

## CURRICULUM VITAE

Stephen K. Frankel, MD, FCCP, FCCM

### PERSONAL

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Present Position: Chief Medical Officer,  
National Jewish Health,  
Denver, Colorado

Professor of Medicine,  
National Jewish Health, Denver, Colorado  
and  
Division of Pulmonary Sciences and Critical Care Medicine,  
Department of Medicine,  
University of Colorado School of Medicine,  
Anschutz Medical Campus,  
Aurora, Colorado.

Present Address: 1400 Jackson Street, M-304  
National Jewish Health  
Denver, CO 80206

Citizenship: U.S.A.

### EDUCATION

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09/87-06/91 Harvard College, Harvard University,  
Cambridge, Massachusetts  
Bachelor of Arts in Biology, *Summa cum laude*

09/91-06/95 Harvard Medical School, Harvard University,  
Boston, Massachusetts  
Doctor of Medicine

06/95-06/98 Beth Israel Hospital  
Boston, Massachusetts  
Internship and Residency in Internal Medicine,

07/98-06/01 University of Colorado Health Sciences Center  
Denver, Colorado  
Fellowship, Pulmonary and Critical Care Medicine,

07/01-06/02 National Jewish Medical and Research Center  
Denver, Colorado

Post-Doctoral Research Fellow

**BOARD CERTIFICATION & LICENSURE**

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12/98      Diplomate, Internal Medicine  
American Board of Internal Medicine, ID: 183951  
Re-certified: 2008  
Expiration: Dec 31, 2018

12/00      Diplomate, Pulmonary Disease  
American Board of Internal Medicine, ID: 183951  
Re-certified: 2010  
Expiration: Dec 31, 2020

12/01      Diplomate, Critical Care Medicine  
American Board of Internal Medicine, ID: 183951  
Re-certified: 2011  
Expiration: Dec 31, 2021

NPI: 1083295652

License #37053, Practice of Medicine  
Department of Regulatory Agencies,  
State of Colorado  
Date Licensed: 1998  
Status: Active  
Expiration: April 30, 2017

Medical License #9459A  
State of Wyoming  
Date Licensed: November 1, 2013  
Status: Active  
Expiration June 30, 2016

Medical License #15215  
State of Nevada  
Date Licensed: March 12, 2014  
Status: Active  
Expiration June 30, 2017

Medical License #27755  
State of Nebraska  
Date Licensed: February 7, 2014  
Status: Active  
Expiration October 1, 2016

Medical License #48444  
State of Arizona  
Date Licensed: March 12, 2014  
Status: Active  
Expiration October 26, 2017

Medical License #279045  
State of New York  
Date Licensed: April 1, 2015  
Status: Active  
Expiration March 31, 2017

Medical License #100929  
State of Alaska  
Date Licensed November 12, 2015  
Status: Active  
Expiration December 31, 2016

Controlled Substances Registration Certificate  
Drug Enforcement Administration  
Expiration: September 30, 2016

Controlled Substance Permit #1112SKF13  
State of Wyoming  
Expiration: June 30, 2017

Controlled Substance Permit CS21848  
State of Nevada  
Expiration: October 31, 2016

Certification, Advanced Cardiac Life Support,  
American Heart Association  
Expiration: July 31, 2017

## **APPOINTMENTS**

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| 07/02-06/03 | Clinical Instructor, Pulmonary Division, Department of Medicine, National Jewish Medical and Research Center, Denver, Colorado                                  |
| 07/02-06/03 | Instructor, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado Health Sciences Center, Denver, Colorado. |

- 07/03-06/08 Assistant Professor of Medicine, Pulmonary Division, Department of Medicine, National Jewish Medical and Research Center, Denver, Colorado.
- 07/03-06/08 Assistant Professor of Medicine, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado Health Sciences Center, Denver, Colorado.
- 07/05-06/10 Assistant Director, Interstitial Lung Disease Program, National Jewish Medical and Research Center, Denver, Colorado.
- 05/06-08/07 Director, Critical Care Services, National Jewish Medical and Research Center, Denver, Colorado.
- 05/06-06/08 Director, Critical Care Services, HealthONE Rose Medical Center, Denver, Colorado.
- 09/07-06/09 Head, Section of Critical Care & Hospital Medicine, National Jewish Medical & Research Center, Denver, Colorado.
- 07/08-06/14 Associate Professor of Medicine, Department of Medicine, National Jewish Health, Denver, Colorado
- 07/08-06/14 Associate Professor of Medicine, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado, School of Medicine, Anschutz Medical Campus, Aurora, Colorado.
- 07/09-08/14 Chief, Division of Critical Care & Hospital Medicine, National Jewish Health, Denver, Colorado.
- 07/14-present Professor of Medicine, Department of Medicine, National Jewish Health, Denver, Colorado
- 07/14-present Professor of Medicine, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado School of Medicine, Anschutz Medical Campus, Aurora, Colorado.
- 08/14-present Chief Medical Officer, National Jewish Health, Denver, Colorado

Hospital Staff Privileges

07/02-present	National Jewish Health
07/02-06/05	Denver Health Medical Center, Denver, Colorado.
05/06-present	HealthONE Rose Medical Center, Denver, Colorado
04/08-present	University of Colorado Hospital, Aurora, Colorado
07/08-11/12	Denver Health Medical Center, Denver, Colorado.
02/09-present	HealthONE Swedish Medical Center, Englewood, Colorado.
03/09-12/12	HealthONE SkyRidge Medical Center, Lone Tree, Colorado.
04/09-12/12	HealthONE Presbyterian/St Luke's Medical Center, Denver, Colorado.
02/11-01/14	Colorado Acute Long Term Acute Care, Denver, Colorado.
02/14-present	Saint Joseph Hospital, Sisters of Charity of Leavenworth, Denver, Colorado
06/14-08/16	iCare, Tele-Critical Care Privileges, Banner Health. Participating facilities includes: Banner Casa Grande Medical Center, Casa Grande, AZ; Banner Baywood Heart Hospital, Mesa, AZ; Banner Baywood Medical Center, Mesa, AZ; Banner Desert Medical Center, Mesa, AZ; Banner Estrella Medical Center, Phoenix, AZ; Banner Gateway Medical Center, Gilbert, AZ; Banner Goldfield Medical Center, Apache Junction, AZ; Banner University Medical Center (formerly Good Samaritan Medical Center), Phoenix, AZ; Banner Thunderbird Medical Center, Glendale, AZ; Banner Del Webb Medical Center, Sun City West, AZ; Banner Ironwood Medical Center, San Tan Valley, AZ; Banner Boswell Medical Center, Sun City, AZ; Page Hospital, Page, AZ, McKee Medical Center, Loveland, CO; North Colorado Medical Center, Greeley, CO; Fort Collins Medical Center, Fort Collins, CO; Sterling Regional Medical Center, Sterling, CO; East Morgan County Hospital,

Bush, CO; Ogallala Community Hospital, Ogallala, NE; Washakie Medical Center, Worland, WY; Banner Community Hospital, Torrington, WY; Platte County Memorial Hospital, Wheatland, WY, and Banner Churchill Community Hospital, Fallon, NV.

## **HONORS & AWARDS**

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1987	Valedictorian, Lawrence High School, Cedarhurst, NY
1988	Detur Scholar, Harvard College
1989 & 1990	John Harvard Scholar, Harvard College
1990	Phi Beta Kappa, "Senior 24," Alpha Chapter, Harvard College
1991	Summa Cum Laude, Harvard College
1997	Chief Medical Resident, West Roxbury Veterans Administration Hospital, West Roxbury, Massachusetts
2000	Glaxo-Wellcome Pulmonary Fellowship
2000	Andrew Goodman Fellowship in Pediatrics
2001	Pulmonary Fibrosis Foundation Fellowship
2003	Fellow, American College of Chest Physicians
2006	Outstanding Junior Faculty Award, Department of Medicine, National Jewish Medical & Research Center
2007	"Top Doctor," Critical Care Medicine, 5280 Magazine
2008	Fellow, American College of Physicians
2008	"Top Doctor," Critical Care Medicine, 5280 Magazine
2009	"Top Doctor," Critical Care Medicine, 5280 Magazine
2010	"Top Doctor," Critical Care Medicine, 5280 Magazine
2011	Fellow, American College of Critical Care Medicine

2011	“Top Doctor,” Critical Care Medicine, 5280 Magazine
2012	“Top Doctor,” Critical Care Medicine, 5280 Magazine
2012	“Citizen of the Year,” National Jewish Health
2013	“Top Doctor,” Critical Care Medicine, 5280 Magazine
2014	“Top Doctor,” Critical Care Medicine, 5280 Magazine

### **PROFESSIONAL AFFILIATIONS**

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1996-2006	Member, American College of Physicians
1997-present	Member, American Thoracic Society
1999-present	Member, American College of Chest Physicians
2003-present	Fellow, American College of Chest Physicians
2004-2009	Member, European Respiratory Society
2006-present	Member, Denver Medical Society
2006-2014	Member, Colorado Medical Society
2006-present	Member, Society of Critical Care Medicine
2008-present	Member, American Association for Physician Leadership, formerly the American College of Physician Executives
2008-2012	Fellow, American College of Physicians
2011-present	Fellow, American College of Critical Care Medicine

### **ACADEMIC & PUBLIC SERVICE**

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#### National Jewish Health

2005-2006	Member, Electronic Medical Record Committee, National Jewish Medical & Research Center.
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**Stephen K. Frankel, MD**

- 2005-2010 Member, Continuing Medical Education Committee, National Jewish Medical & Research Center.
- 2005-2010 Ad Hoc Department of Medicine Representative, Institutional Review Board, National Jewish Medical & Research Center.
- 2007-2009 Member, Bylaws Committee, Medical Staff, National Jewish Medical & Research Center
- 2008-2014 Member, Interventional Pulmonology Fellowship Selection Committee, National Jewish Health
- 2010-2013 Representative, Medical Executive Committee, National Jewish Health
- 2013-2014 Member, Clinical Integration Team, Sister of Charity of Leavenworth/Exempla Saint Joseph's Hospital and National Jewish Health
- 2013-2014 Member, Operations Integration Team, Sister of Charity of Leavenworth/Exempla Saint Joseph's Hospital and National Jewish Health
- 2014-present Chief Medical Officer, Medical Executive Committee, National Jewish Health
- 2014-present Chair, Clinical Leadership Council, National Jewish Health
- 2015-present Chair, Clinical Operations Council, National Jewish Health
- 2015-present Chair, Physician Compensation Oversight Committee, National Jewish Health
- 2016- present Member, Executive Committee, National Jewish Health – Saint Joseph Hospital Joint Operating Agreement
- 2016- present Co-Chair, Implementation and Execution Team, National Jewish Health – Saint Joseph Hospital Joint Operating Agreement

University of Colorado Denver and Health Sciences Center



**Stephen K. Frankel, MD**

- 1999-2000      Coordinator, Critical Care Conference Series, Division of Pulmonary and Critical Care Medicine, University of Colorado Health Sciences Center.
- 2000-2001      Coordinator, Research in Progress Conference Series, Division of Pulmonary and Critical Care Medicine, University of Colorado Health Sciences Center.
- 2002-2008      Intern/Resident Selection Committee, Department of Medicine, University of Colorado Health Sciences Center.
- 2004-2006      Senator, Faculty Senate, University of Colorado Health Sciences Center.
- 2008-2009      Member, BluePrint for Change, Forest Working Group and Systems Leadership SubGroup, Department of Medicine, University of Colorado Health Sciences Center

HealthONE Rose Medical Center

- 2006-2007      Chairman, Critical Care Committee, Rose Medical Center
- 2007-2010      Member, Quality Management Committee, Rose Medical Center

Harvard University

- 1992-1993      Chairman, Student Counsel, Harvard Medical School
- 1992-1998      Pre-Medical Tutor, Leverett House, Harvard College
- 1995-1998      Housestaff Council, Beth Israel Hospital, Boston
- 1996-1997      Pulmonary-MICU Change Committee, Beth Israel Hospital, Boston
- 1996-1997      ICU-Institute for HealthCare Improvement Committee, Beth Israel Hospital, Boston.
- 2003-present    Member, Rocky Mountain Harvard University Club
- 2005            Harvard Medical School, Class of 1995, 10<sup>th</sup> Reunion Committee

2015-present Alumni Interviewer, Rocky Mountain Harvard University Club on behalf of Harvard College

Colorado Medical Society

2007 Alternate Delegate, House of Delegates

American College of Chest Physicians

2006-2014 Member, Steering Committee, Interstitial and Diffuse Lung Disease Network, American College of Chest Physicians

2008-2010 Vice-Chair, Steering Committee, Interstitial and Diffuse Lung Disease Network, American College of Chest Physicians

2008-2012 Member, Council of Networks, American College of Chest Physicians

2010-2012 Chair, Steering Committee, Interstitial and Diffuse Lung Disease Network, American College of Chest Physicians

2010-2011 Member, Program Committee, 2011 CHEST International Conference, American College of Chest Physicians

2011-2012 Member, Program Committee, 2012 CHEST International Conference, American College of Chest Physicians

2011-2014 Member, Quality Improvement Committee, American College of Chest Physicians

2012-2014 Member, Policy and Procedures Sub-Committee, Quality Improvement Committee, American College of Chest Physicians

2011-2014 Member, Executive Committee, "Identifying meaningful endpoints in idiopathic pulmonary fibrosis." Network Project- Consensus Statement, Interstitial and Diffuse Lung Disease Network, American College of Chest Physicians

2013-2014 Vice-Chair, Quality Improvement Committee, American College of Chest Physicians

Patient Advocacy

2004-present Medical Advisory Board, Churg-Strauss Syndrome Association

National Institutes of Health

2013-present Safety Officer, Data and Safety Monitoring Board (DSMB), **U54-AR057319**, Vasculitis Clinical Research Consortium (VCRC), National Institute of Arthritis and Musculoskeletal and Skin Diseases.

State of Colorado

2013-2017 Member, Colorado Medical Board, Appointed by the Honorable John Hickenlooper, Governor, State of Colorado.

2015 Member, Tele-Health Policy Workgroup, Colorado Medical Board, Department of Regulatory Agencies, State of Colorado.

2015 Member, Medical Marijuana Policy Workgroup, Colorado Medical Board, Department of Regulatory Agencies, State of Colorado.

**REVIEW & REFEREE ACTIVITIES**

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2003-present Reviewer, CHEST

2003-2009 Reviewer, American Journal of Respiratory Cell and Molecular Biology.

2005 Reviewer, Respiratory Care Journal

2006-present Reviewer, American Journal of Respiratory and Critical Care Medicine.

2007-present Reviewer, European Respiratory Journal

2008-present Reviewer, Respiratory Medicine

2008-2011	Reviewer, Respiriology
2009-2010	Faculty, Interstitial Lung Disease, Faculty of 1000
2009	Reviewer, Journal of Intensive Care Medicine
2009	Reviewer, Respiration
2009	Reviewer, Science-Translational Medicine
2010	Reviewer, Scandinavian Journal of Rheumatology
2012-present	Reviewer, Critical Care Medicine
2014-present	Reviewer, Annals of the American Thoracic Society
2014	Reviewer, Journal of Rheumatology

## **TEACHING ACTIVITIES**

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### Key Administrative Positions

2006-2014	Site Director, Pulmonary/Critical Care Fellowship, Rose Medical Center an affiliate of the University of Colorado Denver and Health Sciences Center
2006-2008	Course Director, Fundamentals of Critical Care Support, sponsored by the Society of Critical Care Medicine, Denver, Colorado.
2008-2009	Site Director, Residency in Internal Medicine, Rose Medical Center an affiliate of the University of Colorado Denver and Health Sciences Center

### Attending Physician Duties

2001-present	Interstitial Lung Disease Clinic, Attending Physician, National Jewish Medical & Research Center
2002-2005	MICU Attending Physician, Denver Health Medical Center, University of Colorado Health Sciences Center

2004-2006	Pulmonary Physiology Unit, Attending Physician, National Jewish Medical & Research Center
2005-2006	Pulmonary Fellows' Clinic, Attending Physician, National Jewish Medical & Research Center
2006-2014	National Jewish Critical Care Service, Attending Physician, Rose Medical Center
2008-2014	Pulmonary and Critical Care Service, Attending Physician, University of Colorado Hospital
2009-2014	National Jewish Critical Care Service, Attending Physician, Swedish Medical Center
2014-2015	National Jewish Critical Care Service, Attending Physician, Saint Joseph Hospital
2014-2015	National Jewish Tele-Critical Care Service, Attending Physician, Banner Health iCare Program

Courses and Lectures, Graduate Medical Education

Sept./Oct., 1999	Pulmonary Physiology Conference Series, Pulmonary Service, University of Colorado Health Sciences Center, Denver, CO.
Jan. 26, 1999	“Tuberculosis. Medicine Noon Conference, Presbyterian-St. Luke’s Medical Center, Denver, CO.
2000-2003	Small Group Discussion Leader, Pulmonary Pathophysiology, University of Colorado Health Sciences Center.
June 27, 2001	“Intravascular Access and Central Venous Line Placement,” Department of Medicine Noon Conference, University of Colorado Health Science Center, Denver, CO.
July 14, 2000	“Fulminant Hepatic Failure.” Critical Care Conference, Denver Health Medical Center, Denver, CO.
June 1, 2004	“Clinical Evaluation of Interstitial Lung Disease.” Noon Conference, University of Colorado Health Science Center, Denver, CO.

- April 22, 2005 “Collagen Vascular Disease and the Lung.” Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- April 23, 2006 “Vasculitis, “ Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- Feb. 2, 2007 “Vasculitis, “ Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- Dec. 14, 2007 “Vasculitis, “ Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- April 2008 “Ventilator Management “ and “ACLS/Trauma,” Small Group Sessions, Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- April 24 2008 “Critical Care of the Pregnant Patient,” Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Aurora, CO. (Repeated Apr. 29, 2008)
- Dec. 12, 2008 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Mar 13, 2009 “Vasculitis,“ Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Apr 3, 2009 “Eosinophilic Lung Diseases,” Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- May 2009 “Ventilator Management “ and “ACLS/Trauma,” Small Group Sessions, Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- May 6, 2009 “Critical Care of the Pregnant Patient,” Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Jan. 8, 2010 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.

- Mar 5, 2010 “Vasculitis,” Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Apr 30, 2010 “Eosinophilic Lung Diseases,” Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Mar 31, 2011 “Vasculitis,” Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- May 20, 2011 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Jan 23, 2012 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Apr 12, 2012 “Vasculitis,” Pulmonary Conference, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- May 31, 2013 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Mar 21, 2014 “Vasculitis,” Pulmonary Sciences and Critical Care Medicine Fellowship Education Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.
- Mar 21, 2014 “Mimics of ARDS,” Pulmonary Sciences and Critical Care Medicine Fellowship Education Series, University of Colorado Denver & Health Sciences Center, Aurora, CO.

Continuing Medical Education Programs

- Feb. 4, 2006 “Update in Interstitial Lung Disease, “ Keystone Conference CME Activity, National Jewish Medical & Research Center, Keystone, Colorado.
- Feb 23, 2007 “Update on Sepsis,” Sepsis Symposium, Rose Medical Center, Denver, CO.

- Feb 25, 2008 “Update in Sepsis and Septic Shock.” 2008 Midwinter CME Program, Colorado Society of Osteopathic Medicine, Keystone, CO.
- Feb 4-7, 2014 Chair, Update in Critical Care Medicine, CME Program, National Jewish Health and Denver Health, Keystone, CO
- Feb 6, 2014 “Rheumatology/Immunology Critical Care Case Discussion,” Non-Pulmonary Critical Care Track, Update in Critical Care Medicine, CME Program, National Jewish Health and Denver Health, Keystone, CO.
- Feb 7, 2014 “Evidence Informing Practice and Implementation of an Analgesia and Sedation Algorithm,” Update in Critical Care Medicine, CME Program, National Jewish Health and Denver Health, Keystone, CO
- Feb 7, 2014 “Critical Care of the Pregnant Patient Case Discussion,” Non-Pulmonary Critical Care Track, Update in Critical Care Medicine, CME Program, National Jewish Health and Denver Health, Keystone, CO

Invited Lectures, Grand Rounds, Local and Regional Meetings

- Feb 5, 1998 “Pathophysiology of ARDS.” Basic Science Conference, Beth Israel-Deaconess Medical Center, Boston, MA,.
- June 7, 1998 “Transcriptional Regulation of Surfactant Apoproteins A and B in an Animal Model of ARDS,” Medical Grand Rounds, Beth Israel-Deaconess Medical Center, Boston, MA,
- Feb 5, 1999 “Case Discussions in Critical Care Medicine,” Medical Grand Rounds, Presbyterian-St. Luke’s Medical Center, Denver, CO.
- Feb 27, 2001 “Mechanisms of Myofibroblast Apoptosis and Survival,” Immunology Research in Progress, National Jewish Medical and Research Center, Denver, CO.
- April 15, 2003 “Alveolar Hemorrhage Syndromes.” Rheumatology Grand Rounds, University of Colorado Health Sciences Center, Denver, CO.



- July 23, 2005 “Standards of Care and Future Therapies for IPF.”  
“Living with IPF” Educational Seminar, Coalition for  
Pulmonary Fibrosis, Denver, CO.
- Mar 11, 2008 “Acute Exacerbations in Interstitial Lung Disease.”  
Critical Care Grand Rounds, Denver Health Medical  
Center, Denver, CO.
- Sept 16, 2008 “Sepsis,” Grand Rounds, Rose Medical Center, Denver,  
CO.
- Nov 11, 2011 “A Comprehensive Approach to the Management of  
Idiopathic Pulmonary Fibrosis.” Current Concepts and  
Controversies in the Management of Advanced Lung  
Disease Symposium, Heart & Lung Institute, St. Joseph’s  
Hospital and Medical Center, Phoenix, AZ.
- Mar 19, 2012 “Eosinophilic Lung Diseases: An Interstitial Lung  
Disease Perspective.” Medicine Grand Rounds, National  
Jewish Health, Denver, CO.
- May 31, 2012 “The Critical Care Research Enterprise.” Clinical and  
Translational Research Conference, National Jewish  
Health, Denver, CO.

Invited Lectures, National and International Meetings

- May 25, 2004 “Alveolar Hemorrhage Syndromes,” Sunrise Seminar,  
American Thoracic Society International Conference,  
Orlando, FL.
- May 25, 2005 “Case Studies in Interstitial Lung Disease.” Sunrise  
Seminar, American Thoracic Society International  
Conference, San Diego, CA.
- Nov 3, 2005 “Biologic and Novel Therapies for the Treatment of  
Vasculitis.” ACCP-CHEST International Conference,  
Montreal, Quebec, Canada.
- May 24, 2006 “Overview and the Clinical Evaluation of Pulmonary  
Vasculitis,” Clinical Topics in Pulmonary Medicine  
Symposia, “Update in the Diagnosis and Management of  
Pulmonary Vasculitis,” American Thoracic Society  
International Conference, San Diego, California.

- Oct 24, 2006 “Biologics and Beyond: Novel Therapies for the Treatment of Vasculitis.” ACCP-CHEST International Conference, Salt Lake City, Utah.
- May 23, 2007 “Introduction—Eosinophilic Lung Diseases,” Clinical Topics in Pulmonary Medicine Symposia, “Eosinophilic Lung Diseases,” American Thoracic Society International Conference, San Francisco, California.
- Oct 22, 2007 “Eosinophilic Pneumonias, Churg-Strauss Vasculitis, and Hypereosinophilic Syndrome,” ACCP-CHEST International Conference, Chicago, Illinois.
- Oct 25, 2007 “Systemic Lupus Erythematosus and the Lung,” ACCP-CHEST International Conference, Chicago, Illinois.
- Oct 27, 2008 “Overview: Making the Clinical-Radiological-Pathological Correlation and Why It Is Important,” ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 27, 2008 “Systemic Lupus Erythematosus Associated Lung Disease,” ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 28, 2008 “Novel and Biologic Therapies for Vasculitis,” ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 29, 2008 “Eosinophilic Vasculitis,” ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- May 20, 2009 “Clinical-Radiologic-Pathologic Correlation and the Diagnosis of ILD,” Clinical Topics in Pulmonary Medicine Symposia, American Thoracic Society International Conference, San Diego, California
- Nov 2, 2009 “Con: Bronchoscopy Should be Performed Routinely in the Evaluation of Acute Exacerbations of Interstitial Lung Disease,” Clinical Controversy, ACCP-CHEST International Conference, San Diego, California
- Nov 1, 2010 “Introduction to the Comprehensive Management of IPF” The Comprehensive Management of Idiopathic Pulmonary Fibrosis, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada

- Nov 2, 2010 “Isolated Nocturnal Oxyhemoglobin Desaturation: Are Screening and Intervention Warranted?” Controversies in the Management of Idiopathic Pulmonary Fibrosis, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada
- Nov 3, 2010 “Interstitial Lung Disease in the ICU: When, Why, How and What?” Interstitial Lung Disease in the ICU, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada
- May 16, 2011 “Interstitial Lung Disease as a Mimic of ARDS,” Symposia, American Thoracic Society International Conference, Denver, Colorado
- May 16, 2011 Discussant, “Interstitial Lung Disease in the ICU: A Case Based Panel Discussion,” Symposia, American Thoracic Society International Conference, Denver, Colorado
- May 17, 2011 “Acute Exacerbations of Fibrosing Interstitial Lung Diseases: State of the Field,” Meet the Professor Seminar, American Thoracic Society International Conference, Denver, Colorado
- Oct 22, 2011 “Rheumatologic Lung Disease and Vasculitis: How to Manage in 2011?” An Integrated and Comprehensive Approach to the Management of Advanced Lung Disease. Postgraduate Course. ACCP-CHEST International Conference, Honolulu, Hawaii
- Oct 23, 2011 “Maintenance of Remission: Can We IMPROVE on Current Practice?” Update in Pulmonary Vasculitis. Panel Discussion. ACCP-CHEST International Conference, Honolulu, Hawaii
- May 21, 2012 “Comprehensive Management of Idiopathic Pulmonary Fibrosis,” Meet the Professor Seminar, American Thoracic Society International Conference, San Francisco, CA.
- Oct 21, 2012 “Churg-Strauss Syndrome,” Eosinophilic Lung Diseases, Panel Discussion, ACCP-CHEST International Conference, Atlanta, GA.

- Oct 21, 2012 Faculty, "Update on Pulmonary Vasculitis," Meet the Professor, ACCP-CHEST International Conference, Atlanta, GA.
- Oct 23, 2012 Faculty, "Approach to the Comprehensive Management of the Patient With IPF," Panel Discussion, ACCP-CHEST International Conference, Atlanta, GA.
- May 19, 2013 "Alveolar Hemorrhage and Pulmonary Vasculitis," Maintenance of Certification Series, Pulmonary Vascular Diseases, American Thoracic Society International Conference, Philadelphia, PA.
- Oct 29, 2013 "Diffuse Alveolar Hemorrhage: Management in 2013," Update on Diagnosis and Management of Diffuse Alveolar Hemorrhage, Panel Discussion, ACCP-CHEST International Conference, Chicago, IL.
- Oct 30, 2013 "Eosinophilic Granulomatosis with Polyangiitis," Eosinophilic-Related Lung Disease: An Update, Panel Discussion, ACCP-CHEST International Conference, Chicago, IL.
- Oct. 28, 2014 "Case: Life-Threatening Vasculitis Complications," Vasculitis- Practical Implementation of Evidence from Clinical Trials. Small Case-Based Interactive Discussions, ACCP-CHEST International Conference, Austin, TX.
- Oct. 29, 2014 "Diffuse Alveolar Hemorrhage Syndromes in the ICU," Mimics and Unusual Causes of ARDS, Panel Discussion, ACCP-CHEST International Conference, Austin, TX.
- Oct 26, 2015 "Diffuse Alveolar Hemorrhage Syndromes in the ICU," Mimics and Atypical Cases of ARDS, Panel Discussion, ACCP-CHEST International Conference, Montreal, Quebec, Canada.
- Oct 27, 2015 "Who's Keeping Score? What is being tracked, what to track and how to win!," Critical Care 2015 and Beyond: Outcomes, Expectations and Challenges for the ICU Director, Postgraduate Course, ACCP-CHEST International Conference, Montreal, Quebec, Canada.
- Oct 22, 2016 "Meeting with the CMO: Quality Metrics." ICU Management: An Interactive Course for ICU Directors

and Their Critical Care Team, Postgraduate Course, ACCP-CHEST International Conference, Los Angeles, CA.

Chair, National and International Meetings and Symposia

- May 23, 2004 Facilitator, “ILD: Pathogenesis and Therapeutic Implications. American Thoracic Society International Conference, Orlando, Florida.”
- May 24, 2006 Chair, “Update in the Diagnosis and Management of Pulmonary Vasculitis,” Clinical Topics in Pulmonary Medicine Symposia, American Thoracic Society International Conference, San Diego, California.
- Oct 24, 2006 Chair, “Update in Pulmonary Vasculitis,” ACCP-CHEST International Conference, Salt Lake City, Utah.
- May 23, 2007 Chair, “Eosinophilic Lung Disease,” Clinical Topics in Pulmonary Medicine Symposia, American Thoracic Society International Conference, San Francisco, California.
- June 6-9, 2007 Co-Chair, 50<sup>th</sup> Annual Meeting of the Thomas L. Petty Aspen Lung Conference, “Pathobiology of Lung Injury and Repair,” Aspen, Colorado
- June 9, 2007 Moderator, “Genetics of Lung Injury and Repair,” Thomas L. Petty Aspen Lung Conference, Aspen, Colorado
- Oct 22, 2007 Expert, “Vasculitis,” Case Report Slide Session, ACCP-CHEST, International Conference, Chicago, Illinois.
- Oct 22, 2007 Chair, “Eosinophilic Lung Diseases,” ACCP-CHEST International Conference, Chicago, Illinois.
- Oct 24, 2007 Moderator, “Interstitial Lung Diseases,” ACCP-CHEST
- Oct 25, 2007 Chair, “Connective Tissue Disease and the Lung: 2007,” ACCP-CHEST International Conference, Chicago, Illinois.

- Oct 27, 2008 Chair, "Interstitial Lung Disease: Clinical-Radiological-Pathological Correlation and Beyond," ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 27, 2008 Chair, "Collagen Vascular Disease and the Lung" ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 28, 2008 Chair, "Vasculitis: Update for the Pulmonologist," ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- Oct 29, 2008 Chair, "Eosinophilic Lung Diseases," ACCP-CHEST International Conference, Philadelphia, Pennsylvania.
- May 18, 2009 Co-Chair, "ILD: Pathogenesis," Poster Discussion, American Thoracic Society International Conference, San Diego, California
- May 19, 2009 Co-Chair, "ILD: Management and Co-Morbidities," Poster Discussion, American Thoracic Society International Conference, San Diego, California
- May 20, 2009 Chair, "Making the Clinical-Radiologic-Pathologic Correlation," Clinical Topics in Pulmonary Medicine Symposia, American Thoracic Society International Conference, San Diego, California
- Nov 4, 2009 Moderator, "Interstitial Lung Disease: Miscellaneous Posters," Original Investigation, ACCP-CHEST International Conference, San Diego, California
- Nov 4, 2009 Expert, "Interesting Interstitial Pneumonias," Case Presentations, ACCP-CHEST International Conference, San Diego, California
- Nov 1, 2010 Chair, "The Comprehensive Management of Idiopathic Pulmonary Fibrosis," Panel Discussion, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada
- Nov 2, 2010 Moderator, "Critical Care II," Abstract Poster Presentation Session, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada

- Nov 3, 2010 Chair, "ILD in the ICU," Panel Discussion, ACCP-CHEST International Conference, Vancouver, British Columbia, Canada
- Oct 23, 2011 Chair, "Update in Pulmonary Vasculitis," Panel Discussion, ACCP-CHEST International Conference, Honolulu, Hawaii
- Oct 24, 2011 Moderator, "Interstitial Lung Disease Cases I," Affiliate Case Reports, ACCP-CHEST International Conference, Honolulu, Hawaii
- Oct 25, 2011 Chair, "Network Open Meeting," Diffuse and Interstitial Lung Disease Network, ACCP-CHEST International Conference, Honolulu, Hawaii
- Oct 25, 2011 Moderator, "Topics in Critical Care," Original Investigation, ACCP-CHEST International Conference, Honolulu, Hawaii
- May 22, 2012 Chair, "Pulmonary Fibrosis: When It's Not IPF," Clinical Topics in Pulmonary Medicine Symposia, American Thoracic Society International Conference, San Francisco, CA.
- Oct 21, 2012 Chair, "Interstitial Lung Disease in 2012," Panel Discussion, ACCP-CHEST International Conference, Atlanta, GA.
- Oct 22, 2012 Moderator, "New Insights into ARDS/Lung Injury," Original Investigation, ACCP-CHEST International Conference, Atlanta, GA.
- Oct 23, 2012 Chair, "The Comprehensive Care of the IPF Patient," Panel Discussion, ACCP-CHEST International Conference, Atlanta, GA.
- Oct 29, 2013 Chair, "Fibrosing Interstitial Lung Diseases: The Dilemma of the Unrevealing History and the Nonspecific High-Resolution CT (HRCT) Scan," NetWork Highlight, Interactive Session, ACCP-CHEST International Conference, Chicago, IL.
- Oct 30, 2013 Moderator/Expert, "Outcomes/Quality Control," Original Investigation Posters, ACCP-CHEST International Conference, Chicago, IL.

Oct 27, 2015 Co-Chair, "Critical Care 2015 and Beyond: Outcomes, Expectations and Challenges for the ICU Director," Postgraduate Course, ACCP-CHEST International Conference, Montreal, Quebec, Canada.

## **RESEARCH GRANTS**

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### Research Grants, Contracts and Clinical Trials

PIPF 031 Expanded Access Program (EAP): Allow Patients in the US with Idiopathic Pulmonary Fibrosis Access to Pirfenidone. Sponsor: Intermune. P.I. Jeffrey Swigris. Role/Title: Sub-Investigator.

IPF-PRO Idiopathic Pulmonary Fibrosis-Prospective Outcomes Registry. Sponsor: Boehringer Ingelheim. P.I. Tristan Huie. Role/Title: Sub-Investigator.

### Previous Grant Support, Contracts and Clinical Trials

#### **KO8-067848**

Death receptors, p53 and Akt in myofibroblast apoptosis. P.I. Stephen K. Frankel. Award Period: 2003-2007. Period Award Budget: \$605,000.

#### **ALA, Colorado**

Mechanisms of fibroblast and myofibroblast apoptosis in interstitial lung disease. P.I. Stephen K. Frankel. Award Period 2004-05. Current Award Budget: \$25,000. Period Award Budget: \$25,000.

#### **F32 HL70550**

Death receptors and p53 in myofibroblast apoptosis. National Research Service Award. 2002.

Pulmonary Fibrosis Foundation Fellowship Grant. 2001-2002.

Glaxo-Wellcome Pulmonary Fellowship Grant. 2000-2001.

A randomized, double-blind, placebo-controlled, phase 3 study of the safety and efficacy of interferon gamma-1b



in patients with idiopathic pulmonary fibrosis (INSPIRE Trial). Role/Title: Site Principle Investigator. Sponsor: Intermune. Award Budget: N/A.

Pathobiology of Pulmonary Fibrosis. Sponsor: Private Contributions. Formerly a NIH/NHLBI SCOR Project. Role/Title: Sub-Investigator. Award Budget: N/A

A double-blind, parallel, placebo-controlled, randomized study of the efficacy and safety of etanercept in patients with idiopathic pulmonary fibrosis. P.I. Kevin K. Brown. Sponsor: Wyeth. Role/Title: Subinvestigator. Award Budget: N/A.

A Phase II, Randomized, Double-Blind, Placebo-Controlled Study of the Safety, Biology, and Clinical Effects of Interferon gamma-1b Administered Subcutaneously to Patients with IPF, Followed by Optional Open-Label Extension. P.I. Kevin K. Brown. Sponsor: Intermune. Role/Title: Subinvestigator. Award Budget: N/A.

An open label study of the safety of subcutaneous recombinant interferon gamma-1b (IFN- $\gamma$ -1b) in patients with idiopathic pulmonary fibrosis. P. I. Kevin K. Brown. Sponsor: Intermune. Role/Title: Subinvestigator. Award Budget: N/A

A double-blind, randomized, placebo-controlled, multicenter study to assess the efficacy, safety and tolerability of Bosentan in patients with interstitial lung disease associated with systemic sclerosis. P.I. David Collier. Sponsor: Actelion. Role/Title: Subinvestigator. Award Budget: N/A

A double-blind, randomized, placebo-controlled, multicenter study to assess the efficacy, safety and tolerability of Bosentan in patients with idiopathic pulmonary fibrosis. P.I. Kevin K. Brown. Sponsor: Actelion. Role/Title: Subinvestigator. Award Budget: N/A.

A phase 1 study of the safety, pharmacokinetics, and biologic activity of escalating doses of FG3019 in subjects with idiopathic pulmonary fibrosis. P. I. Kevin

	<p>K Brown. Role/Title: Subinvestigator. Sponsor: Fibrogen. Award Budget. N/A</p>
CAPACITY 1	<p>A Randomized, Double-blind, Placebo-controlled, Phase 3 Study of the Safety and Efficacy of Pirfenidone in Patients with Idiopathic Pulmonary Fibrosis. Sponsor: Intermune. Role/Title: Site Principle Investigator. Award Budget. N/A</p>
BCX1812-201A	<p>Phase II, Multicenter, Randomized, Double-Mask, Double-Dummy Study Comparing the Efficacy and Safety of Peramivir Administered Intravenously Once Daily versus Oseltamivir Administered Orally Twice Daily in Adults with Acute Serious or Potentially Life-Threatening Influenza. Sponsor: BioCryst. Role/Title: Site Principle Investigator.</p>
ARDSnet-ALTA	<p><b>NHLBI-NO1-HR56167</b> A Prospective, Randomized, Mutli-center Trial of Aerosolized Albuterol versus Placebo in Acute Lung Injury. P.I. Marc Moss. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator for Rose Medical Center, an affiliate of the University of Colorado.</p> <p><b>HL-01768</b> Role of Prevention versus Genetics in Sepsis-Related Acute Lung Injury. P.I. James P. Maloney. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.</p>
IPFnet-STEP	<p><b>U10 HL080571-01</b> Sildenafil Trial of Exercise Performance in Idiopathic Pulmonary Fibrosis. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.</p> <p>GC-1008 A Phase I Study of the Safety, Pharmacokinetics and Biologic Activity of GC-1008 in Patients with Idiopathic Pulmonary Fibrosis. P.I. Kevin K. Brown. Sponsor: Genzyme. Role/Title: Sub-Investigator. Award Budget. N/A</p>
BUILD 3	<p>Effects of Bosentan on Morbidity and Mortality in Patients with Idiopathic Pulmonary Fibrosis- A Multicenter, Double-blind, Randomized, Placebo-controlled, Parallel Group, Event-driven, Group Sequential, Phase III Study. P.I. Jeffrey J. Swigris.</p>

- Sponsor: Actelion. Role/Title: Sub-Investigator. Award Budget. N/A
- QAX576 An Open-label, Multi-center Study, with a Single Intravenous Dose of QAX576 to Determine IL-13 Production in Patients with Idiopathic Pulmonary Fibrosis. P. I. Jeffrey J. Swigris. Sponsor: Novartis. Role/Title: Sub-Investigator. Award Budget. N/A
- MUSIC Macitentan use in an idiopathic pulmonary fibrosis clinical study. A double-blind, randomized, placebo-controlled, multicenter, parallel group study to evaluate the efficacy, safety and tolerability of macitentan in patients with idiopathic pulmonary fibrosis. Sponsor: Actelion. Role/Title: Sub-Investigator. Award Budget: N/A
- MILES Multicenter International Lymphangiomyomatosis Efficacy of Sirolimus Trial. P.I. Kevin K Brown. Sponsor: Rare Diseases Clinical Research Network, Rare Lung Disease Consortium. Role/Title: Sub-Investigator. Award Budget: N/A
- ARTEMIS A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Multi-Center, Parallel-Group, Event-Driven Study to Evaluate the Efficacy and Safety of Ambrisentan in Subjects with Early Idiopathic Pulmonary Fibrosis (IPF). P.I. Gregory P. Cosgrove. Sponsor: Gilead. Role/Title: Sub-Investigator. Award Budget: N/A.
- BCX1812-303 A Phase 3, Open-Label, Randomized, Study of Antiviral Activity, Safety and Tolerability of Intravenous Peramivir in Adult and Adolescent Hospitalized Subjects with Confirmed or Suspected Influenza Infection. Sponsor: Biocryst. Role/Title: Site Principle Investigator.
- AE-ILD **Pilot Project Grant, Division of Pulmonary Medicine, National Jewish Health.**  
The role of alveolar epithelial cell senescence and epigenetics in the progression of idiopathic pulmonary fibrosis. Role Title: Principle Investigator. Sponsor: National Jewish Health. Award Budget: \$15,000.
- AEX-ILD Acute Exacerbations of Interstitial Lung Disease. Sponsor: Investigator-initiated pilot project. Role/Title: Principle Investigator. Award Budget: N/A.

- IPFnet-ACE-IPF **U10 HL080571**  
Anti-Coagulant Effectiveness in Idiopathic Pulmonary Fibrosis. P.I. Kevin Brown. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
- ARDSNet-EDEN **NHLBI-NO1-HR56167**  
A Prospective, Randomized, Multi-Center Trial of Initial Trophic Enteral Feeding Followed by Advancement to Full Calorie Enteral Feeding vs. Early Advancement to Full Calorie Enteral Feeding in Patients with Acute Lung Injury (ALI) or Acute Respiratory Distress Syndrome (ARDS) And Prospective, Randomized, Blinded, Placebo-Controlled Multi-Center Trial of Omega-3 Fatty Acid, Gamma-Linolenic Acid, and Anti-Oxidant Supplementation in Management of Acute Lung Injury (ALI) or Acute Respiratory Distress Syndrome (ARDS) . P.I. Marc Moss. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator
- SLS II Mycophenolate vs. Oral Cyclophosphamide in Scleroderma Interstitial Lung Disease (Scleroderma Lung Study II). P.I. Aryeh Fischer. Sponsor: NIH. Role/Title: Co-Investigator.
- RAINIER A Phase 2 Study to See if Simtuzumab (GS-6624) is Safe and Works in Idiopathic Pulmonary Fibrosis (IPF). Sponsor: Gilead Sciences. P.I. Amy Olson. Role/Title: Sub-Investigator.
- IPFnet-COMET **U10 HL080571**  
Correlating Outcomes with Biochemical Markers to Estimate Time-Progression in Idiopathic Pulmonary Fibrosis. P.I. Kevin Brown. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
- ARDSNet-SAILS **NHLBI-NO1-HR56167**  
Statins for Acutely Injured Lungs From Sepsis. P.I. Marc Moss. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator
- IPFnet-PANTHER **U10 HL080571**  
Prednisone, Azathioprine, N-Acetylcysteine: A Study that Evaluates Responses in IPF. P.I. Kevin Brown. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
- Janssen RO1 **NHLBI-RO1-HL10917-01A1**

Macrophage Apoptosis in Resolving Lung Injury. P.I. William J. Janssen. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.

- PETAL                    **RFP-NHLBI-RO1-HR-14-03**  
Clinical Center for a Clinical Trials Research Network for the Prevention and Early Treatment of Acute Lung Injury (PETAL Network). P.I. Marc Moss and Adit Ginde Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
- GRAIL                    **NHLBI-U01 HL102547**  
A Randomized Double-Blind Placebo-Controlled Trial of Prevention of Cytomegalovirus Reactivation in Acute Lung Injury. P.I. Michael Boeckh, University of Washington, Seattle. Sponsor: NIH/NHLBI. Role/Title: Site PI/Co-Investigator.
- PIPF 012                An Open-Label Extension Study of the Long-Term Safety of Pirfenidone in Patients with Idiopathic Pulmonary Fibrosis. Sponsor: Intermune. P.I. Jeffrey Swigris. Role/Title: Sub-Investigator.
- PIPF 016                A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study of the Efficacy and Safety of Pirfenidone in Patients with Idiopathic Pulmonary Fibrosis. Sponsor: Intermune. P.I. Jeffrey Swigris. Role/Title: Sub-Investigator.

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  6. **Frankel, S.K.**, Moats-Staats, B. M., Cool, C. D., Wynes, M. W., Stiles, A. D., and Riches, D.W.H. (2005) Human Insulin-Like Growth Factor-IA Promotes Adenomatous Hyperplasia but not Pulmonary Fibrosis. *AJP Lung*. **288**(5): L805-812. PMID 15618451.
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#### Book Chapters

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49. Huie, T. J., Olson, A. L., Schwarz, M. I. and **Frankel, S. K.** *Rare Interstitial Lung Diseases* in DIFFUSE LUNG DISEASE: A PRACTICAL APPROACH, 2<sup>nd</sup> Edition, Robert F. Baughman and Roland M. DuBois, Ed. (New York, USA, Springer, 2012.)
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51. **Frankel, S.K.** *Immunologic Lung Diseases* in CLINICAL DECISION SUPPORT: CRITICAL CARE MEDICINE, B. Fuchs, Ed. (Desktop/Mobile Digital Platform.)

52. **Frankel, S. K.** and Schwarz, M. I. *Cardiopulmonary Manifestations of Vasculitis* in VASCULITIS, Third Edition, Eugene Ball and L. Bridges, Ed. (Oxford, UK, Oxford University Press, 2014.)
53. Wells, J. and **Frankel, S. K.** *Alveolar Hemorrhage* in ORPHAN LUNG DISEASES: A CLINICAL GUIDE TO RARE LUNG DISEASES, V. Cottin, L. Richeldi and J-F. Cordier, Ed. (Springer, New York, 2015.)
54. Brown, K.K., **Frankel, S. K.** and Cool, C.D. *Pulmonary Vasculitis* in MURRY AND NADEL'S TEXTBOOK OF RESPIRATORY MEDICINE, Sixth Edition, V. Courtney Broaddus, Robert J. Mason, Joel D. Ernst, Talmadge E. King, Jr, Stephen C. Lazarus, John F. Murray, Jay A. Nadel, Arthur S. Slutsky, and Michael B. Gotway Ed (Elsevier Saunders, Philadelphia, 2016.)
55. Keith, R.C. and **Frankel, S. K.** *Pulmonary Vasculitis and Alveolar Hemorrhage Syndromes* in CLINICAL HANDBOOK OF INTERSTITIAL LUNG DISEASE, M. Thillai, D.R. Moller, and K.C. Meyer, Ed. (CRC Press, Boca Raton, submitted.)

#### Invited Articles, Editorials and Reviews

56. **Frankel, S.K.**, Sullivan, E.J., and Brown, K.K. (2002) Vasculitis: Wegener's Granulomatosis, Churg-Strauss Syndrome, Microscopic Polyangiitis, Polyarteritis Nodosa, and Takayasu's Arteritis. *Crit Care Clinics* **18**: 855-879. PMID 12418444.
57. **Frankel, S. K.**, Cosgrove, G. P. and Brown, K. K. (2005) Small Vessel Vasculitis of the Lung. *Chronic Respiratory Disease*, **2**: 75-84. PMID 16279155.
58. **Frankel, S.K.** and Brown K.K. (2006) Collagen Vascular Diseases of the Lung. *Clinical Pulmonary Medicine*, **13**: 25-36.
59. **Frankel, S. K.**, Groshong, S. D., and Lynch, D. A. (2007) Eosinophilic Lung Disease. *Radiographics*. **27**: 637-639.
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61. **Frankel, S.K.** (2008) The Diagnosis and Treatment of Pulmonary Vasculitis. *Pulmonary & Critical Care University, American College of Chest Physicians*, **22**: lesson 7.

62. Riches, D.W.H., Cosgrove, G.P., and **Frankel, S.K.** (2008) Introduction and Perspective. (2007) Thomas L. Petty Aspen Lung Conference. *Proc Am Thorac Soc*, **5(3)**: 287-289.
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64. **Frankel, S. K.** and Schwarz, M. I. (2009) Update in Idiopathic Pulmonary Fibrosis. *Current Opinion in Pulmonary Medicine*. **15 (5)**: 463-469. PMID: 19550329
65. Noth, I. and **Frankel, S.** (2010) How to Best Handle Preliminary Clinical Trial Results. *CHEST Physician*, **5(2)**:13.
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67. Huie, T.J., Moss, M., and **Frankel, S.K.** (2010) What Can Biomarkers Tell Us About the Pathogenesis of Acute Exacerbations of Idiopathic Pulmonary Fibrosis? *AJP Lung*. **299(1)** L1-2. PMID: 20472711.
68. Fernandez-Perez, E.R., Olson, A.L., and **Frankel, S.K.** (2011) Eosinophilic Lung Diseases. *Medical Clinics of North America*. **95(6)** 1163-87. PMID: 2032433.
69. Yunt, Z.X., **Frankel, S.K.**, and Brown K.K. (2012) Diagnosis and Management of Pulmonary Vasculitis. *Ther Adv Respir Dis*. **6(6)** 375-90. PMID: 22878624.
70. Fernandez Perez, E.R. and **Frankel, S.K.** (2012) Peeling away the layers of the volume-outcome effect and harvesting hidden connections. *Crit Care Med* **40(9)**: 2713-4. PMID: 22903095.
71. Fernandez-Perez, E.R and **Frankel, S.K.** (2013) Eosinophilic Lung Diseases. *Clinical Pulmonary Medicine*. **20**:280-291.
72. **Frankel, S.K.**, and Moss, M. (2014) The Effect of Organizational Structure and Processes of Care on ICU Mortality as Revealed by the United States Critical Illness and Injury Trials Group Critical Illness Outcomes Study. *Crit Care Med*. **42(2)**: 463-4. PMID: 24434451.