CURRICULUM VITAE

**Sadis Matalon, Ph.D., Dr.Sc. (Hon.)**

**Updated 12/13/2013**

**PERSONAL**

Address: Department of Anesthesiology

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Birthplace: Athens, Greece

Citizenship: USA (naturalized)

**EDUCATION**

B.A. Macalester College, St. Paul, Minnesota

*Cum Laude*, with special departmental honors in physics, 1970 Major: Physics

M.S. University of Minnesota, Minneapolis, Minnesota, 1973

 Major: Physics

Ph.D. University of Minnesota, Minneapolis, Minnesota, 1975

Major: Physiology

**Dissertation**: Water and Non-electrolyte Solute Transport across the Pulmo­nary Capillaries in New­born Rabbits, 1975

Dr.Sc. (Honorary) University of Thessaly, School of Medical Sciences, Greece (2010)

**ACADEMIC POSITIONS**

2013- Present Distinguished Professor of Anesthesiology, University of Alabama at Birmingham, Birmingham, AL

2009- Present Vice Chair for Research, Department of Anesthesiology, University of Alabama at Birmingham, Birmingham, AL

2008 – Present Director, Pulmonary Injury and Repair Center, School of Medicine, University of Alabama at Birmingham, Birmingham, AL

2007-2009 Director of Research, Division of Critical Care and Perioperative Medicine, University of Alabama at Birmingham, Birmingham, AL

2003-2011 Professor of Microbiology, University of Alabama at Birmingham, Birmingham, AL

2003- 2004 Acting Vice President for Research, University of Alabama at

Birmingham, Birmingham, AL

2002- 2003 Acting Associate Provost for Research and Scholarship,

 University of Alabama at Birmingham, Birmingham, AL

2002- 2002 Assistant Provost for Research, University of Alabama at Birmingham, Birmingham, AL

2002- 2003 Senior Associate Dean of the Graduate School, University of Alabama at Birmingham, Birmingham, AL

2001- 2002 Associate Dean for Postdoctoral Education, University of Alabama at Birmingham, Birmingham, AL

2000- Present Professor of Environmental Health Sciences, School of Public Health, University of Alabama at Birmingham, Birmingham, AL

1999 - Present Alice McNeal Endowed Chair, Department of Anesthesiology, University of Alabama at Birmingham, Birmingham, AL

1999 -2003 Professor of Genetics, University of Alabama at Birmingham, Birmingham, AL

1987 - Present Professor of Anesthesiology, University of Alabama at Birmingham, Birmingham, AL

1989 -2011 Professor of Pediatrics, University of Ala­bama at Birmingham, Birmingham, AL

1987 - Present Professor of Physiology and Biophysics, University of Alabama at Birmingham, Birmingham, AL (Currently Cell, Developmental and Integrative Biology)

1984 - 1987 Research Associate Professor of Pathology, State University of New York at Buffalo, Buffalo, NY

1982 - 1987 Associate Professor of Physiology with Tenure, State University of New York at Buffalo, Buffalo, NY

1977 - 1982 Assistant Professor of Physiology, State University of New York at Buffalo, Buffalo, NY

1976 - 1977 Research Assistant Professor of Physiology, State University of New York at Buffalo, Buffalo, NY

1975 - 1976 Associate (Instructor), Department of Pediatrics and Physiology, Northwestern University and Children's Memorial Hospital, Chicago, IL

**PROFESSIONAL ACTIVITIES**

1997 – 2004 President, International Foundation for Biomedical Research, Inc, Birmingham, AL

## PROFESSIONAL HONORS

2012 - present Editor-In-Chief, *American Journal of Physiology - Lung Cellular and*

*Molecular Physiology*

2010 Honorary Doctor of Science, University of Thessaly, Larisa, Greece

2007 - 2011 Deputy Editor, *American Journal of Respiratory Cell and Molecular Biology*

2004 Selected as the “Best Basic Science Professor” by the 2004 School of Medicine Class; recipient of the Caduceus award

2003 Who’s Who in *ATS News*

2002 Recognition Award for Scientific Accomplishment, American Thoracic Society

1998 Keynote speaker, 24th Annual Pan-Hellenic Medical Symposium, Athens, Greece

1997, 1998, 2001 Recipient, Argus Society Award for Instructional Excellence (Best Instructor, First Year Medical Class), University of Alabama at Birmingham

1997 Recipient, Joint Health Sciences Presidential Teaching Award for 1997, University of Alabama at Birmingham

1997 - 2007 MERIT Award, National Institutes of Health

1994, 1996 Nominated for the “Best Basic Science Teacher Award,” School

1999, 2000 of Medicine, University of Alabama at Birmingham. Received award for Excellence in Teaching (runner up to Best Instructor)

1987 - 1992 Career Investigator Award, American Lung Association

1966 - 1970 Fulbright Scholar, Macalester College

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Thoracic Society

- Member, Program and Budget Committee (2007- 2008)

- Member, Strategic Planning Committee (2006 -2007)

- Member, ALA Research Grant Review Committee (2006 -2008)

- Member, Long Range Planning Committee (2004-2006)

- Member, Awards Committee (2002 – 2003)

Assembly on Respiratory Cell and Molecular Biology

* Member, Program Committee (2006-2007)
* Chairman Elect and Chairman of the Assembly (2001-2004)

- Chairman Elect and Chairman, Program Committee (1998-2000)

- Chairman, Long Range Planning Committee (1993 - 1995)

The American Physiological Society

- Member, Awards Committee (1999-2001)

- Chairman, Program Committee, Respiration Section, (1998-2001)

- Chairman, Respiration Dinner (1997)

**MEMBERSHIP ON UAB COMMITTEES**

Member, Distinguished Professor Review Committee by invitation from the Provost, December 2013

Chair, Distinguished Professor Review Committee by invitation from the Provost, September 2013 Member, Infectious Diseases / Global Health / Vaccines (ID-GH-V) Steering Committee, School of Medicine, 2011

Member, Host Defense Group, Immunology, Allergy and Transplantation Steering Committee, School of Medicine, 2011

Member, Distinguished Faculty Lecturer Committee (2007-2009)

Member, Joint Health Sciences Faculty Status Committee (1993-1995); Co-Chairman, (1996)

Member, Tenure Definition Committee (1994-1996)

Member, Molecular Medicine Strategic Planning Group (1997)

Member, Department of Human Genetics Chair Search Committee (1998)

Member, School of Medicine Research Advisory Committee (1998-2002)

Member, Department of Pulmonary, Allergy, & Critical Care Medicine Division Director Search Committee (2006- Present)

Department of Anesthesiology

Member, Promotions Committee (1994-2003; 2007-2009)

Member, Education Committee (1996-2003)

Co-Chair, Critical Care Faculty Search Committee (2006)

**INVITED LECTURES** (1991-2013)

Co-Chair and co-organizer (with Dr. Lester Kobzik), Symposium on “Programming the Lung: Epigenetics Mechanisms”, Experimental Biology, Boston, MA, April 2013

Invited Speaker, “How to Get Your Work Published in APS Journals and Avoid Minefields Along the Way”, Experimental Biology, Boston, MA, April 2013

Invited Speaker, Lung Injury Center, Section of Pulmonary and Critical Care, Department of Medicine, The University of Chicago, March 2013

Invited Speaker, Basic & Translational Science Symporium, University of Alabama at Birmingham, Pulmonary Allergy and Critical Care Medicine, March 2013

Invited Speaker, 10th European Respiratory Society Lung Science Conference, Estoril, Portugal, March 30, 2012.

Co-Chairman, Featured Topic on “Lung Ion Channels and Fluid Homeostasis”, Experimental Biology, 2012

Member of organizing committee and invited participant, NIEHS “Workshop to Examine the Interactions between Environmental Exposures and Infectious Agents in the Etiology of Human Disease”, Research Triangle Park, NC, Sept. 8, 2011.

Invited Speaker, 5th Annual CounterACT Network Research Symposium, “Novel Treatments of Chlorine Induced Injury to the Cardio-Respiratory Systems”, Washington, DC, June 2011.

Visiting Scientist, 2011 NIEHS Strategic Planning Stakeholder Community Workshop, Research Triangle Park, NC, June 28 – 30, 2011.

Distinguished lecturer, Division of Biological Sciences, Harvard School of Public Health, “Leaders in Biology” Distinguished Lecture Series, Boston, MA, May 2011

Invited speaker, Emory University Department of Physiology, “Influenza Virus M2 Protein Damages Lung Epithelial Na+ Channels via Generation of Reactive Intermediates,” Atlanta, GA, April 2011

Invited speaker, University of Alabama at Birmingham, Pulmonary Grand Rounds, Birmingham, AL, March 2011

Invited speaker, University of Alabama at Birmingham, Seminars of the Molecular and Cellular Pathology Graduate Program, Advances in Molecular and Cellular Pathology, Birmingham, AL, March 2011

Invited speaker, Angion Biomedical Corp., Long Island, NY, February 2011

Invited speaker, Lundberg-Kienlen Lecture, Center for Veterinary Health Sciences, Oklahoma State University, Stillwater, OK, November 4, 2010

Invited speaker, 2010 North American Cystic Fibrosis Conference, Baltimore, MD, October 21, 2010

Invited speaker, FAER Academy of Anesthesiology Mentors Workshop: Enhancing Departmental Research Through Mentorship, American Society of Anesthesiologists Annual Meeting, San Diego, CA, October 16-20, 2010

Co-Director, Workshop on “Environmental Lung Disease: From Bench to Bedside 2010,” Limmasol, Cyprus, October 11 – 13, 2010 (Sponsored by Harvard-Cyprus Initiative for Environment and Public Health)

Visiting Professor and invited speaker, Department of Anesthesiology, Columbia University, New York, NY, September 29, 2010

Invited speaker, Department of Molecular Cell Physiology, Center for Medical Education and Research, Kyoto Prefectural University of Medicine, Kyoto, Japan, June 28, 2010

Special invited speaker, Annual Meeting of Integrated Pulmonary Circulation II, Tokyo, Japan, June 26, 2010

Invited speaker, 4th Annual CounterACT Network Research Symposium, San Francisco, CA, June 21, 2010

Invited speaker, National Institute of Environmental Health Sciences, Durham, NC, May 2010

Invited speaker, The Congress of the Greek Physiological Society, University of Thessaly, Larisa, Greece, May 7, 2010

Invited speaker, Cross Sectional Symposium on Reactive Species and Ion Channels, 2010 Experimental Biology Meeting, Anaheim, CA, April 28, 2010.

Invited speaker, Macalester College, Biology Department Seminar Series, St. Paul, MN, November 9, 2009.

Invited speaker, 4th International Conference on Oxidative/Nitrosative Stress and Disease, New York, NY, October 28-20, 2009.

Invited speaker, European Respiratory Society Congress, Vienna, Austria, September 12-16, 2009

Invited speaker, National Institutes of Health (NIH) Expert Panel Workshop on Toxic Industrial Chemicals (Pesticides and Pulmonary Edemagenic Chemicals), Bethesda, MD, July 22-23, 2009

Invited speaker, International Symposium on “Epithelial Ion Transport,” Kyoto, Japan, July 2009

Co-Director, Workshop on “Environmental Lung Disease: From Bench to Bedside 2009,” Nicosia, Cyprus, June 8-10, 2009 (Sponsored by Harvard-Cyprus Initiative for Environment and Public Health)

Invited speaker, 3rd Annual CounterACT Network Research Symposium, Washington, DC, April 14-16, 2009

Invited speaker and Chair, Pre-Conference Symposium “Countermeasures Against Injury from Inhaled Chlorine,” 3rd Annual CounterACT Research Symposium, Washington, DC, April 13, 2009

Invited participant, Sepracor Scientific Research Forum, New Orleans, LA, September 18 – 21, 2008

Invited participant and speaker, Annual Retreat of the Molecular Biology and Medicine of the Lung Graduate Program, University of Giessen Lung Center, Giessen, Germany, July 25-31, 2008

Visiting Professor, Uniformed Services University, Bethesda, MD, June 23 – 24, 2008

Invited speaker, 6th International Life Science Meeting, IMC University of Applied Sciences, Krems, Austria, May 2008

Invited speaker, ATS 2008, Mini Symposium “Epithelial Cell Driven Control of Lung Inflammation,” Toronto, Canada, May 2008

Visiting Professor and invited speaker, The University of Texas Health Science Center at Tyler, Tyler TX, April 2008

Invited speaker, 2nd Annual CounterACT Network Research Symposium, Arlington, VA, April 2008

Visiting Professor and invited speaker, University of California Davis, Davis, CA, April 2008

Invited speaker, 6th European Respiratory Society Lung Science Conference on “Resolution of Alveolar Edema Following Viral Injury,” Estoril, Portugal, March 2008

Invited speaker, European Respiratory Society Annual Congress 2007, Stockholm, Sweden, September 2007

Invited speaker, 1st Annual CounterACT Network Research Symposium, Arlington, VA, April 2007

Invited speaker, International Hypoxia Symposium, Lake Louise, Alberta, Canada, February 2007

Invited speaker, Floating Hospital for Children at Tufts-New England Medical Center, combined Pulmonary Medicine, Neonatology Grand Round, Boston, MA, 2007

Invited speaker, Physiological Genomics and Proteomics of Lung Disease, 2006 American Physiological Society Conference, Ft. Lauderdale, FL, November 2006

Invited speaker, Inspire Pharmaceuticals, Durham, NC, May 2006

Invited speaker, International Symposium on Respiratory Diseases (ISRD), Shanghai, China, November 2006

Invited speaker, 26th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium, March 2006

Invited speaker, Medical College of Wisconsin, Milwaukee, WI, February 2006

Invited speaker, Medical College of Georgia, Augusta, GA, January 2006

Keynote speaker, International Scientific Conference on “New Frontiers in Biomedicine and Biotechnology,” Danube University and IMC University of Applied Sciences, Krems, Austria, November 2005

Invited speaker, 10th PanHellenic Congress on Intensive Care, Athens, Greece, October 2005

Invited speaker, European Respiratory Society, Copenhagen, Denmark, September 2005

Invited speaker, 15th Annual Congress of the European Respiratory Society, Copenhagen, Denmark, September 2005

Invited speaker, National Institute of Allergy & Infectious Diseases, Washington D.C., August 2005

Visiting Professor and invited speaker, Pulmonary and Critical Care Division, Johns Hopkins University, Baltimore, MD, May 2005

Invited speaker and symposium Chair, Annual Meeting of the American Thoracic Society, San Diego, CA, May 2005

Invited speaker, Hellenic Intensive Care Society, Athens, Greece, April 2005

Invited speaker, Hellenic Thoracic Society, Ioannina, Greece, April 2005

Visiting Professor and invited speaker, Pulmonary and Critical Care Division, Columbia /Presbyterian Medical Center, New York, NY, March 2005

Invited speaker, Third European Respiratory Society Conference, Taormina, Italy, March 2005

Invited speaker, 13th Panhellenic Congress on Lung Diseases, Patras, Greece, December 2004

Invited speaker, “Pathogen-induced activation of human alveolar macrophages from lung transplant recipients,” European Respiratory Society Congress, Glasgow, Scotland, September 2004

Visiting Professor and speaker, Northwestern University School of Medicine, Division of Pulmonary & Critical Care Medicine, Chicago, IL, September 2004

Invited speaker, Annual Meeting of the Society of Neonatology and Pediatric Critical Care, Ulm, Germany, June 2004

Invited presenter, NIH Lung Transplantation Workshop, Bethesda, MD, June 2004

Invited presenter, NHLBI COPD Workshop, Bethesda, MD, May 2004

Invited speaker, ATS 2004 Conference, “Redox Regulation of Lung Ion Channels by Reactive Oxygen-Nitrogen Species,” May 2004

Invited speaker, Massachusetts General Hospital, Harvard Medical School, Boston, MA, April 2004

Invited speaker, Hellenic Thoracic Society, Athens, Greece, December, 2003

Invited speaker; European Respiratory Society Symposium “Redox signal transduction in the lung; basic and clinical implications”; “Redox regulation of ion channels in the lung”, Vienna, Austria, October 2003

Invited speaker and symposium organizer, Cystic Fibrosis Foundation, “Role of Redox Regulation of Microbicidal Activity”; “Regulation of CFTR Structure and Function by Reactive Oxygen Nitrogen Intermediates,” Anaheim, CA, October, 2003

Invited speaker, European Respiratory Society, Paris, France, June 2003

Invited speaker and organizer, “Interactions of pathogens with respiratory epithelial cells: Mechanisms and physiological sequallae,” “Inhibition of sodium transport across airway epithelial cells by respiratory syncytial virus: mechanisms and pathophysiological implications,” American Thoracic Society, Seattle, WA, May 2003

Invited speaker and organizer, “Regulation of Ion Channel Structure and Function by Reactive Oxygen Nitrogen Intermediates,” ”Modulation of CFTR Structure and Function by Reactive Oxygen-Nitrogen Intermediates,” Experimental Biology, San Diego, CA, April 2003

Invited speaker and External Advisor for Program Project Grant, University of South
Alabama, Department of Pharmacology and Center for Lung Biology, Mobile, AL, February 2003

Visiting Professor and Outside Ph.D. Examiner, University of Vanderbilt, Nashville, TN, February 2003

Invited participant, SPARK II Conference, National Institutes of Health, NHLBI, Bethesda, MD, January 2003

Visiting Professor, North Shore Hospital, Long Island, NY, October 2002

Visiting Professor, University of Louisville, Kossair Children’s Hospital, Louisville, KY, August 2002

Invited speaker and member, Organizing Committee, Third International Meeting on Reactive Oxygen/Nitrogen Radicals and Cellular Injury, Morgantown, WV, June 2002

Visiting Professor, Northeastern Ohio University, School of Medicine, Department of Physiology, Rootstown, OH, May 2002

Invited speaker, Postdoc Network Meeting, Washington, DC, April 2002

Invited speaker, Council of Graduate Schools Annual Meeting, San Diego, CA, December 2001

Invited speaker, Department of Medicine, Division of Pulmonary Medicine, University of Iowa, Iowa City, IA, November 2001

Invited speaker and section chair, International Meeting of Diseases in the Lung, Santa Fe, New Mexico, October 2001

Visiting Professor, Departments of Pediatrics and Medicine, University of Minnesota, July 2001

Plenary Lecturer, NATO Advanced Study Institute on Exhaled Nitric Oxide, Crete, Greece, June 2001

Featured Speaker, Experimental Biology, Session on Ion Transport, Orlando, Florida, April, 2001

Featured speaker, Joint Meeting of the Departments of Medicine, Universities of Washington, Oregon Medical Center and University of Vancouver, Seattle, WA, February 2001

Visiting Professor, University of Paris, Faculte Xavier Bichat, Unite Inserm, Paris, France, December, 2000

Visiting professor, School of Public Health, Harvard University, Boston, MA, October 2000

Visiting professor, Winthrop University Hospital, Cardiopulmonary Research Institute, Mineola, NY, October 2000

Invited speaker, 6th World Hellenic Biomedical Congress, Athens, Greece, October 2000

Visiting Professor, (Chairman of the External Advisory Committee on Program Project on Alcohol and ARDS), Department of Medicine, Emory University, Atlanta, GA, September 2000

Visiting professor, School of Medicine, Dartmouth University, Hanover, NH, September 2000

Invited speaker, FASEB Conference, Surfactant: Cellular and Molecular Biology, Saxton’s River, VT, July 2000

Invited speaker, International Conference of the American Thoracic Society, “Gaseous molecules in the Lung,” Toronto, Canada, May 2000

Invited speaker, General Hospital Attikes, National Institute of Health, Greece, April 2000

Invited speaker, Workshop on HAPA: International Capanna Regina Margherita Study 1999, Klein Scheidegg, Switzerland, March 2000

Invited speaker and member of the Scientific Advisory Committee, First World Conference on Acute Lung Injury, Tenerife, Canary Islands, Spain, February 2000

Visiting Professor, Department of Physiology and Center for Cell Signaling, Emory University, Atlanta, GA, November 1999

Distinguished Environmental Scientist, NHEERL and North Carolina State University, Raleigh, NC, November 1999

Visiting Professor, Department of Medicine, Division of Pulmonary Medicine and Critical Care, Northwestern University, Chicago, IL, October 1999

Invited speaker, Conference on Pathology of the Surfactant System of the Mature Lung, San Diego, CA, October 1999

Invited speaker, NHLBI Workshop on Alveolar Epithelial Transport: Basic Science to Clinical Medicine, Washington, DC, August 1999

Invited speaker, Macalester College Department of Physics, St. Paul, MN, April 1999

Invited speaker, University of Minnesota Departments of Pediatrics and Medicine, Minneapolis, MN, April 1999

Invited speaker, American Thoracic Society Postgraduate Course on Pathogenesis of Lung Injury at the Molecular Level, San Diego, CA, April 1999

Invited speaker, Experimental Biology Minisymposium on Mechanisms of Lung Epithelial Injury, Washington, DC, April 1999

Invited speaker, Eli Lilly Research Laboratories, Indianapolis, IN, March 1999

Invited speaker, Department of Pathology, University of Alabama at Birmingham, Birmingham, AL, February 1999

Invited speaker, Harvard School of Public Health, Boston, MA, November 1998

Invited speaker, Lovelace Respiratory Research Institute, Albuquerque, NM, June 1998

Invited speaker, Respiration Research Retreat, University of Pennsylvania Medical Center, Institute for Environmental Medicine, Philadelphia, PA, May 1998

Invited speaker, Experimental Biology, San Francisco, CA, April 1998

Invited speaker, American Thoracic Society International, Chicago, IL, April 1998

Invited speaker, 2nd Mediterranean Congress on Thoracic Diseases, Athens, Greece, March 1998

Invited speaker, Vascular Biology Center Seminar Series, Medical College of Georgia, Augusta, GA, January 1998

Invited speaker, American Heart Association 70th Scientific Sessions, Orlando, FL, November 1997

Invited speaker, Vanderbilt University, Nashville, TN, November 1997

Invited speaker, American Physiological Conference on "The Physiology and Functional Diversity of Amiloride-sensitive Na+Channels: A new Superfamily" Park City, UT, October 1997

Invited speaker and member, Organizing Committee, Second International Meeting on Reactive Oxygen/Nitrogen Radicals and Cellular Injury, Durham, NC, September 1997

Invited speaker, Departments of Pathology and Physiology, University of Texas Health Science Center, San Antonio, TX, August 1997

Invited speaker, First National Symposium on "New Concepts on Damaging Effects of the Inhaled Cigarette Smoke,” Athens School of Medicine, Athens, Greece, January 1997

Invited lecturer, Advanced Respiratory Physiology Course, Athens School of Medicine, Athens, Greece December 1996

Invited speaker, Ninth International Colloquium on Lung Fibrosis, “Nitric Oxide and Gene Transfer" Oaxaca, Mexico, November 1996

Invited speaker, Naval Medical Research Institute, “Role of Reactive Oxygen and Nitrogen Species in Acute Respiratory Failure," Bethesda, MD, October 1996

Invited Plenary Lecturer, The Sixth International Meeting on the Toxicology of Natural and Man-Made Fibrous and Non-Fibrous Particles, September 1996

Invited speaker, NATO conference on Vascular Endothelium: Pharmacologic and Genetic Manipulations, “Modulation of Gene Transfer by Nitric Oxide," Crete, Greece, July 1996.

Featured speaker, American Thoracic Society, "Nitric Oxide and Airway Epithelium,” New Orleans, LA, May 1996

Visiting Professor, Center for Comparative Respiratory Disease, University of California Davis, Davis, CA, May 1996

Visiting Professor, Lawson Research Institute, "Nitrogen Oxide Mediated Injury to Pulmonary Surfactant,” London, Ontario, Canada, April 1996

Visiting Professor, School of Biomedical Engineering, Northwestern University, "Nitric Oxide Injury to Pulmonary Surfactant,” Evanston, IL, April 1996

Invited speaker, American Oil Chemists' Society-International Lecithin & Phospholipid Society Division, "Lipid Carriers for Gene Therapy,” Indianapolis, IN, April 1996

Visiting Professor, Pathology Grand Rounds at the University of Vermont, "Nitrotyrosine Formation in Lung Injury and Pulmonary Diseases,” Burlington, VT, March 1996

Invited speaker, Antimicrobial Therapy in Cystic Fibrosis Conference, "Antioxidant treatment in inflammatory diseases with emphasis on cystic fibrosis,” Valencia, Spain, November 1995

Visiting Professor, Distinguished Scientist Seminar Series, University of South Alabama, College of Medicine, "Oxidant regulation of alveolar ion channels,” Mobile, AL, October 1995

Visiting Professor, Michael Reese Hospital and Medical Center, "Mechanisms of Reactive Oxygen and Nitrogen Species Injury to Pulmonary Lipids and Apoproteins" Chicago, IL, June 1995

Visiting Professor, Pennsylvania State University, College of Medicine, Department of Cellular and Molecular Physiology, Hershey, PA, May 1995

Co-chair ATS Poster Discussion on "Alveolar epithelium and surfactant biology,” Atlanta, GA, April 1995

Invited speaker, American Thoracic Society, "Alveolar epithelial ion and fluid transport", April 1995

Invited speaker, American Thoracic Society, "Surfactant replacement therapy: where it stands and where we go from here,” April 1995

Invited speaker, Conference on Nasal and Pulmonary Drug Delivery, "Alveolar Epithelia Injury,” Munich, Germany, March 1995

Invited speaker, Symposium on "Pathology of the surfactant system of the mature lung,” San Diego, CA, March 1995

Visiting Pulmonary Scholar, "Chemical Institute of Toxicology,” Durham, NC, February 1995

Invited speaker, "5th International Inhalation Symposium,” Hanover, Germany, February 1995

State-of-the-art speaker, "8th International Colloquium on Pulmonary Fibrosis,” Dijon, France, October 1994

Featured speaker, American Thoracic Society, "Nitric Oxide in Acute Lung Injury" May 1994

Visiting professor, Winthrop University Hospital, Cardiopulmonary Research Institute, Mineola, NY April 1994

Invited speaker, FASEB, "Biology of Alveolar Epithelial Fluid and Solution Transport,” April 1994

Chairman, FASEB Minisymposium on Oxidant Lung Injury, April 1994

Invited speaker, 10th Annual Children's National Medical Center's ICMO Symposium, Keystone, CO, March 1994

Invited speaker, University of Utah, Department of Pediatrics, Salt Lake City, UT, March 1994

Invited speaker, University of California in San Diego, Department of Pediatrics, San Diego, CA, February 1994

Invited speaker, Seventh Annual North American Cystic Fibrosis Conference; Symposium on Neutrophil-mediated Oxidant Injury to the Lung, Dallas, TX, October 1993

Visiting professor, Department of Pulmonary and Critical Care Medicine, University of Minnesota, Department of Medicine, Division of Pulmonary Medicine, September 1993

Chair, American Lung Association/American Thoracic Society International Conference Minisymposium on Antioxidant Delivery Systems, San Francisco, CA, May 1993

**International Meetings Organized**

**Director**, NATO Advanced Study Institute – *Etiology and Treatment of Acute Lung Injury* (June 25-July 05, 2000); Sponsored by the Scientific Affairs Division of NATO and was attended by approximately 125 participants from NATO countries <http://www.natoards.uab.edu>

**Director**, NATO Advanced Study Institute- *Adult Respiratory Distress Syndrome: From Bench to Bedside* (June 15- June 25, 1997); Sponsored by the Scientific Affairs Division of NATO and was attended by approximately 100 participants from NATO countries <http://www.natoards.uab.edu/Old_web/index.html>

**Co-Director**, Workshop on Environmental Lung Disease**:** Environmental Chemical Threats and Lung Injury: Mechanisms and Countermeasures (October 11 – October 13, 2010); Amathus Beach Hotel, Limassol, Cyprus

<http://www.lunginjury.uab.edu/Seminars/CUT%20CII%20OCTOBER%20PROFESSIONAL%20EDUCATION%20PROGRAM.pdf>)

**Co-Director**, Workshop on Environmental Lung Disease: Bench to Bedside (May 2009); Cyprus International Institute for the Environment and Public Health & Harvard School of Public Health

<http://www.undp-act.org/data/articles/envir%20%20lung%20disease%20brochure.pdf>

**STUDY SECTIONS and REVIEW COMMITTEES**

***Permanent member***

American Lung Association, Grant Review Committee (2004-2008)

Member of Scientific Advisors, The Francis Family Foundation (2000-2004)

Member, National Board of Medical Examiners, Test Material Development Committee (TMDC)

for Physiology (1996 - 1998)

Lung Biology and Pathology Study Section, National Institutes of Health (1994-1998)

Amer­ican Lung Asso­ciation/American Thoracic Society Research Grant Peer Re­view Committee (1990-1992, 2004-2005)

***Ad hoc-reviewer-NIH***

1. RIBT  Respiratory Integrative Biology and Translational Research Study Section  Internet Assisted Meeting Non-Standing Member Regular  2013
2. RIBT  Respiratory Integrative Biology and Translational Research Study Section  Regular Non-Standing Member Regular  2013
3. ZHL1 CSR-Q (F1)  Translational Programs in Lung Diseases  Telephone Assisted Meeting Non-Standing Member Regular (CHR)  2012
4. RIBT  Respiratory Integrative Biology and Translational Research Study Section  Regular Non-Standing Member Teleconference  2012
5. ZHL1 CSR-H (M1)  Pulmonary Vascular - Right Ventricular Axis Research Program  Regular Non-Standing Member Regular  2012
6. ZHL1 CSR-Q (F1)  Translational Programs in Lung Diseases  Regular Non-Standing Member Regular (CHR)  2011
7. ZHL1 PPG-A (M1)  Translational Programs in Lung Disease  Regular Non-Standing Member Regular  2011
8. HLBP (03)  Heart, Lung, and Blood Program Project Review Committee  Telephone Assisted Meeting Non-Member Teleconference  2011
9. ZES1 JAB-G (VT)  Virtual Consortium for Transdisciplinary/Translational Environmental Research (VICTER)  Regular Non-Standing Member Regular  2010
10. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2009
11. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2009
12. LIRR  Lung Injury, Repair, and Remodeling Study Section  Regular Non-Standing Member Regular  2009
13. ZRG1 CVRS-B (58)  RFA-OD-09-003: Challenge Grants Panel 19  Regular Non-Standing Member Outside Opinion/Mail Reviewer  2009
14. ZAA1 BB (94)  ALCOHOL AND LUNG BIOLOGY CENTER  Other Non-Standing Member Regular  2007
15. ZES1 JAB-C (DI)  Disease Investigation through Specialized Clinical Oriented Ventures in Environmental Research (DISCOVER)  Regular Non-Standing Member Regular  2007
16. ZES1 JAB-C (AM)  Administrative Meeting for DISCOVER  Telephone Assisted Meeting Non-Standing Member Teleconference  2007
17. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2007
18. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2006
19. ZNS1 SRB-R (23)  CounterACT-U54  Regular Non-Standing Member Regular  2006
20. ZHL1 CSR-A (M1)  Specialized Center (P50s)  Regular Non-Standing Member Regular  2006
21. LIRR  Lung Injury, Repair, and Remodeling Study Section  Regular Non-Standing Member Regular  2005
22. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2005
23. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2005
24. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2003
25. ZHL1 CSR-R (M1)  Acute Lung Injury SCCOR RFA-HL-02-014  Regular Non-Standing Member Regular  2003
26. ZHL1 CSR-M (F2)  Mentored Scientist Development Award  Regular Non-Standing Member Regular  2002
27. ZAA1 AA (72)  Workgroup-GUIDOT Reverse Site Visit  Site Visit Non-Member Regular  2002
28. LBPA  Lung Biology and Pathology Study Section  Regular Non-Standing Member Regular  2002
29. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2002
30. CABSCB  Basic Sciences  Site Visit Non-Member Regular  2001
31. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2001
32. ZRG1 SSS-3 (03)  Center for Scientific Review Special Emphasis Panel  Other Non-Standing Member Regular (CHR)  2001
33. BM-2  Bacteriology and Mycology Subcommittee 2  Regular Non-Standing Member Teleconference  2000
34. ZRG1 RAP (02)  Center for Scientific Review Special Emphasis Panel  Telephone Assisted Meeting Non-Standing Member Regular (CHR)  2000
35. HLBP  Heart, Lung, and Blood Program Project Review Committee  Regular Non-Member Regular  2000
36. ZRG1 RAP (01)  Center for Scientific Review Special Emphasis Panel  Regular Non-Standing Member Regular  1999
37. ZRG1 RAP (01)  Center for Scientific Review Special Emphasis Panel  Regular Non-Standing Member Regular (CHR)  1998
38. ZRG1 LBPA (01)  Center for Scientific Review Special Emphasis Panel  Regular Non-Standing Member Regular (CHR)  1998
39. ZHL1 CSR-Q (S1)  National Heart, Lung, and Blood Institute Special Emphasis Panel  Regular Non-Standing Member Outside Opinion/Mail Reviewer  1998
40. ZHL1 CSR-H (M1)  Specialized Centers of Research in Acute Lung Injury  Regular Non-Standing Member Regular  1998
41. ZRG2 PHY (01)  Biological and Physiological Sciences Special Emphasis Panel  Regular Non-Standing Member Regular (CHR)  1997
42. ZRG2 Biological and Physiological Sciences Special Emphasis Panel     1997
43. Consultant, NHLBI Special Review Committee, 1995
44. Consultant, NHLBI Reverse Site Visit, January 1993
45. Consultant, NHLBI Reverse Site Visit, February 1993
46. Consultant, NHLBI Special Review Committee, March 1993
47. Consultant, NHLBI Special Review Committee, May 1993
48. Consultant, NHLBI Specialized Centers of Research (SCORs), 1991
49. Consultant, NIHLB Program Project Grant Review, University of Nebraska Medical Center, 1991
50. NIH HED Study Section, 1991

***Ad hoc reviewer: other organizations***

United States Department of Veterans Affairs, 1996

External reviewer, Naval Medical Research and Development Basic Research Program, 1996

External reviewer, Ministry of Health, Research Unit, Ontario, Canada, 1996

U.S. Department of the Interior, Bureau of Mines, 1994-1995

Pulmonary Study Section for Tobacco-Related Disease Research Program (TRDRP), 1991-1994

Medical Research Council of Canada, Ottawa, Canada, 1991, 1994

Naval Medical Research and Development Basic Research Review Panel, Febru­ary 1990

**MEMBERSHIP ON EDITORIAL BOARDS**

*Encyclopedia of Respiratory Medicine, Major Reference Works*, Elsevier Ltd. (2004)

*SHOCK* (2001-2004)

*American Journal of Respiratory Cell and Molecular Biology* (1999-present)

*American Journal of Physiology: Lung Cellular and Molecular Physiology* (1994-2013)

*Journal of Applied Physiology* (1991- 1995)

**ASSOCIATE EDITORSHIPS**

*News in Physiological Sciences* (1997-2003)

*American Journal of Respiratory Cell and Molecular Biology* (2003-2006)

Deputy Editor, *American Journal of Respiratory Cell and Molecular Biology* (2006-2011)

**EDITORSHIPS**

Editor In Chief, *American Journal of Physiology-Lung Cellular and Molecular Physiology* (2011 – present)

**MEMBER EXTERNAL ADVISORY COMMITTEES**

Chair, Oklahoma State University, COBRE grant “Oklahoma Center for Respiratory and Infectious Diseases”, 2011 to present

University of South Alabama, Lung Center, Program Project Grant (2000-2011)

Northwestern University, Department of Medicine, Division of Pulmonary and Critical Care Medicine, Program Project Grant (2008)

**RESEARCH INTERESTS**

**A. Mechanisms of injury of surfactant proteins by reactive oxygen-nitrogen intermediates: structure-function relationships.** Electrospray mass spectrometry and a variety of biochemical (including site directed mutagenesis) and physiological techniques have been used to show that exposure of surfactant proteins A (SP-A), and D (SP-D), to reactive oxygen nitrogen species *in vitro* and *in vivo*, causes post translational modification (such as nitration of specific tyrosines in the carbohydrate recognition domains). We assess how changes in structure correlate with the decreased ability of SP-A and SP-D to facilitate aggregation and killing of pathogens. These studies impact our ability to understand the fundamental mechanisms of innate immunity. ***Publications:*** [Myeloperoxidase-dependent inactivation of surfactant protein D in vitro and in vivo.](http://www.ncbi.nlm.nih.gov/pubmed/20228064) J Biol Chem. 2010 May 28;285(22):16757-70. Epub 2010 Mar 12.PMID: 20228064. [Modification of surfactant protein D by reactive oxygen-nitrogen intermediates is accompanied by loss of aggregating activity, in vitro and in vivo.](http://www.ncbi.nlm.nih.gov/pubmed/19126597) FASEB J. 2009 May;23(5):1415-30. Epub 2009 Jan 6.PMID: 19126597

**B. Modification of lung epithelial ion transporters and lung fluid balance by reactive oxygen-nitrogen intermediates.** Nitric oxide and reactive oxygen nitrogen intermediates (formed by the reactions of nitric oxide with partially reduced oxygen species), generated in close proximity of epithelial cell membranes by activated inflammatory cells, modulate the activity of amiloride sensitive epithelial sodium (ENaC) and cAMP-activated chloride (CFTR) channels via signal transduction mechanisms (such as activating PKG and PKC) or by post-translational oxidative modifications of sodium channel proteins and their chaperones. Channel activity (and vectorial sodium transport) may be either increased or decreased depending on levels of reactive intermediates and length of exposure. The following techniques are utilized in these experiments: patching primary or cultured cells in the cell attached and whole cell mode; expressing various subunits of ENaC and CFTR in oocytes; immunoprecipation of ion transporting proteins from whole lungs or epithelial cells; measuring the ion transport properties of epithelial cells forming confluent monolayers in Ussing chambers; measuring ion transport across the alveolar and airway epithelial of anesthetized mice; patching epithelial cells *in situ*. ***Publications:*** [Inhibition of lung fluid clearance and epithelial Na+ channels by chlorine, hypochlorous acid, and chloramines.](http://www.ncbi.nlm.nih.gov/pubmed/20106988) J Biol Chem. 2010 Mar 26;285(13):9716-28. PMID: 20106988. [Mechanisms of cystic fibrosis transmembrane conductance regulator activation by S-nitrosoglutathione.](http://www.ncbi.nlm.nih.gov/pubmed/16421103) J Biol Chem. 2006 Apr 7;281(14):9190-9. Epub 2006 Jan 17.PMID: 16421103

**C. Viral induced injury to the mammalian alveolar epithelium.** Influenza (flu) is a contagious respiratory illness caused by flu viruses, leading to about 36,000 deaths every year in the United States alone, with the potential for at least a tenfold increase in epidemic and pandemic scenarios. **Respiratory Syncytial Virus (RSV)** is a member of the pneumovirus genus of the *paramyxoviridae*, and has a negative-sense, non-segmented, single-stranded RNA genome. It is the most common cause of lower respiratory tract disease in infants and children worldwide, is a frequent initiator of acute asthma exacerbations in young children, and has a disease impact comparable to that of non-pandemic influenza A in the elderly. We are currently using a variety of biophysical, molecular biology and physiological techniques to assess the basic mechanisms by which viral proteins and active replicating viruses interact with and modulate key functions of the alveolar epithelium both *in vitro* and *in vivo*. Results of these studies help us formulate new strategies for decreasing rhinnorhea and pulmonary edema, common consequences of viral infections**. *Publications:*** [Influenza virus M2 protein inhibits epithelial sodium channels by increasing reactive oxygen species.](http://www.ncbi.nlm.nih.gov/pubmed/19596899) FASEB J. 2009 Nov;23(11):3829-42. Epub 2009 Jul 13.PMID: 19596899. [Respiratory syncytial virus inhibits lung epithelial Na+ channels by up-regulating inducible nitric-oxide synthase.](http://www.ncbi.nlm.nih.gov/pubmed/19131335) J Biol Chem. 2009 Mar 13;284(11):7294-306. Epub 2009 Jan 8.

**D. Developing countermeasures against oxidant gases.** Chlorine (Cl2) is a highly irritant and reactive gas produced in large quantities throughout the world. Exposure to Cl2 released into the atmosphere during transportation and industrial accidents as well as during acts of terrorism, has resulted in significant morbidity and mortality to both humans and animals. Physiological and biophysical and biochemical studies utilizing *in vitro* systems and animals exposed to chlorine gas have helped us elucidate the biochemical mechanisms responsible for chlorine injury to pulmonary and extrapulmonary targets ***Publications***: [Elucidating mechanisms of chlorine toxicity: reaction kinetics, thermodynamics, and physiological implications.](http://www.ncbi.nlm.nih.gov/pubmed/20525917) Am J Physiol Lung Cell Mol Physiol. 2010; 299(3):L289-300. Epub 2010 Jun 4. Review.PMID: 20525917; [Inhibition of lung fluid clearance and epithelial Na+ channels by chlorine, hypochlorous acid and chloramines.](http://www.ncbi.nlm.nih.gov/pubmed/20106988) J Biol Chem. 2010 Mar 26;285(13):9716-28. PMID: 20106988; [Mechanisms and modification of chlorine-induced lung injury in animals.](http://www.ncbi.nlm.nih.gov/pubmed/20601632) Proc Am Thorac Soc. 2010 Jul;7(4):278-83. Review.PMID: 20601632; [Chlorine Gas Exposure Causes Systemic Endothelial Dysfunction by Inhibiting eNOS-dependent Signaling.](http://www.ncbi.nlm.nih.gov/pubmed/21131444) Am J Respir Cell Mol Biol. 2010 Dec 3. [Epub ahead of print]PMID: 21131444; [Post Exposure Administration of a {beta}2-Agonist Decreases Chlorine Induced Airway Hyper-Reactivity in Mice.](http://www.ncbi.nlm.nih.gov/pubmed/20855648) Am J Respir Cell Mol Biol. 2010 Sep 20. [Epub ahead of print]; PMID:20855648. Based on these studies we have formulated effective approaches to counteract this injury. Post exposure administration of **antioxidants**, **nitrite** or β2 agonists decreased pulmonary injury and improved survival in rodents exposed to Cl2 gas by a variety of mechanisms. ***Publications*** [Ascorbate and Deferoxamine Administration Post Chlorine Exposure Decrease Mortality and Lung Injury in Mice.](http://www.ncbi.nlm.nih.gov/pubmed/21131440) Am J Respir Cell Mol Biol. 2010 Dec 3. [Epub ahead of print]PMID: 21131440; PMID:21148791

**RESEARCH SUPPORT**

## Current

 Source/Number: R21; NIEHS

 Title: Mitochondrial Bioenergetic Dysfunction and Chlorine Toxicity

 Role on Project: **Co-Principal Investigator (with Victor Darley-Usmar,**

 **PhD)**

 Dates: 10/01/2013 – 09/30/2015

 Costs: Direct: $500,000 Indirect: $235,000 Total: $735,000

 Source/Number: U01; NIEHS

 Title: Nitrate Dependent Protection against Cl2 Gas Toxicity Role

 of Chlorinated Lipids

 Role on Project: **Co-Principal Investigator (with Rakesh P. Patel, PhD)**

 Dates: 06/01/2013 – 05/30/2018

 Costs: Direct: $2,084,170 Indirect: $648,825 Total: $2,732,995

 Source/Number: 1R21ES022876-01 (NIEHS)

 Title: Finding Effective Treatments for Inhaled Chlorine-Induced Injury Related Pain

 Role on Project: **Co- Principal Investigator (10% effort)**

 Dates: 09/28/2012 – 08/31/2014

 Costs: Direct: $500,000 Indirect: $234,790 Total: $734,790

 Source/Number: M13A11525 (A09055) (NIH)

 Title: Accelerating Inflammation Resolution to CounterACT Chemical Injury

 Role on Project: **Subcontract PI (P.I. Sven Jordt)**

 Dates: 09/19/2012 – 08/31/2014

 Costs: Direct: $80,000 Indirect: $37,200 Total: $117,200

 Source/Number: 2R01DK060065-06A2 (NIDDK)

 Title: Cell Biology of CFTR in Polarized Epithelia

 Role on Project: **Co-Investigator (2% effort; P.I. James Collawn)**

 Dates: 07/01/2001 – 07/30/2014

 Costs: Direct: 2,674,243 Indirect: $1,243,528 Total: $3,917,771

 Source/Number: 2U01ES015674 (NIEHS)

 Title: Targeting Injury Pathways to Counteract Pulmonary Agent and Vesicant Toxicity

 Role on Project: **Subcontract PI (7% effort; P.I. Sven Jordt)**

 Dates: 08/22/2011 - 05/31/2016

 Costs: Direct: $82,092 Indirect: $38,173 Total: $120,265

Source Number*:* GlaxoSmithKline

Title: Post Exposure Mitigation and Repair of Lung and Systemic Cl2

Induced Injury by Novel TRPV4 Inhibitors

Role on Project: **Principal Investigator (5% effort)**

Dates: 04/01/2013 – 03/31/2014

Costs: Direct: $46,817 Indirect: $21,770 Total: $68,587

**PAST RESEARCH SUPPORT (Principal Investigator Only**)

 Source/Number: 2R01HL031197-24A1 (NHLBI)

 Title: Mechanisms of ENaC Inhibition by Replicating Influenza Virus: Role of M2 Protein

 Role on Project: **Principal Investigator (25% effort)**

 Dates: 09/01/2009-06/30/2013

 Costs: Direct: $1,097,499 Indirect: $438,792 Total: $1,536,291

Source/Number: Department of Commerce/Sea Grant Support (NOAA)

Title: Nanoparticle Induced Injury to Adult and Developing Lungs

Role on Project: **Principal Investigator**

Dates and Costs: 08/01/2009-7/31/2011

**Project Leader;**” Project 1: “Modification of the lung proteome by Nanoparticles” **Director of Administrative Core**

Costs: Direct: $469,140 Indirect: $213,160 Total: $682,300

Source/Number 3U54ES017218-02 (NIEHS)

 Title: Novel Treatments of Chlorine Induced Lung Injury to the Cardiorespiratory Systems

 Type: Center of Excellence (U54)

 Dates and Costs: 09/01/08-05/31/2012

 Role: **Principal Investigator of the U54; Project leader: Project**

 **Director of the Administrative Core**

Costs: Direct: $2,760,909 Indirect: $841,473 Total: $3,602,382

Source/Number: 5U01ES015676-04 (NIEHS)

Title: Prevention and Treatment of Chlorine Gas Induced Injury to the Pulmonary System

Role on Project: **Principal Investigator**

Dates: 09/29/2006 -05/31/2012

Costs: Direct: $2,328,671 Indirect: $1,007838 Total: $3,336,509

 Source/Number: U01ES015676-04S1 Administrative Supplement (NIH/NIEHS)

 Title: Prevention and Treatment of Chlorine Induced Injury to the

 Pulmonary System

 Role on Project: **Principal Investigator**

Dates: 06/01/2011-05/31/2012

 Costs: Direct: $175,000 Indirect: N/A Total: $175,000

Source/Number: 5R01HL075540-04 (NHLBI)

Title: Nitric oxide modulation of CFTR Expression and Function

Role on Project: **Principal Investigator**

Dates and Costs: 10/01/2004-11/30/2009; No Cost Extension

Source/Number: 7R01HL087017-02 (NHLBI)

Title: Regulation of Epithelial Sodium Channels by cGMP (PI: HongLong Ji; University of Texas, Tyler, TX)

Role on Project: **Principal Investigator of Subcontract to UAB**

Dates and Costs: 6/01/2007-01/31/09

Costs: $70,000 (direct costs)

Source/Number Sepracor, Inc.

Title: Mitigation of Chlorine Induced Injury by Brovana

Role on Project: **Principal Investigator**

Dates and Costs: 03/01/2007 – 02/28/2009 $120,127 (direct costs)

Source/Number: 5R37HL31197-23 (NHLBI)

Title: Pathophysiology of sublethal oxygen in injured lungs

Role on Project: **Principal Investigator (MERIT AWARD)**

Dates and Costs: 08/01/2002-07/31/2008; $1,175,000 (direct costs)

Source/Number Talecris Biotherapeutics, Inc.

Title: *In vitro* and *in vivo* studies on efficacy of aerosolized alpha1-antitrypsin

Role on Project: **Principal Investigator**

Dates and Costs: 05/01/2007- 07/31/2008 $38,000 (direct costs)

Source/Number: 1R01AI 71393 (NAIAD)

Title: Adaptation of Influenza Inhibition Assays for High-throughput Screening (PI: James Noah, SRI, Birmingham, AL)

Role on Project: **Principal Investigator** **of Subcontract to UAB**

Dates and Costs: 03/15/2006-08/31/2008; $65,000 (direct costs)

Source/Number: 5R01HL72871-04 (NHLBI)

Title: Modulation of Innate Immunity in Lung Transplantation

Role on Project: **Principal Investigator**

Dates and Costs: 09/30/2002- 07/31/2008; $875,000 (direct costs)

Source/Number: Inspire Pharmaceuticals

Title: Assessment of a novelP2Y receptor antagonist in preventing RSV induced injury to the Alveolar epithelium in vivo

Role on Project: **Principal Investigator**

 Dates and Costs: 07/15/2006-07/15/2007; $130,000 (direct costs)

Source/Number: 2R37 NIH-HL31197; Minority Postdoctoral Supplement for Dr. Ollie Kelly

Title: The pathophysiology of sublethal oxygen in injured lungs

Role on Project: **Principal Investigator (Post-doctoral fellow: Dr. Ollie Kelly)**

Dates and Costs: 12/15/2004-12/15/2006; $100,000 (direct costs)

Source/Number: NIH 2R01 HL51173

Title: Nitric oxide mediated injury to alveolar epithelium

Role on Project: **Principal Investigator**

Dates and Costs: 10/01/99-09/30/05; $1,291,709 (direct costs)

Source/Number: NIH-NIDDK P30 DK54781 (Sorscher)

Title: Cystic Fibrosis Gene Therapy Core Center (PI: Eric Sorscher)

Role on Project: **Principal Investigator of Core A**: **Animal Models and Delivery Core**

Dates and Costs: 01/01/99 – 12/31/03; 2,500,000 Total Core Award; $490,130 Core A Award (direct costs)

Source/Number: North Atlantic Treaty Organization Scientific Affairs Division

Title: Advanced Study Institute – *Etiology and Treatment of Acute Lung Injury*

Role on Project: **Director**

Dates and Costs: 01/01/99 – 12/31/01; $65,000

Source/Number: Office of Naval Research N00014-97-1-0309

Title: Gene transfer to the normal and injured alveolar epithelium: Implications in the treatment of acute respiratory distress syndrome

Role on Project: **Principal Investigator**

Dates and Costs: 01/01/97 –10/01/2000; $816,992

Source/Number: 2R37 NIH-HL31197-18

Title: The pathophysiology of sublethal oxygen in injured lungs

Role on Project: **Principal Investigator (MERIT AWARD)**

Dates and Costs: 08/01/97-07/31/02; $811,000

Source/Number: NIH Small Business Technol. Transfer R41 HL59003-01

 Title: Augmentation of gene transfer by surfactant lipids

Role on Project: **Principal Investigator**

Dates and Costs: 10/01/97 - 09/30/99; $92,955

Source/Number: North Atlantic Treaty Organization Scientific Affairs Division

Title: Advanced Study Institute – Acute respiratory distress syndrome: Cellular and molecular mechanisms and clinical management

Role on Project: **Director**

Dates and Costs: 01/01/97 - 12/31/97; $100,000

Source/Number: 2R01 NIH-HL51173

Title: Nitric oxide mediated injury to alveolar epithelium

Role on Project: **Principal Investigator**

Dates and Costs: 08/01/94-07/31/00; $873,159 (one-year extension)

Source/Number: Wyeth Pediatric Neonatology Research Fund

Title: Nitrogen reactive species and lung injury

Role on Project **Principal Investigator**

Dates and Costs: 07/01/94-06/30-95; $3,500

Source/Number: Office of Naval Research #N00014-93-1-0785

Title: Drug delivery to normal and diseased lungs: A novel approach for the mitigation of Adult Respiratory Distress Syndrome-type injury

Role on Project: **Principal Investigator**

Dates and Costs: 06/15/93-011/30/96; $613,737

Source/Number: Burroughs Wellcome Company

Title: An international multicenter, double-blind, randomized, placebo-controlled study in the effect of continuous administration of aerosolized EXOSURF in patients with sepsis-induced adult respiratory distress syndrome (Clinical Trial)

Role on Project: **Co-Principal Investigator**

Dates and Costs: 04/92-11/93

Source/Number: Burroughs Wellcome Company

Title: An international multicenter, double-blind, randomized, placebo-controlled study in the effect of continuous administration of aerosolized EXOSURF in patients with trauma-induced adult respiratory distress syndrome (Clinical Trial)

Role on Project: **Co-Investigator**

Dates and Costs: 10/92 –11/93

Source/Number: Department of the Navy N00014-J-91-1277

Title: Mechanisms and modifications of pulmonary and systemic epi­the­lial function and structure by reactive oxygen species and proteases

Role on Project: **Principal Investigator**

Dates and Costs: 03/01/91-05/31/93; $467,193

Source/Number: Burroughs Wellcome Company

Title: Quantification of surfactant distribution in normal and diseased lungs

Role on Project: **Principal Investigator**

Dates and Costs: 11/01/90-10/31/93; $65,000

Source/Number: Department of the Navy

Title: Detection and modification of compromised epithelial function after systemic injury: Role of circulating reactive oxygen species and proteases

Role on Project: **Principal Investigator**

Dates and Costs: 6/15/89-6/14/91; $647,219

Source/Number: American Lung Association (Career Investigator Award)

Title: Mitigation of pulmonary hyperoxic injury by exogenous surfactant replacement

Role on Project: **Principal Investigator**

Dates and Costs:07/01/87-06/30/92; $175,000

Source/Number: James H. Cummings Foundation, Buffalo, NY

Title: Funds for the purchase of a Multi-Channel Analyzer and a Gamma Detector

Role on Project: **Principal Investigator**

Dates and Costs: 1984 (Equipment grant - $18,000)

Source/Number: NIH R01 NIH-HL 31197

Title: The pathophysiology of sublethal oxygen in injured lungs

Role on Project: **Principal Investigator**

Dates and Costs: 08/01/83-07/31/97; $1,800,000

Source/Number: NIH HL23190

Title: Convective gas transport and O2 and CO2 exchange

Project 4 Title: O2 toxicity and the cardiovascular system

Role on Project: **Project Leader**

Project 2 Title: Effects of hyperventilation on the cardiovascular system

Role on Project: **Project Leader**

Dates and Costs: 1978-1983; $253,241 (Project 4) and $131,856

 (Project 2)

**Grants to trainees (Sadis Matalon, Mentor or Co-Investigator)**

 Source/Number: Foundation for Anesthesia Education & Research

 Title: PDE4 and IL-8-Dependent Inhibition of cAMP-Stimulated Alveolar Fluid Clearance Dates

 Role on Project: **Co-Mentor (Mentee: Brant Wagener, M.D., Ph.D.)**

 Dates: 07/01/2013 – 06/30/2014

 Costs: Direct: $75,000 Indirect: N/A Total: $75,000

 Source/Number:                  Parker B. Francis Foundation

 Title: Differentiation of Regulatory Myeloid-Derived Cells by Reactive Oxygen Species

 Role on Project: **Co-Mentor (Mentee: Jessy DeShane, PhD)**

 Dates: 06/01/2013 - 06/01/2015

 Costs: Direct: $100,000 Indirect: N/A Total: $100,000

 Source/Number: NHLBI

Title: Regulation of lung epithelial sodium channels by cGMP

Dates and Costs: 02/01/2007-02/01/2012; $1,000,000 (direct costs)

Role on Project: **Co-Investigator; PI: Dr. Hong-long Ji**

Source/Number American Heart Association (National)

Title: Delta ENaC, a novel cGMP-activated pathway for alveolar fluid clearance

Principal Investigator: Hong-Long Ji, M.D

Dates and Costs: 01/01/2006-12/31/2009; $260,000

Role on Project: **Consultant and Sponsor**

Source/Number: NIH SERCA K01

Title: Na+ Transport Inhibition by Respiratory Syncytial Virus

Principal Investigator: Ian C Davis, D.V.M., Ph.D.

Dates and Costs: 10/01/2003-10/01/2008; $600,480

Role on Project: **Mentor and Sponsor**

Source/Number American Lung Association

Title: Modulation of ENaC Expression and Function During Mycoplasma Infection

Principal Investigator: Judy Hickman-Davis, D.V.M., Ph.D.

Dates and Costs: 07/01/2005-07/01/2007; $80,000

Role on Project: **Consultant/Sponsor**

Source/Number American Heart Association, Southern Affiliates

Title Mechanisms of Pathogen-Killing by Alveolar Macrophages and Surfactant Protein-A from the lungs of patients with the Acute Respiratory Distress Syndrome

Principal Investigator Sadis Matalon, PhD

Trainee: Philip O’Reilly, MD

Dates and Cost: 07/01/2002-07/1/2004; $70,000

Role on Project: **Principal Investigator**

Source/Number: Parker B. Francis Fellowship Foundation

Title: Gene discovery and expression analysis in the developing mouse lung

Principal Investigator: Lance Prince, M.D, Ph.D.

Dates and Costs: 2001-2004; $120,000

Role on Project: **Mentor and Sponsor**

Source/Number: Parker B. Francis Fellowship Foundation

Title: Modulation of epithelial sodium conductance by respiratory syncytial virus.

Principal Investigator: Ian Davis, D.V.M., Ph.D.

Dates and Costs: 2001-2004; $110,000

Role on Project: **Mentor and Sponsor**

Source/Number: NIH SERCA K01

Title: Innate mechanisms of mycoplasmal killing by Alveolar macrophages

Principal Investigator: Judy Hickman-Davis, D.V.M., Ph.D.

Dates and Costs: 07/01/99-06/30/04; $600,000

Role on Project: **Mentor and Sponsor**

Source/Number: Parker B. Francis Fellowship Foundation

Title: Surfactant protein A in antimycoplasmal defense

Principal Investigator: Judy Hickman-Davis, D.V.M.

Dates and Costs: 1998-2001; $110,000

Role on Project **Co-Mentor**

Source/Number: American Heart Association

Title: Effects of aortic occlusion-reperfusion and circulating xanthine oxidase on alveolar fluid clearance in rabbits

Principal Investigator: Vance G. Nielsen, M.D.

Dates and Costs: 1998-2000; $70,000

Role on Project: **Mentor and Sponsor**

Source/Number: Parker B. Francis Fellowship Foundation

Title: Effects of reactive nitrogen species on Cl-secretion in airway epithelial cells

Principal Investigator: Michael DuVall, DVM, Ph.D.

Dates and Costs: 01/7/96-01/7/99; $108,000

Role on Project: **Mentor and Sponsor**

Source/Number: National Institutes of Health (NRCDA)

Title: Mechanisms of nitric oxide injury to lung surfactant

Principal Investigator: Machelle Manuel, Ph.D.

Date and Costs: 01/7/96-01/7/99; $88,000 (Grant terminated; Dr. Manuel accepted faculty position)

Role on Project: **Mentor and Sponsor**

Source/Number: Cystic Fibrosis Foundation

Title: Nitric oxide toxicity during gene therapy

Principal Investigator: Imad Y. Haddad, M.D.

Dates and Costs: 01/95-12/96; $98,000

Role on Project: **Mentor and Sponsor**

Source/Number: Child Health Research Center, NIH

Title: Reactive nitrogen species injury to pulmonary surfactant

Principal Investigator: Imad Y. Haddad, M.D.

Dates and Costs: 1993-1996; $90,000

Role on Project: **Mentor and Sponsor**

**TRAINEES**

**Current Trainees Training Period Position**

Ahmed Lazrak, Dr. Sc. 2007 – Present Assistant Professor of Anesthesiology

James Londino 2009 – Present PhD Graduate Student, Cell Biology

Asta Jurkuvenaite, PhD 2010 – Present Post-doctoral Fellow

Jessy S. Deshane, PhD 2013 – 2016 Parker B. Francis Fellow (Co-Mentor)

Brant Michael Wagener, MD 2013 – 2014 FAER Award (Co-Mentor)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Past Trainees** |  | **Training Period** |  | **Last Known Position** |
| Weifeng Song, MD, PhD(Assistant Professor) |  | 2006 - 2011 |  | Resident, Department of Anesthesiology, School of Medicine, University of Alabama at BirminghamBirmingham, Alabama |
|  |  |  |  |  |
| Artistotelis Filippidis, MD (Visiting Scientist) |  | 2010 – 2011 |  | Post-Doctoral Fellow, Department of Neurology, University of Virginia Charlottesville, VA  |
|  |  |  |  |  |
| Sotirios Zarogiannis, PhD (Post-doctoral Fellow) |  | 2010 – 2011 |  | Assistant Professor of Physiology, Department of PhysiologyUniversity of ThessalyLarisa, Greece  |
|  |  |  |  |  |
| Amit K. Yadav, MD (Graduate student, School of Public Health)  |  | 2008-2010  |  | Student, Masters Program in Environmental Health Sciences, School of Public Health, University of Alabama at BirminghamBirmingham, Alabama |
|  |  |  |  |  |
| Shipeng Wei, MD(Post-doctoral fellow) |  | 2007 -2009  |  | Assistant Professor of Medicine, Department of Cardiology, the Fourth Affiliated Hospital of Harbin Medical UniversityHarbin, People's Republic of China |
|  |  |  |  |  |
| Kokilavani Vedagiri,PhD (Post-doctoral fellow)  |  | 2007 –2009 |  | Post-doctoral fellow, University of MadrasChennai, India  |
|  |  |  |  |  |
| Devipriya Subramaniyam(Visiting Scholar) |  | 2007- 2009  |  | Doctoral Degree Candidate, Hannover Medical SchoolHannover, Germany |
|  |  |  |  |  |
| Andreas Bracher(Thesis advisee, IMC University of Applied Sciences, Krems, Austria) |  | 2007- 2008 |  | PhD Student, Skin and Endothelium Research Division, Medical University ViennaVienna, Austria |
|  |  |  |  |  |
| Yongjian Zhou, MD(Visiting Scientist) Hospital of Guangzhou, P.R. China  |  | 2006- 2007 |  | Professor of Medicine, Department of Gastroenterology and Hepatology, First People’s Hospital of Guangzhou Guangzhou, People’s Republic of China  |
|  |  |  |  |  |
| Alexander Swoboda (Thesis advisee, IMC University of Applied Sciences, Krems, Austria)  |  | 2006-2007 |  | PhD Student, Skin and Endothelium Research Division, Medical University ViennaVienna, Austria  |
|  |  |  |  |  |
| Martin Leustik (Thesis advisee, IMC University of Applied Sciences, Krems, Austria)  |  | 2006-2007  |  | PhD student, Institute of Medical Microbiology, Giessen UniversityGiessen, Germany |
|  |  |  |  |  |
| Izabela Nita(Visiting Scholar) |  | 2006-2007 |  | PhD student, Lund UniversityMalmo, Sweden |
|  |  |  |  |  |
| Hong-Long Ji, MD(Research Instructor) |  |  |  | Associate Professor, Department of Biochemistry, University of Texas Health Center at TylerTyler, Texas |
|  |  |  |  |  |
| G. Alejandro F. Perez, MD (Post-doctoral fellow)  |  | 2005-2006 |  | Unknown  |
|  |  |  |  |  |
| Ollie Kelly, MD(Research Instructor) |  | 2004-2006 |  | Department of Pathology and Laboratory Medicine, University of California-Los AngelesLos Angeles, CA |
|  |  |  |  |  |
| Nina German Hall, PhD, RD, LD (Post-doctoral fellow) |  | 2003-2005 |  | Registered Dietician, NutritionistPrivate PracticeMcDonough, GA |
|  |  |  |  |  |
| Lance Prince, MD, PhD (Assstant Professor of Pediatrics, Parker B. Francis Fellow)            |  | 2003-2005 |  | Assistant Professor, Vanderbilt University School of MedicineNashville, TN |
|  |  |  |  |  |
| Sricharan Moturi, MD, MPH(Graduate student)  |  | 2003-2004 |  | Post-doctoral Fellow, Child & Adolescent Psychiatry, Northwestern University Chicago, ILPost-doctoral Fellow, Sleep Medicine/Pediatric Sleep Medicine, University of Alabama at BirminghamBirmingham, ALPrivate Practice, Middle Tennessee Psychiatric Clinic Nashville, TN |
|  |  |  |  |  |
| Veronica Swystun, PhD(Graduate student in Physiology and Biophysics, PhD awarded in 2005) |  | 2001-2005  |  | Manager, Strategic Partnership ProgramUniversity of CalgaryCalgary, Alberta, Canada |
|  |  |  |  |  |
| Zsuzsanna Bebok, MD(Post-doctoral fellow, joint supervision with Dr. Eric Sorscher)  |  | 2000-2002 |  | Associate Professor, Cell Biology University of Alabama at BirminghamBirmingham, AL  |
|  |  |  |  |  |
| Nandor Marczin, MD(Visiting Scholar) |  | 2000 |  | Clinical Senior Lecturer, Program Director of Clinical Academic Training in Anesthesia, Coordinator of the Perioperative Medicine Module of BSc in Surgery and Anesthesia, Imperial College London, UKHonorary Consultant in Adult Cardiothoracic Anesthesia, Royal Brompton and Harefield NHS Foundation TrustLondon, UK |
|  |  |  |  |  |
| Karin Hardiman, MD, PhD(Graduate Student; Master’s degree in Physiology 2000; PhD awarded in 2003) |  | 1999-2004  |  | Surgical Fellow, Oregon Health and Science University Portland, OR |
|  |  |  |  |  |
| Philip O’Reilly, MD(Clinical Fellow in Pulmonary Medicine)  |  | 1999-2004 |  | Assistant Professor, Pulmonary, Allergy and Critical Care Medicine, University of Alabama at BirminghamBirmingham, AL  |
|  |  |  |  |  |
| Charles Venglarik, PhD(Post-doctoral fellow)  |  | 1999-2001  |  | Biology InstructorJefferson State Community CollegeBirmingham, AL |
|  |  |  |  |  |
| Ian C. Davis, DVM, PhD(Research Instructor in Ansthesiology, Parker B. Francis Fellow)            |  | 1998-2006 |  | Assistant Professor, Veterinary Biosciences, Department of Veterinary Medicine, Ohio State UniversityColumbus, OH |
|  |  |  |  |  |
| Ulrich H. Thome, MD (Clinical Fellow in Pediatrics) |  | 1998-2001 |  | Department of Neonatology, University of LeipzigLeipzig, Germany |
|  |  |  |  |  |
| Judy M. Hickman-Davis, DVM, PhD (Research Instructor in Ansthesiology, Parker B. Francis Fellow) |  | 1998-1999 |  | Assistant Professor of Clinical, Veterinary Preventive Medicine, Ohio State University Columbus, OH |
|  |  |  |  |  |
| Ahmed Lazrak, Dr.Sc. (Post-doctoral fellow)  |  | 1997-2004 |  | Assistant Professor, Department of Anesthesiology, University of Alabama at BirminghamBirmingham, AL  |
|  |  |  |  |  |
| Arabinda Samanta, PhD (Research Assistant Professor)  |  | 1997-1999  |  | Research Assistant Professor, Department of Surgery, University of Alabama at BirminghamBirmingham, AL  |
|  |  |  |  |  |
| Tamas Jilling, MD(Post-doctoral fellow)  |  | 1997-1998  |  | The Ellrodt-Schweighauser Family Chair of Perinatal Research, Department of Pediatrics, NorthShore University HealthSystemEvanston, IL |
|  |  |  |  |  |
| S. Machelle Manuel, PhD (Post-doctoral fellow)  |  | 1996-1997  |  | Senior Director, Medical and Scientific Affairs, Daiichi Sankyo, Inc.Parsippany, NJ |
|  |  |  |  |  |
| Michael DuVall, DVM, PhD(Post-doctoral fellow)  |  | 1995-1998  |  | Associate Directory, Toxicology,Abbott LaboratoriesChicago, IL |
|  |  |  |  |  |
| Sha Zhu, MD, PhD(Post-doctoral fellow)  |  | 1994-2000  |  | Statistician, Preventive Medicine, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Yi Guo, PhD(Post-doctoral fellow)  |  | 1994-1997 |  | Research Associate, DuPont HospitalWilmington, DE |
|  |  |  |  |  |
| Glenda Davis (Research Assistant, Research Associate) |  | 1993-1996,1998-2007 |  | Manager, Office of Research Compliance, University of AlabamaTuscaloosa, AL |
|  |  |  |  |  |
| Javier Cifuentes, MD (Clinical Fellow in Neonatology)  |  | 1993-1995 |  | Assistant Professor of Pediatrics, Division of Neonatology, Pontifical Catholic University of Chile Santiago, Chile  |
|  |  |  |  |  |
| Imad Y. Haddad, MD(Assistant Professor of Pediatrics) |  | 1992-1997 |  | Division Head, Pediatric Critical CareMedical Director, Pediatric Intensive Care Unit,Banner Medical GroupPhoenix, AZ |
|  |  |  |  |  |
| Joyce F. Haskell, PhD (Post-doctoral fellow)  |  | 1992-1994  |  | Research Associate, Department of Biochemistry, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Gyorgy Pataki, MD(Post-doctoral fellow)  |  | 1992-1994  |  | Internal Medicine,Novato Community Hospital,Sutter Pacific Medical FoundationGreenbrae, CA |
|  |  |  |  |  |
| William J. Russell, PhD(Post-doctoral fellow)  |  | 1992-1993 |  | Research Scientist, Veterans Administration Medical CenterShreveport, LA  |
|  |  |  |  |  |
| Laszlo Czoph, MD(Post-doctoral fellow)  |  | 1992-1993 |  | Assistant Professor of Internal Medicine, University Medical SchoolPecs, Hungary |
|  |  |  |  |  |
| Carpantanto Myles, MSM, CIM(Research Assistant, Research Associate) |  | 1991-2005 |  | Director & Research Compliance Officer, Office of Research Compliance, University of AlabamaTuscaloosa, AL |
|  |  |  |  |  |
| Ping Hu, MD, RN(Post-doctoral fellow) |  | 1991-1997 |  | Nurse, Bone Marrow Transplant Unit, University of Alabama at Birmingham Hospital Birmingham, AL  |
|  |  |  |  |  |
| Gang Yue, MD, PhD(Post-doctoral fellow 1991-1993, graduate student in Physiology and Biophysics, PhD awarded in 1996)  |  | 1991-1996  |  | Anatomic Pathology & Clinical Pathology, Pathology – Hematology, Wilson Memorial Regional Medical CenterJohnson City, NY |
|  |  |  |  |  |
| Martin L. Bauer, MD(Clinical Fellow in Pediatric Pulmonology)  |  | 1991-1993 |  | Associate Professor of Pediatrics, Arkansas Children’s Hospital,University of Arkansas for Medical Sciences, College of MedicineLittle Rock, AR |
|  |  |  |  |  |
| Michele Barnard (Perry),PhD (Post-doctoral fellow)  |  | 1990-1992  |  | Chief of Special Emphasis Panels Section 1, Review BranchNational Institute of Diabetes and Digestive and Kidney Diseases Bethesda, MD  |
|  |  |  |  |  |
| Vance G. Nielsen, MD(Assistant Professor of Anesthesiology)  |  | 1990-1991, 1998-2000  |  | Professor & Director of Anesthesiology Research,Drexel University College of Medicine Philadelphia, Pennsylvania  |
|  |  |  |  |  |
| Paul C. Engstrom, MD(Clinical Fellow in Neonatology) |  | 1988-1990 |  | Director, Neonatal Transport Program Director of Resident Recruitment,Department of Pediatrics[Department of Pediatrics](http://findadoctor.carolinasmedicalcenter.org/directory/list.asp?setsize=3000&department=Department+of+Pediatrics&setindex=0&view=),[Division of Neonatology](http://findadoctor.carolinasmedicalcenter.org/directory/list.asp?setsize=3000&division=Division+of+Neonatology&setindex=0&view=),Levine Children's HospitalCharlotte, NC   |
|  |  |  |  |  |
| R. Randall Baker, PhD, RRT, RCPT (Graduate Student, PhD in Biophysics) |  | 1987-1992 |  | Chair of Respiratory Therapy, Associate Professor of Graduate Studies, Respiratory Therapy, Anesthesiology and Perioperative MedicineMedical College of Georgia, Augusta, GA |
|  |  |  |  |  |
| Lori Milanowski(Student; Nurse Anesthesia Program) |  | 1986-1988  |  | Unknown  |
|  |  |  |  |  |
| Gregory M. Loewen, DO, FCCP (Clinical Fellow in Pulmonary Medicine)  |  | 1986-1988  |  | Last academic appointment: Professor, Department of Medicine, Roswell Park Cancer Institute, Buffalo, NYPrivate practiceSpokane, WA  |
|  |  |  |  |  |
| Mary J. Laughlin, MD (Medical Student; Honors thesis)  |  | 1983-1985  |  | Founder and Medical Director, Abraham J. & Phyllis Katz Cord Blood Foundation; Founder and Medical Director, Cleveland Cord Blood Center;Associate Professor of Medicine, Pathology, Case Western Reserve University/Case Comprehensive Cancer CenterCleveland, OH |
|  |  |  |  |  |
| Bruce A. Holm, PhD – *dec.* (Graduate Student in Toxicology; University of Rochester)  |  | 1983-1987 |  | SUNY Distinguished Professor of Pediatrics, Gynecology-Obstetrics, and Pharmacology and Toxicology, Senior Vice Provost at the State University of New York at Buffalo, Executive Director of the University's Center of Excellence in Bioinformatics and Life SciencesBuffalo, NY |
|  |  |  |  |  |

**MEMBERSHIP ON UAB STUDENT GRADUATE COMMITTEES**

|  |  |  |
| --- | --- | --- |
| **Student** | **Role** | **Degree Awarded** |
|  |  |  |
| Colm Atkins  | Member | PhD Candidate in Biochemistry and Molecular Genetics |
|  |  |  |
| James Londino | Mentor | PhD Candidate in Cell Biology |
|  |  |  |
| Artistotelis Filippidis, MD(Visiting Scientist) | Member | PhD Candidate in Physiology, University of Thessaly, Larisa, Greece |
|  |  |  |
| Amit K. Yadav, MD  | Mentor | Master of Science in Environmental Health Sciences, School of Public Health, 2010 |
|  |  |  |
| Dario A. Vitturi, PhD | Member | PhD in Molecular and Cellular Pathology, 2010 |
|  |  |  |
| Veronica Swystun, PhD | Mentor | PhD in Physiology and Biophysics, 2005 |
|  |  |  |
| Sricharan Moturi, MD, MPH  | Member | Masters degree in Public Health, 2003; MD, 2001 |
|  |  |  |
| Karin Hardiman, MD, PhD | Mentor | MD, 2004; PhD in Physiology and Biophysics, 2002; Masters degree in Physiology, 2000 |
|  |  |  |
| Ian C. Davis, DVM, PhD | Member | PhD in Pathology, 2000 |
|  |  |  |
| Judy M. Hickman-Davis, DVM, PhD | Member | PhD in Pathology, 1998 |
|  |  |  |
| Gang Yue, MD, PhD | Mentor | PhD in Physiology and Biophysics, 1996 |
|  |  |  |
| R. Randall Baker, PhD, RRT, RCPT | Member | PhD in Physiolgy and Biophysics, 1991 |
|  |  |  |

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| --- | --- | --- | --- | --- |
| **Summer Students** **and Interns** |  | **Training Period**  |  | **Last Known Position** |
| Michael Clark  |  | Summer 2013 |  | Medical Student, Mercer University School of MedicineSavannah, GA |
|  |  |  |  |  |
| Susanna Basappa (Summer in Biomedical Sciences (SIBS) Student)  |  | Summer 2013 |  | Student, University of San FranciscoSan Francisco, CA |
|  |  |  |  |  |
| Courtney Culbreath |  | Summer 2013  |  | Medical Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| LaDonna Patterson  |  | August 2012 – February 2013 |  | Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Lisa Speake MacBeth  |  | Summer 2012 |  | Medical Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Abhishek T. Haritha  |  | Summer 2012 |  | Medical Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Adam T. Witcher |  | Summer 2012 |  | Medical Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Erica M. Johnson |  | Summer 2011 Summer 2009 |  | FAER Medical Student, University of Alabama at Birmingham Birmingham, AL |
|  |  |  |  |  |
| Michael D. Cochran |  | Summer 2011 |  | Medical Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Justin Jackson  |  | Summer 2011Summer 2009  |  | Medical Student, University of Alabama at Birmingham Birmingham, AL |
|  |  |  |  |  |
| Emily Ness |  | Summer 2011 |  | Student, Carleton CollegeNorthfield, MN |
|  |  |  |  |  |
| Kate Trankina |  | Summer 2011 |  | Student, Vestavia Hills High SchoolVestavia Hills, AL |
|  |  |  |  |  |
| Evan Fisher  |  | Summer 2010 |  | Medical Student, University of Alabama at Birmingham, Birmingham, AL |
|  |  |  |  |  |
| Julia Belopolsky |  | Summer 2010  |  | Student, New York UniversityNew York, New York |
|  |  |  |  |  |
| Larry Lawson (McNair Research Summer Scholar, Who’s Who Among Students in American Universities and Colleges) |  | 2011Summer 2010  |  | Student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| James Zu (CORD Mentor Program) |  | Summer 2010Summer 2008  |  | Student, University of PennsylvaniaPhiladelphia, PA Student, Alabama School of Fine ArtsBirmingham, AL |
| Sarah McCurry  |  | Summer 2007  |  | Medical Student, University ofAlabama at Birmingham Birmingham, AL |
|  |  |  |  |  |
| John Robert Walker  |  | Summer 2007  |  | Anesthesiology Resident, University of Alabama at Birmingham Birmingham, AL |
|  |  |  |  |  |
| Colin Jones(CORD Mentor Program) |  | Summer 2008Summer 2007  |  | Student, University of AlabamaTuscaloosa, AL |
|  |  |  |  |  |
| Abhishek T. Haritha (CORD Mentor Program)  |  | Summer 2006  |  | MD/PhD student, University of Alabama at BirminghamBirmingham, AL |
|  |  |  |  |  |
| Shaun Williams  |  | Summer 2006  |  | Anesthesiology Resident, Emory University Atlanta, GA |
|  |  |  |  |  |
| Jeffrey Brand  |  | Summer 2006 |  | Graduate Student, University of Alabama at Birmingham School of Public HealthBirmingham, AL |
|  |  |  |  |  |
| Namisha Patel  |  | Summer 2005  |  | Medical Student, University of Alabama at Birmingham Birmingham, AL |
|  |  |  |  |  |
| Luke Crowder (CORD Mentor Program) |  | Summer 2005  |  | Student, Ramsey High School Birmingham, AL |
|  |  |  |  |  |
| Aronica Cotton  |  | Summer 2002  |  | Student, Smith College, Mellon Minority ProgramNorthampton, MA |
|  |  |  |  |  |
| Katie Brown |  | Summer 2001  |  | Medical Student, University ofSouth AlabamaMobile, AL  |
|  |  |  |  |  |
| Celeste Reese  |  | Summer 2001  |  | Medical Student, Baylor UniversityWaco, TX |
|  |  |  |  |  |
| Scott Rose |  | Summer 2000  |  | Medical EngineerLutz, FL |
|  |  |  |  |  |
| Allen Pickens, MD  |  | Summer 1999 |  | Assistant Professor, Thoracic Surgery, University of Michigan Medical School Ann Arbor, MI  |
|  |  |  |  |  |
| Tandeka Nix, MD |  | Summer 1999  |  | Private practiceGreenville, NC |
|  |  |  |  |  |
| Nathan Harris, RN  |  | Summer 1998  |  | Staff Nurse, Intensive Care Unit, University of Alabama at Birmingham HospitalBirmingham, AL  |
|  |  |  |  |  |
| Khaled Basiouny, MD |  | 1998 – 2000 |  | Assistant Professor, Division of Trauma and Critical Care Surgery, Department of Surgery, University of North Carolina School of Medicine |
|  |  |  |  |  |
| Wayne V. Harper |  | 1984-1986 |  | Position unknown  |
|  |  |  |  |  |
| Michael Cesar, MD |  | 1984-1985 |  | Department of AnesthesiologyCatholic Health Sisters of Charity Hospital, St. Joseph CampusCheektowaga, NY |
|  |  |  |  |  |
| Juliet M. Seigle, MD |  | 1983-1985 |  | Radiation Oncology,Georgetown University HospitalWashington, DC |
|  |  |  |  |  |
| MS Nesarajah, MD – *dec.*  |  | 1981-1983 |  | Department of Physiology, State University of New York at BuffaloBuffalo, NY |
|  |  |  |  |  |

**TEACHING ACTIVITIES**

2012-2013 Graduate Biomedical Science 751-Heart, Lung and Kidney; Respiration Section

2006 94 Epithelial Cell Physiology (Physiology & Biophysics)

2005-2006 Summer Research Fellowship

2005-2006 Student Research Internship

2005 Respiratory Physiology (Genetics- February)

2005 Respiratory Physiology (Dental & Optometry classes-

 April 2005)

2005 Respiratory Physiology (under Jim Johnson)

2003-2004 Student Mentoring (Respiratory Distress Syndrome,

 groups A, B, C)

2002 Student Research Internship (Aronica Cotton, McNair

 Scholar)

2001-2003 1st Year Medical Students (Basic Science/Physiology-for Anesthesiology)

2001 790 Pulmonary Physiology (Ion transport across alveolar

 epithelium)

1999 IBS 701 (Pathophysiology & Pharmacology of Disease)

1998 IBS-II course (Pulmonary Physiology & Pathophysiology)

1998-2004 Medical Physiology

1998 MS-1 Physiology (Mechanics of Breathing)

1995 Pulmonary Mechanics, II

**PATENTS AND INVENTIONS**

US Provisional Patent Application #61/052,414, “DPPC Formulations and Methods for Using”

(Filed May 12, 2008; Inventors: Dr. Elias I. Franses, Dr. Sook Heun Kim, Yoonjee Park and Dr. Sadis Matalon)

US Provisional Patent Application #60/573,558: “Methods for using pyrimidine synthesis inhibitors to increase airway epithelial cell fluid uptake.” (Filed May 21, 2004; Inventors: Dr. Ian C. Davis, Dr. Wayne Sullender and Dr. Sadis Matalon)

Converted to International PCT application (#PCT/US2005/017939); May 2005

**Articles in Public Press**

1. UAB Researchers Find Potential Treatment for RSV

<http://birmingham.medicalnewsinc.com/mod/secfile/viewed.php?file_id=16>

2. UAB forms new Lung Center

<http://www.al.com/news/birminghamnews/index.ssf?/base/news/1215677715250730.xml&coll=2>

<http://main.uab.edu/Sites/MediaRelations/articles/48572/>

# 3. Influenza

<http://www.al.com/birminghamnews/stories/index.ssf?/base/living/1232961375304380.xml&coll=2>

<http://www.nbc13.com/vtm/news/local/article/birmingham_ala._plays_key_role_in_swine_flu_research/70819/>

<http://blog.al.com/living-news/2009/07/new_research_being_done_at.html>

http://www.niehs.nih.gov/news/newsletter/2009/september/science-viralprotein.cfm

[www.youtube.com/watch?v=WMlH4z6NVpg](http://www.youtube.com/watch?v=WMlH4z6NVpg)

4. UAB taking up battle against chlorine arms

<http://www.al.com/news/birminghamnews/metro.ssf?/base/news/1223799389175680.xml&coll=2>

**PUBLICATIONS**

***Books Edited***

*Biomembranes and Free Radicals,* Elsevier, San Diego, CA, **S. Matalon** and Rakesh Patel (Eds.), 2008

*Etiology and Treatment of Acute Lung Injury: From Bench to Bedside*, IOS Press BV, Amsterdam, Netherlands, **S Matalon** and JI Sznajder (Eds.), 2001.

*Acute Respiratory Distress Syndrome: Cellular and Molecular Mechanisms and Clinical Management*, Plenum Publishing, New York, **S Matalon** and JI Sznajder (Eds.), 1998.

*Physiology of Oxygen Radicals*, Clinical Physiology Series, American Physiological Society, AE Taylor, **S Matalon**, and PA Ward (Eds.), 1986.

#### Book Chapters

Song, W., Lazrak, A. Wei, S. McArdle, P. and **Matalon, S.** Modulation of lung epithelial sodium channel function by nitric oxide (2008) In *Free Radical Effects on Membranes,* S. Matalon and R.P. Patel, (Eds.) Current Topics in Membranes, Elsevier, San Diego; Vol. 61, 43-69; 2008

Lang, D.J, Jr., Davis I.C., Patel R.P., and **Matalon, S**. (2008) Oxidadative and Nitrosative Lung Injury. Editors: Alfred P. Fishman, Jack A. Elias, Jay A. Fishman, Michael A. Grippi, Robert M. Senior, Allan I. Pack In *Fishman’s Pulmonary Diseases and Disorders,* Fourth Edition, Vol. I, 359-369, 2008

**Matalon, S**., J M Hickman-Davis and J R Wright. Surfactant Protein A (SP-A) (2006). Encyclopedia of Respiratory Medicine. Editors: Geoffrey J. Laurent and Steven D. Shapiro; Vol 4:143-148 2006

**Matalon, S**., Ian C. Davis, John D. Lang (2006). Involvement of reactive oxygen and nitrogen species in the pathogenesis of acute lung injury. In *Mechanisms of Sepsis Induced Organ Dysfunction & Recovery.* Editors: Edward Abraham, Mervyn Singer, Jean-Louis Vincent. Springer-Verlag Publishers, 97-111, 2006

Davis, I.C., Lang, J.D., and **Matalon, S**. (2005). Role of reactive oxygen and nitrogen species in lung injury. In *Lung Injury: Mechanisms, Pathophysiology and Therapy*. Editors: R.H. Notter, J.N. Finkelstein, and B.A. Holm. Marcel Dekker, Inc. Vol. 196, *227-268, 2005*

Wang, Z., Holm, B.A. **Matalon S** and Notter, R.H(2005). Surfactant Activity and Dysfunction in Lung Injury. In *Lung Injury: Mechanisms, Pathophysiology and Therapy*. Editors: R.H. Notter, J.N. Finkelstein, and B.A. Holm. Marcel Dekker, Inc. Vol. 196, 297-352, 2005

Davis, I.C., Prince, L and **Matalon S** (2005).Epithelial Sodium Channel Function in Health and Disease in the Adult Lung. In *Ion Channels in the Pulmonary Vasculature*, Editor: I. Yuan,Marcel Dekker, Inc. Vol. 197, 185-198, 2005.

Lorden, JF and **Matalon S**. Easing the Perils of the Postdoctoral Years. In *Change: The Magazine of Higher Learning*, 44-49, January/February 2002

Davis I., J. Hickman-Davis, J. R. Lindsey and **Matalon S.** Role of reactive oxygen and nitrogen species in lung injury. In: *Lung Biology in Health and Disease. Disease Markers in Exhaled Breath.* Executive Editor: Claude Lenfant; Section Editors: Nandor Marczin, Sergei Kharitonov, Magdi Yacoub and Peter J Barnes , New York, Marcel Dekker, NATO ASI Series; 159-199, 2002

Hickman-Davis JM, **Matalon S** and Lindsey JR. Transgenic mice in studies of host defense: Basic principles for good science. In: *Etiology and Treatment of Acute Lung Injury*, S. Matalon and I. Sznajder (Eds.) IOS Press, 248-253, 2001

Meriathefs P, Baltopoulos G and **Matalon S**. The two faces of nitric oxide (NO) (in Greek). *Hellenic Vascular Surgery* 9 (2): 13-21, 2000.

Haddad IY, Zhu S, Tilden SJ, and **Matalon S**. Mechanisms and Physiologic Sequelae of Reactive Species Injury to the Alveolar Epithelium. In: *Lung Biology in Health and Disease. Chronic Lung Disease in Early Infancy*. Executive Editor: Claude Lenfant; Section Editors: R. Bland and J. Coalson. New York, Marcel Dekker, Inc. pp431-456, 1999

**Matalon S**, Lazrak A, and DuVall MD**.** Inhibition of vectorial Na+ transport across alveolar epithelial cells by nitrogen-oxygen reactive species. In: *Current Topics in Membranes Vol 47*. Academic Press, San Diego, DM Fambrough and DJ Benos (Eds.), pp 219-234, 1999.

Guo Y, DuVall MD, and **Matalon S**. Biophysical properties of Na+ channels in alveolar epithelial cells. In: *Pulmonary Edema* (M Matthay and D Ingbar, Eds.) New York, Marcel Dekker, Inc., pp 457-472, 1998.

Zhu S, Manuel M, Haddad I, and **Matalon S**. Mechanisms of nitric oxide induced injury to the alveolar epithelium. In: *Acute Respiratory Distress Syndrome: Cellular and Molecular Mechanisms and Clinical Management*, Plenum Publishing, New York, S Matalon and JI Sznajder (Eds.) pp 345-354, 1998.

Hickman-Davis JM, **Matalon S**, and Lindsey JR. Macrophage killing of mycoplasmas: involvement of surfactant protein A and nitric oxide. In: *Acute Respiratory Distress Syndrome: Cellular and Molecular Mechanisms and Clinical Management*, Plenum Publishing, New York, S Matalon and JI Sznajder (Eds.), pp 355-364, 1998.

Tanaka S, Choe N, Hemenway DR, **Matalon S**, and Kagan E. Role of reactive nitrogen species in asbestos-induced pleuro-pulmonary injury. In: *Acute Respiratory Distress Syndrome: Cellular and Molecular Mechanisms and Clinical Management*, Plenum Publishing, New York, S Matalon and JI Sznajder (Eds.), pp 385-394, 1998.

Manuel M, Zhu S, **Matalon S**, and Haddad IY. The two faces of nitric oxide: tissue injury and protection. In: *Vascular Endothelium: Pharmacologic and Genetic Manipulation*, Plenum Publishing, New York, J Catravas (Ed.), pp 221-231, 1998.

**Matalon S**, Zhu S, Pataki Gy, and Haddad IY Injury to pulmonary surfactant by reactive oxygen and nitrogen species. In: *Correlations Between In Vitro and In Vivo Investigations in Inhalation Toxicology* (DL Dungworth, KB Adler, CC Harris, CG Plopper Editors) ILSI Press, Washington, D.C., pp 230-251, 1997.

DuVall M, Guo Y, Jackson RM and **Matalon S**. Regulation of alveolar epithelial Na+ channel expression and activity in hyperoxia. In: *Lung Biology in Health and Disease.* Executive Editor: Claude Lenfant; Section Editors: D. Massaro and L. Clerch. New York, Marcel Dekker, Inc. pp 339-366, 1997.

**Matalon S**, Haddad IY, and Pitt BR. Nitric Oxide and Lung Injury. In: *Pulmonary Diseases and Disorders*, edited by Fishman, A.P.McGraw-Hill, pp 335-346, 1997.

**Matalon S**, Oh Y, and Benos DJ. Epithelial cell Na+ and CI- channels. In: *Signal Transduction in Lung Cells* (JS Brody, DM Center and VA Tkachuk, Eds.) New York, Marcel Dekker Inc., pp 225-244, 1993.

**Matalon S**, Yue G, Hu P, Oh Y, and Benos DJ. Mechanisms of active Na+transport across freshly isolated and cultured adult alveolar type II pneumocytes. In: *Fluid and Solute Transport in the Airspaces of the Lungs* (R. Effros and H.K. Chang, Eds.) New York, Marcel Dekker, Inc.179-217, 1993.

Czopf L, Baker RR, Jilling T, Freeman BA, Kirk KL, and **Matalon S**. Lipsome entrapped antioxidant enzyme delivery to the alveoli of the lung. *Oxygen Free Radicals and Scavengers in the Natural Science*. Gy Mozsik, I Emeri, J Feher, B Matkovics, A Vincze (Eds.) 135-141. Akademiai Kiado, Budapest, 1993.

Royall JA and **Matalon S**. Pulmonary edema in ARDS. *Pediatric Critical Care.*  Fuhrman BP, Zimmerman JJ (Eds.) *,* St. Louis, MO, C.V. Mosby, pp. 445-458, 1992.

Holm BA and **Matalon S**. The effects of hyperoxia on type II cell surfactant synthesis. In: *Progress in Resp Res, Basic Research on Lung Surfactant*, P. von Wichert, B. Muller, (Eds.), pp. 291-293, 1990.

**Matalon S** and Holm BA. Intratracheal instillation of exogenous surfactant reduces pulmonary hyperoxic injury. In: *Progress in Resp Res. Basic Research on Lung Surfactant*, P von Wichert, B. Muller, (Eds.), pp. 318-320, 1990.

**Matalon S**, Baker RR, and Engstrom PC. Mechanisms and modifications of hyperoxic injury to the mammalian pulmonary surfactant system. In: *Clinical Aspects of Oxygen Transport and Tissue Oxygenation*, Springer Verlag, pp. 116-132, 1989.

Freeman BA, Jackson R, **Matalon S,** and Harding SM**.**  Biochemical and functional aspects of oxygen-mediated injury to vascular endothelium. In: *Vascular Endothelial Cell Biology*, Vol. III, Ryan US, (Ed.), CRC Press, pp. 13-31, 1988.

Freeman BA, Panus P, Beckman J, and **Matalon S**. Pulmonary vascular injury from reactive oxygen species. In: *The Role of Oxygen Radicals in Cardiovascular Diseases.* A. L’Abbate and F. Ursini, (Ed.), Kluwer Academic Publishers, pp. 201-215, 1988.

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**Abstracts**

**LUNG ION CHANNELS AND FLUID HOMEOSTASIS (POSTERS):
Influenza M2 Inhibits CFTR Activity through its Ion Channel Function**James David Londino, Colm Atkins, James Noah, Ahmed Lazrak, and **Sadis Matalon**
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**LUNG ION CHANNELS AND FLUID HOMEOSTASIS (POSTERS):
Inhibition of Epithelial Sodium Channel Activity by Inter-α-Trypsin Inhibitor**Emily Christine Ness, Ahmed Lazrak, Justin M Jackson, Stavros Garantziotis, and **Sadis Matalon**
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**LUNG ION CHANNELS AND FLUID HOMEOSTASIS (POSTERS):
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