth-Year Medical Students	University of Pittsburgh 10 hrs/yr
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HMS/HSDM/DMS Courses

2013 -	Principles and Practice of Clinical Research Medical Students and Medical Doctors graduated from foreign medical schools enroll in the course. Role	Harvard School of Public Health Two sessions/yr Lecturer
2015	Patient Doctor II – Advanced pulmonary	Harvard Medical School

	exam and patient round robin (PDII IN761.23)	
2016	Role Practice of Medicine Course: Physical diagnosis, pulmonary – advanced exam and patient round robin (POM 100.23)	Preceptor Harvard Medical School
	Role	Preceptor

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2009 – 2010	Techniques in Molecular Biology Interns/Residents	Brigham and Women's Hospital 10 hrs/yr
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Clinical Supervisory and Training Responsibilities

2005 – 2008	ILD Clinic Supervising Attending / University of Pittsburgh Medical Center	50 hrs/yr
2008 -	ILD Clinic Preceptor (Clinical Fellows), Brigham and Women's Hospital	½ session/every other wk/yr*
2008 -	Lung Transplant Clinic Preceptor (Clinical Fellows), Brigham and Women's Hospital	½ session/every other wk/yr*

***Please note:** My clinic alternates between transplant and ILD on a weekly basis.

Laboratory and Other Research Supervisory and Training Responsibilities

2008 -	Supervise and train postdoctoral research fellows / Pulmonary and Critical Care Medicine, Brigham and Women's Hospital	Daily mentorship
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Mentored Trainees and Faculty

2007 - 2008	Jose D. Herazo, MD, Assistant Professor of Medicine, Pulmonary and Critical Care Division, Yale School of Medicine, New Haven, CT. <i>Career stage:</i> research fellow. <i>Mentoring role:</i> research advisor. <i>Accomplishments:</i> co-author scholarship of mentored research at University of Pittsburgh.
2008 – 2011	Andrew Goodwin, MD, Assistant Professor of Medicine, Pulmonary and Critical Care Division, University of South Carolina, Columbia, SC. <i>Career stage:</i> research fellow. <i>Mentoring role:</i> research advisor. <i>Accomplishments:</i> co-author scholarship of mentored research at BWH.
2008 – 2012	Yuanyuan Shi, PhD, Executive Dean & Distinguished Professor, School of Life Sciences, Beijing University of Chinese Medicine. <i>Career stage:</i> research fellow. <i>Mentoring role:</i> research advisor. <i>Accomplishments:</i> first-author scholarship of mentored research at BWH.
2008 – 2011	Isis E. Fernandez MD, Post-Doctoral Research Fellow, Comprehensive Pneumology Center, Ludwig-Maximilians-Universität, München, Germany. <i>Career stage:</i> research fellow. <i>Mentoring role:</i> research advisor. <i>Accomplishments:</i> co-author scholarship of mentored research at BWH.

- 2008 – 2014 Avignat Patel, MD, Assistant Professor of Medicine, Pulmonary and Critical Care Section, Lahey Clinic, Burlington, MA; Tufts University, Boston, MA. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* first author scholarship of mentored research at BWH.
- 2009 -2011 Cristobal Risquez, MD, Post-Doctoral Research Fellow, Pulmonary and Critical Care Medicine, Weill Cornell Medical School, New York, NY. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* co-author scholarship of mentored research at BWH.
- 2009 – Tracy J. Doyle, MD, Instructor in Medicine, Pulmonary and Critical Care Division, Brigham and Women’s Hospital/Harvard Medical School. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-author scholarship of mentored research at BWH. Mentor of NIH Loan Repayment Program, Institutional Harvard KL2 grant, and National Heart Lung and Blood Institute K23 mentored award.
- 2011 – 2013 Heather Stout-Delgado, PhD, Research Assistant Professor, Weill Cornell Medical School. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-author scholarship of mentored research at Lovelace Respiratory Research Institute.
- 2011 – 2014 Andrew Mihalek, MD, Assistant Professor of Medicine, Pulmonary and Critical Care Division, University of Virginia, Charlottesville, VA. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-author scholarship of mentored research at BWH.
- 2011 – 2014 Juan C. Osorio, MD, Medical Resident, Department of Medicine, Weill Cornell Medical School. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* co-author scholarship of mentored research at BWH.
- 2012 - 2016 Julian Villalba, MD, Medical Resident, BWH Department of Medicine. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* co-author scholarship of mentored research at BWH.
- 2013 – Sarah Chu, MD, Clinical/Research Fellow, Pulmonary and Critical Care Division, Brigham and Women’s Hospital. *Career stage:* research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-author scholarship of mentored research at BWH. Mentor of Ruth L. Kirschstein Institutional National Research Service Award from the National Heart, Lung, and Blood Institute.
- 2015-2016 Yuichi Sakairi, MD, Post-Doctoral Research Fellow, Assistant Professor of General Thoracic Surgery, Chiba University Hospital, Chiba, Japan
Career stage: research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-authored scholarship of mentored research at BWH.
- 2016- Kazuhiza Konishi, MD, PhD, Post-Doctoral Research Fellow, Assistant Lecturer of Medicine, Osaka City University Hospital, Osaka, Japan
Career stage: research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-authored scholarship of mentored research at BWH.
- 2016- Sergio Poli de Frias, MD, Post-Doctoral Research Fellow. *Career stage:* Medical Doctor. *Mentoring role:* research advisor. *Accomplishments:* first-authored scholarship of mentored research at BWH.
- 2016- Konstantin Tsoyi, PhD, Post-Doctoral Research Fellow, Brigham and
Career stage: research fellow. *Mentoring role:* research advisor. *Accomplishments:* first-authored scholarship of mentored research at BWH.

- 2017- Xiaoliang Liang, PhD, Post-Doctoral Research Fellow, Pulmonary and Critical Care Division, Brigham and Women's Hospital. *Career stage*: research fellow. *Mentoring role*: research advisor. *Accomplishments*: first-authored scholarship of mentored research at BWH.
- 2017- Benjamin Stump, MD, Clinical/Research Fellow, Pulmonary and Critical Care Division, Brigham and Women's Hospital. *Career stage*: research fellow. *Mentoring role*: research advisor. *Accomplishments*: first-author scholarship of mentored research at BWH.
- 2017- Luisa Quesada, MD, Post-Doctoral Research Fellow. *Career stage*: Medical Doctor. *Mentoring role*: research advisor. *Accomplishments*: first-authored scholarship of mentored research at BWH.

Formal Teaching of Peers (e.g., CME and other continuing education courses)

No presentations below were sponsored by outside entities.

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| 2011 - 2014 | Idiopathic Interstitial Pneumonia
Pulmonary Board Review Course –
Brigham and Women's Hospital | Single talk per year
Boston, MA |
| 2016 | An Interdisciplinary Approach to Interstitial
Lung Disease
Advances in the Practice of Pulmonary and
Critical Care Medicine
HMS CME course | Single talk
Boston, MA |

Local Invited Presentations

No presentations below were sponsored by outside entities.

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|-------|--|
| 2005 | Sub-Clinical interstitial lung disease in familial idiopathic pulmonary fibrosis (Lecture)
Department of Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA |
| 2006 | Chemokine and HSPG interactions in pulmonary fibrosis (Grand Rounds)
Department of Medicine, University of Pittsburgh Medical Center |
| 2007 | Impact of lung disease and functional genomics on clinical medicine (Lecture)
Department of Medicine, University of Pittsburgh Medical Center |
| 2007 | Familial pulmonary fibrosis: What have we learned? (Grand Rounds)
Department of Medicine, University of Pittsburgh Medical Center |
| 2007 | Early ILD and syndecan-2: Insights into the pathogenesis of human pulmonary fibrosis
(Lecture)
Department of Medicine, University of Pittsburgh Medical Center |
| 2008 | Syndecan-2 and Alveolar Macrophages in IPF/Harvard Lung Conference (Lecture)
Department of Medicine, Harvard Lung Conference, Brigham and Women's Hospital,
Boston, MA |
| 2008- | Multidisciplinary Clinical Pathologic Weekly Conference sessions on Interstitial Lung
Disease
Department(s) of Medicine, Pathology and Radiology, Brigham and Women's Hospital |
| 2009 | Early Interstitial Lung Disease in Subjects at Risk of Developing IPF (Grand Rounds)
Department of Medicine, Massachusetts General Hospital, Boston, MA |

- 2011 Idiopathic Pulmonary Fibrosis and Update (Grand Rounds)
Department of Medicine, Faulkner Hospital, Boston, MA
- 2015 Interstitial Lung Disease in Rheumatoid Arthritis: Risk Stratification and Early Detection
Pulmonary Grand Rounds
Department of Medicine, Massachusetts General Hospital
- 2016 Advances in the Treatment of Autoimmune Interstitial Lung Disease (Pulmonary Grand
Rounds)
Department of Medicine, Brigham and Women's Hospital
- 2017 Advances in the Treatment of Interstitial Lung Disease (Medical Grand Rounds)
Department of Medicine, Gaylord Hospital
- 2017 Pirfenidone for the Treatment of Interstitial Lung Disease in Rheumatoid Arthritis
(Advances in Clinical Research Seminar Series)
Lung Center, Brigham and Women's Hospital

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

No presentations below were sponsored by outside entities.

Regional

- 2011 Subclinical Interstitial Lung Disease in Subjects at risk of Developing Pulmonary Fibrosis
(Grand Rounds)
Department of Medicine, Memorial Hospital of Rhode Island
- 2012 Update on Idiopathic Pulmonary Fibrosis (Grand Rounds)
Department of Medicine, University of Massachusetts (Worcester)
- 2012 Subclinical Interstitial Lung Disease: Why you should care (Grand Rounds)
Department of Medicine, University of Massachusetts (Worcester)
- 2014 Primary Prevention of Pulmonary Fibrosis: Rationale and Feasibility (Grand Rounds)
State Chest Lecture, Section of Pulmonary, Critical Care & Sleep, Department of
Medicine/Yale University, New Haven, CT
- 2014 Syndecan-2 exerts Antifibrotic effects by Inhibiting TGF- β 1 Signaling.
Pulmonary Research Conference, Section of Pulmonary, Critical Care & Sleep,
Department of Medicine/Yale University, New Haven, CT
- 2016 Idiopathic Interstitial Pneumonias: Classification and Management (Pulmonary Grand
Rounds, April 19, 2016)
Department of Medicine, Tufts Medical Center, Boston, MA
- 2017 Advances in the Treatment of Interstitial Lung Disease (Medical Grand Rounds)
Department of Medicine, Gaylord Hospital, CT

National

- 2007 Expression Arrays in Inflammatory Lung Disease (Podium Presentation)
Pulmonary Pathology Society Biennial Meeting, Santa Fe, NM
- 2009 Preclinical Interstitial Lung Disease in Subjects at Risk of Developing Idiopathic
Interstitial Pneumonia
4th International Workshop on Pulmonary Function Imaging, Department of Radiology,
Brigham and Women's Hospital

- 2012 Subclinical Interstitial Lung Disease: Why you should care (Grand Rounds)
Department of Medicine, Division of Pulmonary Medicine, Mount Sinai Hospital, NY, NY
- 2012 Syndecan-2, a Cytoprotective Molecule that Inhibits Pulmonary Fibrosis (Lecture)
Department of Medicine, Pulmonary Division, University of Miami, FL
- 2013 Prevention of Pulmonary Fibrosis: Rationale and Feasibility (Medical Grand Rounds)
Department of Medicine, University of Miami, Miami, FL
- 2013 A Roadmap for Rheumatoid Arthritis Interstitial Lung Disease Research (Lecture)
Department of Medicine, Rheumatology Division, University of Miami, FL
- 2013 Inflammasome Activation in Experimental Pulmonary Fibrosis (Lecture)
Interdisciplinary Approaches to Idiopathic Lung Fibrosis, Banbury Center, Cold Spring Harbor, NY
- 2013 Implementing Protein-based Biomarkers in IPF Challenges and Future Directions (Lecture)
Pulmonary Fibrosis Foundation Summit 2013, San Diego, CA
- 2014 Idiopathic Pulmonary Fibrosis: Potentially Treating Disease by the Inhaled Route? (Lecture)
Association of Inhalation Toxicologists and International Society for Aerosols in Medicine Meeting, Princeton, NJ
- 2014 Interstitial Lung Disease in Rheumatoid Arthritis: Risk Stratification and Early Detection
Pulmonary Grand Rounds
Department of Medicine, Baylor College of Medicine, Houston, TX
- 2015 Prevention of Pulmonary Fibrosis: Rationale and Feasibility
Division of Pulmonary, Critical Care & Sleep, Department of Medicine/National Jewish Health, Denver, CO
- 2015 Prevention of Pulmonary Fibrosis: Rationale and Feasibility (Pulmonary Grand Rounds lecture)
Pulmonary and Critical Care Medicine, Temple University, Philadelphia, PA
- 2015 Personalized Medicine for Pulmonary Fibrosis (Lecture)
Pulmonary Fibrosis Foundation Summit 2015, Washington, DC
- 2016 Prevention of Pulmonary Fibrosis: Rationale and Feasibility (Pulmonary Grand Rounds lecture)
Pulmonary and Critical Care Medicine, University of Pittsburgh, Pittsburgh, PA
- 2016 Prevention of Pulmonary Fibrosis: Rationale and Feasibility (Pulmonary Grand Rounds)
Department of Pulmonary and Critical Care Medicine, Weill Cornell Medical Center, New York, NY
- International**
- 2006 Genetics and Genomics of Interstitial Lung Disease (Podium Presentation)
3rd International World Association of Sarcoidosis and Other Granulomatous (WASOG) Conference on Diffuse Lung Disease – Catania, Italy
- 2007 Idiopathic Pulmonary Fibrosis, Genetic and Molecular Mechanisms of Disease (Podium Presentation)
4th International World Association for Sarcoidosis and Other Granulomatous Disorders (WASOG) Conference on Diffuse Lung Diseases – Tokyo, Japan
- 2010 Scientific Symposium Clinical Trials in IPF: Past, Present and Future. IPF Biomarkers –

- The Next Frontier (Podium Presentation)
American Thoracic Society International Conference, New Orleans, LA
- 2012 Preclinical Interstitial Lung Disease in Subjects at Risk of Developing Idiopathic Interstitial Pneumonia
International Colloquium of Lung and Airway Fibrosis, Modena, Italy
- 2013 The Epidemiology of Idiopathic Pulmonary Fibrosis (IPF): Natural History, Risk Factors, and Burden of Disease, (Podium Presentation)
Chest annual meeting, Chicago, IL
- 2014 Implementing Genomic Medicine in the Pulmonary Clinic: Challenges and Opportunities. Genomics of IPF and COPD (Podium Presentation)
World Chest Meeting, Madrid, Spain
- 2014 Biomarkers for the Detection of Subclinical Interstitial Lung Disease: Advances in Interstitial Lung Disease
Latin American Thoracic Society, Medellin, Colombia
- 2014 Metabolic Syndrome is a potential modulator of Lung Injury and Fibrosis
Munich International Autumn School 2014, Munich, Germany
- 2014 Rheumatoid Arthritis-Associated Interstitial Lung Disease Risk Stratification is Potentially Enhanced by Peripheral Blood Biomarkers
International Colloquium of Lung and Airway Fibrosis, Mont Treblant, Quebec, Canada
- 2015 Low-Dose Inhaled Carbon Monoxide for the Treatment of Idiopathic Pulmonary Fibrosis (Podium Presentation)
American Thoracic Society International Conference, Denver, CO
- 2015 Combined Pulmonary Fibrosis and Emphysema (Podium Presentation)
10th Brazilian Thoracic Society Course on Interstitial Lung Disease 2015, Sao Paulo, Brazil
- 2015 Subclinical Interstitial Lung Disease (Podium Presentation)
7th International WASOG Conference on Interstitial Lung Disease 2015, Sao Paulo, Brazil
- 2015 Prevention of Pulmonary Fibrosis: Rationale and Feasibility
Roche Innovation Center, Basel, Switzerland
- 2015 Clinical trials in Idiopathic pulmonary fibrosis: modifiable phenotypes and novel therapies
McGill University Health Center Rare Respiratory Disease Workshop 2015, Montreal, Canada
- 2015 Subclinical ILD: Tip of the iceberg? An Interactive Discussion (Podium Presentation)
Chest International Conference, Montreal, Canada
- 2016 Rheumatoid Arthritis Interstitial Lung Disease: Novel Treatment Approaches (Podium Presentation, April 27, 2016)
British Society of Rheumatology meeting, Glasgow, United Kingdom
- 2016 Personalized Medicine in IPF Patients (Podium Presentation)
Latin American Thoracic Society, Santiago de Chile, Chile
- 2016 Biomarkers of Rheumatoid Arthritis Interstitial Lung Disease (Podium Presentation)
American College of Rheumatology meeting, Washington D.C., USA
- 2017 Antifibrotics for the Treatment of Interstitial Lung Disease in Rheumatoid Arthritis: (Podium Presentation) Cambridge-Harvard Cardio-Respiratory Meeting, Cambridge, United Kingdom

Oral Abstract Presentations

- 2000 Exhaled Breath Biomarkers of Acute Allograft Rejection in Lung Transplant Recipients (Podium Presentation)
American Thoracic Society International Conference, San Diego, CA
- 2000 Lung Transplantation in Systemic Sclerosis (Podium Presentation)
Chest International Meeting, San Francisco, CA
- 2005 Sub-Clinical Pulmonary Fibrosis in Families Affected with Idiopathic Pulmonary Fibrosis (Podium Presentation)
American Thoracic Society International Conference, San Diego, CA
- 2008 Matrix metalloproteinase-7 (MMP7) and matrix metalloproteinase-1 (MMP1) as a potential blood biomarker in Idiopathic Pulmonary Fibrosis (Podium Presentation)
American Thoracic Society International Conference, Toronto, Canada
- 2013 Syndecan-2 and Radiation. Late Breaking Abstract Session
American Thoracic Society International Conference, Philadelphia, PA

Report of Clinical Activities and Innovations

Current Licensure and Certification

- 2002 American Board of Internal Medicine – Internal Medicine
- 2003 American Board of Internal Medicine – Pulmonary Diseases
- 2004 American Board of Internal Medicine – Critical Care Medicine
- 2008 MA Medical License - Full

Practice Activities

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| 2008 - | Inpatient Care | Lung Transplant, Pulmonary and Critical Care Medicine, Brigham and Women's Hospital | 4 wks/yr |
| 2008 - | Ambulatory Care | Lung Transplant Clinic, Brigham and Women's Hospital | ½ session/every other wk/yr |
| 2008 - | Ambulatory Care | ILD Clinic, Brigham and Women's Hospital | ½ session/every other wk/yr |

Report of Technological and Other Scientific Innovations

- Novel Panel of Biomarkers to Predict and Diagnosis Idiopathic Pulmonary Fibrosis Kaminski N, Richards T, Gibson K, **Rosas IO**, Gochuico B and Selman M. "MMP1 and MMP7 as peripheral blood biomarkers in idiopathic pulmonary fibrosis" [Pitt Ref. No. 01749] and "Novel Panel of Biomarkers to Predict and Diagnosis Idiopathic Pulmonary Fibrosis" [Pitt Ref. No. 01750]. The provisional combined patent application is docketed under Pitt Ref. No. 01750. 2009 MMP7, in conjunction with other markers, is the most reproducible diagnostic and prognostic peripheral blood biomarker. Additionally MMP7 could be used as an early marker of disease.

Report of Education of Patients and Service to the Community

No activities below were sponsored by outside entities.

Activities

- 2005 – 2008 Lecturer, Idiopathic Pulmonary Fibrosis Support Group, Simmons Interstitial Lung Disease Meeting, Boston, MA
- 2014 - Co-Founder and Lecturer, Idiopathic Pulmonary Fibrosis Patient Symposium, Brigham and Women's Hospital, Beth Israel Deaconess Medical Center, Boston, MA

Report of Scholarship

Peer reviewed publications in print or other media

Research Investigations

1. Studer SM, Orens JB, **Rosas IO**, Krishnan JA, Cope KA, Yang S, Conte JV, Becker PB, Risby TH. Patterns and significance of exhaled-breath biomarkers in lung transplant recipients with acute allograft rejection. *J Heart Lung Transplant* 2000;20, 11:1158-116.
2. Ren P, **Rosas IO**, MacDonald SD, Wu HP, Billings EM, Gochuico BR. Impairment of alveolar macrophage transcription in idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med* 2007; 175:1151-1157.
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Narrative Report

My principal effort at BWH and HMS is in translational investigation of human pulmonary fibrosis. Since my recruitment in 2008, I have focused on developing strategies for early detection of interstitial lung disease (ILD) in at risk populations, identification of non-invasive biomarkers, and development of novel therapies for patients affected with idiopathic pulmonary fibrosis (IPF) and other progressive fibrotic lung diseases. The clinical care of complex patients referred to our ILD center, enables me to apply the most current diagnostic and therapeutic approaches, which in turn has positioned our lung fibrosis program as a premier clinical trial site. Importantly, this cutting-edge multi-disciplinary clinical care informs my translational research program as described below.

My studies have shown that subclinical pulmonary fibrosis can be detected in at-risk populations including families affected with pulmonary fibrosis (*American Journal of Respiratory and Critical Care Medicine [AJRCCM]*, 2007), smokers (*New England Journal of Medicine*, 2011) and patients affected with rheumatoid arthritis (*Chest*, 2014). I have also shown that MMP7 is a robust non-invasive biomarker for detection of IPF and subclinical ILD in populations at risk of developing pulmonary fibrosis (*PLoS Medicine*, 2008 and *AJRCCM*, 2015). These studies are transformative, as they provide critical evidence that prevention is feasible in a devastating disease with high morbidity and mortality. Furthermore, I have shown that syndecan-2, a glycoprotein increased in the lungs and blood of IPF patients, inhibits transforming growth factor- β (TGF- β), a master regulator of pulmonary fibrosis (*AJRCCM*, 2013). Ongoing preclinical studies are being conducted to investigate the therapeutic role of a syndecan-2 mimetic in pulmonary fibrosis. Finally, I have led several clinical trials testing novel therapies for patients affected with pulmonary fibrosis.

Recognition of the importance of my work is reflected not only in high-impact publications, but also in National Heart, Lung and Blood Institute (NHLBI)-sponsored research. These NHLBI grants include a UO1 testing the therapeutic role of carbon monoxide in IPF, a program project grant (PPG) exploring divergent and overlapping disease mechanisms in IPF and chronic obstructive pulmonary disease, an R01 determining clinical and molecular phenotypes in smokers, an R01 studying families affected with pulmonary fibrosis, and a K23 exploring the role of syndecan-2 in the development and progression of IPF. Additionally, I'm frequently invited to speak at the American Thoracic Society and Chest international meetings, the Pulmonary Fibrosis Foundation Summit, and Colloquium of Lung and Airway Fibrosis. Furthermore, I serve on the editorial board of the prominent pulmonary subspecialty journals AJRCCM and Chest. Finally, I serve as ad hoc reviewer for NHLBI, DOD, and FDA grant review panels. I supervise and teach HMS medical students, Residents and Pulmonary Fellows during my inpatient (6-8 week/year) and outpatient ILD and transplant sessions (every other week for the ambulatory care), therefore providing trainees with unique exposure to subspecialty care of advanced fibrotic lung disease. I also meet with post-doctoral Fellows and junior faculty who conduct research in my laboratory every week to discuss work in progress.

In summary, I am a physician-scientist active in translational research, patient care, and training of HMS medical students, Fellows, and physicians. These activities occur at BWH and flow mainly through my focus on developing novel approaches to detect diverse forms of pulmonary fibrosis and treat patients affected with these conditions.