

CURRICULUM VITAE

Stephen K. Frankel, MD, FACP, FCCP

Personal History

Present Position: Chief, Division of Critical Care & Hospital Medicine,
Assistant Director, Interstitial Lung Disease Program,
Associate Professor of Medicine, Track II
National Jewish Health,
Denver, Colorado

Associate Professor of Medicine,
Division of Pulmonary Sciences and Critical Care Medicine,
University of Colorado,
Anschutz Medical Campus,
Denver, Colorado.

Present Address: 1400 Jackson Street, G-012
National Jewish Medical and Research Center
Denver, CO 80206

Citizenship: U.S.A.

Educational History

1987-1991 Harvard College, Harvard University,
Cambridge, Massachusetts
Bachelor of Arts in Biology, *Summa cum laude*

1991-1995 Harvard Medical School, Harvard University,
Boston, Massachusetts
Doctor of Medicine

1995-1998 Beth Israel Hospital
Boston, Massachusetts
Internship and Residency in Internal Medicine,

1998-2001 University of Colorado Health Sciences Center
Denver, Colorado
Fellowship, Pulmonary and Critical Care Medicine,

2001-2002 National Jewish Medical and Research Center
Denver, Colorado
Post-Doctoral Research Fellow

Board Certifications and Licensure

- 1998 Diplomate, Internal Medicine
American Board of Internal Medicine, ID: 183951
Scored in top 10% of examination takers
Re-certified: 2008
Expiration: Dec 31, 2018
- 2000 Diplomate, Pulmonary Disease
American Board of Internal Medicine, ID: 183951
Scored in top 10% of examination takers
Expiration: Dec 31, 2010
- 2001 Diplomate, Critical Care Medicine
American Board of Internal Medicine, ID: 183951
Scored in top 10% of examination takers
Expiration: Dec 31, 2011
- License, Practice of Medicine
Department of Regulatory Agencies,
State of Colorado
Expiration: May 31, 2011
- Controlled Substances Registration Certificate
Drug Enforcement Administration
Expiration: September 30, 2010
- Certification, Basic Life Support and Advanced Cardiac
Life Support,
American Heart Association
Expiration: July 31, 2011
- Certification, Fundamentals of Critical Care Support,
Society of Critical Care Medicine
Expiration: July 2010

Professional Positions

- 2002-2003 Clinical Instructor, Pulmonary Division, Department of
Medicine, National Jewish Medical and Research Center,
Denver, Colorado
- 2002-2003 Instructor, Division of Pulmonary Sciences and Critical
Care Medicine, Department of Medicine, University of
Colorado Health Sciences Center, Denver, Colorado.

- 2003-2008 Assistant Professor, Pulmonary Division, Department of Medicine, National Jewish Medical and Research Center, Denver, Colorado
- 2003-2008 Assistant Professor, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado Health Sciences Center, Denver, Colorado.
- 2005-present Assistant Director, Interstitial Lung Disease Program, National Jewish Medical and Research Center, Denver, Colorado.
- 2006-2007 Director, Critical Care Services, National Jewish Medical and Research Center, Denver, Colorado
- 2006-2008 Director, Critical Care Services, HealthONE Rose Medical Center, Denver, Colorado
- 2007-2009 Head, Section of Critical Care & Hospital Medicine, National Jewish Medical & Research Center, Denver, Colorado
- 2008-present Associate Professor, Department of Medicine, National Jewish Health, Denver, Colorado
- 2008-present Associate Professor, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado Denver & Health Sciences Center, Aurora, Colorado.
- 2009-present Chief, Division of Critical Care & Hospital Medicine, National Jewish Health, Denver, Colorado

Hospital Staff Privileges

- 2002-present National Jewish Medical & Research Center, Denver, Colorado
- 2002-2005 Denver Health Medical Center, Denver, Colorado.
- 2006-present HealthONE Rose Medical Center, Denver, Colorado
- 2008-present University of Colorado Hospital, Aurora, Colorado

2008-present	Denver Health Medical Center, Denver, Colorado.
2009-present	HealthONE Swedish Medical Center, Englewood, Colorado.
2009-present	HealthONE SkyRidge Medical Center, Lone Tree, Colorado.
2009-present	HealthONE Presbyterian/St Luke's Medical Center, Denver, Colorado.

Honors and Awards

1987	Valedictorian, Lawrence High School, Cedarhurst, NY
1988	Detur Scholar, Harvard College
1989 & 1990	John Harvard Scholar, Harvard College
1990	Phi Beta Kappa, 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

Professional Affiliations

1996-2006	Member, American College of Physicians
1997-present	Member, American Thoracic Society
1999-2003	Member, American College of Chest Physicians
2003-present	Fellow, American College of Chest Physicians
2004-present	Member, European Respiratory Society
2006-present	Member, Denver Medical Society
2006-present	Member, Colorado Medical Society
2006-present	Member, Society of Critical Care Medicine
2008-present	Member, American College of Physician Executives
2008-present	Fellow, American College of Physicians

Academic Service and Committees

National Jewish Medical and Research Center

2005-06	Member, Electronic Medical Record Committee, National Jewish Medical & Research Center.
2005-present	Member, Continuing Medical Education Committee, National Jewish Medical & Research Center.
2005-present	Ad Hoc Department of Medicine Representative, Institutional Review Board, National Jewish Medical & Research Center.
2007-present	Member, Bylaws Committee, Medical Staff, National Jewish Medical & Research Center

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.
- 2006-present Member, Critical Care Executive Committee, 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-present 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.
- 2005 Harvard Medical School, Class of 1995, 10th Reunion Committee

State and Local Organizations

2007 Alternate Delegate, House of Delegates, Colorado
Medical Society

National Organizations

2004-2006 Medical Advisory Board, Churg-Strauss Syndrome
Association

2006-2008 Member, Steering Committee, Interstitial and Diffuse
Lung Disease Network, American College of Chest
Physicians

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

Review and Referee Activities

2003-present Reviewer, CHEST

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

2005-present 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-present Reviewer, Respirology

2009-present Faculty, Interstitial Lung Disease, Faculty of 1000

2009-present Reviewer, Journal of Intensive Care Medicine

2009-present Reviewer, Respiration

Teaching Activities

Key Administrative Positions

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| 2006-present | 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

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| 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-present | National Jewish Critical Care Service, Attending Physician, Rose Medical Center |
| 2008-present | Pulmonary and Critical Care Service, Attending Physician, University of Colorado Hospital |
| 2009-present | National Jewish Critical Care Service, Attending Physician, Swedish Medical Center |

Courses and Lectures, Graduate Medical Education

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| Sept./Oct., 1999 | Pulmonary Physiology Conference Series, Pulmonary Service, University of Colorado Health Sciences Center, Denver, CO. |
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- 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, Denver, CO.
- April 24 2008 “Critical Care of the Pregnant Patient,” Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Denver, CO. (Repeated Apr. 29, 2008)
- Dec. 12, 2008 “Mimics of ARDS,” Critical Care Lecture Series, University of Colorado Denver & Health Sciences Center, Denver, CO.

- Mar 13, 2009 “Vasculitis, “ Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- Apr 3, 2009 “Eosinophilic Lung Diseases,” Pulmonary Conference, University of Colorado Health Sciences Center, Denver, CO.
- May 2009 “Ventilator Management “ and “ACLS/Trauma,” Small Group Sessions, Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Denver, CO.
- May 6, 2009 “Critical Care of the Pregnant Patient,” Integrated Clinicians Course-7004, University of Colorado Denver & Health Sciences Center, Denver, 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.

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 or 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.

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

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, 50th 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

Research Grants

Research Grants and Contracts

- AE-ILD The role of alveolar epithelial cell senescence and epigenetics in the progression of idiopathic pulmonary fibrosis. Role Title: Principle Investigator. Sponsor: Pilot Project Grant, Division of Pulmonary Medicine, 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.
- ARDSnet-EDEN-Omega 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 for Rose Medical Center, an affiliate of the University of Colorado.

IPFnet-PANTHER	Prednisone, Azathioprine, N-Acetylcysteine: A Study that Evaluates Responses in IPF. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
IPFnet-STEP	Sildenafil Trial of Exercise Performance in Idiopathic Pulmonary Fibrosis. Sponsor: NIH/NHLBI. Role/Title: Co-Investigator.
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: Principle Investigator.
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
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 Budge: N/A
BUILD 3	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. 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 Patents with Idiopathic Pulmonary Fibrosis. P. I. Jeffrey J. Swigris. Sponsor: Novartis. 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.

Previous Grant Support

- KO8-067848 Death receptors, p53 and Akt in myofibroblast apoptosis. P.I. Stephen K. Frankel. Award Period: 2003-2007. Current Award Budget: \$120,000. 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). P.I. Stephen K. Frankel. 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- γ -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 K Brown. Role/Title: Subinvestigator. Sponsor: Fibrogen. Award Budget. N/A

- CAPACITY 1 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: Principle Investigator. Award Budget. N/A
- BCX1812-201A 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: Principle Investigator.
- ARDSnet-ALTA 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.

Role of Prevention versus Genetics in Sepsis-Related Acute Lung Injury. P.I. James P. Maloney. Sponsor: NIH/NHLBI. Role/Title: Co-Principle Investigator.

Bibliography

Published in Peer Reviewed Journals

1. **Frankel S.K.**, Van Linden, A.A. and Riches, D.W.H. (2001) Heterogeneity in the Phosphorylation of Human Death Receptors by p42^{mapk/erk2}. *Biochem Biophys Res Comm* **288**: 313-320. PMID 11606045.
2. **Frankel, S.K.**, Cool, C.D., Lynch, D.A., and Brown, K.K. (2004) Idiopathic Pleuro-Parenchymal Fibroelastosis: A Novel Pathologic Entity. *Chest* **126** (6): 2007-13. PMID 15596706.
3. Gardai, S. J., Hildeman, D. A., **Frankel, S. K.**, Whitlock, B. B., Frasc, S. C., Borregaard, N., Marrack, P., Bratton, D. L., and Henson, P. M. (2004) Phosphorylation of bax serine 184 by Akt regulates its activity and apoptosis in neutrophils. *J Biol Chem* **279** (20): 21085-21095. PMID 14766748.
4. Wynes, M.W., **Frankel, S.K.** and Riches, D. W.H. (2004) IGF-I Derived from IL-4 Stimulated Macrophages Protects CCL39 Myofibroblasts From Growth Factor Withdrawal-Induced Apoptosis. *J Leuk Biol* **76**: 1019-27. PMID 15316031.
5. Van Linden, A.A., Cottin, V. **Frankel, S.K.**, and Riches, D.W.H. (2005) Hierarchical Phosphorylation of the TNF- α Receptor, CD120a, by p42^{mapk/erk} at Basic Pro-Directed Kinase Sites. *Biochemistry* **44**(18): 6980-89. PMID 15865443.
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.
7. **Frankel, S. K.**, Cosgrove, G. P., Fischer, A., Meehan, R. T., and Brown K. K. (2006) Update in the Diagnosis and Management of Vasculitis. *Chest*, **129**(2): 452-465. PMID 16478866.
8. Swigris, J. J., Olson, A. L., Fischer, A., Lynch, D. A., Cosgrove, G. P., **Frankel, S. K.**, Meehan, R. T., and Brown, K. K. (2006) Mycophenolate Mofetil is Safe, Well-Tolerated, and Preserves Lung Function in Patients

with Connective Tissue Disease-Related Interstitial Lung Disease. *Chest*, **130**(1): 30-36. PMID 16840379.

9. **Frankel, S. K.**, Cosgrove, G. P., Cha, S. I., Cool, C. D., Wynes, M. W., Edelman, B. L., Brown, K. K., and Riches, D. W. H. (2006) TNF- α Sensitizes Normal and Fibrotic Human Lung Fibroblasts to Fas-induced Apoptosis. *Am J Respir Cell Mol Biol*. **34**(3): 293-304. PMID 16272460.
10. Cosgrove, G. P., **Frankel, S. K.** and Brown, K. K. (2007) Challenges in Pulmonary Fibrosis 3: Cystic Lung Disease. *Thorax*, **62**(9): 820-829. PMID 17726170.
11. Fischer, A., Misumi, S., Curran-Everett, D., Meehan, R. T., Ulrich, S. K., Swigris, J. J., **Frankel, S. K.**, Cosgrove, G. P., Lynch, D. A., and Brown, K. K. (2007) Pericardial Abnormalities Predict the Presence of Echocardiographically Defined Pulmonary Arterial Hypertension in Systemic Sclerosis-Related Interstitial Lung Disease. *Chest* **131**: 988-992. PMID 17426200.
12. Kendrick, J. B., Risbano, M., Groshong, S. D. and **Frankel, S. K.** (2007) A Rare Presentation of Ischemic Pseudomembranous Colitis Due to *E. coli* 0157:H7. *Clin Infect Dis*. **45**(2): 217-219. PMID 17578781.
13. Olson, A. L., Huie, T. K., Groshong, S. D., Cosgrove, G. P., Janssen, W. J., Schwartz, M. I., Brown, K. K., and **Frankel, S. K.** (2008) Acute Exacerbations of Fibrotic Hypersensitivity Pneumonitis: A Case Series. *Chest* **134**: 844-850. PMID 18842917.
14. Swigris, J. J., Zhou, S., Wamboldt, F. S., du Bois, R. Keith, R., Fischer, A., Cosgrove, G. P., **Frankel, S. K.**, Everett, D., and Brown, K. K. (2009) Exercise SpO₂ Accurately Reflects SaO₂ and Predicts Mortality in Systemic Sclerosis." *Thorax* **64**(7): 626-630. PMID 19359269.
15. Cha, S. I., Groshong, S. D., **Frankel, S. K.**, Edelman, B. L., Cosgrove, G. P., Terry-Powers, J. L., Remigio, L. K., Curran-Everett, D., Brown, K. K., Cool, C. D., and Riches, D. W. (2009) Compartmentalized Expression of c-FLIP in Lung Tissues of Patients with Idiopathic Pulmonary Fibrosis. *Am J Respir Cell Mol Biol* **Apr 16** Epub. PMID 19372246.
16. Swigris, J. J., Swick, J., Wamboldt, F. S., Sprunger, D., du Bois, R., Fischer, A., Cosgrove, G. P., **Frankel, S. K.**, Fernandez-Perez, E., Kervitsky, D., Brown, K. K. (2009) Heart Rate Recovery After 6-Minute Walk Test Predicts Survival in Patients with Idiopathic Pulmonary Fibrosis. *Chest* **136**(3): 841-848. PMID 19395579.

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