

**CLEVELAND CLINIC LERNER COLLEGE OF MEDICINE  
OF  
CASE WESTERN RESERVE UNIVERSITY**

**PERSONAL INFORMATION**

Name: Erzurum, Serpil C.  
Date of Birth: February 13, 1959  
Place of Birth: Cleveland, Ohio  
Citizenship: USA

**Education**

School: Youngstown State University, Youngstown, Ohio  
Degree: Bachelor of Science  
Dates: 1977-1979

School: Northeastern Ohio Universities College of Medicine, Rootstown, Ohio  
Degree: Doctor of Medicine  
Dates: 1979-1983

**Post-Graduate Training**

Institution: Baylor College of Medicine, Houston, TX  
Position: Internship/Residency – Internal Medicine  
Dates: 1983-1986

Institution: University of Colorado Health Sciences Center, Denver, CO  
Position: Fellowship – Pulmonary/Critical Care  
Dates: 1987-1990

Institution: National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD  
Position: Senior Staff Fellow  
Dates: 1990-1992

Institution: Cleveland Clinic, Cleveland, OH  
Position: Leading in Health Care Postgraduate Program, Office of Professional Staff Affairs and the Office of Practice Management  
Dates: 2006-2007

**Contact Information**

Institution/Institute/Department: Cleveland Clinic/Lerner Research Institute  
Office Address: 9500 Euclid Avenue, Cleveland, Ohio, 44195-0001  
Office Mail Code: NB21  
Office Phone: 216-445-6624  
Beeper: 216-444-4000 x 24861  
Office E-mail: [erzurus@ccf.org](mailto:erzurus@ccf.org)  
Facsimile: 216-444-3279

**PROFESSIONAL APPOINTMENTS**

Position/Rank: Chair  
Institution: Cleveland Clinic Health System  
Institute: Lerner Research Institute  
Dates: 2016-Present

Position/Rank: Chair  
Institution: Cleveland Clinic  
Institute: Lerner Research Institute  
Department: Pathobiology  
Dates: 2004-2016

Institution: Vice Chair  
 Institute: Cleveland Clinic  
 Department: Lerner Research Institute  
 Dates: External Affairs  
 Dates: 2011-2012

Position/Rank: Member, Executive Committee (Co-Principal Investigator)  
 Institution: Case Western Reserve University School of Medicine  
 Institute: Cleveland Clinical and Translational Sciences Center  
 Dates: 2014-2017

Position/Rank: Staff  
 Institution: Cleveland Clinic  
 Institute: Pediatric Institute  
 Dates: 2014 - Present

Position/Rank: Co-Director  
 Institution: Cleveland Clinic  
 Institute: Respiratory Institute  
 Center: Asthma Center  
 Dates: 2005 - Present

Position/Rank: Member  
 Institution: Cleveland Clinic  
 Institute: Lerner Research Institute  
 Department: Taussig Cancer Center  
 Dates: 1993-Present

Position/Rank: Staff  
 Institution: Cleveland Clinic  
 Institute: Lerner Research Institute  
 Department: Cancer Biology  
 Dates: 1993-2004

Position/Rank: Staff  
 Institution: Cleveland Clinic  
 Institute: Respiratory Institute  
 Department: Pulmonary, Allergy & Critical Care Medicine  
 Dates: 1993-Present

Position/Rank: Physician  
 Institution: Fort Meade Veterans Administration Hospital  
 Institute: Medicine  
 Department: Internal Medicine  
 Dates: 1987

Position/Rank: Physician  
 Institution: Indian Health Service  
 Institute: Sioux San Hospital  
 Department: Internal Medicine  
 Dates: 1986-1987

**ACADEMIC APPOINTMENTS**

Position/Rank: Professor

Institution/Institute/Department: Cleveland Clinic Lerner College of Medicine of Case Western Reserve University/School of Medicine/Molecular Medicine  
Dates: 2003-Present

Position/Rank: Professor  
Institution/Institute/Department: Kent State University/Biomedical Sciences  
Dates: 2001-Present

Position/Rank: Professor  
Institution/Institute/Department: Cleveland State University/Clinical Chemistry  
Dates: 2001-Present

Position/Rank: Assistant Professor  
Institution/Institute/Department: University of Pittsburgh Medical Center/School of Medicine/Pulmonary  
Dates: 1992-1993

### **CERTIFICATION AND LICENSURE**

Name of Board: American Board of Internal Medicine  
Date of Certificate: 1986 - Lifetime  
Licensure State/Number: 106613  
Date Issued: 1986

Name of Board: Internal Medicine Pulmonary Disease  
Date of Certificate: 1990 - 2020  
Licensure State/Number: 106613  
Date Issued: 1990, 2000, 2010, 2017

Name of Board: Internal Medicine Critical Care Medicine  
Date of Certificate: 1993 - 2024  
Licensure State/Number: 106613  
Date Issued: 1993, 2000, 2014

Name of Board: Ohio State Medical Association, Doctor of Medicine  
Date of Certificate: 1985 - 2017  
Licensure State/Number: Ohio / 35.051509  
Date Issued: 1985

Name of Board: DEA  
Licensure State/Number: Ohio / BE3414290  
Date Issued: 1993

Name of Board: Basic Life Support (BLS)  
Date of Certificate: 2015 - 2017  
Date Issued: 2015

Name of Board: Advanced Cardiac Life Support (ACLS)  
Date of Certificate: 2015 - 2017  
Date Issued: 2015

### **HONORS AND AWARDS**

1977 Full Academic Scholarship, Youngstown State University  
1979 Summa Cum Laude Graduate, Gould Honor Society, Youngstown State University

1983 Alpha Omega Alpha, Northeastern Ohio Universities College of Medicine  
1983 American Medical Women's Association Award for Academic Excellence  
1983 Class Honor for Compassionate and Knowledgeable Care  
Northeastern Ohio Universities College of Medicine  
1986 Henry D. McIntosh Outstanding Resident Award, Department of Internal Medicine,  
Baylor College of Medicine  
1997 Fellow, American College of Chest Physicians  
2001 Pulmonary Scholar, Research Triangle Program for Visiting Pulmonary Scholars,  
Raleigh-Durham, North Carolina  
2001 American Society for Clinical Investigation (ASCI), Elected Member  
2002 Cleveland Clinic Clinical Research Scientific Achievement Award  
2005 Association of American Physicians (AAP), Elected Member  
2005 Roland H. Ingram Honorary Lecturer, Emory University  
2006 Tom Neff Memorial Lecturer, University of Colorado  
2006 Hicks Honorary Lecturer, Northwestern University  
2006 Distinguished Alumni Award, Northeastern Ohio Universities College of Medicine  
2006 Elected Fellow, American Association for the Advancement of Science (AAAS)  
2007 Pfizer Visiting Professorship, Baylor College of Medicine  
2007 Harvard Pulmonary Fellowship Graduation Speaker  
2009 Paul B. Beeson Visiting Professor, Yale University School of Medicine  
2009 Who's Who in the American Thoracic Society (ATS)  
2009 J. Robert Wilson Memorial Lecturer, Akron General Medical Center, Ohio  
2009 NHLBI MERIT award  
2011 Top Pulmonologist in Cleveland Ohio (elected to Leading Physicians of the World by  
International Assoc. of Healthcare Professionals)  
2011 The Elizabeth Rich Award in recognition for efforts on behalf of women in the American  
Thoracic Society.  
2011 Cleveland Clinic Basic Research Scientific Achievement Award  
2012 Honoree for the Robert M. Rogers Lectureship, University of Pittsburgh  
2012 Alfred Lerner Memorial Chair in Innovative Biomedical Research  
2013 The Kleinerman Lecturer, Case Western Reserve University, Cleveland, Ohio  
2015 ARTrust™ and Donald Y.M. Leung, MD PhD American Academy of Allergy, Asthma &  
Immunology (AAAAI) - Journal of Allergy and Clinical Immunology (JACI) Awardee,  
Annual Meeting, Houston, TX.  
2015 The Attilio D. Renzetti Jr., MD Honorary Endowed Lectureship, University of Utah  
2015 The Thomas L. Petty Lecturer, 58th Annual Thomas L. Petty Aspen Lung Conference  
2016 American Thoracic Society Scientific Achievement Award  
2016 American Thoracic Society Presidential Keynote Lecturer  
2016 Duke Clipp Speer Visiting Professor for outstanding woman leader in academic medicine  
2017 American Thoracic Society: Allergy, Immunology and Inflammation Scientific  
Accomplishment Award  
2017 Estelle Grover Speaker, Grover Conference, Sedalia, CO  
2017 Election to National Academy of Medicine  
2018 Jeffrey Glassroth MD Honorary Lectureship, Northwestern University  
2018 American Heart Association, Dickinson W. Richards Memorial Lecturer  
2018 Robert L. Johnson, Jr. M.D. Lectureship, University of Texas Southwestern  
2019 Honorary Member, The Harrison Society for Physician-Scientists in Medicine

#### **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

1988 - Present Member, American Thoracic Society (ATS) / Elected Chair, Allergy, Immunology and  
Inflammation Assembly of ATS, 2009 - 2011  
1989 - Present American Association for Advancement of Science (AAAS) / Elected Fellow AAAS,  
2006  
1997 - 2000 American Heart Association (AHA), Cardiopulmonary & Critical Care Council

1998 - Present American Association of Immunologists (AAI)  
2001 - Present American Society for Clinical Investigation (ASCI)  
2005 - Present Association of American Physicians (AAP) / Elected Councilor, 2011 - 2018 / Vice President 2016-17 / President 2017-18  
2010 - 2016 Scientific Leadership Council, Pulmonary Hypertension Association (PHA) / Chair, Research Committee, 2011 - 2014  
2008 - Present American Board of Internal Medicine (ABIM) Pulmonary Disease Board (national certifying examination in pulmonary medicine) / Board Member, 2008 - 2014 and 2017-2020 / Chair of Board, 2014 - 2017 / Council Member, 2017-2020

## **PROFESSIONAL SERVICE**

### Editorial Boards

Deputy Editor, American Journal of Respiratory and Critical Care Medicine  
2009-2014

Editorial Board Member, American Journal of Physiology: Lung Cellular and Molecular Physiology  
2003-2008

Editorial Board Member, American Journal of Respiratory Cell and Molecular Biology  
2003-2008

Associate Editor, Journal of Clinical and Translational Sciences, Blackwell Wiley: Senior Editor Arthur Feldman  
2008-2014

### Journal Reviewer

American Journal of Hematology; American Journal of Pathology; American Journal of Respiratory and Critical Care Medicine; American Journal of Respiratory Cell and Molecular Biology; Biochemical Pharmacology; British Journal of Pharmacology; Chest; Environmental Health Perspectives; European Respiratory Journal; Experimental Lung Research; Journal of Allergy and Clinical Immunology; Journal of Biological Chemistry; Journal of Clinical Investigation; Journal of Experimental Medicine; Journal of Immunology; Journal of the American Medical Association (JAMA); Lung; Nature Medicine; New England Journal of Medicine; Nitric Oxide: Biology and Chemistry; Proceedings of the National Academy of Sciences, U.S.A. (PNAS); Proceedings of the American Thoracic Society; Science Translational Medicine

### Governmental Study Sections/Grant Reviews

Science Center programs of the U.S. Department of State  
2000

NHLBI Special Emphasis Panel, Specialized Centers of Research (SCOR)  
2000

NHLBI Mentored Patient-Oriented Research Career Development Award, Midcareer Investigator Award in Patient-Oriented Research, and Mentored Research Career Development Award (K award series)  
2001-2002

NHLBI Special Emphasis Panel, Airway Inflammation and Viruses Program Project  
2002

NHLBI Lung Biology Pathology (LBPA) Study Section  
2003-2006

NHLBI Lung Cellular Molecular Immunology (LCMI) Study Section

2003-2006

NHLBI Special Emphasis Panel, Immune System Development and the Genesis of Asthma  
2004

NHLBI Special Emphasis Panel, SCCOR in Host Factors in Chronic Lung Diseases  
2006

NHLBI Respiratory Integrative Biology and Translational Research Study Section  
2007-2008

Chair, NHLBI Special Emphasis Panel, Lung Cellular Molecular Immunology  
2008

Co-Chair, NHLBI Special Emphasis Panel for Member Conflicts of Lung Injury, Repair, and Remodeling (LIRR), and Respiratory Integrative Biology and Translational (RIBT) Study Sections  
2009-2010

*Nongovernmental Organizations Study Sections/Grant Reviews*

American Cancer Society Institutional Research Grant Committee  
1995-1998

American Heart Association  
1997

Medical Research Council (MRC) U.K.  
1998

Cystic Fibrosis Foundation  
2000

American Lung Association National Research Grant Review Committee  
2002-2004

Member, Scientific Advisory Committee of American Thoracic Society, Grant Reviewer  
2007-2009

Asthma UK Research Project Grants Reviewer  
2007-2008

Wellcome Trust Grant Reviewer, U.K.  
2009

Parker B. Francis Council of Scientific Advisors  
2013 – 2017

*Data Safety Monitoring Boards and Protocol Reviews*

Member, NIH Data Safety Monitoring Board Asthma Clinical Research Network II  
2004-2009

Chair, NIH Data Safety Monitoring Board Asthma Clinical Research Network II  
2006-2009

Member, NHLBI Protocol Review Committee Asthma Network

2010-2011

Member, External Advisory Committee, NHLBI Lung Repair and Regeneration Consortium (LRRC)  
2012-2017

National Advisory Boards

NIH Advisory Boards

NHLBI Internal Advisory Board, Thrombosis Specialized Center for Clinically Oriented Research (SCCOR), PI Roy Silverstein, Cleveland Clinic  
2006-2011

NIH External Advisory Board for The Center for Countermeasures Against Chemical Threat (CounterACT) - PI, Gary Grotendorst, Lovelace Respiratory Research Institute  
2007-2012

NIH External Advisory Board for Cardiopulmonary Vascular Biology Center for Biomedical Research Excellence (COBRE) P20 – PI, Sharon Rounds, Brown University  
2014-2019

NIH External Advisory Board for T32 Adult/Pediatric Training Program in Lung Biology – PIs, Mark Nicolls and David Cornfield, Stanford.  
2016-2021

NHLBI Board of External Experts (BEE) to the Director  
2007-2015

NHLBI Board of Scientific Counselors  
2010-2014

NHLBI Advisory Council to the Director  
2015-2018

Chair, External Advisory Board, NIAID U19 Asthma Center – PI, Monica Kraft  
2016-2021

Nongovernmental Organizations Advisory Boards

Member, Scientific Advisory Board, Coalition for Pulmonary Fibrosis  
2001 – Present

Member, Advisory Board, Aspen Lung Conference  
2004 – 2017

Board Member, International Association of Breath Research  
2005 – 2014

**COMMITTEE SERVICE**

NIH Committee Service

Member, Level 1 NHLBI Strategic Planning Process – Lung program.  
Theme #3 Working Group: Injury/Inflammation; Repair/Remodeling; and Replacement. Regeneration  
April 10-11, 2006

Member, NHLBI Biomarkers Subcommittee of the Asthma Outcomes Workshop  
2009-2010

Chair, NHLBI Strategic Planning for Pulmonary Vascular Disease Research  
2009-2010

Co-chair, NHLBI Workshop on Primary Prevention of Lung Diseases  
2013-2014

Chair, NHLBI Strategic Planning for Asthma Research  
2014-2015

Technical Expert Panel (TEP) to ensure scientific rigor, reliability, and methodological soundness of the systematic review, "Fractional Exhaled Nitric Oxide (FENO) Clinical Utility in Asthma Management".  
M. Hassan Murad, MD (Mayo EPC Director, Principal Investigator), and Zhen Wang, PhD (Co-Principal Investigator); Agency for Healthcare Research and Quality (AHRQ) and the Mayo Clinic Evidence-Based Practice Center (EPC)  
2016-Present

### Nongovernmental Organization Committee Service

1988 - Present American Thoracic Society (ATS) Committee service:

2000-01	Program Committee, Allergy, Immunology and Inflammation Assembly
2001-04	Long Range Planning Committee
2002 - 2003	Organizer, Workshop on Exhaled Markers of Lung Disease
2002 -2003	ATS and European Respiratory Society Exhaled Breath Condensate Task Force, Stockholm, Sweden.
2004	Nominating Committee for Chair of Allergy, Immunology and Inflammation Assembly
2004- 05	Membership Committee
2005	Environmental Health Policy Committee
2005	Communications & Marketing Committee
2005-08	Program Committee, Allergy, Immunology and Inflammation Assembly
2005-06	Program-Chair Elect, Allergy, Immunology and Inflammation Assembly
2006-07	Program-Chair, Allergy, Immunology, Inflammation Assembly
2007	Member, ATS Assembly and Committee project, "Guideline for the interpretation of exhaled nitric oxide levels for clinical application"
2007-08	Vice-chair, Membership Committee
2007-08	Nominating Committee for ATS President
2008	Search Committee for Editor, American Journal of Respiratory Cell and Molecular Medicine
2008-09	Chair, Membership Committee
2009-11	Chair, Allergy, Immunology and Inflammation Assembly
2009-11	Member, ATS Board of Directors
2009-10	Membership Committee
2011	Member, Ad Hoc committee, Peer review of Professor of Anaesthesia, Harvard Medical School
2011-12	Nominating Committee for ATS President
2013-14	Chair of the Nominating Committee for Alergy Immunology and Inflammation Assembly Chair
2014-17	Nominating Committee for ATS President
2016	Co-Chair3rd Annual Drug Discovery & Development Symposium (co-Chairs, Stuart Rich, John Newman), Bethesda North marriott Hotel & Conference Center, Bethesda MD
2017-18	Member, ATS Awards Committee

### Cleveland Clinic Service

Lower & Peskind Award Committee / Member



1997 - 2002

Staff Benefits Committee / Member  
1998-2000

Virology Faculty Search Committee / Member  
1998-2000

Immunology Faculty Search Committee / Member  
1999-2000

Elsa Albrecht Cell Biology Fellow Award Committee / Member  
1999-2000

Pulmonary and Critical Care Fellowship Research Oversight Committee / Member  
1999-2001

Allergy Section Chief Search Committee / Member  
2000-2002

Conflict of Interest Policy Task Force / Member  
2000-2001

Institutional Biosafety Committee / Member  
2000-Present

Executive Organizing Committee for General Clinical Research Center / Director  
2002

Cancer Center Director Search Committee  
2002-2003

Chair of Medicine Search Committee  
2002

Director, Clinical Research Unit [General Clinical Research Center; Clinical & Translational Science Center]  
2003-2015

Patient Concerns Monitoring Committee  
2005-2008

Scientific Advisory Board, Department of Nephrology  
2005-2006

Nominating Committee for Board of Governors / Elected Member  
2006

Member, Basic Science Oversight Committee  
2006-2007

Virology Section Faculty Search Committee / Member  
2008-2009

Research Program Council (RPC) / Executive Director  
2008-Present

Member, Committee on Human Cellular Based Therapies  
2010-2012

Member, Steering Committee for Nestle & Lerner Research Institute Collaborative  
2010-2014

Lerner Research Institute Strategic Task Force / Chair  
2012-2013

Board Member, Cleveland Clinic Board of Governors  
2012-2017

Search Committee for the Chair of Pediatric Intensive Care Unit / Chair  
2013

Nominating Committee for CEO of the Cleveland Clinic  
2017

Case Western Reserve University Service

Case Medical School Medical Scientist Training Program (MSTP), trainer  
2016-Present

Program Advisory Board, Case Western Reserve University/PhD in Clinical Translational Science  
2014-Present

Institutional Advisory Board, Case Western Reserve University/Comprehensive Cancer Center  
2010-Present

Case Western Reserve University/Center for Clinical Investigation  
2006-Present

**VISITING PROFESSORSHIPS AND PRESENTATIONS**

1. April 4, 1995, Cancer Biology Seminar, Cleveland Cancer Center, Cleveland, Ohio, "Continuous nitric oxide synthesis by inducible nitric oxide synthase in normal human airway epithelium in vivo."
2. April 1995, Experimental Biology Conference, Atlanta, Georgia, "Characterization of the constitutively expressed nitric oxide synthase in human respiratory epithelium in vivo."
3. September 9, 1995, Horizons in Pulmonary and Critical Care Medicine, Cleveland Clinic, Cleveland, Ohio, "Gene Therapy: Prospects for treatment of lung disease."
4. October 5, 1995, Cancer Research Focus Group, The Cleveland Cancer Center, Cleveland, Ohio, "Experimental therapeutics for cancer."
5. October 25, 1995, Allergy and Immunology Lecture Series, Cleveland Clinic Foundation, "The role of oxidants/antioxidants in asthma pathogenesis."
6. April 24, 1996, Asthma Update '96, Cleveland Clinic, "Current Concepts on Pathogenesis of Asthma."
7. April 30, 1996, Pulmonary Research Group Lecture Series, Schering-Plough, Kenilworth, NJ "Regulation of Inducible Nitric Oxide Synthase in Airway Epithelium."
8. May 22, 1996, Graduate student course: Topics in Inflammation, Cleveland State University, "Nitric Oxide and Inflammation."

9. August 30, 1996, Ross Pharmaceuticals Research Meeting, "Decreased copper zinc SOD specific activity in asthmatic airway epithelium: correction by inhaled corticosteroids"
10. October 4, 1996, Grand Rounds Shanghai Medical University Pediatric Hospital, Shanghai, China "Endogenous Production of Nitric Oxide in the Human Lung: Implications for Clinical Therapies."
11. October 4, 1996, Shanghai Medical University Research Conference, Shanghai, China, "Detection of Nitric Oxide Synthase Activity in Biologic Systems."
12. February 28, 1997, Cleveland Cancer Center, Cleveland, Ohio, "Regulation of Type II Nitric Oxide Synthase Gene Expression in Human Airway Epithelium."
13. April 24, 1997, University of Pittsburgh Research Seminar Series, Pulmonary, Allergy and Critical Care Medicine, "Regulation of type II NOS in human airway epithelium."
14. April 30, 1997, Cleveland Clinic Internal Medicine Resident Lecture Series, "Physiology of mechanical and spontaneous ventilation."
15. May 21, 1997, American Thoracic Society International Conference, San Francisco, CA "The role of nitric oxide in asthma."
16. August 7, 1997, Cleveland Clinic Division of Medicine Grand Rounds, Cleveland, Ohio, "Bronchial asthma: newer concepts."
17. September 8, 1997, The Second International Meeting on Oxygen/Nitrogen Radicals and Cellular Injury, Durham, North Carolina "Regulation of iNOS expression in human airway epithelial cells."
18. September 18, 1997, 17th Annual Cleveland Clinic Research Day "Role of Nitric Oxide in the Lung."
19. October 10, 1997, 5th Annual Cleveland Clinic Pulmonary & Critical Care Medicine Research Day "Airway epithelium in asthma."
20. October 28, 1997, American College of Chest Physicians, New Orleans, Louisiana, "Alternative Therapies for Asthma."
21. November 20, 1997, University of California at Irvine, Department of Medicine Grand Rounds, "Steroid sparing treatments for asthma."
22. November 20, 1997, University of California at Irvine, Pulmonary Research Conference, "Molecular mechanisms of nitric oxide production in the airway."
23. February 12, 1998, Washington University, St. Louis Asthma Conference "Molecular Mechanisms of Increased Nitric Oxide in Asthma."
24. February 12, 1998, Washington University, St. Louis Clinical Conference, "Nitric Oxide Reaction Products as quantitative Markers of Primary Pulmonary Hypertension."
25. April 7, 1998, Rammelkamp Research Conference Seminar at Cleveland MetroHealth Medical Center, "Regulation of Nitric Oxide Synthesis in the Lung."
26. May 7 – 9, 1998, ATS Committee on the Standardization of Endogenous Nitric Oxide Measurement in Exhaled Breath and Nasal Nitric Oxide, Toronto, Canada.
27. April 28, 1998, International American Thoracic Society Meeting , San Diego, CA, "Molecular Mechanisms of Increased NO in Asthma."

28. May 8 1999, Cancer Center Research Meeting, Lerner Research Institute, Cleveland, OH, "Regulation of NO synthase gene expression in the lung."
29. May 12, 1999, Primary Pulmonary Hypertension Grantee Meeting sponsored by the Division of Lung Diseases, NHLBI and the NIH Office of Rare Diseases, Bethesda MD, "NO and NO reaction Products in the Lungs of Primary Pulmonary Hypertensive Patients."
30. June 3-5, 1999, Ohio State University and Lerner Research Institute 2nd Symposium "Regulation of Nitric oxide synthase 2 Expression in the Lung."
31. July 29, 1999, State of the Art Speaker, Aspen Allergy Conference, Aspen, Colorado, "Nitric Oxide in Airway Inflammation."
32. October 22, 1999, Cleveland Clinic Cell Biology Research Seminar, "Regulation of Nitric Oxide Synthesis in the Human Airway."
33. November 2-3, 1999, Speaker and member, Expert Panel NHLBI Workshop on Research Training, National Institutes of Health, Bethesda, MD.
34. December 7, 2000, Speaker, MetaPhore Pharmaceuticals, St. Louis Missouri, "Antioxidant deficiency in asthma."
35. May 19, 2000, Speaker, 2nd International Conference on Superoxide dismutases, Institut Pasteur, Paris May 18-19, 2000, "Loss of Superoxide Dismutase Activity in Asthma."
36. September 5-6, 2000, Speaker and Chair, Nitric oxide and lung diseases, NIH Workshop on Nitric Oxide as a Potential Therapeutic Agent: Application to Sickle Cell Disease and Other Vascular Diseases, Lister Hill Auditorium, National Heart Lung and Blood Institute, NIH Office of Rare Diseases, and the National Institute of Diabetes, Digestive and Kidney Diseases, "Endogenous nitric oxide and nitric oxide reaction products in the human lung."
37. September 26-27, 2000, Visiting Professor, Pulmonary and Critical Care Medicine Grand Rounds, University of Cincinnati, Cincinnati, Ohio, "The regulation and role of nitric oxide synthesis in the human lung."
38. October 5, 2000, Visiting Professor, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC, "The regulation and role of nitric oxide synthesis in the human lung."
39. October 19, 2000, Speaker, Cleveland Clinic Lerner Research Institute Research Day "The role of nitric oxide in lung diseases."
40. December 5, 2000, Visiting Professor, Ohio State University, "Oxidative and Nitrosative Chemical events in the Human Airway."
41. December 15, 2000, Speaker and Moderator, 7th Annual Cleveland Clinic Pulmonary & Critical Care Medicine Research Day "Abnormalities of NO synthesis in primary pulmonary hypertension."
42. November 16-17, 2001, Speaker, Pulmonary, Allergy and Critical Care Medicine Department Conference Series, University of Pittsburgh, Pittsburgh PA, "Regulation and Role of Nitric Oxide in the Human Lung."
43. December 4 -9, 2001, Speaker, International Gordon Research Conference on Nitric Oxide, Harbortown, California. "Oxidative and Nitrosative Chemical events in the Human Airway." ‘
44. February 16, 2001, Invited Speaker, Rainbow Babies Hospital Pediatric Pulmonary Lecture Series, Cleveland Ohio, "Role of Nitric Oxide in Asthma."

45. May 9, 2001, Speaker, Connecticut State Chest Conference, New Haven, Connecticut, "Regulation and Role of Nitric Oxide in the Human Lung."
46. May 10, 2001, Speaker, Research Seminar Series, Yale University Pulmonary and Critical Care Medicine, New Haven Connecticut, "Viral and Inflammatory Mechanisms of NO synthase 2 gene expression in the lung."
47. June 22 - July 1, 2001, Organizer and Speaker, NATO Advanced Study Institute on Disease Markers in exhaled Breath: Basic mechanisms and clinical applications, Crete, Greece.
48. July 3, 2001, Speaker, Astra Zeneca, Charnwood, England U.K. "Role and Regulation of Nitric Oxide in Asthma."
49. October 25 - 28, 2001, Speaker, North American Cystic Fibrosis Conference (NACFC), Orlando, Florida, "Regulation of epithelial reactive oxygen and nitrogen species by inflammatory stimuli."
50. November 30, 2001, Speaker, 8th Annual Cleveland Clinic Pulmonary & Critical Care Medicine Research Day, "Antiviral Host Defense in Cystic Fibrosis."
51. December 4 - 6, 2001, Visiting Pulmonary Scholar, Research Triangle Program for Visiting Pulmonary Scholars, Raleigh-Durham, North Carolina, "Regulation of lung epithelial reactive oxygen and nitrogen species by inflammatory stimuli."
52. February 1, 2002, Speaker, Pulmonary and Critical Care Medicine Lecture Series, University Hospitals, Case Western Reserve University, Cleveland Ohio. "Host defense mechanisms in Cystic Fibrosis."
53. February 19, 2002, Lecturer, Cleveland State University Biology 672/872- Advanced Topics in Disease Mechanisms: Inflammation, "Reactive oxygen species, reactive nitrogen species and asthma."
54. May 3, 2002, Speaker, Institute for Environmental Medicine, Center for Lung Biology and Baromedicine, University of Pennsylvania Health System, Philadelphia, PA, "Regulation of NO synthesis in the lung."
55. May 22, 2002, Chair and Speaker, International American Thoracic Society Symposia 'Molecular basis of cell signaling in inflammatory disorders of the lung', Atlanta, Georgia, "IFN $\gamma$  signaling through STAT1 in human airway epithelium."
56. September 18, 2002, Speaker, European Respiratory Society Hot Topic 'Scientific Year in Review on COPD/Asthma and infections', Stockholm Sweden, "Nitric Oxide and an Inflammatory Mediator."
57. December 6, 2002, Pediatric Research Seminar RainbowBabies Hospital, Case Western Reserve University, Cleveland, Ohio "Reactive Nitrogen Species in Airway Inflammation."
58. December 13 - 15, 2002, Chair, American Thoracic Society Workshop on Exhaled Markers of Lung Disease, Toronto, Canada.
59. January 18, 2003, Visiting Professor and invited speaker, Ohio State University, Columbus, Ohio, "Role of reactive oxygen and nitrogen species in airway inflammation."
60. March 7, 2003, Speaker, Pulmonary Division, University of Southern California Keck School of Medicine, Los Angeles, CA, "Role of reactive oxygen and nitrogen species in airway inflammation."
61. April 7 - 8, 2003, Visiting Professor and speaker Grand Rounds, University of Illinois, Chicago, IL, "Reactive oxygen and nitrogen species in asthma."

62. May 2, 2003, Speaker, Pediatric Research Seminar Series at Rainbow Babies and Children's Hospital Case Western Reserve University, Cleveland OH "Impaired Antiviral defense in CF."
63. May 3, 2003, Panel Discussant, Introduction to Grants: the Nuts and Bolt ; sponsored by CCF Office of Sponsored Research and Research Education Office, Cleveland OH, "Review of K award applications by the NIH."
64. June 24 - 27, 2003, Visiting Professor and Speaker, Stanford University, Palo Alto, CA, "Regulation of pulmonary artery pressure by Nitric Oxide in the Human Lung."
65. September 3 - 5, 2003, Visiting Professor and Speaker, University of Washington, Seattle, WA, "Reactive nitrogen species in lung disease: Insights from Asthma."
66. September 10, 2003, Speaker, Lerner Research Institute retreat, Maumee Bay, Toledo, OH, "Defective antiviral defense in cystic fibrosis."
67. October 8 - 10, 2003, Visiting Professor and Speaker, University of California, San Diego, CA, "Nitric oxide in the pathophysiology of pulmonary arterial hypertension."
68. November 20, 2003, Speaker, 10<sup>th</sup> Annual Meeting of the Society for Free Radical Biology & Medicine, Seattle, WA, Workshop on Methods in Free Radical Biology and Medicine and their Applications to translational Medicine: Lecture "NO-I Exhaled, I never inhaled."
69. December 3 - 4, 2003, Visiting Professor, McMaster University, Hamilton Canada, "Antiviral Mechanisms in the Airway."
70. December 5, 2003, Mediator and Speaker, 10<sup>th</sup> Annual Pulmonary Research Day, Cleveland Clinic Foundation, Cleveland, Ohio, Nitric Oxide and Pulmonary Physiology session: "Nitric Oxide in pulmonary hypertension."
71. January 26 - 27, 2004, Speaker and Visiting Professor, U. Iowa, Iowa City, Iowa, "Impaired Antiviral Host defense in Cystic Fibrosis."
72. February 8 - 13, 2004, Speaker, Gordon Research Conference on Oxygen radicals in Biology, Ventura California, Clinical Aspects of Reactive Oxygen and Nitrogen Species in Biology, "Interaction of reactive nitrogen species in human lung disease: insights from pulmonary hypertension and asthma."
73. March 15 - 17, 2004, Speaker, Meakins Christie Laboratories, McGill University, Canada, Beer Seminar series, "Reactive Nitrogen Species in Airway Inflammation."
74. April 7 - 8, 2004, Washington University, St. Louis, Asthma Conference "Reactive Nitrogen Species in Airway Inflammation."
75. May 10, 2004, Case Western Reserve University, Cleveland Ohio, Pathology Seminar Series, "Antiviral host defense defects in CF."
76. May 22, 2004, Speaker, American Thoracic Society, Orlando, Florida, Post graduate course PG14 Sampling the airway in patients with asthma and COPD: "Exhaled Gases in monitoring Asthma and COPD."
77. August 18 -19, 2004, Speaker, NHLBI Workshop Oxidative Stress/Inflammation Measures and Heart, Lung, Blood and Sleep (HLBS) Disorders: "Biomarkers in Exhaled Breath."
78. October 22, 2004, Speaker, Cleveland Clinic Foundation, Cleveland, Ohio: Pulmonary Medicine and Thoracic Surgery Update, "Nitric Oxide in health & Disease."

79. November 13, 2004, Speaker, Cleveland Clinic Foundation, Cleveland, Ohio: Symposium on Pulmonary Arterial Hypertension, “Emerging Concepts in Pulmonary Arterial Hypertension, A Basic Science Perspective.”
80. May 21, 2005, American Thoracic Society, San Diego, California, Chair and Speaker, Postgraduate Course (#16) on Severe Asthma: “Mechanisms and Detection of Inflammation in Severe Asthma.”
81. January 10, 2005, Pulmonary Grand Rounds, Rainbow Babies & Children’s Hospital, Case Western Reserve University, Cleveland, Ohio, “Reactive Oxygen and Nitrogen Species in Asthma Pathogenesis.”
82. January 27, 2005, Cleveland Clinic Lerner College of Medicine Dean’s Dinner Lecture, Cleveland Ohio “NO-I Exhaled, I never inhaled.”
83. January 27, 2005, Cleveland Clinic: Friends of the Lerner Research Institute, Cleveland, Ohio, “The Asthma Epidemic: Why Is It Here And How Will Genetic Studies Help Stop It.”
84. April 21 - 22, 2005, Lung Summit 2005: Innovations in Pulmonary and Critical Care, Cleveland Ohio “Frontiers in Exhaled Breath analyses: introduction” and “Nitric oxide in asthma: new insights.
85. April 29, 2005, Speaker, Research Seminar, Pediatric/Pulmonary CF Center, Case Western Reserve University, Cleveland, Ohio, “Emerging Concepts in Pulmonary Arterial Hypertension”
86. May 6, 2005, Principles in Clinical Immunology, Cleveland Clinic, Cleveland, Ohio, “The Asthma Epidemic: understanding the molecular mechanisms of airway inflammation in asthma.”
87. May 21, 2005, Chair and Speaker, American Thoracic Society, San Diego, California, Postgraduate Course (#16) on Severe Asthma: The Comprehensive Approach from Genotype to Treatment, “Mechanisms and Detection of inflammation in severe asthma.”
88. May 19, 2005, Speaker, Gordon Research Conference on Nitric Oxide, Barga, Italy, “Altered Arginine processing underlies fundamental cellular changes seen in pulmonary hypertension”.
89. November 6 - 7, 2005, Roland H. Ingram Honorary Lecturer, Emory University, Atlanta, Georgia, “Free Radical Mechanisms of Inflammation in Asthma,” Medical Grand Rounds to in honor of Roland Ingram, MD, Professor and precious Chair of Pulmonary and Critical Care Medicine at Emory.
90. November 15, 2005, Speaker, Seminar to Ohio Congressional members and support staff, Columbus, Ohio, “Asthma Healthcare in Ohio.”
91. January 31, 2006, Friends of the Lerner Research Institute, Cleveland, Ohio, “The Asthma Epidemic.”
92. February 14 - 16, 2006, Tom Neff Visiting Professor, University of Colorado, Denver, Colorado, ‘Free Radical Mechanisms of Inflammation in Asthma,’ Medical Grand Rounds to honor the memory of Thomas Neff, MD, Professor of Pulmonary and Critical Care Medicine at University of Colorado.
93. March 05, 2006, Speaker, American Academy of Allergy, Asthma and Immunology (AAAAI) 62nd Annual Meeting, Miami Beach, Florida, “Oxidative and Nitrosative Stress in Asthma: Mechanisms and Consequences.”
94. March 7, 2006, AAAAI 62nd Annual Meeting, March 3 - 7, 2006 in Miami Beach, Florida. Moderator for session: Nitric Oxide in Asthmatic Inflammation, and Speaker, “Oxidative and Nitrosative Events in Asthma.”
95. April 1- 5, 2006, Speaker, Annual Meeting at Experimental Biology, San Francisco, CA, Molecular and Cellular Basis of Disease: Redox Mediated Diseases, “ROS/RNS in Asthma Pathophysiology.”

96. April 25, 2006, Speaker, Cleveland Clinic Clinical Research Grand Rounds, Cleveland, Ohio “What’s hot in asthma research”.
97. May 8 - 9, 2006, 2006 Hicks Lecturer; Northwestern University Medical Grand Rounds in Chicago, IL: Nitric Oxide in Asthmatic Inflammation. A yearly Medical Grand Rounds endowed by the Hicks family to honor the memory of Lawrence Hicks, a pioneer chemist in synthetic estrogen.
98. July 31 - August 2, 2006, Speaker, 4<sup>th</sup> Annual Retreat of the International Graduate Program “Molecular Biology and Medicine of the Lung” (MBML) Rauschholzhausen, Giessen, Germany, “Endothelial Progenitor cells in Idiopathic Pulmonary Arterial Hypertension.”
99. September 13 - 14, 2006, Chair, Asthma Education Summit, An Intensive Two-Day Program for Health Care Professionals Cleveland State University Convocation Center; Session C: Pharmacologic Therapy, Cleveland, Ohio.
100. September 27 - 28, 2006, Vanderbilt University Medical Grand Rounds, “Noninvasive Exhaled Marker of Asthma: Nitric Oxide,” and Pulmonary Research Grand Rounds, “Airway Inflammation and Neovascularization.”
101. October 16, 2006, Visiting Professor, Lovelace Respiratory Research Institute, Albuquerque, NM, “Airway Inflammation and Neovascularization.”
102. October 17, 2006, Speaker, University New Mexico Health Sciences Center, “Airway Inflammation and Neovascularization.”
103. November 2 - 5, 2006, Speaker, American Physiological Society (APS) sponsored, NIH-supported Gordon conference, Fort Lauderdale, FL, “Physiological Genomics and Proteomics of Lung Disease.”
104. December 7 - 8, 2006, Speaker, National Institutes of Health, Bethesda MD, Evolution of Pulmonary Hypertension: Emerging Diseases and Novel Therapeutics (International symposia), “Deficiency of Nitric oxide in Pulmonary Hypertension: Mechanisms and Consequences.”
105. March 23, 2007, Speaker, Brigham and Women’s Hospital, Harvard University, Boston MA, “Cellular Bioenergetics in Pulmonary Hypertension.”
106. May 1 - 2, 2007, Connecticut State Chest Conference and Visiting Professor, Pulmonary & Critical Care Medicine, Yale University, New Haven CT, “Metabolic Abnormalities in Pulmonary Hypertension.”
107. May 23, 2007, Co-Chair, American Thoracic Society San Francisco, CA, “Host Response in Asthma.”
108. June 15, 2007, Visiting Speaker, University of California, Davis, CA, “Cellular Bioenergetics in Pulmonary Hypertension.”
109. June 20, 2007, Speaker, Massachusetts General Hospital Medical Grand Rounds, Boston MA, “Evolution of Pulmonary Hypertension: Emerging Concepts for Monitoring and Therapeutics.”
110. June 20, 2007, Harvard University Visiting Professor, Pulmonary Fellows’ Appreciation Day & Research Symposia, Boston MA, “Free Radical Mechanisms of Inflammation in Asthma.”
111. June 22 - 25, 2007, Speaker, Monitoring Inflammation, and Chair, Keynote Lecture Session, World Asthma Meeting, Istanbul, Turkey.
112. October 10, 2007, Visiting Professor and Speaker, National Jewish Center, Denver Colorado, Pulmonary Hypertension, “Emerging Concepts for Monitoring and Therapeutics.”



113. October 17, 2007, Lerner Research Institute Showcase Seminar Speaker, Cleveland OH, "Emerging concepts of pulmonary hypertension: a clinical translational science approach."
114. October 19, 2007, Pulmonary Grand Rounds Speaker, Cleveland MetroHealth Medical Center, Cleveland Ohio, "Nitric Oxide in Asthma Pathogenesis."
115. November 1, 2007, Co-Chair, Breath Analysis Summit of the International Association of Breath Research, Cleveland Clinic, Cleveland Ohio, "Clinical Applications of Breath Testing: Exhaled Nitric Oxide: from Discovery, to Instrumentation, to Clinical Application."
116. November 4, 2007, Speaker, American Heart Association National Meeting, Session Number: SMP.06 Stem Cells, Pulmonary Vascular Diseases, Orlando, Florida, "Alterations of Bone Marrow Progenitors in Human Idiopathic Pulmonary Arterial Hypertension."
117. November 7, 2007, Wake Forest University Hospital Pulmonary Grand Rounds, Greensboro, NC, "Alterations in Bioenergetics in Pulmonary Hypertension."
118. November 16-17, 2007, Chair, Pulmonary Hypertension Summit 2007, Cleveland Clinic, Cleveland Ohio, "Translating Discoveries into Patient Care: The Future of Pulmonary Hypertension: Focus on Research."
119. February 3 - 8, 2008, Speaker, Gordon Research Conference on Oxygen Radicals, Ventura, CA, "Oxidative and Nitrosative Events in Asthma," and Discussion Leader, "Oxidative stress, Inflammation and Cardiovascular System session."
120. February 27 - 29, 2008, Pfizer Visiting Professorship, Baylor College of Medicine, Houston TX.
121. March 13 - 14, 2008, Speaker, Distinguished Scientist Seminar, University of South Alabama, Mobile, Alabama, "Alterations in Bioenergetics in Pulmonary Hypertension",
122. May 19, 2008, Speaker, International American Thoracic Society, Minisymposia B16 Pathogenic Mechanisms of Pulmonary Hypertension: New Insights, Toronto Canada, "Pathogenic Role of Dysfunctional Mitochondrial Biogenesis in PAH."
123. May 21, 2008, Speaker, International American Thoracic Society, Session L18 The Severe Asthma Research Program: What is severe asthma?, Toronto Canada, "Inflammation in Asthma."
124. August 3 - 8, 2008, Speaker, FASEB Summer Research Conference Saxtons River, Vermont, "Lung Epithelium in Development and Disease", "Airway Inflammation and Neovascularization."
125. August 3 - 8, 2008, Speaker, Gordon Conference on Endothelial phenotypes in health and disease, University of New England, Biddeford, Maine.
126. October 8, 2008, Visiting Professor and Speaker, Center for Development of Stem Cell Therapies for Human Diseases, University of Illinois, Chicago Illinois.
127. March 1 - 4, 2009, Speaker, Gordon Conference on Nitric Oxide, Il Ciocco Hotel and Resort Lucca (Barga), Italy, "Higher blood flow and circulating NO products offset high-altitude hypoxia."
128. March 5 - 6, 2009, Speaker, Biochemical Society Focus Meeting: Biochemical basis of respiratory disease, AstraZeneca, Charnwood, U.K, "Angiogenesis in asthmatic airway inflammation," and Session Chair "Issues in COPD and Asthma."
129. April 6 - 9, 2009, *Paul B. Beeson Visiting Professor*, Yale University School of Medicine, New Haven CT.

130. April 9, 2009, Yale Internal Medicine Grand Rounds, New Haven, CT, “Current Concepts and Innovations in Pulmonary Hypertension.”
131. April 8, 2009, Yale Connecticut State Chest Conference, New Haven, CT, “Emerging Concepts in Asthma Remodeling: Neovascularization in the Airway.”
132. May 16, 2009, Speaker, Angiogenesis in the post-natal pulmonary circulation: Fact or Fiction, International American Thoracic Society, San Diego, CA, “Maintenance of disordered angiogenesis and apoptosis resistance in endothelium from human pulmonary hypertension.”
133. June 30, 2009, Speaker, Critical Care Medicine Branch, Clinical Center, National Heart, Lung, Blood Institute, NIH, Bethesda MD, “Pulmonary Vascular Disease: Cellular and Metabolic Mechanisms.”
134. July 5 - 6, 2009, Session Chair, Organizing Committee, International Society of Oxygen Transport to Tissues, Case Western Reserve University, Cleveland Ohio.
135. July 26 - 29, 2009, Speaker, Stem Cells and Cellular Therapies in Lung Biology and Lung Diseases, University of Vermont Campus, Burlington, Vermont, “Bone Marrow Derived Progenitors in Pulmonary Hypertension.”
136. October 16, 2009, J. Robert Wilson Memorial Lecturer, 15th Annual Memorial Lecture, Akron General Health & Wellness Center, Akron, Ohio, “Severe Asthma - Mechanisms of Disease and New Treatments.”
137. February 24, 2010, Seminar, Cystic Fibrosis Center at Rainbow Babies & Children's Hospital, “Arginine Metabolism in Asthma Pathophysiology.”
138. October 15, 2010, Seminar, Allergy-Immunology Northwestern University Feinberg School of Medicine, Chicago, Illinois, “Emerging Concepts and Novel Approaches to Severe Asthma.”
139. November 9, 2010, Visiting Professor and Speaker, Pharmacology and Physiology Department, St. Louis University School of Medicine, St. Louis, Missouri, “Asthma: Emerging Concepts and Treatments”.
140. November 21, 2010, Speaker, Society for Free Radical Biology & Medicine’s 17<sup>th</sup> Annual Meeting in Orlando, Florida, “Nitric Oxide and Oxygen - Co-conspirators for Life –Nitric Oxide levels and adaptation to high altitude hypoxia.”
141. March 10 – 11, 2011, Visiting Professor and Speaker, Mayo Clinic, Scottsdale Arizona. Science in Medicine Lecture, “Asthma: A Metabolic Syndrome”, Internal Medicine Grand Rounds, “Severe Asthma: Emerging Concepts of Pathophysiology and New Treatments”
142. March 15 – 16, 2011, Visiting Professor and Speaker, University of Pennsylvania, Philadelphia, PA. Pulmonary Grand Rounds, “Metabolism in Pulmonary Arterial Hypertension”
143. May 10 – 12, 2011, Speaker and Fellow of the American Asthma Foundation, San Francisco California, “Imaging Inflammation in Asthma.”
144. June 2 – 4, 2011, Speaker, Organization for the Study of Sex differences (OSSD), Oklahoma City, OK, “Clinical Perspectives on Sex Differences in Asthma.”
145. June 11 – 15, 2011, Speaker, 30th Congress of the European Academy of Allergy and Clinical Immunology, EAACI 2011, Istanbul, Turkey, “Physiopathological basis of remodelling in severe asthma”; Chair, “Hot topic - New receptor functions on airway smooth muscle: asthma treatment for future.”

146. September 27, 2011, Speaker, 5<sup>th</sup> Annual Case Cardiovascular Research Retreat, Hunting Valley, OH, "Pulmonary Vascular Disease: A Myelopulmonary Disorder"
147. January 6, 2012, Speaker, Pulmonary Grand Rounds, Case Western Reserve University, Cleveland, Ohio, "Angiogenic Remodeling in Asthma."
148. January 9 –10, 2012, Speaker, Molecular and Integrative Physiological Sciences Seminar Series, Department of Environmental Health, Harvard School of Public Health, Boston MA, "Angiogenic Remodeling in Asthma."
149. January 25-27, 2012, Speaker, Winter Lung Series Conference, Arizona Respiratory Center, University of Arizona, Phoenix, AZ. "Angiogenic Remodeling in Asthma."
150. February 7, 2012, Speaker, Astra Zeneca, Montreal, Canada, "Nitric Oxide in Asthma".
151. February 29, 2012, Speaker, Congressional Hearing, Washington D.C., "A Decade of Discovery: Treatment Advances for Pulmonary Hypertension".
152. March 7-8, 2012, Visiting Professor, University Health Sciences Center at San Antonio, San Antonio, Texas, "Angiogenic Remodeling in Asthma".
153. March 15-16, 2012, Visiting Professor, University of Wisconsin, Madison, Wisconsin, Pulmonary Grand Rounds, "Angiogenic Remodeling in Asthma"; Medical Grand Rounds, Pulmonary Hypertension: New insights into pathogenesis and rationale for therapy".
154. April 17-18, 2012, Visiting Professor, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, "Bioenergetic Changes in Asthma".
155. May 22, 2012, Speaker, "Biomarkers for Asthma Risk Assessment", American Thoracic Society, San Francisco, California.
156. May 22, 2012, Speaker, "Cellular Bioenergetics and Metabolic Shift in Pulmonary Hypertension", American Thoracic Society, San Francisco, California.
157. May 31, 2012, *Robert M. Rogers Lectureship* at the University of Pittsburgh Division of Pulmonary Allergy and Critical Care Medicine: "Cellular Respiration in Lung Disease".
158. January 29-31, 2013, Visiting Professor, University of Alabama Grand Rounds "Pulmonary Hypertension: New insights into Pathogenesis and Rationale for Therapies"
159. February 24-28, 2013, Task Force on Pathology and Pathobiology of Pulmonary Hypertension, Pulmonary Hypertension World Symposia, Nice, France.
160. March 18-20, 2013, Visiting Professor, University of Rochester Pulmonary Research Seminar "Pulmonary Hypertension: New insights into Pathogenesis and Rationale for Therapies" and Grand Rounds "Severe Asthma: Mechanisms of Disease & New Treatment"
161. April 1-2, 2013, Visiting Professor, University of California, San Francisco "Pulmonary Hypertension: New insights into Pathogenesis and Rationale for Therapies"
162. October 9 – 10, 2013, Visiting Professor and Speaker, Washington University, St. Louis, Missouri, "Angiogenic Remodeling in Asthma", and "Pulmonary Hypertension: new insights into pathogenesis and rationale for therapy".
163. November 14, 2013, *The Jerome I. Kleinerman Lecturer*, Case Western Reserve University, Cleveland, Ohio: MetroHealth lecture, Translating Discoveries into Patient Care for Pulmonary Hypertension; and Case lecture, Pulmonary Hypertension: New Insights into pathogenesis and Rationale for Therapies.

164. November 21-22, 2013, Scott & White Healthcare Medicine Grand Rounds “Pulmonary Hypertension” Scott & White Memorial Hospital, Temple, Texas.
165. May 17, 2014, American Thoracic Society 2014 San Diego International Conference Postgraduate Course “PG10 – Asthma Pathogenesis and Therapy: From Bench to Bedside”. Speaker, ‘Asthma in Women: A Unique Phenotype?’
166. June 23-24, 2014, Northwestern Pulmonary Division Annual Lung Symposium, Keynote Lecturer ‘Translating Discoveries into Patient Care for Pulmonary Hypertension’
167. July 14-15, 2014, Faculty and Speaker, “State of the Art Review: Novel therapeutic approaches to preserve the right ventricle”, in the *1st Annual Pulmonary Hypertension Drug Discovery and Development Symposium*, Washington, D.C.
168. July 22-26, 2014, Aspen Allergy Conference Invitational Speaker, ‘NO & Cutting Edge Technologies & Approaches’, Aspen, Colorado
169. February 20-24, 2015, *ARTrust™ and Donald Y.M. Leung, MD PhD FAAAAI-JACI Lecture: Investing Together in Our Future Award* at the 2015 American Academy of Allergy, Asthma & Immunology Annual Meeting. Plenary Session speaker: Severe Asthma: From Bench to Guidelines, “Underlying Mechanisms of Severe Asthma”, Houston, Texas.
170. March 18-19, 2015, *The Attilio D. Renzetti Jr., MD Honorary Endowed Lectureship*, University of Utah Department of Internal Medicine, Salt Lake City, UT. Medicine Grand Rounds speaker, Severe Asthma: Mechanisms of Disease and New Treatments.
171. June 10-13, 2015, *The Thomas L. Petty Lecturer*, 58<sup>th</sup> Annual Thomas L. Petty Aspen Lung Conference, Aspen, CO: New Insights in Oxidant Biology in Asthma.
172. October 7, 2015, Vascular Medicine Grand Rounds, Cleveland Clinic, Cleveland, Ohio, “Pulmonary hypertension: pathophysiology and implications for therapy”
173. December 18, 2015, Candidate for Chair of Lerner Research Institute, Cleveland Clinic, Cleveland, Ohio, “Translating Discoveries into Patient Care for Lung Diseases”
174. January 13, 2016, Department of Pharmacology Seminar, Rush Univeristy, Chicago, IL “Translating Discoveries into Patient Care for Pulmonary Hypertension”
175. April 26, 2016, Yale Cardiovascular Medicine Grand Rounds, “Approaches to preserve the right ventricle in pulmonary hypertension”
176. April 27, 2016, Yale State Chest conference, New Haven, Connecticut. “Translating Discoveries into Patient Care for PAH”
177. May 3, 2016, Institute for the Science of Origins, Case Western Reserve University, Cleveland Ohio. “Co-Q and Milkshakes: Manipulating Mitochondria to Treat Lung Diseases”.
178. May 13, 2016, Clipp Speer Visiting Professor and Lecturer, outstanding woman leader in academic medicine, Duke University, Raleigh, North Carolina. “Biomarkers for Precision Care of Asthma”
179. May 16, 2016, American Thoracic Society (ATS) Scientific Achievement Award, San Francisco, California. “Cellular and Molecular Mechanisms in Pulmonary Hypertension”
180. May 18, 2016, American Thoracic Society (ATS) Featured speaker of the Presidential Keynote Lecture Series, San Francisco, California. “Biomarkers for Precision Medicine in Asthma”

181. May 18, 2016, American Thoracic Society (ATS) Speaker at the NHLBI Division of Lung Diseases Symposia: Enhanced Phenotyping of Pulmonary Vascular Diseases, San Francisco, California. "NHLBI PVDOMICs overview"
182. June 10, 2016, Keynote Speaker for University of Chicago annual Pulmonary and Critical Care Medicine symposium, Chicago Illinois. "Translating Discoveries into Patient Care for Pulmonary Hypertension."
183. June 16, 2016, Visiting Professor and Speaker, NHLBI Biomedical Lecture Series (BLS), Bethesda, Maryland. "Cellular and Molecular Mechanisms in Pulmonary Hypertension"
184. July 11-12, 2016, Bethesda Maryland, Co-Chair, The 3<sup>rd</sup> Annual Drug Discovery and Development Symposium for Pulmonary Hypertension,.
185. October 14, 2016 Speaker, "Pathobiology of Asthma", Annual State of the Art Course in Respiratory Medicine, Irish Thoracic Society, St. Vincent's University Hospital, Dublin, Ireland.
186. October 20, 2016, Speaker, Cleveland Clinic, Cleveland Ohio. Translating Discoveries into Patient Care for Pulmonary Hypertension.
187. October 25, 2016, Keynote Speaker, Bethesda, Maryland, NHLBI Innovator Meeting: Best practices for supporting and transitioning discoveries into health,
188. November 17-19, 2016, Manchester, UK, Invited Speaker, International Severe Asthma Forum (ISAF),.
189. February 18, 2017, Ventura California, Gordon Research Seminar on Nitric Oxide, "Nitric Oxide in Lung Physiology and Pathophysiology"
190. March 1-3, 2017, Paul Epstein Memorial Lecture, University of Pennsylvania, Philadelphia, PA, "Metabolism and Hypoxia in Pulmonary Vascular Disease", ,
191. March 9, 2017, Univeriusty of Arizonia, Tucson, Arizoia, "Metabolism and Hypoxia in Pulmonary Vascular Disease"
192. September 9, 2017, Estelle Grover speaker, Grover Conference, Sedalia Colorado "Endothelial mechanisms in Right Ventricular Failure in Pulmonary Hypertension"
193. January 9, 2018, Jeffrey Glassroth MD Honorary Lectureship, Northwester University Feinberg School of Medicine, Chicago, Illinois, "Metabolic Abnormalities in Pulmonary Hypertension," Medical Grand Rounds to in honor of Jeffrey Glassroth, MD, Professor and previous Chair of Medicine at Northwestern.
194. May 20, 2018, American Thoracic Society (ATS) speaker, San Diego, CA, "Mitochondrial Arginine Metabolism Supported Bioenergetics in Asthma"
195. May 22, 2018, American Thoracic Society (ATS) speaker, San Diego, CA, "Mitochondrial Mechanisms in Pulmonary Vascular Disease"
196. November 9, 2018, Robert L. Johnson, Jr. M.D. Lectureship, Univeristy of Texas Southwestern, Dallas, TX, "Translating Discoveries into Patient Care for Pulmonary Hypertension"
197. November 9, 2018, University of Texas Southwestern Conference, Dallas, TX, "Hypoxia Adaptation and Acclimatization Resilience to Pulmonary Hypertension"
198. November 10, 2018, American Heart Association Dickinson W. Richards Memorial Lecturer, Chicago, IL, "Metabolic Mechanisms of Pulmonary Hypertension"

199. November 15-16, 2018, 18<sup>th</sup> annual Partner's Asthma Center's Jeffrey M. Drazen, M.D. Annual Visiting Professor Lecture, Massachusetts General Hospital and Brigham and Women's Hospital, Boston, MA, "Metabolic origins of asthma".
200. January 25, 2019, Guest Speaker for Research in Progress, The Ohio State University, Columbus, OH, "Translating Discoveries into Patient Care for Pulmonary Hypertension"
201. March 6-7, 2019, Tinsley Randolph Harrison Society and The Riven Visiting Professor, Vanderbilt University, Nashville, TN. Grand Rounds lecture: "Evolution of Pulmonary Hypertension and Nitric Oxide"

## **TRAINEES / MENTEES**

### Post-Graduate Advisor for:

1. Hilde DeRaeve, M.D. 1993 - 1995, Associate Professor, Katholieke Universiteit Leuven, Belgium
2. Raed Dweik, M.D. 1995 - 1998, Associate Professor Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland Clinic
3. F. Takao Kaneko, M.D. 1995 - 1998, Staff Physician, Critical Care Medicine, Central Military Hospital, and member of the National Investigator System of Mexico
4. Kohsaku Uetani, M.D., Ph.D. 1996 - 2000, Assistant Professor, Department of Environmental Health Sciences, Kinki University School of Medicine, Osaka, Japan.
5. Chitra Dinakar, M.D. 1997 - 1998, Assistant Professor, University of Missouri at Kansas City, Kansas City, Missouri
6. Metin Ozkan, M.D. 1999 - 2000, Assistant Professor, Gulhane Military Medical Academy, Ankara, Turkey
7. Sumita Khatri, M.D. 1999 - 2001, Assistant Professor, Case Western Reserve University, Cleveland Ohio
8. James Ho, M.D. 2000 - 2001, Assistant Professor, University Department of Medicine, Queen Mary Hospital, Hong Kong
9. Roberto Machado, M.D. 2002 - 2003, Senior Staff Fellow, Critical Care Dept, Laboratory of Chemical Biology, NIDDK, Bethesda, Maryland
10. Tobias Piekert, M.D. 2002 - 2003, Fellow, Mayo Clinic Pulmonary and Critical Care Dept. Rochester, Minnesota
11. Arnaud Chambellan, M.D. 2002 - 2003, Institut du Thorax, INSERM, Faculté de Médecine, Nantes, France
12. Abigail Lara, M.D. 2003 - 2004, Pulmonary Fellow University of Colorado Health Sciences Center, Denver Colorado
13. Steven Cannady, M.D. 2005 - 2006, Head & Neck Institute, Cleveland Clinic
14. Samar Farha, M.D. 2005 - 2007, Pulmonary, Allergy & Critical Care fellow, Cleveland Clinic
15. Edina Swartz, M.D. 2007 - 2009, T32 (Case Western Reserve University), Mast cells and asthma, Cleveland Clinic
16. Joe Zein, M.D. 2014 - 2016, M.S. Clinical Research, Case Western Reserve University

### Graduate Advisor for Ph.D.:

1. Suzy Comhair, Maastricht University, Netherlands, 1995 - 2000
2. Shuo Zheng, Chemistry, Cleveland State University, 1998 - 2002
3. Fares Masri, Chemistry, Cleveland State University; 2002 - 2006
4. Rachel Leahy, Biological Sciences, Kent State University, 2007 - 2012
5. Hoi Cheong, Molecular Medicine Ph.D. Program funded by the Howard Hughes Medical Institute "Med Into Grad" initiative, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, 2011 - 2017
6. Olivia Stephens, Molecular Medicine Ph.D. Program funded by the Howard Hughes Medical Institute "Med Into Grad" initiative, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, 2015 - present
7. Joe Zein, Genetic Epidemiology Ph.D., Case Western Reserve University, 2016- present.

### Member of Ph.D. Thesis Committee:

1. Qussay Al-Bakri, Department of Biology, Cleveland State University 1994 -1996

2. Linnea Baudhuin, Department of Chemistry, Cleveland State University 1999 - 2002
3. Joseph Lupica, Department of Chemistry, Cleveland State University 2001 - 2004
4. Wei Song, Department of Clinical Chemistry, Cleveland State University 2002 - 2008
5. Sudakshina Ghosh, *viva voce* examiner, Chemistry, Jadavpur University, Calcutta, India 2002
6. Erica DuPree, Department of Chemistry, Cleveland State University, 2000 - 2004
7. Patricia DiBello, Department of Chemistry, Cleveland State University, 1974 - 2007
8. Jasmin Ruiz, University of Texas, Galveston, 2010 - 2014
9. Jarod Zepp, Molecular Medicine Ph.D. Program funded by the Howard Hughes Medical Institute "Med Into Grad" initiative, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, 2010 - 2014

Advisor to Undergraduate students:

1. Marc Lewis, 1994 - 1998, Ohio State University Dental School 1998 - 2001
2. Percy Bhatena, B.S. 1997 - 1999, C.E.O. WISP, Inc. (Wireless Internet Service provider)
3. Kavita Iyengar, B.S. 1999 - 2002, Wright State Medical School 2002 - 2006
4. Tannishia Goggans, B.S. 2002 - 2005, Case Western Reserve University Dental School 2006 - 2010
5. Kristin Ricci, B.S. 2003 - 2006, Case Western Reserve University Medical School 2004 - 2008
6. Paul Cruickshank, B.S. 2003 - 2005, Harvard Political Sciences Graduate Program 2005 - 2011
7. Lori Najm B.S. 2003 - 2005, Northeastern Ohio Universities Graduate Pharmacology School 2005 - 2008
8. Katalin Szabo, B.S. 2003 - 2004, Stanford Medical School 2004 - 2008
9. Robert Naples, B.S. 2010 - 2012, Ohio University Osteopathic School 2012 - 2016
10. Anam Khan, B.S. 2009 - 2012, Masters Healthcare Administration, Ohio State University 2013 - 2015

Research Advisor to Cleveland Clinic Lerner College of Medicine of Case Western Reserve University Medical students:

1. Patrick McKenzie, B.S. 2004 – 2009
2. Sam Edwards, B.S. 2004 – 2009
3. Sam Wedes, B.S. 2005 - 2010 (advisor for thesis)
4. Carl Koch, B.S. 2004 - 2009 (advisor for thesis)
5. Kevin Shrestha, B.S. 2007 – 2012
6. Iva Dostanic-Larson, B.S., Ph.D. 2007 - 2012 (advisor for thesis)
7. Ilka Decker, B.S. 2008 –2013 [advisor for *HHMI Research Training Fellowship*]
8. Heng Duong, B.S. 2008 –2013 [advisor for *HHMI Research Training Fellowship*]
9. Jade Fettig, B.S. 2009 – 2014
10. Erika Lundgrin, B.S. 2008- 2013 (advisor for thesis)
11. Jin Zhang, B.S. 2013 – 2018
12. Jonathan Rose, B.S. 2011 – 2015 (advisor for thesis)
13. Suresh Garudadri, B.S. 2015-2020

Educational Activities

Medical School:

1. Member, Curriculum Steering Committee, Cleveland Clinic Lerner College of Medicine/School of Medicine, 2002-2004
2. Member, Curriculum Development Task Force, Cleveland Clinic Lerner College of Medicine/School of Medicine, 2002-2004
3. Admissions Committee Cleveland Clinic Lerner College of Medicine/School of Medicine, 2003-2015
4. Process of Discovery Symposia, 2004 - 2012
5. Cleveland Clinic Lerner College of Medicine/Research Education Committee, 2007-2015

*Graduate:*

1. Case Western Reserve University, Molecular Virology Graduate Lecture, Host Virus Interactions (MVIR446)
2. Cleveland Clinic Molecular Medicine Graduate course (Respiratory Section) (MMED410)
3. Principles of Clinical Research for the PhD Investigator (MMED 501)

**RESEARCH SUPPORT**

1. National Health Institute: National Heart, Lung And Blood Institute; 1UG1HL139126, Clinical Centers For The NHLBI's Precision Interventions For Severe and/or Exacerbation Prone Asthma (PRECISE) Network, Multi-Principal Investigator; Ben Gaston, M.D. (contact), W. Gerald Teague and Serpil Erzurum, M.D. (Cleveland Clinic) [2017 – 2023]
2. National Health Institute: National Heart, Lung and Blood Institute; U01 HL125177, Pulmonary Vascular Disease Phenomics Program (PVDOMICS) Data Coordinating Center, Multi-Principal Investigator; Gerald Beck, Ph.D and Serpil Erzurum, M.D. (Cleveland Clinic) [2014 – 2019]
3. National Health Institute: National Heart, Lung and Blood Institute; R24 HL123767, Pulmonary Hypertension Breakthrough Initiative, Multi-Principal Investigator; Mark Geraci, M.D. (University of Colorado) and Serpil Erzurum, M.D. [2014 – 2018]
4. National Health Institute: National Heart, Lung and Blood Institute; R01 HL115008, Pulmonary Vascular-Right Ventricular Axis Research Program, Serpil Erzurum, M.D. [2012 – 2018]
5. National Institutes of Health; U10 HL109250, Airway redox biochemistry as a determinant of asthma phenotype during adolescence, Severe Asthma Research Program (SARP), Benjamin Gaston, M.D., (Case Western Reserve University) and Serpil Erzurum, M.D. [2011 – 2018]
6. National Institutes of Health; PO1HL103453, Asthma Inflammation Research Translational Program Project Grant (TPPG), Serpil Erzurum, M.D. [2011 – 2021]
7. National Institutes of Health, PO1 HL081064, Pathobiology of Asthma PPG, Serpil Erzurum, M.D. [2005 – 2020]
8. National Institutes of Health; RC37 MERIT; RO1 HL60917, Nitric oxide production and reactions in the lung, Serpil Erzurum, M.D. [1999 – 2019]
9. National Health Institute: National Heart, Lung and Blood Institute; K08 HL132079-01A1, Matrix-Myosin II Interactions Drive Fibrosis in Idiopathic Pulmonary Fibrosis, Brian Southern, M.D. [2017 – 2022]
10. National Health Institute: National Heart, Lung and Blood Institute; K08 HL133381-01A1, Gender-based precision care for asthma, Joe Zein, M.D. [2017 – 2022]
11. National Health Institute: National Center for Advancing Translational Sciences; UL1 TR000439, KL2 TR000440, TL1 TR000441, Clinical And Translational Science Collaborative Of Cleveland, Serpil Erzurum, M.D. and Pamela Davis, M.D., Michael Konsan, M.D., Mark Chance, Ph.D. (Case Western Reserve University) [2013 – 2017]
12. American Asthma Foundation Sandler Program for Asthma Research (SPAR), Serpil Erzurum, M.D. (Cleveland Clinic) [2009 – 2012]
13. National Institutes of Health; R01 HL060917-10S1, Summer Student Supplement, American Reinvestment and Recovery Act (ARRA), Serpil Erzurum, M.D.(Cleveland Clinic) [2009 – 2011]



14. National Institutes of Health; R01 HL069116-09S1, A Phase II Study in Patients with Asthma to Assess the Safety and Immunogenicity of an Unadjuvanted Novartis H1N1 Influenza Vaccine Administered at Two Dose Levels. Network PI: William Busse and Cleveland PI: Serpil Erzurum, M.D.(Cleveland Clinic) [2009 – 2011]
15. National Institutes of Health, RC1 HL099303, American Reinvestment and Recovery Act (ARRA), Challenge Area 06, Enabling Technologies 06-HL-103, Serpil Erzurum, M.D. (Cleveland Clinic) [2009 – 2011]
16. American Heart Association Transplant & Preparation Center, Serpil Erzurum, M.D. (Cleveland Clinic), [2006 – 2011]
17. National Institutes of Health; R01 HL69170, Redox determinants of severe asthma, Severe Asthma Research Program (SARP), Serpil Erzurum, M.D. (Cleveland Clinic), [2006 – 2011]
18. National Institutes of Health; R01 AI70649, The Regulation and Role of Nitric Oxide in Asthma, Serpil Erzurum, M.D. (Cleveland Clinic) [2003 – 2008]
19. National Institutes of Health, National Center for Research Resources; M01 RR018390, Cleveland Clinic General Clinical Research Center, [2003 – 2008]
20. National Institutes of Health; R01 HL69170, Redox determinants of severe asthma, Severe Asthma Research Program (SARP), Benjamin Gaston, MD, (University of Virginia) and Cleveland PI: Serpil Erzurum, M.D.(Cleveland Clinic) [2001 – 2006]
21. US Army Medical Research Contract; DAMD 17-01-C-0065, Rapid detection and response to biological agents, Bryan R.G. Williams, Ph.D. (Cleveland Clinic), [2001 – 2004]
22. National Institutes of Health; K24 HL04265, Mid-career Award in Patient Oriented Research, [2000 – 2005]
23. National Institutes of Health; KO8 HL03117, Inducible Vectors for Gene Therapy, [1994 – 1999]
24. DeBartolo Foundation Award: Gene Therapy for Lung Cancer, [1994 – 1996]
25. National Institutes of Health Intramural Grant, The effect of hyperoxia on human epithelial cell superoxide dismutase and catalase mRNA transcript levels, [1990 – 1992]
26. Clinical Investigation Committee, National Jewish Center for Immunology and Respiratory Medicine, Denver, Colorado; Clinical Trial of Methotrexate in Severe Steroid Dependent Asthma, Clinical Research Support Grant. [1988]

*Co-Investigator or Mentor of Grant*

1. Howard Hughes Medical Institute Research Training Fellowship, Mentor to Ilka Decker, Cleveland Clinic Lerner College of Medicine student thesis [2010 – 2011]
2. Howard Hughes Medical Institute Research Training Fellowship, Mentor to Heng Duong, Cleveland Clinic Lerner College of Medicine student thesis [2010 – 2011]
3. National Institutes of Health; RC2 HL101487, Co-Investigator, Linking Genetics, Genomics and Phenomics to Better Understand Asthma Severity. Principal Investigator: Eugene Bleeker, Deborah Meyers, Naftali Kaminski, Sally Wenzel [2009 – 2011]
4. National Science Foundation; RES504562, Co-Investigator, Nitric oxide and the microcirculation in the Tibet Autonomous Region, Principal Investigator: Cynthia Beall, Ph.D. (Case Western Reserve University) [2009 – 2011]

5. NHLBI, Co-Investigator, Antioxidant enzyme induction as a new approach to therapy in patients with asthma. Principal Investigator: Tina Hartert, MD. [2009 – 2011]
6. NHLBI, Co-Investigator, Lung Cell Expression Profiles in Asthma: Bridging Genetics and Phenotypes. Principal Investigator: Deborah Meyers (Wake Forest University) and Sally Wenzel (University of Pittsburgh) [2008 – 2012]
7. National Institutes of Health; RO1 HL091762, Collaborator, Severe Asthma Research Program (SARP II) Imaging Core, Principal Investigator: Mario Castro [2008 – 2012]
8. National Center for Research Resources; 1UL1RR024989, Participant and Clinical Interactions Resources, Clinical & Translational Sciences Award (CTSA) Principal Investigator: Pam Davis, M.D., Co-Principal Investigator: Richard Rudick, M.D. [2007 – 2012]
9. National Center for Research Resources; 1 KL2 RR-024990, Steering Committee Member and Mentor, K-award program of Clinical & Translational Sciences Award (CTSA), Principal Investigator: Pam Davis, M.D., Co-Principal Investigator: Richard Rudick, M.D. [2007 – 2012]
10. National Science Foundation; RES501206, Ethiopian adaptation to high-altitude hypoxia, Principal Investigator: Cynthia Beall, Ph.D. (Case Western Reserve University) [2004 – 2006]
11. National Institutes of Health; RO1 HL071202, Hyaluronan-leukocyte interactions in asthmatic airways. Principal Investigator: Vince Hascall, Ph.D. [2003 – 2007]
12. National Science Foundation; Elevated Exhaled Nitric Oxide of Tibetan and Andean high-altitude natives, Principal Investigator: Cynthia Beall, Ph.D. (Case Western Reserve University) [2002 – 2005]
13. National Science Foundation; POWRE: pulmonary nitric oxide and adaptation to high-altitude hypoxia, Principal Investigator: Cynthia Beall, Ph.D. (Case Western Reserve University) [2000 – 2001]
14. National Institutes of Health; RO1 HL61878, Role of eosinophil peroxidase in the origins of asthma, Principal Investigator: Stan Hazen, M.D. Ph.D. [1998 – 2006]
15. National Institutes of Health Intramural Grant; Alpha 1-antitrypsin augmentation therapy of obstructive lung disease, Principal Investigator: Ron Crystal, M.D. [1991 – 1992]

Mentor for K awardees

1. National Institutes of Health; K08 HL133381-02 (Cleveland Clinic), Gender-based precision care for asthma, Joe Zein. [2017-2022]
2. National Institutes of Health; K12 (Rainbow Children's Hospital), Asthma genesis in childhood, Kirstie Ross, M.D. [2007 – 2012]
3. National Institutes of Health; KO8 HL074129, Effector mechanisms in allergic inflammation, Fred Hsieh, M.D. [2003 – 2008]
4. National Institutes of Health; K23 HL68863, Nitric Oxide and Carbon Monoxide in Pulmonary Hypertension, Raed Dweik, M.D. [2002 – 2007]

Member of Advisory Committee for K award

1. National Institutes of Health; K12 HD049091 (Cleveland Clinic), Glucose Metabolism following bariatric surgery: rates and mechanisms of type 2 diabetes, Sangeeta Kashyap, M.D. [2005 – 2010]
2. National Institutes of Health; K12 HL074083 (Emory), Antioxidants and Airway Inflammation. Sumita Khatri, M.D.[2004 – 2006]

3. National Institutes of Health; KO8 HL04449, Signaling, Allergic Lung Disease: NF-kappaB & Helper Subsets, Mark Aronica, M.D. [2002 – 2006]

#### Training Grants

1. National Institutes of Health; HL60917, Mentor - Research Supplements to HL60917 to Promote Diversity in Health-Related Research to: Daysean Scott and Kalynn O'Neal (undergraduates) [2014 – 2015]
2. National Institutes of Health; T32 HL083823, Member of Steering Committee - Research Training Program in Pulmonary Host Defense, Inflammation and Immunity, Principal Investigator: Claire Doerschuk, M.D. (transferred to Tom Kelley) [2006 – 2011]
3. NHLBI; Member - T35 Short-Term Training Program to Increase Diversity in Health-Related Research, Principal Investigator: Claire Doerschuk, M.D. [2005 – 2009]
4. National Institutes of Health; T32 HL07889, Member of Steering Committee - Pulmonary Pathogen Defense Mechanisms, Principal Investigator: Henry Boom/ Claire Doerschuk [2004 – 2008]
5. National Institute of Child Health and Human Development; K12 HD049091, Co-investigator/Member - Multidisciplinary Advisory Committee, Principal Investigator: Richard Rudick, M.D. [2004 – 2007]
6. National Institutes of Health; T32 AI07024, Member of Steering Committee - Geographic Medicine and Infectious Diseases, Principal Investigator: Jim Kazura [2003 – 2008]

#### Industry Grants

1. Principal Investigator Cleveland site, FDA Pivotal Study of Asthmatx Bronchial Thermoplasty in Athma [2006-2011]

#### Food & Drug Administration

1. Investigational New Drug Application: Neovascularization in the Lungs During the Menstrual Cycle, NDA 20-845 and IND 72.632 for use of inhaled Nitric Oxide in Diffusion Measures (DLNO) (S.C. Erzurum sponsor)

### **BIBLIOGRAPHY**

#### **Peer Reviewed Articles**

1. **Erzurum SC**, Kalavasky SM, Watanakunakorn C. Acute cerebellar ataxia and hearing loss as initial symptoms of infectious mononucleosis. ARCH NEUROL 1983; 40:760-762. PMID: 6625994
2. **Erzurum SC**, Underwood GA, Hamilos D, Waldron J. Pleural effusion in Churg-Strauss Syndrome. CHEST 1989; 95:1357-1359. PMID: 2721280
3. **Erzurum SC**, Leff JA, Cochran JE, Ackerson LM, Glynn-Barnhart AM, Szeffler SJ, Martin RJ, Cott GR. Lack of benefit of methotrexate in severe, steroid-dependent asthma. ANN INTERN MED. 1991; 114:353-360. PMID: 1992876
4. Glynn-Barnhart AM, **Erzurum SC**, Leff JA, Martin RJK, Cochran JE, Cott GR, Szeffler SJ. Effect of low-dose methotrexate on the disposition of glucocorticoids and theophylline. J ALLERGY CLIN IMMUNOL. 1991;88:180-186. PMID: 1880318
5. **Erzurum SC**, Kus ML, Bohse C, Elson EL, Worthen GC. Mechanical properties of HL60 cells: Role of stimulation of differentiation in retention in capillary sized pores. AM J RESP CELL MOL BIOL. 1991; 5:230-241. PMID: 1910809

6. Downey GP, Elson EL, Schwab B, **Erzurum SC**, Young SK, Worthen GS. Biophysical properties and microfilament assembly in neutrophils: Modulation by cyclic AMP. *J CELL BIOL.* 1991; 114:1179-1190. PMID: PMC2289125
7. Glynn-Barnhart AM, **Erzurum SC**, Leff JA, Martin RJ, Cochran JE, Cott GR, Szeffler SJ. Pharmacokinetics of low-dose methotrexate in adult asthmatics. *PHARMACOTHERAPY.* 1992; 12(5):383-390. PMID: 1437699
8. **Erzurum SC**, Downey GP, Schwab B, Elson EL, Worthen GS. Mechanisms of lipopolysaccharide-induced neutrophil retention: Relative contributions of adhesive and cellular mechanical properties. *J IMMUNOL.* 1992; 149:154-162. PMID: 1376747
9. **Erzurum SC**, Danel C, Chu C-S, Trapnell BC, Crystal RG. *In vivo* antioxidant gene expression in human airway epithelium of normal individuals exposed to 100% O<sub>2</sub>. *J APPL PHYSIOL.* 1993; 75(3):1256-1262. PMID: 8226538
10. **Erzurum SC**, Lemarchand P, Rosenfeld MA, Yoo JH, Crystal RG. Protection of human endothelial cells from oxidant injury by adenovirus-mediated transfer of the human catalase cDNA. *NUCLEIC ACIDS RES.* 1993; 21(7):1607-1612. PMID: PMC309370
11. Yoo JH, **Erzurum SC**, Hay JG, Lemarchand PL, Crystal RG. Vulnerability of the human airway epithelium to hyperoxia: constitutive expression of the catalase gene in human bronchial epithelial cells despite oxidant stress. *J CLIN INVEST.* 1994; 93:297-302. PMID: PMC293765
12. Guo FH, DeRaeve H, Rice TW, Stuehr D, Thunnissen FBJM, **Erzurum SC**. Continuous NO synthesis by inducible nitric oxide synthase in normal human airways *in vivo*. *PROC NATL ACAD SCI.* 1995; 92:7809-7813. PMID: PMC41235
13. Danel C, **Erzurum SC**, McElvaney NG, Crystal RG. Quantitative assessment of the epithelial and inflammatory cell populations in large airways of normal and individuals with cystic fibrosis. *AM J RESPIR CRIT CARE MED.* 1996; 153:362-368. PMID: 8542144
14. Antal JM, Divis LT, **Erzurum SC**, Wiedemann HP, Thomassen MJ. Surfactant suppresses NF-kB activation in human monocytic cells. *AM J RESP CELL MOL BIOL.* 1996; 14:374-379. PMID: 8600942
15. Dweik RA, Lewis M, Kavuru M, Buhrow L, **Erzurum SC**, Thomassen MJ. Inhaled corticosteroids and  $\beta$ -agonists inhibit oxidant production by bronchoalveolar lavage cells from normal volunteers *in vivo*. *IMMUNOPHARM.* 1997; 37:163-6. PMID: 9403334
16. DeRaeve HR, Thunnissen FBJM, Guo FH, Lewis M, Kavuru M, Secic M, Thomassen MJ, **Erzurum SC**. Decreased Cu, Zn-SOD activity in asthmatic airway epithelium: correction by inhaled corticosteroid *in vivo*. *AM J PHYSIOL.* 1997; 272, L148-L154. PMID: 9038914
17. Guo FH, Uetani K, Haque J, Williams BRG, Dweik RA, Thunnisen F, Calhoun W, **Erzurum SC**. Interferon  $\gamma$  and Interleukin-4 stimulate prolonged expression of inducible nitric oxide synthase in human airway epithelium through synthesis of soluble mediators. *J CLIN INVEST.* 1997; 100:829-838. PMID: PMC508255
18. Thomassen MJ, Buhrow LT, Connors MJ, Kaneko FT, **Erzurum SC**, Kavuru MS. Nitric oxide inhibits inflammatory cytokine production by human alveolar macrophages. *AM J RESP CELL MOL BIOL.* 1997; 17:279-283. PMID: 9308913

19. Furuqi TR, **Erzurum SC**, Kaneko FT, DiCorleto PE. Role of nitric oxide in polyinosinic-polycytidylic acid-induced endothelial cell expression of leukocyte adhesion molecules. *AM J PHYSIOL*. 1997; 42(5):H2490-H2497. PMID: 9374789
20. Dweik RA, Guo FH, Uetani K, **Erzurum SC**. Nitric oxide synthase in human airway epithelium. *ACTA PHARMACOLOGICA SINICA*. 1997; 18(6):550-552. PMID: 10322920
21. Presta A, Siddhanta U, Wu C, Sennequier N, Huang L, Abu-Soud HM, **Erzurum SC**, Stuehr DJ. Comparative functioning of dihydro- and tetrahydrobiopterins in supporting electron transfer, catalysis, and subunit dimerization in inducible nitric oxide synthase. *BIOCHEM*. 1998;37:298-310. PMID: 9425051
22. Dweik RA, Laskowski D, Abu-Soud HM, Kaneko FT, Hutte R, Stuehr DJ, **Erzurum SC**. Nitric oxide synthesis in the lung: regulation by oxygen through a kinetic mechanism. *J CLIN INVEST*. 1998; 101:660-666. PMCID: PMC508610
23. Guo FH, **Erzurum SC**. Characterization of inducible nitric oxide synthase expression in human airway epithelium. *ENVIRONMENTAL HEALTH PERSPECTIVES*. 1998; 106:1119-1124. PMCID: PMC1533361
24. Danel C, **Erzurum SC**, Prayssac P, Eissa NT, Crystal RG, Herve P, Baudet B, Mazmanian M, Lemarchand P. Gene Therapy for oxidant injury related diseases:adenovirus-mediated transfer of superoxide dismutase and catalase cDNAs protects against hyperoxia but not against ischemia-reperfusion lung injury. *HUMAN GENE THERAPY*. 1998; 9:1487-1496. PMID: 9681420
25. Kaneko FT, Arroliga AC, Dweik RA, Comhair SA, Laskowski D, Oppedisano R, Thomassen MJ, **Erzurum SC**. Biochemical reaction products of nitric oxide as quantitative markers of primary pulmonary hypertension. *AM J RESP CRIT CARE MED*. 1998; 158:917-923. PMID: 9731026
26. Binion DG, Fu S, Ramanujam KS, Chai YC, Dweik RA, Drazba JA, Wade JG, Ziats NP, **Erzurum SC**, Wilson KT. iNOS expression in human intestinal microvascular endothelial cells inhibits leukocyte adhesion. *AM J PHYSIOL*. 1998; 275(3 Pt 1) G592-G603. PMID: 9724273
27. Thibonnier M, Conarty DM, Preston JA, Plesnicher, Dweik RA, **Erzurum SC**. Human vascular endothelial cells express oxytocin receptors. *ENDOCRINOLOGY*. 1999; 140(3):1301-9. PMID: 10067857
28. Bhattacharyya N, Chen HC, Comhair S, **Erzurum SC**, Banerjee S. Variant forms of DNA polymerase  $\beta$  in primary lung carcinomas. *DNA AND CELL BIOL*. 1999; 18:549-554. PMID: 10433553
29. Comhair SAA, Lewis MJ, Bhathena PR, Hammel JP, **Erzurum SC**. Increased glutathione and glutathione peroxidase in lungs of individuals with chronic beryllium disease. *AM J RESP CRIT CARE MED*. 1999; 159:1824-1829. PMID: 10351926
30. Sarodia BD, Farver C, **Erzurum SC**, Maurer JR. A young man with two large lung masses. *CHEST*. 1999; 116:814-818. PMID: 10492292
31. Raychaudhuri B, Dweik R, Connors MJ, Buhrow L, Malur A, Drazbe J, Arroliga A, **Erzurum SC**, Kavuru MS, Thomassen MJ. Nitric oxide blocks nuclear factor  $\kappa$ B activation in alveolar macrophages. *AM J RESPIR CELL MOL BIOL*. 1999; 21:311-316. PMID: 10460748
32. Borrás T, Rowlette LL, **Erzurum SC**, Epstein DL. Adenoviral reporter gene transfer to the human trabecular meshwork does not alter aqueous humor outflow. Relevance for potential gene therapy of glaucoma. *GENE THERAPY*. 1999; 6:515-524. PMID: 10476211

33. Thomassen MJ, Raychaudhuri B, Dweik RA, Farver C, Buhrow L, Malur A, Connors MJ, Drazba J, Hammel J, **Erzurum SC**, Kavuru MS. Nitric oxide regulation of asthmatic airway inflammation with segmental allergen challenge. *J ALLERGY CLIN IMMUNOL*. 1999; 104:1174-82. PMID: 10588998
34. Silkoff PE, Alving K, Barnes PJ, de Gouw FM, **Erzurum SC**, Gustafsson L, Hogman M, Irvin C, Joerres R, Permutt S, Rubinstein I, Slutsky AS, Zamel N. Recommendations for a standardized procedure for the online measurement of exhaled nitric oxide in adults. In: The official statement of the American Thoracic Society Recommendations for the standardized procedures for the online and offline measurement of exhaled lower respiratory nitric oxide and nasal nitric oxide in adults and children-1999. *AM J RESPIR CRIT CARE MED*. 1999; 160:2104-2117. PMID: 10588636
35. Comhair SAA, Bhathena PR, Dweik RA, Kavuru MS, **Erzurum SC**. Rapid Loss of Superoxide Dismutase Activity during Antigen-Induced Asthmatic Response. *LANCET*. 2000; 355:624. PMID: 10696986
36. Guo FH, Comhair SAA, Zheng S, Dweik RA, Eissa NT, Thomassen MJ, Calhoun W, **Erzurum SC**. Molecular Mechanisms of Increased Nitric Oxide (NO) in Asthma: Evidence for Transcriptional and Post-translational Regulation of NO Synthesis. *J IMMUNOL*. 2000; 164:5970-5980. PMID:10820280
37. Comhair SAA, Thomassen MJ, **Erzurum SC**. Differential Induction of Extracellular Glutathione Peroxidase and Nitric Oxide Synthase 2 in Airways of Healthy Individuals Exposed to 100% O<sub>2</sub> or Cigarette Smoke. *AM J RESP CELL MOL BIOL*. 2000; 23:350-354. PMID: 10970826
38. Bhathena PR, Comhair SAA, Holroyd KJ, **Erzurum SC**. Interleukin-9 Receptor Expression in Asthmatic Airways *In Vivo*. *LUNG*. 2000; 178:149-160. PMID: 10871433
39. Uetani K, Der SD, Zamanian-Daryoush M, de la Motte C, Lieberman B, Williams BRG, **Erzurum SC**. Central Role of double-stranded RNA-Activated Protein Kinase in Microbial Induction of Nitric Oxide Synthase. *J IMMUNOL*. 2000; 165:988-996. PMID: 10878375
40. Wu W, Samoszuk M, Comhair SAA, Thomassen MJ, Farver C, Dweik R, Kavuru M, **Erzurum SC**, Hazen SL. Eosinophils generate brominating oxidants in allergen-induced asthma. *J CLIN INVEST*. 2000; 105:1455-1463. PMID: PMC315470
41. Jaspers I, Samet JM, **Erzurum S**, Reed W. Vanadium-induced kappaB-dependent transcription depends upon peroxide-induced activation of the p38 mitogen-activated protein kinase. *AM J RESP CELL MOL BIOL*. 2000; 23:95-102. PMID: 10873158
42. Comhair SAA, Bhathena PR, Farver C, Thunnissen FBJM, **Erzurum SC**. Extracellular Glutathione Peroxidase Induction in Asthmatic Lungs: Evidence for Redox Regulation of Expression in Human Airway Epithelial Cells. *FASEB J* 2001; 15:70-78. PMID: 11149894
43. Dweik RA, Laskowski D, Özkan M, Farver C, **Erzurum SC**. High Levels of Exhaled Nitric Oxide (NO) and NO Synthase III Expression in Lesional Smooth Muscle in Lymphangioleiomyomatosis. *AM J RESP CELL MOL BIOL*. 2001; 24:414-418. PMID: 11306434
44. Uetani K, Thomassen MJ, **Erzurum SC**. Nitric oxide synthase 2 through an autocrine loop via respiratory epithelial cell-derived mediator. *AM J PHYSIOL*. 2001; 280:L1179-1188. PMID: 11350796

45. MacPherson JC, Comhair SAA, **Erzurum SC**, Klein DF, Lipscomb MF, Kavuru MS, Samoszuk M, Hazen SL. Eosinophils are a major source of nitric oxide-derived oxidants in severe asthma: characterization of pathways available to eosinophils for generating reactive nitrogen species. *J IMMUNOL*. 2001; 166:5763-72. PMID: 11313420
46. Uetani K, Arroliga M, **Erzurum SC**. Double-stranded RNA Dependence of Nitric Oxide Synthase 2 Expression in Human Bronchial Epithelial Cell Lines BET-1A and BEAS-2B. *AM J RESP CELL MOL BIOL*. 2001; 24:720-726. PMID: 11415937
47. Dweik RA, Comhair SAA, Gaston B, Thunnissen FBJM, Farver C, Thomassen MJ, Kavuru M, Hammel J, Abu-Soud HM, **Erzurum SC**. NO Chemical Events in the Human Airway During the Immediate and Late Antigen-Induced Asthmatic Response. *PROC NATL ACAD SCI USA*. 2001; 98:2622-2627. PMID: PMC30188
48. Beall C, Laskowski D, Strohl KP, Soria R, Villena M, Vargas E, Alarcon AM, Gonzales C, **Erzurum SC**. Pulmonary nitric oxide in mountain dwellers: populations living at high altitudes have an adaptive mechanism to offset hypoxia. *NATURE*. 2001; 414:411-412. PMID: 11719794
49. Khatri SB, Özkan M, McCarthy K, Laskowski D, Hammel J, Dweik RA, **Erzurum SC**. Alterations in Exhaled Gas Profile during Allergen-induced Asthmatic Response. *AM J RESP CRIT CARE MED*. 2001; 164:1844-1848. PMID: 11734434
50. Ho JC-M, Zheng S, Comhair SAA, Farver C, **Erzurum SC**. Differential Expression Of Manganese Superoxide Dismutase and Catalase In Lung Cancer. *CANCER RESEARCH*. 2001; 61:8578-8585. PMID: 11731445
51. Eissa NT, **Erzurum SC**. Flexible Bronchoscopy in Molecular Biology. *In: CLINICS IN CHEST MEDICINE*, Marcel Dekker, Inc., New York 2001; 22:343-354.
52. Özkan M, Dweik RA, Laskowski D, Arroliga AC, **Erzurum SC**. High Levels of Nitric Oxide in Individuals with Pulmonary Hypertension Receiving Epoprostenol Therapy. *LUNG*. 2002; 179:233-243. PMID: 11891614
53. Machado RF, Stoller JK, Laskowski D, Zheng S, Lupica JA, Dweik RA, **Erzurum SC**. Low levels of nitric oxide and carbon monoxide in  $\alpha$ 1-antitrypsin deficiency. *J APPL PHYSIOL*. 2002; 93:2038-2043. PMID: 12391056
54. Comhair SAA, **Erzurum SC**. Antioxidant Responses to Oxidant-Mediated Lung Diseases. *AM J PHYSIOL* 2002; 283:L246-L255.
55. Khatri SB, Hammel J, Kavuru, MS, **Erzurum SC**, Dweik RA. Temporal Association of nitic oxide levels and airflow in asthma after whole lung allergen challenge. *J APPL PHYSIOL*. 2003; 95:436-440. PMID: 12576414
56. Zheng, S, De BP, Choudhary S, Comhair SAA, Pilewski J, Haque SJ, **Erzurum, SC**. Impaired Innate Host Defense causes susceptibility to respiratory virus infections in cystic fibrosis. *IMMUNITY*. 2003; 18: 619-630. PMID: 12753739
57. Xu W, Comhair SAA, Zheng S, Chu SC, Marks-Konczalik J, Moss J, Haque SJ, **Erzurum SC**. STAT-1 and c-Fos Interaction in *nitric oxide synthase-2* gene activation. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2003; 285: L137-148. PMID: 12788789
58. Andreadis AA, Hazen SL, Comhair SAA, **Erzurum SC**. Oxidative and Nitrosative Events in Asthma. *FREE RADICAL BIOLOGY AND MEDICINE* 2003;35:213-235.

59. Zheng, S, Xu W, Bose S, Banerjee A, Haque SJ, **Erzurum SC**. Impaired Nitric Oxide Synthase-2 signaling pathway in cystic fibrosis airway epithelium. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2004; 287:L374-L381. PMID: 15107292
60. Machado RF, Londhe Nerkar MV, Dweik RA, Hammel J, Janocha A, Pyle J, Laskowski D, Jennings C, Arroliga AC, **Erzurum SC**. Nitric Oxide and Pulmonary Arterial Pressures in Pulmonary Hypertension. *FREE RADICAL BIOL &MED*. 2004; 37:1010-17. PMID: 15336317
61. Xu W, Kaneko FT, Zheng S, Comhair SAA, Janocha AJ, Goggans T, Thunnissen FBJM, Farver C, Hazen SL, Jennings C, Dweik RA, Arroliga AC, **Erzurum SC**. Increased arginase II and decreased NO synthesis in endothelial cells of patients with pulmonary arterial hypertension. *FASEB J*. 2004 Nov;18(14):1746-8. PMID: 15364894
62. Comhair SAA, Xu W, Arroliga M, Khatri SB, Thunnissen FBJM, Almasan A, Calhoun WJ, Janocha AJ, Song W, Hazen SL, **Erzurum SC**. Superoxide Dismutase Inactivation in pathophysiology of asthmatic airway remodeling and reactivity. *AM J PATH*. 2005; 166:663-674. PMID: PMC1602353
63. American Thoracic Society and European Respiratory Society: Recommendations for Standardized Procedures for the Online and Offline Measurement of Exhaled Lower Respiratory Nitric Oxide and Nasal Nitric Oxide. *AM J RESPIR CRIT CARE MED*. 2005 171: 912-930. (Co-chair of Statement) PMID: 15817806
64. Machado RF, Laskowski D, Mazzone PJ, Zheng S, Deffendorfer O, Burch T, Mekhail T, Stoller JK, Dweik RA, **Erzurum SC**. Detection of lung cancer by sensor array analyses of exhaled breath. *AM J RESP CRIT CARE MED*. 2005 Jun 1; 171(11):1286-91. PMID: 1570044
65. Comhair SAA, Ricci KS, Arroliga M, Lara AR, Dweik RA, Song W, Hazen SL, Bleecker ER, Busse WW, Chung KF, Gaston B, Hastie A, Hew M, Jarjour N, Moore W, Peters S, Teague WG, Wenzel SE and **Erzurum SC** for the NHLBI Severe Asthma Research Program. Correlation of systemic superoxide dismutase deficiency to airflow obstruction in asthma. *AM J RESP CRIT CARE MED*. 2005; 172:306-13. PMID: PMC2718470
66. Masri FA, Comhair SAA, Koeck T, Stuehr DJ, Xu W, Janocha A, Ghosh S, Dweik RA, Golish J, Kinter M, **Erzurum SC**, Aulak KS. Abnormalities in Nitric Oxide and its Derivatives in Lung Cancer. *AM J RESP CRIT CARE MED*. 2005; 172(5):597-605 PMID: PMC2718532
67. Panda K, Chawla-Sarkar M, Koeck T, **Erzurum SC**, Parkinson JF, Stuehr DJ. Visualizing inducible nitric oxide synthase in living cells with a heme-binding fluorescent inhibitor. *PROC NATL ACAD SCI USA*. 2005; 102:10117-22. PMID: PMC1177357
68. Masini E, Bani D, Vannacci A, Pierpaoli S, Mannaioni PF, Comhair SA, Xu W, Muscoli C, **Erzurum SC**, Salvemini D. Reduction of antigen-induced respiratory abnormalities and airway inflammation in sensitized guinea pigs by a superoxide dismutase mimetic. *FREE RADICAL BIOL MED*. 2005; 39:520-31 PMID: 16043023
69. Hoit BD, Dalton N, **Erzurum SC**, Laskowski D, Strohl KP, Beal C. Nitric oxide and cardiopulmonary hemodynamics in Tibetan highlanders. *JOURNAL OF APPLIED PHYSIOLOGY*. 2005; 99(5):1796-801. PMID: 16024527
70. Hsieh FH, Sharma P, Gibbons A, Goggans T, **Erzurum SC**, Haque SJ. Human airway epithelial cell determinants of survival and functional phenotype from primary human mast cells. *PROC NATL ACAD SCI USA*. 2005; 102(40):14380-5. PMID: PMC1242292



71. Horvath, I, Hunt J, Barnes PJ, Alving K, Antczak AA, Baraldi E, Bechner G, van Beurden WJC, Corradi M, Dekhuijzen R, Dweik RA, Dwyer T, Effros R, **Erzurum S**, Gaston B, Gessner C, Greening A, Ho LP, Hohlfeld J, Jobsis Q, Laskowski D, Loukides S, Marlin D, Montuschi P, Olin AC, Redington AE, Reinheold P, van Rensen ELJ, Rubinstein I, Silkoff P, Toren K, Vass G, Vogelberg C, Wirth H. Exhaled breath condensate: methodological recommendations and unresolved questions. *EUR RESPIR J*. 2005; 26:523-548. PMID: 16135737
72. Comhair SAA, **Erzurum SC**. The Regulation and Role of Extracellular Glutathione Peroxidase. *ANTIOXID REDOX SIGNAL*. 2005; 7:72-9. PMID: 15650397
73. Ghosh S, Janocha AJ, Aronica MA, Swaidani S, Comhair SAA, Xu W, Zheng L, Kinter MT, Hazen SL, **Erzurum SC**. Nitrotyrosine Proteome Survey In Asthma Identifies Oxidative Mechanism of Catalase Inactivation, *J IMMUNOL*. 2006 May 1; 176(9):5587-97. PMID: 16622028
74. Peikert T, Specks U, Farver C, **Erzurum SC**, Comhair SAA. Melanoma Antigen A4 is Expressed in Non-Small Cell Lung Cancers and Promotes Apoptosis. *CANCER RES*. 2006 May 1; 66(9):4693-700. PMID: 16651421
75. Xu W, Dweik RA, Zheng S, **Erzurum SC**. The Role of Epithelial nitric oxide in Airway Viral Infection. *FREE RADICAL BIOLOGY AND MEDICINE* 2006; 41(1):19-28.
76. Xu W, Zheng S, Goggans T, Kiser P, Quinones-Mateu MQ, Janocha AJ, Comhair SAA, Slee R, Williams BRG, **Erzurum SC**. Cystic Fibrosis And Normal Human Airway Epithelial Cells Response To Influenza A Virus Infection, *J INTERFERON CYTOKINE RESEARCH*. 2006 Sep; 26(9):609-27. PMID: 16978065
77. Chambellan AC, Cruickshank PJ, McKenzie P, Szabo KA, Comhair SAA, **Erzurum SC**. Gene Expression Profile of Human Airway Epithelium Induced By Hyperoxia *In Vivo*, *AM J RESPIR CELL MOL BIOL*. 2006 Oct; 35(4): 424-35. PMCID: PMC2643263
78. Fitzpatrick AM, Gaston BM, **Erzurum SC**, Teague WG, NIH/NHLBI. Features of severe asthma in school-age children: Atopy and increased exhaled nitric oxide. *J ALLERGY CLIN IMMUNOL*. 2006 Dec; 118(6):1218-25. PMCID: PMC2878140
79. Yared JP, Bakri MH, **Erzurum SC**, Moravec CS, Laskowski DM, Van Wagoner DR, Mascha E, Thornton J. Effect of dexamethasone on atrial fibrillation after cardiac surgery: prospective, randomized, double-blind, placebo-controlled trial. *J CARDIOTHORAC VASC ANESTH*. 2007 Feb; 21(1):68-75. PMID: 17289483
80. Nethery DE, Ghosh S, **Erzurum SC**, Kern JA. Inactivation of Neuregulin-1 By Nitration. *AM J PHYSIOL Lung Cell Mol Physiol*. 2007; 292: L287-L293. PMID: 16980377
81. Xu W, Koeck T, Lara AR, Neumann D, DiFilippo FP, Koo M, Janocha AJ, Masri FA, Arroliga AC, Jennings C, Dweik RA, Tudor RA, Stuehr DJ, **Erzurum SC**. Alterations of Cellular Bioenergetics in Pulmonary Artery Endothelial Cells. *PROC NATL ACAD SCI USA*. 2007; 104:1342-1347. PMCID: PMC1783136
82. Moore WC, Bleeker ER, Curran-Everett D, **Erzurum SC**, Ameredes BT, Bacharier L, Calhoun WJ, Castro M, Chung KF, Clark MP, Dweik RS, Fitzpatrick AM, Gaston B, Hew M, Hussain I, Jarjour NN, Israel E, Levy BD, Murphy JR, Peters SP, Teague WG, Meyers DA, Busse WW, Wenzel SE for the National Heart Lung Blood Institute's Severe Asthma Research Program. Characterization of the Severe Asthma Phenotype by the NHLBI Severe Asthma Research Program *J ALLERGY CLIN IMMUNOL*. 2007 Feb; 119(2):405-13 PMCID: PMC2837934

83. Wenzel SE, Balzar S, Ampleford E, Hawkins GA, Busse WW, Calhoun WJ, Castro M, Chung KF, **Erzurum SC**, Gaston B, Israel E, Teague W, Everett D, Meyers DA, and Bleecker ER. *IL-4Ra* Mutations are associated with Asthma Exacerbations and Mast Cells/IgE Expression. *AM J RESP CRIT CARE MED*. 2007 Mar 15; 175(6):570-6. PMID: PMC1899282
84. Asosingh K, Swaidani S, Aronica M, **Erzurum SC**. Th1- and Th2-dependent endothelial progenitor cell recruitment and angiogenic switch in asthma. *J IMMUNOL*. 2007 May 15; 178(10):6482-94. PMID: 17475878
85. Masri FA, Xu W, Comhair SAA, Asosingh K, Koo M, Vasanji A, Drazba J, Anand-Apte B, **Erzurum SC**. Hyperproliferative apoptosis-resistant endothelial cells in idiopathic pulmonary arterial hypertension. *AM J PHYSIOL Lung Cell Mol Physiol*. 2007 Sep; 293(3):L548-54. (*\*selected for Faculty of 1000 Biology*) PMID: 17526595
86. Farha S, Asosingh K, Laskowski D, Licina L, Sekigushi H, Losordo DW, Dweik RA Wiedemann HP, **Erzurum SC**. Pulmonary gas transfer related to markers of angiogenesis during the menstrual cycle. *J APPL PHYSIOL*. 2007 Nov; 103(5):1789-95. PMID: PMC3038173
87. Cannady SB, Batra PS, Leahy R, Citardi MJ, Janocha A, Ricci K, Comhair SAA, Wang Z, Hazen SL, **Erzurum SC**. Signal transduction and oxidative processes in sinonasal polyposis. *J ALLERGY CLIN IMMUNOL*. 2007 Dec; 120(6):1346-53. PMID: 17935768
88. **Erzurum SC**, Ghosh S, Janocha AJ, Xu W, Bauer S, Bryan NS, Tejero J, Hemann C, Hille R, Stuehr DJ, Feelisch M, Beall CM. Higher blood flow and circulating NO products offset high-altitude hypoxia among Tibetans. *PROC NATL ACAD SCI USA*. 2007 Nov 6; 104(45):17593-8. PMID: PMC2077056
89. Asosingh K, Aldred MA, Vasanji A, Drazba J, Sharp J, Farver C, Comhair SAA, Xu W, Licina L, Tudor RM, **Erzurum SC**. Circulating Angiogenic Precursors in Idiopathic Pulmonary Arterial Hypertension. *AM J PATH*. 2008 Mar; 172(3):615-27. PMID: PMC2258264
90. Sorkness R, Bleecker E, Busse W, Calhoun W, Castro M, Chung F, Curran-Everett D, **Erzurum SC**, Gaston B, Israel E, Jarjour N, Moore W, Peters S, Teague W, Wenzel S. Lung Function in Adults with Stable but Severe Asthma: Air Trapping and Incomplete Reversal of Obstruction with Bronchodilation *J APPL PHYSIOL*. 2008 Feb; 104(2):394-403. PMID: 17991792
91. Uetani K, Hiroi M, Meguro T, Ogawa H, Kamisako T, Ohmori Y, **Erzurum SC**. Influenza A virus abrogates IFN- $\gamma$  response in respiratory epithelial cells by disruption of the Jak/Stat pathway. *EUR J IMMUNOL* 2008; 38:1559-73. PMID: 18493979
92. Masri FA, Comhair SAA, Dostanic-Larson I, Kaneko FT, Dweik RA, Arroliga AC, **Erzurum SC**. Deficiency of Lung Antioxidants in Idiopathic Pulmonary Arterial Hypertension. *CLIN TRANSL SCI* 2008; 1: 99-106. PMID: 20443830
93. Lara, AR, Khatri SB, Wang Z, Comhair SAA, Xu W, Dweik RA, Bodine M, Levisin BS, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Chung KF, Curran-Everett D, Gaston B, Israel E, Jarjour N, Moore WC, Peters SP, Wenzel SE, Hazen SL, **Erzurum SC** for the National Heart Lung Blood Institute's Severe Asthma Research Program. Alterations of the Arginine Metabolome in Asthma. *AM J RESP CRIT CARE MED* 2008 Oct 1; 178(7):673-81. PMID: PMC2556449.
94. Lauer M, **Erzurum SC**, Mukhopadhyay D, Vasanji A, Drazba J, Wang A, Hascall V. Differentiated murine airway epithelial cells synthesize a leukocyte-adhesive hyaluronan matrix in response to endoplasmic reticulum stress. *J BIOL CHEM*. 2008 Sep 19; 283(38):26283-96. PMID: PMC2533789.

95. Planaguma A, Kazani S, Marigowda G, Haworth O, Mariani TJ, Israel E, Bleecker ER, Curran-Everett D, **Erzurum SC**, Calhoun WJ, Castro M, Chung KF, Gaston B, Jarjour NN, Busse WW, Wenzel SE, Levy BD. Airway lipoxin A<sub>4</sub> generation and lipoxin A<sub>4</sub> receptor expression are decreased in severe asthma. *AM J RESPIR CRIT CARE MED*. 2008 Sep 15; 178(6):574-82. PMID: PMC2542432.
96. Aytakin M, Comhair SA, de la Motte C, Bandyopadhyay SK, Farver VC, **Erzurum SC**, Dweik RA. High Levels of Hyaluronan in Idiopathic Pulmonary Arterial Hypertension. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2008 Sep 5; 295: L789-99. PMID: PMC2584887.
97. Chambellan, A, Leahy R, Xu W, Cruickshank P, Janocha A, Szabo K, Cannady SB, Comhair SAA, **Erzurum SC**. Pivotal role of c-Fos in nitric oxide synthase 2 expression in airway epithelial cells *NITRIC OXIDE*. 2009 May; 20(3):143-9. PMID: PMC2837944.
98. Lauer ME, Fulop C, Mukhopadhyay D, Comhair S, **Erzurum SC**, Hascall VC. Airway smooth muscle cells synthesize hyaluronan 'cable' structures independent of inter-alpha-inhibitor heavy chain attachment. *J BIOL CHEM*. 2009 Feb 20; 284(8):5313-23. PMID: PMC2643503.
99. Wedes SH, Khatri SB, Zhang R, Wu W, Comhair SAA, Wenzel S, Teague WG, Israel E, **Erzurum SC** and Hazen SL. Noninvasive markers of airway inflammation in asthma. *CLIN TRANSL SCI*. Apr; 2(2):112-7. PMID: PMC2838203.
100. Asosingh K, **Erzurum SC**. Angioplasticity in asthma - Biochemical Basis of Respiratory Disease. *BIOCHEMICAL SOCIETY TRASACTIONS*. 2009; 37 (part 4):805-810. PMID: PMC2824510
101. Khatri SB, Holguin FC, Ryan PB, Mannino D, **Erzurum SC**, Teague WG. Association of ambient ozone exposure with airway inflammation and allergy in adults with asthma. *J ASTHMA*. 2009 Oct; 46(8):777-85. PMID: PMC2837943.
102. Farha S, Asosingh K, Laskowski D, Hammel J, Dweik RA, Wiedemann HP, **Erzurum SC**. Effects of the menstrual cycle on lung function variables in women with asthma. *AM J RESPIR CRIT CARE MED*. 2009 Aug 15; 180(4):304-10. PMID: PMC2731807.
103. Comhair SA, **Erzurum SC**. Redox control of asthma: molecular mechanisms and therapeutic opportunities. *ANTIOXID REDOX SIGNAL*. 2010; 12(1):93-124. PMID: PMC2824520
104. Moore WC, Meyers DA, Wenzel SE, Teague WG, Li H, Li X, D'Agostino Jr R, Castro M, Curran-Everett D, Fitzpatrick AM, Gaston B, Jarjour NN, Sorkness R, Calhoun WJ, Chung KF, Comhair SA, Dweik RA, Israel E, Peters SP, Busse WW, **Erzurum SC**, Bleecker ER. Identification of Asthma phenotypes using cluster analysis in the Severe Asthma Research Program. *AM J RESPIR CRIT CARE MED*. 2010 Feb 15; 181(4):315-23. PMID: PMC2822971
105. Ebrahim Q, Chaurasia SS, Vasanji A, Qi JH, Klenotic PA, Cutler A, Asosingh K, **Erzurum SC**, Anand-Apte B. Cross-Talk between Vascular Endothelial Growth Factor and Matrix Metalloproteinases in the Induction of Neovascularization in Vivo. *AM J PATHOL*. 2010 Jan; 176(1):496-503. PMID: PMC2797907
106. Castro M, Rubin AS, Laviolette M, Fiterman J, De Andrade Lima M, Shah PL, Fiss E, Olivenstein R, Thomson NC, Niven RM, Pavord ID, Simoff M, Duhamel DR, McEvoy C, Barbers R, Ten Hacken NH, Wechsler ME, Holmes M, Phillips MJ, **Erzurum SC**, Lunn W, Israel E, Jarjour N, Kraft M, Berry SM, Quiring J, Shargill NS, Cox G AIR2 Trial Study Group.. Effectiveness and Safety of Bronchial Thermoplasty in the Treatment of Severe Asthma: A Multicenter, Randomized, Double-blind Sham-controlled clinical trial. *AM J RESPIR CRIT CARE MED*. 2010 Jan 15; 181(2):116-24. PMID: PMC3269231

107. Puwanant S, Park M, Popovic ZB, Tang WH, Farha S, George D, Sharp J, Puntawangkoon J, Loyd JE, **Erzurum SC**, Thomas JD. Ventricular geometry, strain and rotational mechanics in pulmonary hypertension. *CIRCULATION*. 2010 Jan 19; 121(2):259-66. PMID: PMC2846516.
108. Asosingh K, Hanson JD, Cheng G, Aronica MA, **Erzurum SC**. Allergen-induced, eotaxin-rich, proangiogenic bone marrow progenitors: a blood-borne cellular envoy for lung eosinophilia. *J ALLERGY CLIN IMMUNOL*. 2010 Apr; 125(4):918-25. PMID: PMC2850950
109. Dweik RA, Sorkness RL, Wenzel S, Hammel J, Curran-Everett D, Comhair SA, Bleecker E, Busse W, Calhoun WJ, Castro M, Chung KF, Israel E, Jarjour N, Moore W, Peters S, Teague G, Gaston B, **Erzurum SC**. Use of Exhaled Nitric Oxide Measurement to Identify a Reactive At-risk Phenotype Among Patients with Asthma. *AM J RESPIR CRIT CARE MED*. 2010 May 15; 181(10):1033-41. PMID: PMC2874447
110. Fijalkowska I, Xu W, Comhair SA, Janocha AJ, Mavrakis LA, Krishnamachary B, Zhen L, Mao T, Richter A, **Erzurum SC**, Tudor RM. Hypoxia inducible-factor 1 alpha regulates the metabolic shift of pulmonary hypertensive endothelial cells. *AM J PATHOL*. 2010 Mar; 176(3):1130-8. PMID: PMC2832136
111. Tan K, Lessieur E, Cutler A, Nerone P, VasANJI A, Asosingh K, **Erzurum S**, Anand-Apte B. Impaired function of circulating CD34(+) CD45(-) cells in patients with proliferative diabetic retinopathy. *EXP EYE RES*. 2010 May 19. 91(2):229-37. PMID: PMC3895932
112. Aldred MA, Comhair SA, Varella-Garcia M, Asosingh K, Xu W, Noon GP, Thistlethwaite PA, Tudor RM, **Erzurum SC**, Geraci MW, Coldren CD. Somatic Chromosome Abnormalities in the Lungs of Patients with Pulmonary Arterial Hypertension. *AM J RESPIR CRIT CARE MED*. 2010 Nov 1; 182(9):1153-60. PMID: PMC3001257
113. Gamble C, Talbott E, Youk A, Holguin F, Pitt B, Silveira L, Bleecker E, Busse W, Calhoun W, Castro M, Chung KF, **Erzurum S**, Israel E, Wenzel S. Racial difference in biologic predictors of severe asthma: data from the severe asthma research program. *J ALLERGY CLIN IMMUNOL*. 2010 Dec; 126(6):1149-1156. PMID: PMC3021754
114. Brasier AR, Victor S, Ju H, Busse WW, Curran-Everett D, Bleecker E, Castro M, Chung KF, Gaston B, Israel E, Wenzel SE, **Erzurum SC**, Jarjour NN, Calhoun WJ. Predicting intermediate phenotypes in asthma using bronchoalveolar lavage derived cytokines. *CLIN TRANSL SCI*. 2010 Aug; 3(4):147-57. PMID: PMC3021493
115. Greenwald R, Fitzpatrick AM, Gaston B, Marozkina NV, **Erzurum S**, Teague WG. Breath format is a marker of airway S-nitrosothiol depletion in severe asthma. *PLoS One*. 2010 Jul. 30;5(7):e11919. PMID: PMC2912922.
116. **Erzurum S**, Rounds SI, Stevens T, Aldred M, Aliotta J, Archer SL, Asosingh K, Balaban R, Bauer N, Bhattacharya J, Bogaard HJ, Choudhary G, Dorn Li GW, Dweik R, Fagan K, Fallon M, Finkel T, Geraci M, Gladwin MT, Hassoun PM, Humbert M, Kaminski N, Kawut SM, Loscalzo J, McDonald D, McMurtry IF, Newman J, Nicolls M, Rabinovitch M, Shizuru J, Oka M, Polgar P, Rodman D, Schumacker P, Stenmark K, Tudor R, Voelkel NF, Sullivan E, Weinshilboum R, Yoder MC, Zhao Y, Gail D, Moore TM. Strategic plan for lung vascular research: an NHLBI-ORDR Workshop report. *AM J RESPIR CRIT CARE MED*. 2010; 182(12):1554-62. PMID: PMC3029941
117. Liu L, Teague WG, **Erzurum S**, Fitzpatrick A, Mantri S, Dweik RA, Bleecker ER, Meyers D, Busse WW, Calhoun WJ, Castro M, Chung KF, Curran-Everett D, Israel E, Jarjour WN, Moore W, Peters SP, Wenzel S, Hunt JF, Gaston B; for the National Heart Lung Blood Institute Severe

- Asthma Research Program (SARP). Determinants of exhaled breath condensate pH in a large asthma population. *CHEST*. 2011; 139(2):328-36. PMID: 23737177.
118. Xu W, **Erzurum SC**. Endothelial Cell Energy Metabolism, Proliferation, and Apoptosis in Pulmonary Hypertension. *COMPR PHYSIOL*. 2011; 1:357-372. PMID: 23737177
  119. Wedes SH, Zhang R, Wu W, McDowell KM, **Erzurum SC**, Hazen SL. Urinary bromotyrosine measures asthma control and predicts asthma exacerbations in children. *J PEDIATRICS*. 2011; 159(2):248-55.e1. PMID: PMC3354913
  120. Balzar S, Fajt ML, Comhair SA, **Erzurum SC**, Bleecker E, Busse WW, Castro M, Gaston B, Israel E, Schwartz LB, Curran-Everett D, Moore CG, Wenzel SE. Mast cell phenotype, location and activation in severe asthma. *AM J RESPIR CRIT CARE MED*. 2011; 183(3):299-309. PMID: PMC3056228
  121. Comhair SAA, Ricci K, Hammel J, Wang Z, Dweik RA, Gaston B, Teague WG, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Chung KF, Curran-Everett D, Israel E, Jarjour N, Moore W, Peters SP, Wenzel S, Hazen SL, **Erzurum SC** for the National Heart Lung Blood Institute Severe Asthma Research Program (SARP). Detrimental Effects of Environmental Tobacco Smoke in Relation to Asthma Severity. *PLoS ONE*. 2011 May 4; 6(5):e18574. PMID: PMC308771
  122. Ghosh S, **Erzurum SC**. Nitric Oxide Metabolism in Asthma Pathophysiology. *BIOCHEMICA PIOPHYSICA ACTA*. 2011; 1810(11):1008-16. PMID: PMC3200501
  123. Farha S, Asosingh K, Xu W, Sharp J, George D, Comhair S, Park M, Tang WH, Loyd JE, Theil K, Tubbs R, Hsi E, Lichtin A, **Erzurum SC**. Hypoxia Inducible Factors in Human Pulmonary Arterial Hypertension: A Link to the Intrinsic Myeloid Abnormalities. *BLOOD*. 2011 117: 3485-3493. PMID: PMC3072874
  124. Castro M, Fain SB, Hoffman EA, Gierada DS, **Erzurum SC**, Wenzel S; for the National Heart, Lung, and Blood Institute's Severe Asthma Research Program. Lung Imaging in Asthmatic Patients: The picture is clearer. *J ALLERGY CLIN IMMUNOL*. 2011 Sep; 128(3):467-78. PMID: PMC3187916
  125. Holguin F, Bleecker ER, Busse WW, Calhoun WJ, Castro M, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Moore WC, Peters SP, Yonas M, Teague WG, Wenzel SE. Obesity and Asthma: An association Modified by Age of Asthma Onset. *J ALLERGY CLIN IMMUNOL*. 2011 Jun; 127(6):1486-1493.e2. PMID: PMC3128802
  126. Li X, Howard TD, Moore WC, Ampleford EJ, Li H, Busse WW, Calhoun WJ, Castro M, Chung KF, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Teague WG, Wenzel SE, Peters SP, Hawkins GA, Bleecker ER, Meyers DA. Importance of Hedgehog Interacting Protein and other Lung Function Genes in Asthma. *J ALLERGY CLIN IMMUNOL*. 2011; 127(6):1457-65. PMID: PMC3105202
  127. Janocha AJ, Koch C, Tiso M, Ponchia A, Doctor A, Gibbons L, Gaston BM, Beall CM, **Erzurum SC**. Nitric Oxide during altitude Acclimatization. *N ENGL J MED*. 2011 Nov 17; 365(20):1942-4. PMID: PMC3596889
  128. Drake KM, Zygmunt D, Mavrakakis L, Harbor P, Wang L, Comhair SA, **Erzurum SC**, Aldred MA. Altered MicroRNA Processing in Heritable Pulmonary Arterial Hypertension: An Important Role for Smad-8. *AM J RESPIR CRIT CARE MED*. 2011 Dec 15;184(12):1400-8. PMID: PMC3262031

129. Dweik RA, Boggs PB, **Erzurum SC**, Irvin CG, Leigh MW, Lundberg JO, Olin AC, Plummer AL, Taylor DR; American Thoracic Society Committee on Interpretation of Exhaled Nitric Oxide Levels (FENO) for Clinical Applications. An official ATS clinical practice guideline: interpretation of exhaled nitric oxide levels (FENO) for clinical applications. *AM J RESPIR CRIT CARE MED*. 2011 Sep 1; 184(5):602-15. PMID: PMC4408724
130. Decker I, Ghosh S, Comhair SA, Farha S, Tang WH, Park M, Wang S, Lichtin AE, **Erzurum SC**. High levels of zinc-protoporphyrin identify iron metabolic abnormalities in pulmonary arterial hypertension. *CLIN TRANSL SCI*. 2011; 4(4): 253-8. PMID: PMC3575639
131. Gangopahyay A, Oran M, Bauer EM, Wertz JW, Comhair SA, **Erzurum SC**, Bauer PM. Bone morphogenetic protein receptor II is a novel mediator of endothelial nitric-oxide synthase activation. *J BIOL CHEM*. 2011; 286(38):33134-40. PMID: PMC3190885.
132. Duong HT, **Erzurum SC**, Asosingh K. Pro-angiogenic hematopoietic progenitor cells and endothelial colony-forming cells in pathological angiogenesis of bronchial and pulmonary circulation. *ANGIOGENESIS*. 2011; 14(4): 411-22. PMID: PMC3725463
133. Moore WC, Evans MD, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Chung KF, **Erzurum SC**, Curran-Everett D, Dweik RA, Gaston B, Hew M, Israel E, Mayse ML, Pascual RM, Peters SP, Silveira L, Wenzel SE, Jarjour NN; National Heart, Lung, and Blood Institute's Severe Asthma Research Group. Safety of investigative bronchoscopy in the Severe Asthma Research Program. *J ALLERGY CLIN IMMUNOL*. 2011; 128(2):328-336.e3. PMID: PMC3149754
134. Bauer EM, Zheng H, Comhair S, **Erzurum S**, Billiar TR, Bauer PM. Complement C3 deficiency attenuates chronic hypoxia-induced pulmonary hypertension in mice. *PLOS ONE*. 2011; 6(12):e28578. PMID: PMC3237464
135. Duong HT, Comhair SA, Aldred MA, Mavrakakis L, Savasky BM, **Erzurum SC**, and Asosingh K. Pulmonary artery endothelium resident endothelial colony-forming cells in pulmonary arterial hypertension. *PULMONARY CIRCULATION*. 2011; 1 (4):475-486. PMID: PMC3329078
136. Torgerson DG, Capurso D, Ampleford EJ, Li X, Moore WC, Gignoux CR, Eng C, Mathias RA, Mantese VJ, Busse WW, Castro M, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Teague WG, Wenzel SE, Rodríguez-Santana JR, Rodríguez-Cintrón W, Avila PC, Ford GB, Barnes KC, Burchard EG, Howard TD, Bleecker ER, Meyers DA, Cox NJ, Ober C, Nicolae DL. Genome-wide Ancestry Association Testing Identifies a Common European Variant on 6q14.1 as a Risk Factor for Asthma in African Americans. *J ALLERGY CLIN IMMUNOL*. 2012; 130(3):622-629. PMID: PMC3503456.
137. Luyster FS, Teodorescu M, Bleecker E, Busse W, Calhoun W, Castro M, Chung KF, **Erzurum SC**, Israel E, Strollo PJ, Wenzel SE. Sleep quality and asthma control and quality of life in non-severe and severe asthma. *SLEEP BREATH*. 2012; 16(4):1129-37. PMID: PMC3617495
138. Jarjour NN, **Erzurum SC**, Bleecker ER, Calhoun WJ, Castro M, Comhair SA, Chung KF, Curran-Everett D, Dweik RA, Fain SB, Fitzpatrick AM, Gaston BM, Israel E, Hastie A, Hoffman EA, Holguin F, Levy BD, Meyers DA, Moore WC, Peters SP, Sorkness RL, Teague WG, Wenzel SE, Busse WW. Severe Asthma: Lessons Learned from the NHLBI Severe Asthma Research Program. *AM J RESPIR CRIT CARE MED*. 2012; 185(4):356-62. PMID: PMC3297096
139. Li X, Ampleford EJ, Howard T, Moore W, Li H, Busse WW, Castro M, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Teague WJ, Wenzel SE, Hawkins GA, Bleecker ER, Meyers DA. The C11orf30-LRRC32 region is associated with total serum IgE levels in asthma. *J ALLERGY CLIN IMMUNOL*. 2012; 129(2):575-8, 578.e1-9. PMID: PMC3268936

140. Szeffler SJ, Wenzel S, Brown R, **Erzurum SC**, Fahy JV, Hamilton RG, Hunt JF, Liu AU, Panettieri RA, Schleimer RP, Minnicozzi M. Asthma Outcomes: Biomarkers. *J ALLERGY CLIN IMMUNOL*. 2012; 129(3 Suppl):S9-S23. PMID: PMC3390196
141. Beall CM, Laskowski D, **Erzurum SC**. Nitric Oxide in adaptation to altitude. *FREE RADIC BIOL MED*. 2012; 52(7):1123-34. PMID: PMC3295887
142. **Erzurum SC**, Gaston BM. Biomarkers in asthma: a real hope to better manage asthma. *CLIN CHEST MED*. 2012; 33(3):459-71. PMID: PMC3494969
143. Hawkins GA, Robinson MB, Hastie AT, Li X, Li H, Moore WC, Howard TD, Busse WW, **Erzurum SC**, Wenzel SE, Peters SP, Meyers DA, Bleeker ER; National Heart, Lung, and Blood Institute-sponsored Severe Asthma Research Program (SARP). The IL6R variation Asp(358)Ala is a potential modifier of lung function in subjects with asthma. *J ALLERGY CLIN IMMUNOL*. 2012; 130(2):510-5.e1 PMID: PMC3409329
144. Comhair SA, Xu W, Mavrakis L, Aldred MA, Asosingh K, **Erzurum SC**. Human Primary Lung Endothelial Cells in Culture. *AM J RESPIR CELL MOL BIOL*. 2012; 46(6):723-30. PMID: PMC3380284
145. Ghosh S, **Erzurum SC**. Modulation of Asthma Pathogenesis by Nitric Oxide Pathways and Therapeutic Opportunities. *Drug Discov Today Dis Mech*. 2012 Dec 1; 9(3-4):e89-e94. PMID: PMC3749883
146. Wei L, Warburton RR, Preston IR, Roberts KE, Comhair SA, **Erzurum SC**, Hill NS, Fanburg BL. Seronylated Fibronectin Is Elevated in Pulmonary hypertension. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2012; 302(12):L1273-9. PMID: PMC3379044
147. Farha S, Sharp J, Asosingh K, Park M, Comhair SA, Tang WH, Thomas J, Farver C, Hsieh F, Loyd JE, **Erzurum SC**. Mast cell number, phenotype, and function in human pulmonary arterial hypertension. *PULMONARY CIRCULATION*. 2012 Apr-Jun; 2(2):220-8. PMID: PMC3401876
148. Li X, Ampleford EJ, Howard TD, Moore WC, Torgerson DG, Li H, Busse WW, Castro M, **Erzurum SC**, Israel E, Nicolae DL, Ober C, Wenzel SE, Hawkins GA, Bleeker ER, Meyers DA. Genome-wide association studies of asthma indicate opposite immunopathogenesis direction from autoimmune diseases. *J ALLERGY CLIN IMMUNOL*. 2012; 130(4):864-8.e7 PMID: PMC3579216
149. DiFilippo FP, Patel S, Asosingh K, **Erzurum SC**. Small-animal imaging using clinical positron emission tomography/computed tomography and super-resolution. *MOL IMAGING*. 2012; 11(3):210-9. PMID: PMC3694434
150. Asosingh K, Farha S, Lichtin A, Graham B, George D, Aldred M, Hazen SL, Loyd J, Tuder R, **Erzurum SC**. Pulmonary vascular disease in mice xenografted with human BM progenitors from patients with pulmonary arterial hypertension. *BLOOD*. 2012 Aug 9; 120(6):1218-27. [*selected as top research discovery by NHLBI in 2012*] PMID: PMC3418717
151. Bauer EM, Shapiro R, Zheng H, Ahmad F, Ishizawa D, Comhair SA, **Erzurum SC**, Billiar TR, Bauer PM. High Mobility group Box-1 Contributes to the Pathogenesis of Experimental Pulmonary Hypertension via Activation of Toll-like Receptor 4. *MOL MED*. 2013; 18:1509-18. PMID: PMC3576475
152. Yu J, Taylor L, Wilson J, Comhair S, **Erzurum S**, Polgar P. Altered expression and signal transduction of endothelin-1 receptors in heritable and idiopathic pulmonary arterial hypertension. *J CELL PHYSIOL*. 2013 Feb; 228(2):322-9. PMID: PMC3496420

153. Kim J, Kang Y, Kojima Y, Lighthouse JK, Hu X, Aldred MA, McLean DL, Park H, Comhair SA, Greif DM, **Erzurum SC**, Chun HJ. An endothelial apelin-FGF link mediated by miR-424 and miR-503 is disrupted in pulmonary arterial hypertension. *NAT MED* 2013; 19(1):74-82. PMID: PMC3540168
154. Holguin F, Comhair SA, Hazen SL, Powers RW, Khatri SS, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Moore WC, Peters SP, Teague WG, Chung KF, **Erzurum SC**, Wenzel SE. An association between L-ARginine/Assymetric Dimethyl Arginine Balance, Obesity and the Age of Asthma Onset Phenotype. *AM J RESPIR CRIT CARE MED*. 2013; 187(2):153-9. PMID: PMC3570651
155. Farha S, Lundgrin EL, **Erzurum SC**. Novel Therapeutic Approaches to preserve the right ventricle. *CURR HEART FAIL REP*. 2013; 10(1):12-7. PMID: PMC3575635
156. Ghosh S, Willard B, Comhair SA, Dibello P, Xu W, Shiva S, Aulak KS, Kinter M, **Erzurum SC**. Disulfide bond as a switch for copper-zinc superoxide dismutase activity in asthma. *ANTIOXID REDOX SIGNAL*. 2013; 18(4):412-23. PMID: PMC3526896
157. Farha S, Laskowski D, George D, Park M, Wilson Tang WH, Dweik R, **Erzurum SC**. Loss of alveolar membrane diffusing capacity and pulmonary capillary blood volume in pulmonary arterial hypertension. *RESP RES*. 2013 14:6. PMID: PMC3560152.
158. Herjan T, Yao P, Qian W, Li X, Liu C, Bulek K, Sun D, Yang WP, Zhu J, He A, Carman JA, **Erzurum SC**, Lipshitz HD, Fox PL, Hamilton TA, Li X. HuR is Required for IL-17-induced Act1-mediated CXCL1 and CXCL5 mRNA Stabilization. *J IMMUNOL*. 2013 Jul 15. 191(2):640-649. PMID: PMC3722902
159. Lanzola E, Farha S, **Erzurum SC**, Asosingh K. Bone marrow-derived vascular modulatory cells in pulmonary arterial hypertension. *Pulm Circ*. 2013 Dec; 3(4):781-91. PMID: PMC4070843
160. Rao CK, Moore CG, Bleecker E, Busse WW, Calhoun W, Castro M, Chung KF, **Erzurum SC**, Israel E, Curran-Everett D, Wenzel SE. Characteristics of perimenstrual asthma and its relation to asthma severity and control: data from the severe asthma research program. *CHEST*. 2013; 143(4):984-92. PMID: PMC3747720
161. Li X, Hawkins GA, Ampleford EJ, Moore WC, Li H, Hastie AT, Howard TD, Boushey HA, Busse WW, Calhoun WJ, Castro M, **Erzurum SC**, Israel E, Lemanske RF Jr, Szeffler SJ, Wasserman SI, Wenzel SE, Peters SP, Meyers DA, Bleecker ER. Genome-wide association study identifies TH1 pathway genes associated with lung function in asthmatic patients. *J ALLERGY CLIN IMMUNOL*. 2013 Aug. 132(2):313-320. PMID: PMC3746327
162. Lundgrin EL, Park MM, Sharp J, Tang WH, Thomas JD, Asosingh K, Comhair SA, DiFilippo FP, Neumann DR, Davis L, Graham BB, Tuder RM, Dostanic I, **Erzurum SC**. Fasting 2-deoxy-2-[18]fluoro-D-glucose positron emission tomography to detect metabolic changes in pulmonary arterial hypertension hearts over 1 year. *ANN AM THORAC SOC*. 2013; 10(1):1-9. PMID: PMC3960991
163. Asosingh K, Cheng G, Xu W, Savasky BM, Aronica MA, Li X, **Erzurum SC**. Nascent endothelium initiates TH2 polarization of asthma. *J IMMUNOL*. 2013 Apr 1; 190(7): 3458-65. PMID: PMC3608697
164. Ghelfi E, Yu CW, Elmasri H, Terwelp M, Lee CG, Bhandari V, Comhair SA, **Erzurum SC**, Hotamisligil GS, Elias JA, Cataltepe S. Fatty acid binding protein 4 regulates VEGF-induced angiogenesis and inflammation in a transgenic mouse model: implications for asthma. *AM J PATHOL*. 2013; 182(4): 1425-33. PMID: PMC3620401



165. Wysocki K, Park SY, Bleecker E, Busse W, Castro M, Chung KF, Gaston B, **Erzurum S**, Israel E, Teague WG, Moore CG, Wenzel S. Characterization of factors associated with systemic corticosteroid use in severe asthma: Data from the Severe Asthma Research Program. *J ALLERGY CLIN IMMUNOL*. 2014 Mar; 133(3):915-8. PMID: PMC4086875
166. Lundgrin EL, Janocha AJ, Koch CD, Gebremedhin A, Di Rienzo A, Alkorta-Aranburu G, Brittenham GM, **Erzurum SC**, Beall CM. Plasma hepcidin of Ethiopian highlanders with steady state hypoxia. *BLOOD*. 2013 Sep 12; 122(11):1989-91. PMID: PMC3772503
167. Wechsler ME, Laviolette M, Rubin AS, Fiterman J, Lapa E Silva JR, Shah PL, Fiss E, Olivenstein R, Thomson NC, Niven RM, Pavord ID, Simoff M, Hales JB, McEvoy C, Slebos DJ, Holmes M, Phillips MJ, **Erzurum SC**, Hanania NA, Sumino K, Kraft M, Cox G, Sterman DH, Hogarth K, Kline JN, Mansur AH, Louie BE, Leeds WM, Barbers RG, Austin JH, Shargill NS, Quiring J, Armstrong B, Castro M; Asthma Intervention Research 2 Trial Study Group. Bronchial thermoplasty: Long term safety and effectiveness in patients with severe persistent asthma. *J ALLERGY CLIN IMMUNOL*. 2013 Dec; 132(6):1295-1302. PMID: PMC4114404
168. Patel M, Predescu D, Tandon R, Bardita C, Pogoriler J, Bhorade S, Wang M, Comhair S, Ryan-Hemnes A, Chen J, Machado R, Husain A, **Erzurum S**, Predescu S. A novel p38 mitogen-activated protein kinase/Elk-1 transcription factor-dependent molecular mechanisms underlying abnormal endothelial cell proliferation in plexogenic pulmonary arterial hypertension. *J BIOL CHEM*. 2013 Sep 6; 288(36):25701-16. Erratum: 2013 Dec 27; 288(52):36855. PMID: PMC3764778
169. Bakhshi FR, Mao M, Shajahan AN, Piegeler T, Chen Z, Chernaya O, Sharma T, Elliott WM, Szulcek R, Bogaard HJ, Comhair S, **Erzurum S**, van Nieuw Amerongen GP, Bonini MG, Minshall RD. Nitrosation dependent caveolin 1 phosphorylation ubiquitination and degradation and its association with idiopathic pulmonary arterial hypertension. *PULM CIRC*. 2013 Dec; 3(4):816-30. PMID: PMC4070841
170. Dweik RA, Rounds S, **Erzurum SC**, Archer S, Fagan K, Hassoun PM, Hill NS, Humbert M, Kawut SM, Krowka M, Michelakis E, Morrell NW, Stenmark K, Tuder RM, Newman J; ATS Committee on Pulmonary Hypertension Phenotypes. An official American Thoracic Society Statement: pulmonary hypertension phenotypes. *AM J RESPIR CRIT CARE MED*. 2014 Feb 1; 189(3):345-55. PMID: PMC4291177
171. Voraphani N, Gladwin MT, Contreras AU, Kaminski N, Tedrow JR, Milosevic J, Bleecker ER, Meyers DA, Ray A, Ray P, **Erzurum SC**, Busse WW, Zhao J, Trudeau JB, Wenzel SE. An airway epithelial iNOS-DUOX2-thyroid peroxidase metabolome drives Th1/Th2 nitrative stress in human severe asthma. *MUCOSAL IMMUNOL*. 2014 Sept; 7(5):1175-85. PMID: PMC4130801
172. Wu W, Bleecker E, Moore W, Busse WW, Castro M, Chung KF, Calhoun WJ, **Erzurum S**, Gaston B, Israel E, Curran-Everett D, Wenzel SE. Unsupervised phenotyping of severe asthma research program participants using expanded lung data. *J ALLERGY CLIN IMMUNOL*. 2014 May; 133(5):1280-8. PMID: PMC4038417
173. Ortega VE, Hawkins GA, Moore WC, Hastie AT, Ampleford EJ, Busse WW, Castro M, Chardon D, **Erzurum SC**, Israel E, Montealegre F, Wenzel SE, Peters SP, Meyers DA, Bleecker ER. Effect of rare variants in ADRB2 on risk of severe exacerbations and symptom control during longacting beta agonist treatment in multiethnic asthma population: a genetic study. *LANCET RESPIR MED*. 2014 Mar; 2(3):204-13. PMID: PMC4053167
174. Xu W, Janocha AJ, Leahy RA, Klatte R, Dudzinski D, Mavrakakis LA, Comhair SA, Lauer ME, Cotton CU, **Erzurum SC**. A novel method for pulmonary research: Assessment of bioenergetic

function at the air-liquid interface. REDOX BIOL. 2014 Jan 16;2:513-9. eCollection 2014. PMID: PMC3949089

175. Ratanamaneechat S, Neumann DR, Difilippo FP, Comhair SA, Asosingh K, Ghosh S, Grandon D, Khan A, Aronica MA, **Erzurum SC**. Redox imaging of inflammation in asthma. AM J RESPIR CRIT CARE MED. 2014 Mar 15;189(6):743-6. PMID: PMC3983839
176. Busse WW, **Erzurum SC**, Blaisdell CJ, Noel P. Executive summary: NHLBI workshop on the primary prevention of chronic lung diseases. ANN AM THORAC SOC. 2014 Apr; 11 Suppl 3:S123-4. PMID: PMC4293737
177. Fernandez-Bustamante A, Klawitter J, Repine JE, Agazio A, Janocha AJ, Shah C, Moss M, Douglas IS, Tran ZV, **Erzurum SC**, Christians U, Seres T. Early effect of tidal volume on lung injury biomarkers in surgical patients with healthy lungs. ANESTHESIOLOGY. 2014 Sept; 121(3):469-81. PMID: PMC4165799
178. Cowan DC, Taylor DR, Peterson LE, Cowan JO, Palmay R, Williamson A, Hammel J, **Erzurum SC**, Hazen SL, Comhair SA. Biomarker-based asthma phenotypes of corticosteroid response. J ALLERGY CLIN IMMUNOL. 2015 Apr; 135(4):877-83.e.1 PMID: PMC4388771
179. Marozkina NV, Wang XQ, Stsiapura V, Fitzpatrick A, Carraro S, Hawkins GA, Bleecker E, Meyers D, Jarjour N, Fain SB, Wenzel S, Busse W, Castro M, Panettieri RA Jr, Moore W, Lewis SJ, Palmer LA, Altes T, de Lange EE, **Erzurum S**, Teague WG, Gaston B. Phenotype of asthmatics with increased airway S-nitrosoglutathione reductase activity. EUR RESPIR J. 2015 Jan. 45(1):87-97. Erratum: 2015 Jun. 45(6):1763. PMID: PMC4283933.
180. Modena BD, Tedrow JR, Milosevic J, Bleecker ER, Meyers DA, Wu W, Bar-Joseph Z, **Erzurum SC**, Gaston BM, Busse WW, Jarjour NN, Kaminski N, Wenzel SE. Gene expression in relation to exhaled NO identified novel asthma phenotypes with unique biomolecular pathways. AM J RESPIR CRIT CARE MED. 2014 Dec 15; 190(12):1363-72. PMID: PMC4294630
181. Sharp J, Farha S, Park MM, Comhair SA, Lundgrin EL, Tang WH, Bongard RD, Merker MP, **Erzurum SC**. Coenzyme Q wupplementation in pulmonary arterial hypertesnion. REDOX BIOL. 2014 Jul 31; 2:884-91. PMID: PMC4143816
182. Sharma A, Janocha AJ, Hill BT, Smith MR, **Erzurum SC**, Almasan A. Targeting mTORC1-mediated metaboloic addiction overcomes fludarabine resistance in malignant B cells. MOL CANCER RES. 2014 Sep; 12(9):1205-15. PMID: PMC4163513
183. Farha S, Dweik R, Rahaghi F, Benza R, Hassoun P, Frantz R, Torres F, Quinn DA, Comhair S, **Erzurum S**, Asosingh K. Imatinib in pulmonary arterial hypertension: c-Kit inhibition. PULM CIRC. 2014 Sep; 4(3):452-5. PMID: PMC4278604
184. Tuder RM, Archer SL, Dorfmueller P, **Erzurum SC**, Guignabert C, Michelakis E, Rabinovitch M, Schermuly R, Stenmark KR, Morrell NW. [Relevant issues in the pathology and pathobiology of pulmonary hypertension]. TURK KARDIYOL DERN ARS. 2014 Oct; 42 Suppl 1:5-16.
185. Rose JA, **Erzurum S**, Asosingh K. Biology and flow cytometry of proangiogenic hematopoietic progenitor cells. CYTOMETRY A. 2015 Jan; 87(1):5-19. PMID: PMC4356492
186. Kim J, Hwangbo C, Hu X, Kang Y, Papangeli I, Mehrotra D, Park H, McLean DL, Ju H, Comhair SA, **Erzurum SC**, Chun HJ. Restoration of impaired endothelial MEF2 function rescues pulmonary arterial hypertension. CIRCULATION. 2015 Jan 13; 131(2):190-9. PMID: PMC4293354

187. Navarro LA, Wree A, Povero D, Berk MP, Eguchi A, Ghosh S, Papouchado BG, **Erzurum SC**, Feldstein AE. Arginase 2 deficiency results in spontaneous steatohepatitis: a novel line between innate immune activation and hepatic de novo lipogenesis. *J HEPATOL*. 2015 Feb; 62(2):412-20. PMID: PMC4736721
188. Yuan S, Hollinger M, Lachowicz-Scroggins ME, Kerr SC, Dunican EM, Daniel BM, Ghosh S, **Erzurum SC**, Willard B, Hazen SL, Huang X, Carrington SD, Oscarson S, Fahy JV. Oxidation increases mucin polymer cross-links to stiffen airway mucus gels. *SCI TRANSL MED*. 2015 Feb 25; 7(276):276ra27. PMID: PMC4403633
189. Roach EC, Park MM, Tang WH, Thomas JD, Asosingh K, Kalaycio M, **Erzurum SC**, Farha S. Impaired right ventricular-pulmonary vascular function in myeloproliferative neoplasms. *J HEART LUNG TRANSPLANT*. 2015 Mar; 34(3):390-4. PMID: PMC4377111
190. Zepp JA, Wu L, Qian W, Ouyang W, Aronica M, **Erzurum S**, Li X. TRAF4-SMURF2-mediated DAZAP2 degradation is critical for IL-25 signaling and allergic airway inflammation. *J IMMUNOL*. 2015 Mar 15; 194(6):2826-37. PMID: PMC4366881
191. Kao CC, Wedes SH, Hsu JW, Bohren KM, Comhair SA, Jahoor F, **Erzurum SC**. Arginine metabolic endotypes in pulmonary arterial hypertension. *PULM CIRC*. 2015 Mar; 5(1):124-34. PMID: PMC4405713
192. Naples R, Laskowski D, McCarthy K, Mattox E, Comhair SA, **Erzurum SC**. Carboxyhemoglobin and methemoglobin in asthma. *LUNG*. 2015 Apr; 193(2):183-7. PMID: PMC4500073
193. Drake KM, Comhair SA, **Erzurum SC**, Tudor RM, Aldred MA. Endothelial chromosome 13 deletion in congenital heart disease-associated pulmonary arterial hypertension dysregulates SMAD9 signaling. *AM J RESPIR CRIT CARE MED*. 2015 Apr 1; 191(7):850-4. PMID: PMC4407488
194. Federici C, Drake KM, Rigelsky CM, McNelly LN, Meade SL, Comhair SA, **Erzurum SC**, Aldred MA. Increased Mutagen Sensitivity and DNA Damage in Pulmonary Arterial Hypertension. *AM J RESPIR CRIT CARE MED*. 2015 Jul 15; 192(2): 219-28. PMID: PMC4532823
195. Haslip M, Dostanic I, Huang Y, Zhang Y, Russell KS, Jurczak MJ, Mannam P, Giordano F, **Erzurum SC**, Lee PJ. Endothelial uncoupling protein 2 regulates mitophagy and pulmonary hypertension during intermittent hypoxia. *ARTERIOSCLER THROMB VASC BIOL*. 2015 May; 35(5):1166-78. PMID: PMC4722806
196. Wu L, Zepp JA, Qian W, Martin BN, Ouyang W, Yin W, Bunting KD, Aronica M, **Erzurum S**, Li X. A novel IL-25 signaling pathway through STAT5. *J IMMUNOL*. 2015 May 1; 194(9):4528-34. PMID: PMC4402248
197. Teodorescu M, Broytman O, Curran-Everett D, Sorkness RL, Crisafi G, Bleecker ER, **Erzurum S**, Gaston BM, Wenzel SE, Jarjour NN; National Institutes of Health, National Heart, Lung and Blood Institute Severe Asthma Research Program (SARP) Investigators. Obstructive Sleep Apnea Risk, Asthma Burden and Lower Airway Inflammation in Adults in the Severe Asthma Research Program (SARP) II. *J ALLERGY CLIN IMMUNOL PRACT*. 2015 Jul-Aug. 3(4):566-75. PMID: PMC4500672
198. Gupta MK, Asosingh K, Aronica M, Comhair S, Cao G, **Erzurum S**, Panettieri RA Jr, Naga Prasad SV. Defective Resensitization in Human Airway Smooth Muscle Cells Evokes  $\beta$ -Adrenergic Receptor Dysfunction in Severe Asthma. *PLOS ONE*. 2015 May 29; 10(5):e0125803. PMID: PMC4449172

199. Comhair SA, Grandon D, Khan A, Zhang R, Hazen SL, **Erzurum SC**. Coenzyme Q in asthma. *AM J RESPIR CRIT CARE MED*. 2015 Jun 1; 191(11):1336-8. PMID: PMC4476517
200. Park JH, Park MM, Farha S, Sharp J, Lundgri E, Comhair S, Tang WH, **Erzurum SC**, Thomas JD. Impaired Global Right Ventricular Longitudinal Strain Predicts Long-Term Adverse Outcomes in Patients with Pulmonary Arterial Hypertension. *J CARDIOVASC ULTRASOUND*. 2015 Jun; 23(2):91-9. PMID: PMC4486184
201. Zein JG, **Erzurum SC**. Asthma is Different in Women. *CURR ALLERGY ASTHMA REP*. 2015 Jun; 15(6):28. PMID: PMC4572514
202. Comhair SA, McDunn J, Bennett C, Fettig J, **Erzurum SC**, Kalhan SC. Metabolomic Endotype of Asthma. *J IMMUNOL*. 2015 Jul 15; 195(2):643-50. PMID: PMC4490949
203. Xu W, Cardenes N, Corey C, **Erzurum SC**, Shiva S. Platelets from Asthmatic Individuals Show Less Reliance on Glycolysis. *PLOS ONE*. 2015 Jul 6; 10(7):e0132007. PMID: PMC4492492
204. Zein JG, Dweik RA, Comhair SA, Bleecker ER, Moore WC, Peters SP, Busse WW, Jarjour NN, Calhoun WJ, Castro M, Chung KF, Fitzpatrick A, Israel E, Teague WG, Wenzel SE, Love TE, Gaston BM, **Erzurum SC**; Severe Asthma Research Program. Asthma Is More Severe in Older Adults. *PLOS ONE*. 2015 Jul 22; 10(7):e0133490. PMID: PMC4511639
205. Lauer ME, Majors AK, Comhair S, Ruple LM, Matuska B, Subramanian A, Farver C, Dworski R, Grandon D, Laskowski D, Dweik RA, **Erzurum SC**, Hascall VC, Aronica MA. Hyaluronan and its Heavy Chain Modification in Asthma Severity and Experimental Asthma Exacerbation. *J BIOL CHEM*. 2015 Sep 18; 290(38):23124-34. PMID: PMC4645592
206. Levy BD, Noel PJ, Freemer MM, Cloutier MM, Georas SN, Jarjour NN, Ober C, Woodruff PG, Barnes KC, Bender BG, Camargo CA Jr, Chupp GL, Denlinger LC, Fahy JV, Fitzpatrick AM, Fuhlbrigge A, Gaston BM, Hartert TV, Kolls JK, Lynch SV, Moore WC, Morgan WJ, Nadeau KC, Ownby DR, Solway J, Szeffler SJ, Wenzel SE, Wright RJ, Smith RA, **Erzurum SC**. Future Research Directions in Asthma: An NHLBI Working Group Report. *AM J RESPIR CRIT CARE MED*. 2015 Dec 1; 192(11):1366-72. PMID: PMC4731702
207. Zein JG, Menegay MC, Singer ME, **Erzurum SC**, Gildea TR, Cicensia JC, Khatri S, Castro M, Udeh BL. Cost effectiveness of bronchial thermoplasty in patients with severe uncontrolled asthma. *J ASTHMA*. 2016 Mar; 53(2):194-200. PMC Journal – In Process
208. Li X, Hastie AT, Hawkins GA, Moore WC, Ampleford EJ, Milosevic J, Li H, Busse WW, **Erzurum SC**, Kaminski N, Wenzel SE, Meyers DA, Bleecker ER. eQTL of bronchial epithelial cells and bronchial alveolar lavage deciphers GWAS-identified asthma genes. *ALLERGY*. 2015 Oct; 70(10):1309-18. PMID: PMC4583797
209. Hoffman SM, Chapman DG, Lahue KG, Cahoon JM, Rattu GK, Daphtary N, Aliyeva M, Fortner KA, **Erzurum SC**, Comhair SA, Woodruff PG, Bhakta N, Dixon AE, Irvin CG, Janssen-Heininger YM, Poynter ME, Anathy V. Protein disulfide isomerase-endoplasmic reticulum resident protein 57 regulates allergen-induced airways inflammation, fibrosis, and hyperresponsiveness. *J ALLERGY CLIN IMMUNOL*. 2016 Mar; 137(3):822-832e7. PMID: PMC4597791
210. Yuan Y, Hakimi P, Kao C, Kao A, Liu R, Janocha A, Boyd-Tressler A, Hang X, Alhoraibi H, Slater E, Xia K, Cao P, Shue Q, Ching TT, Hsu AL, **Erzurum SC**, Dubyak GR, Berger NA, Hanson RW, Feng Z. Reciprocal changes in phosphoenolpyruvate carboxykinase and pyruvate kinase with age are a determinant of aging in *C. elegans*. *J BIOL CHEM*. 2016 Jan 15; 291(3):1307-19. PMID: PMC4714217

211. Riley CM, Wenzel SE, Castro M, **Erzurum SC**, Chung KF, Fitzpatrick AM, Gaston B, Israel E, Moore WC, Bleecker ER, Calhoun WJ, Jarjour NN, Busse WW, Peters SP, Teague WG, Sorkness R, Holguin F. Clinical Implications of Having Reduced Mid Forced Expiratory Flow Rates (FEF<sub>25-75</sub>), Independently of FEV<sub>1</sub>, in Adult Patients with Asthma. PLOS ONE. 2015 Dec 30; 10(12): e0145476. PMID: PMC4696666
212. Asosingh K, VasANJI A, Tipton A, Queisser K, Wanner N, Janocha A, Grandon D, Anand-Apte B, Rothenberg ME, Dweik R, **Erzurum SC**. Eotaxin-Rich Proangiogenic Hematopoietic Progenitor Cells and CCR3+ Endothelium in the Atopic Asthmatic Response. J IMMUNOL. 2016 Mar; 196(5):2377-87. PMID: PMC4761512
213. Li X, Hawkins GA, Moore WC, Hastie AT, Ampleford EJ, Milosevic J, Li H, Busse WW, **Erzurum SC**, Kaminski N, Wenzel SE, Bleecker ER, Meyers DA. Expression of asthma susceptibility genes in bronchial epithelial cells and bronchial alveolar lavage in the Severe Asthma Research Program (SARP) cohort. J ASTHMA. 2016 Oct; 775-82. PMID: PMC5137190
214. Ghosh A, Koziol-White CJ, Asosingh K, Cheng G, Ruple L, Groneberg D, Friebe A, Comhair SA, Stasch JP, Panettieri RA Jr, Aronica MA, **Erzurum SC**, Stuehr DJ. Soluble guanylate cyclase as an alternative target for bronchodilator therapy in asthma. PROC NATL ACAD SCI USA. 2016 Apr 26; 113(17):E2355-62. PMID: PMC4855555
215. Ghosh S, Gupta M, Xu W, Mavrikakis DA, Janocha AJ, Comhair SA, Haque MM, Stuehr DJ, Yu J, Polgar P, Naga Prasad SV, **Erzurum SC**. Phosphorylation inactivation of endothelial nitric oxide synthesis in pulmonary arterial hypertension. AM J PHYSIOL LUNG CELL MOL PHYSIOL. 2016 Jun 1; 310(11): L1199-205. PMID: PMC4935470 [*\*selected for APSselect, a collection from the American Physiologic Society (APS) that showcases the best articles in physiological research*]
216. Xu W, Ghosh S, Comhair SA, Asosingh K, Janocha AJ, Mavrikakis DA, Bennett CD, Gruca LL, Graham BB, Queisser KA, Kao CC, Wedes SH, Petrich JM, Tudor RM, Kalhan SC, **Erzurum SC**. Increased mitochondrial arginine metabolism supports bioenergetics in asthma. J CLIN INVEST. 2016 Jul 1; 126(7): 2465-81. PMID: PMC4922712 [*\*Editor select article*]
217. Farha S, Hu B, Comhair S, Zein J, Dweik R, **Erzurum SC**, Aldred MA. Mitochondrial Haplogroups and Risk of Pulmonary Arterial Hypertension. PLOS ONE. 2016 May 25; 11(5):e0156042. PMID: PMC4880300
218. Peters MC, McGrath KW, Hawkins GA, Hastie AT, Levy BD, Israel E, Phillips BR, Mauger DT, Comhair SA, **Erzurum SC**, Johansson MW, Jarjour NN, Coverstone AM, Castro M, Holguin F, Wenzel SE, Woodruff PG, Bleecker ER, Fahy JV; National Heart, Lung, and Blood Institute Severe Asthma Research Program. Plasma interleukin-6 concentrations, metabolic dysfunction, and asthma severity: a cross-sectional analysis of two cohorts. LANCET RESPIR MED. 2016 Jun; 4(7): 574-84. PMID: PMC5007068
219. Zein JG, Udeh BL, Teague WG, Koroukian SM, Schlitz NK, Bleecker ER, Busse WB, Calhoun WJ, Castro M, Comhair SA, Fitzpatrick AM, Israel E, Wenzel SE, Holguin F, Gaston BM, **Erzurum SC**; Severe Asthma Research Program. Impact of Age and Sex on Outcomes and Hospital Cost of Acute Asthma in the United States, 2011-2012. PLOS ONE. 2016 Jun 13; 11(6):e0157301. PMID: PMC4905648
220. Liu F, Haeger CM, Dieffenbach PB, Sicard D, Chrobak I, Coronata AM, Suárez Velandia MM, Vitali S, Colas RA, Norris PC, Marinković A, Liu X, Ma J, Rose CD, Lee SJ, Comhair SA, **Erzurum SC**, McDonald JD, Serhan CN, Walsh SR, Tschumperlin DJ, Fredenburgh LE. Distal vessel stiffening is an early and pivotal mechanobiological regulator of vascular remodeling and pulmonary hypertension. JCI INSIGHT. 2016 Jun 2; 1(8). PMID: PMC4918638

221. Rose JA, Wanner N, Cheong HI, Queisser K, Barrett P, Park M, Hite C, Naga Prasad SV, **Erzurum S**, Asosingh K. Flow Cytometric Quantification of Peripheral Blood Cell  $\beta$ -Adrenergic Receptor Density and Urinary Endothelial Cell-Derived Microparticles in Pulmonary Arterial Hypertension. *PLOS ONE*. 2016 Jun; 11(6):e0156940. PMID: PMC4896479
222. Panchabhai TS, Mukhopadhyay S, Sehgal S, Bandyopadhyay D, **Erzurum SC**, Mehta AC. Plugs of the Air Passages: A Clinicopathologic Review. *CHEST*. 2016 Nov; 150(5):1141-1157.
223. Asosingh K, Farha S, **Erzurum SC**. Myeloid Targets for Pulmonary Arterial Hypertension: Time for Another Look. *AM J RESPIR CRIT CARE MED*. 2016 Aug 1; 194(3):384. PMID: PMC4970598
224. Denlinger LC, Phillips BR, Ramratnam S, Ross K, Bhakta NR, Cardet JC, Castro M, Peters SP, Phipatanakul W, Aujla S, Bacharier LB, Bleecker ER, Comhair SA, Coverstone A, DeBoer M, **Erzurum SC**, Fain SB, Fajt M, Fitzpatrick AM, Gaffin J, Gaston B, Hastie AT, Hawkins GA, Holguin F, Irani AM, Israel E, Levy BD, Ly N, Meyers DA, Moore WC, Myers R, Opina MT, Peters MC, Schiebler ML, Sorkness RL, Teague WG, Wenzel SE, Woodruff PG, Mauger DT, Fahy JV, Jarjour NN; National Heart Lung and Blood Institute's Severe Asthma Research Program-3 Investigators. Inflammatory and Co-Morbid Features of Patients with Severe Asthma and Frequent Exacerbations. *AM J RESPIR CRIT CARE MED*. 2017 Feb 1; 195(3):302-313. PMID: PMC5328178
225. Wang Z, DiDonato JA, Buffa J, Comhair SA, Aronica MA, Dweik RA, Lee NA, Lee JJ, Thomassen MJ, Kavuru M, **Erzurum SC**, Hazen SL. Eosinophil Peroxidase Catalyzed Protein Carbamylation Participates in Asthma. *J BIOL CHEM*. 2016 Oct 14; 291(42):22118-22135. PMID: PMC5063994
226. Phipatanakul W, Mauger DT, Sorkness RL, Gaffin JM, Holguin F, Woodruff PG, Ly NP, Bacharier LB, Bhakta NR, Moore WC, Bleecker ER, Hastie AT, Meyers DA, Castro M, Fahy J, Fitzpatrick A, Gaston BM, Jarjour NN, Levy BD, Peters SP, Teague WG, Fajt M, Wenzel SE, **Erzurum SC**, Israel E; and the Severe Asthma Research Program. Effects of Age and Disease Severity on Systemic Corticosteroid Responses in Asthma. *AM J RESPIR CRIT CARE MED*. 2017 Jun 1; 195(11):1439-1448. PMID: PMC5470749
227. Cheong HI, Janocha AJ, Monocello LT, Garchar AC, Gebremedhin A, **Erzurum SC**, Beall CM. Alternative hematological and vascular adaptive responses to high-altitude hypoxia in East African highlanders. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2017 Feb 1; 312(2):L172-L177. PMID: PMC5336584. [*\*Editor select article*]
228. Modena BD, Bleecker ER, Busse WW, **Erzurum SC**, Gaston BM, Jarjour NN, Meyers DA, Milosevic J, Tedrow JR, Wu W, Kaminski N, Wenzel SE. Gene Expression Correlated to Severe Asthma Characteristics Reveals Heterogeneous Mechanisms of Severe Disease. *AM J RESPIR CRIT CARE MED*. 2017 Jun 1; 195(11): 1449-1463. PMID: PMC5470748
229. Cheong HI, Asosingh K, Stephens OR, Queisser KA, Xu W, Willard B, Hu B, Dermawan JK, Stark GR, Naga Prasad SV, **Erzurum SC**. Hypoxia sensing through  $\beta$ -adrenergic receptors. *JCI INSIGHT*. 2016 Dec 22; 1(21):e90240. PMID: PMC5161214
230. Kartha GK, Li I, Comhair S, **Erzurum SC**, Monga M. Co-Occurrence of Asthma and Nephrolithiasis in Children. *PLoS One*. 2017 Jan 12; 12(1):e0168813. PMID: PMC5231242
231. Hwangbo C, Lee HW, Kang H, Ju H, Wiley DS, Papangelis I, Han J, Kim JD, Dunworth WP, Hu X, Lee S, El-Hely O, Sofer A, Pak B, Peterson L, Comhair S, Hwang EM, Park JY, Thomas JL, Bautch VL, **Erzurum SC**, Chun HJ, Jin SW. Modulation of Endothelial Bone Morphogenetic

Protein Receptor Type 2 Activity by Vascular Endothelial Growth Factor Receptor 3 in Pulmonary Arterial Hypertension. *CIRCULATION*. 2017 Jun 6; 135(23):2288-2298. PMID: PMC5523010

232. Newman JH, Rich S, Abman SH, Alexander JH, Barnard J, Beck GJ, Benza RL, Bull TM, Chan SY, Chun HJ, Doogan D, Dupuis J, **Erzurum SC**, Frantz RP, Geraci M, Gillies H, Gladwin M, Gray MP, Hemnes AR, Herbst RS, Hernandez AF, Hill NS, Horn EM, Hunter K, Jing ZC, Johns R, Kaul S, Kawut SM, Lahm T, Leopold JA, Lewis GD, Mathai SC, McLaughlin VV, Michelakis ED, Nathan SD, Nichols W, Page G, Rabinovitch M, Rich J, Rischard F, Rounds S, Shah SJ, Tapson VF, Lowy N, Stockbridge N, Weinmann G, Xiao L. Enhancing Insights into Pulmonary Vascular Disease through a Precision Medicine Approach. A Joint NHLBI-Cardiovascular Medical Research and Education Fund Workshop Report. *AM J RESPIR CRIT CARE MED*. 2017 Jun 15; 195(12):1661-1670. PMID: PMC5476915
233. Cahill KN, Katz HR, Cui J, Lai J, Kazani S, Crosby-Thompson A, Garofalo D, Castro M, Jarjour N, DiMango E, **Erzurum S**, Trevor JL, Shenoy K, Chinchilli VM, Wechsler ME, Laidlaw TM, Boyce JA, Israel E. KIT Inhibition by Imatinib in Patients with Severe Refractory Asthma. *N ENGL J MED*. 2017 May 18; 376(20):1911-1920. PMID: PMC5568669
234. Zein JG, Love TE, **Erzurum SC**. Asthma is Associated with a Lower Risk of Sepsis and Sepsis Related Mortality. *AM J RESPIR CRIT CARE MED*. 2017 Sep; 196(6): 787-790. PMID: PMC5620674
235. Saygin D, Highland KB, Farha S, Park M, Sharp J, Roach EC, Tang WHW, Thomas JD, **Erzurum SC**, Neumann DR, DiFilippo FP. Metabolic and Functional Evaluation of the Heart and Lungs in Pulmonary Hypertension by Gated 2-[18F]-Fluoro-2-deoxy-D-glucose Positron Emission Tomography. *PULM CIRC*. 2017 Apr-Jun; 7(2):428-438. PMID: PMC5467932
236. Drake KM, Federici C, Duong HT, Comhair SA, **Erzurum SC**, Asosingh K, Aldred MA. Genomic stability of pulmonary artery endothelial colony-forming cells in culture. *PULM CIRC*. 2017 Apr-Jun; 7(2):421-427. PMID: PMC5467930
237. Ricklefs I, Barkas I, Duvall MG, Cernadas M, Grossman NL, Israel E, Bleecker ER, Castro M, **Erzurum SC**, Fahy JV, Gaston BM, Denlinger LC, Mauger DT, Wenzel SE, Comhair SA, Coverstone AM, Fajt ML, Hastie AT, Johansson rMW, Peters MC, Phillips BR, Levy BD; National Heart Lung and Blood Institute's Severe Asthma Research Program-3 Investigators. ALX receptor ligands define a biochemical endotype for severe asthma. *JCI INSIGHT*. 2017 Jul; 2(14); pii:93534. PMID: PMC5518567
238. Duvall MG, Barnig C, Cernadas M, Ricklefs I, Krishnamoorthy N, Grossman NL, Bhakta NR, Fahy JV, Bleecker ER, Castro M, **Erzurum SC**, Gaston BM, Jarjour NN, Mauger DT, Wenzel SE, Comhair SA, Coverstone AM, Fajt ML, Hastie AT, Johansson MW, Peters MC, Phillips BR, Israel E, Levy BD; National Heart, Lung, and Blood Institute's Severe Asthma Research Program-3 Investigators. Natural killer cell-mediated inflammation resolution is disabled in severe asthma. *SCI IMMUNOLI*. 2017 Mar. 2(9); pii:eaam5446. PMID: PMC5561743
239. Xu W, Comhair SAA, Janocha AJ, Lara A, Mavrakakis LA, Bennett CD, Kalhan SC, **Erzurum SC**. Arginine metabolic endotypes related to asthma severity. *PLOS ONE*. 2017 Aug; 12(8):e0183066. PMID: PMC5552347
240. Farha S, Saygin D, Park MM, Cheong HI, Asosingh K, Comhair SA, Stephens OR, Roach EC, Sharp J, Highland KB, DiFilippo FP, Neumann DR, Tang WHW, **Erzurum SC**. Pulmonary arterial hypertension treatment with carvedilol for heart failure: a randomized controlled trial. *JCI INSIGHT*. 2017 Aug; 2(16); pii:95240. PMID: PMC5621927

241. Husta BC, Raouf S, **Erzurum S**, Mehta AC. Tracheobronchopathy from Inhaled Corticosteroids. *CHEST*. 2017 Dec; 152(6): 1296-1305.
242. Teague WG, Phillips BR, Fahy JV, Wenzel SE, Fitzpatrick AM, Moore WC, Hastie AT, Bleecker ER, Meyers DA, Peters SP, Castro M, Coverstone AM, Bacharier LB, Ly NP, Peters MC, Denlinger LC, Ramratnam S, Sorkness RL, Gaston BM, **Erzurum SC**, Comhair SAA, Myers RE, Zein J, DeBoer MD, Irani AM, Israel E, Levy B, Cardet JC, Phipatanakul W, Gaffin JM, Holguin F, Fajt ML, Aujla SJ, Mauger DT, Jarjour NN. Baseline Features of the Severe Asthma Research Program (SARP III) Cohort: Differences with Age. *J ALLERGY CLIN IMMUNOL PRACT*. 2018 Mar-Apr;6(2):545-554.e4. PMID: PMC5832534
243. Janocha AJ, Comhair SAA, Basnyat B, Neupane M, Gebremedhin A, Khan A, Ricci KS, Zhang R, **Erzurum SC**, Beall CM. Antioxidant defense and oxidative damage vary widely among high-altitude residents. *AM J HUM BIOL*. 2017 Nov;29(6). <https://doi.org/10.1002/ajhb>. e23039. PMID: PMC5865391
244. Hemnes AR, Beck GJ, Newman JH, Abidov A, Aldred MA, Barnard J, Berman Rosenzweig E, Borlaug BA, Chung WK, Comhair SAA, **Erzurum SC**, Frantz RP, Gray MP, Grunig G, Hassoun PM, Hill NS, Horn EM, Hu B, Lempel JK, Maron BA, Mathai SC, Olman MA, Rischard FP, Systrom DM, Tang WHW, Waxman AB, Xiao L, Yuan JX, Leopold JA; PVDOMICS Study Group. PVDOMICS: A Multi-Center Study to Improve Understanding of Pulmonary Vascular Disease Through Phenomics. *CIRC RES*. 2017 Oct; 121(10):1136-1139. PMID: PMC5685561
245. Dunican EM, Elicker BM, Gierada DS, Nagle SK, Schiebler ML, Newell JD, Raymond WW, Lachowicz-Scroggins ME, Di Maio S, Hoffman EA, Castro M, Fain SB, Jarjour NN, Israel E, Levy BD, **Erzurum SC**, Wenzel SE, Meyers DA, Bleecker ER, Phillips BR, Mauger DT, Gordon ED, Woodruff PG, Peters MC, Fahy JV; National Heart Lung and Blood Institute (NHLBI) Severe Asthma Research Program (SARP). Mucus plugs in patients with asthma linked to eosinophilia and airflow obstruction. *J CLIN INVEST*. 2018 Mar 1; 128(3):997-1009. PMID: PMC5824874
246. Peters MC, Kerr S, Dunican EM, Woodruff PG, Fajt ML, Levy BD, Israel E, Phillips BR, Mauger DT, Comhair SA, **Erzurum SC**, Johansson MW, Jarjour NN, Coverstone AM, Castro M, Hastie AT, Bleecker ER, Wenzel SE, Fahy JV; National Heart, Lung and Blood Institute Severe Asthma Research Program 3. Refractory airway type 2 inflammation in a large subgroup of asthmatic patients treated with inhaled corticosteroids. *J ALLERGY CLIN IMMUNOL*. 2019 Jan; 143(1): 104-113.e14. PMID: PMC6128784
247. Ricklefs I, Barkas I, Duvall MG, Cernadas M, Grossman NL, Israel E, Bleecker ER, Castro M, **Erzurum SC**, Fahy JV, Gaston BM, Denlinger LC, Mauger DT, Wenzel SE, Comhair SA, Coverstone AM, Fajt ML, Hastie AT, Johansson MW, Peters MC, Phillips BR, Levy BD; National Heart Lung and Blood Institute's Severe Asthma Research Program- Investigators. ALX receptor ligands define a biochemical endotype for severe asthma. *JCI INSIGHT*. 2018 Mar; 3(6). pii: 120932. PMID: PMC5926903 \*Corrigendum
248. DeBoer MD, Phillips BR, Mauger DT, Zein J, **Erzurum SC**, Fitzpatrick AM, Gaston BM, Myers R, Ross KR, Chmiel J, Lee MJ, Fahy JV, Peters M, Ly NP, Wenzel SE, Fajt ML, Holguin F, Moore WC, Peters SP, Meyers D, Bleecker ER, Castro M, Coverstone AM, Bacharier LB, Jarjour NN, Sorkness RL, Ramratnam S, Irani AM, Israel E, Levy B, Phipatanakul W, Gaffin JM, Gerald Teague W. Effects of endogenous sex hormones on lung function and symptom control in adolescents with asthma. *BMC PULM MED*. 2018 Apr; 18(1):58. PMID: PMC5891903
249. Allawzi AM, Vang A, Clements RT, Jhun BS, Kue NR, Mancini TJ, Landi AK, Terentyev D, O-Uchi J, Comhair SA, **Erzurum SC**, Choudhary G. Activation of Anoctamin-1 Limits Pulmonary Endothelial Cell Proliferation via p38-Mitogen-activated Protein Kinase-Dependent Apoptosis. *AM J RESPIR CELL MOL BIOL*. 2018 May; 58(5):658-667. PMC Journal – In Process.



250. Asosingh K, **Erzurum S**. Mechanisms of Right Heart Disease in Pulmonary Hypertension. *PULM CIRC*. 2018 Jan-Mar; 8(1):2045893217753121. PMID: PMC5798686 [*\*2017 Grover Conference Series*]
251. Asosingh K, Wanner N, Weiss K, Queisser K, Gebreab L, Kassa B, Stuehr E, Graham B, **Erzurum S**. Bone marrow transplantation prevents right ventricle disease in the caveolin-1-deficient mouse model of pulmonary hypertension. *BLOOD ADV*. 2017 Mar; 1(9):526-534. PMID: PMC5728598
252. Saygin D, Wanner N, Rose JA, Naga Prasad SV, Tang WHW, **Erzurum S**, Asosingh K. Relative quantification of beta-adrenergic receptor in peripheral blood cells using flow cytometry. *CYTOMETRY A*. 2018 May; 93(5):563-570. PMC Journal – In Process
253. Reichard A, Wanner N, Stuehr E, Alemagno M, Weiss K, Queisser K, **Erzurum S**, Asosingh K. Quantification of airway fibrosis in asthma by flow cytometry. *CYTOMETRY A*. 2018 Jul; 93(9): 952-958. PMID: PMC6158077
254. Asosingh K, Weiss K, Queisser K, Wanner N, Yin M, Aronica M, **Erzurum S**. Endothelial cells in the innate response to allergens and initiation of atopic asthma. *J CLIN INVEST*. 2018 Jul; 128(7): 3116-3128. PMID: PMC6025973
255. Majors AK, Chakravarti R, Ruple LM, Leahy R, Stuehr DJ, Lauer M, **Erzurum SC**, Janocha A, Aronica MA. Nitric oxide alters hyaluronan deposition by airway smooth muscle cells. *PLOS ONE*. 2018 Jul; 13(7):e0200074. PMID: PMC6028120
256. Sahiner UM, Birben E, **Erzurum S**, Sackesen C, Kalayci Ö. Oxidative stress in asthma: Part of the puzzle. *PEDIATR ALLERGY IMMUNOL*. 2018 Dec. 29(8): 789-800. PMC Journal – In Process
257. Krishnamoorthy N, Douda DN, Brüggemann TR, Ricklefs I, Duvall MG, Abdunnour RE, Martinod K, Tavares L, Wang X, Cernadas M, Israel E, Mauger DT, Bleeker ER, Castro M, **Erzurum SC**, Gaston BM, Jarjour NN, Wenzel S, Dunican E, Fahy JV, Irimia D, Wagner DD, Levy BD; National Heart, Lung, and Blood Institute Severe Asthma Research Program-3 Investigators. Neutrophil cytoplasts induce T<sub>H</sub>17 differentiation and skew inflammation toward neutrophilia in severe asthma. *SCI IMMUNOL*. 2018 Aug; 3(26). PMID: PMC6320225
258. Sofer A, Lee S, Papangelis I, Adachi T, Hwangbo C, Comhair S, DaSilva-Jardine P, Kim J, Schwarz JJ, **Erzurum SC**, Chun HJ. Therapeutic Engagement of the Histone Deacetylase IIA-Myocyte Enhancer Factor 2 Axis Improves Experimental Pulmonary Hypertension. *AM J RESPIR CRIT CARE MED*. 2018 Nov; 198(10):1345-1348. PMID: PMC6290937
259. Comhair SAA, Bochenek G, Baicker-McKee S, Wang Z, Stachura T, Sanak M, Hammel JP, Hazen SL, **Erzurum SC**, Nizankowska-Mogilnicka E. The utility of biomarkers in diagnosis of aspirin exacerbated respiratory disease. *RESPIR RES*. 2018 Oct; 19(1):210. PMID: PMC6208044
260. Cheong HI, Farha S, Park MM, Thomas JD, Saygin D, Comhair SAA, Sharp J, Highland KB, Tang WHW, **Erzurum SC**. Endothelial Phenotype Evoked by Low Dose Carvedilol in Pulmonary Hypertension. *FRONT CARDIOVASC MED*. 2018 Dec; 5:180. PMID: PMC6299019
261. Fitzpatrick AM, Gillespie SE, Mauger DT, Phillips BR, Bleeker ER, Israel E, Meyers DA, Moore WC, Sorkness RL, Wenzel SE, Bacharier LB, Castro M, Denlinger LC, **Erzurum SC**, Fahy JV, Gaston BM, Jarjour NN, Larkin A, Levy BD, Ly NP, Ortega VE, Peters SP, Phipatanakul W, Ramratnam S, Teague WG. Racial disparities in asthma-related health care use in the National Heart, Lung, and Blood Institute's Severe Asthma Research Program. *J ALLERGY CLIN IMMUNOL*. 2019 Jan; pii: S0091-6749(18)31732-9. doi: 10.1016/j.jaci.2018.11.022. [Epub ahead of print]

262. Wu W, Bang S, Bleecker ER, Castro M, Denlinger L, **Erzurum SC**, Fahy JV, Fitzpatrick AM, Gaston BM, Hastie AT, Israel E, Jarjour NN, Levy BD, Mauger DT, Meyers DA, Moore WC, Peters M, Phillips BR, Phipatanakul W, Sorkness RL, Wenzel SE. Multiview Cluster Analysis Identifies Variable Corticosteroid Response Phenotypes in Severe Asthma. *AM J RESPIR CRIT CARE MED*. 2019 Jan; doi: 10.1164/rccm.201808-1543OC. [Epub ahead of print]

#### **Edited Books, Monographs or Journal Volumes**

1. Erzurum SC. DPI Book Review Series: Fraser and Pare's Diagnosis of Disease of The Chest, 4th Ed. October 1999 (URL: <http://www.doody.com/>)
2. Erzurum SC. DPI Book Review Series: New and Exploratory Therapeutic Agents for Asthma, Volume 139 in LUNG BIOLOGY IN HEALTH AND DISEASE. December 1999 (URL: <http://www.doody.com/>)
3. Erzurum SC. DPI Book Review Series: Genetic Models in Cardiorespiratory Biology, Volume 156 in LUNG BIOLOGY IN HEALTH AND DISEASE. May 2001 (URL: <http://www.doody.com/>)
4. Erzurum SC, Khatri SB. Asthma. Volume 40, Issue 1, Pages 1-242 in *CLINICS IN CHEST MEDICINE*. March 2019 (<https://doi.org/10.1016/j.ccm.2018.12.001>) Published by Elsevier Inc

#### **Invited Articles**

1. **Erzurum SC**. Lack of benefit of methotrexate in severe, steroid-dependent asthma. *ASTHMA DIGEST* 1992;1:7-8.
2. Kavuru MS, Pien L, Litwin D, Erzurum S, Ahmad M. Asthma: current controversies and emerging experimental therapies. *CLEVE CLIN J MED* 1995; 62(5):293-304.
3. **Erzurum SC**, Chisolm GM, Moliterno DJ. Gene Therapy and Heart Disease. *HEARTLINE*. January 1996; 26(1).
4. Khatri S, **Erzurum SC**. Alternative Therapies for corticosteroid dependent asthma. *CLINICAL PULMONARY MEDICINE* 1999; 6:271-277.
5. Arroliga AC, Dweik RA, Kaneko FJT, **Erzurum SC**. Primary pulmonary hypertension: update on pathogenesis and novel therapies. *CLEVELAND CLINIC J MED* 2000; 67:175-189.
6. **Erzurum SC**, Lang D, Kavuru M. Asthma. January 22, 2003. Available at: <http://www.clevelandcliniced.com/diseasemanagement>.
7. NHLBI Workshop on Oxidative Stress/Inflammation and Heart, Lung, Blood, and Sleep Disorders Meeting Summary, Bethesda, Maryland November 29, 2004. Available at: <http://www.nhlbi.nih.gov/meetings/workshops/oxidative-stress.htm>
8. Silkoff PE, **Erzurum SC**, Lundberg JO, George SC, Marczin N, Hunt JF, Effros R, Horvath I; American Thoracic Society; Subcommittee of the Assembly on Allergy, Immunology, and Inflammation. ATS workshop proceedings: exhaled nitric oxide and nitric oxide oxidative metabolism in exhaled breath condensate. *PROC AM THORAC SOC*. 2006; 3(2):131-45.
9. Raj J, Aliferis C, Caprioli R, Cowley A, Davies P, Duncan M, Erle D, **Erzurum SC**. Finn P, Ischiropoulos H, Kaminski N, Kleeberger S, Leikauf G, Loyd J, Martin T, Matalon S, Moore J, Quackenbush J, Sabo-Attwood T. Genomics and proteomics of lung disease: conference summary. *AM J PHYSIOL LUNG CELL MOL PHYSIOL*. 2007; 293(1):L45-51.
10. Asosingh K, **Erzurum SC**. What is the status of stem cell research for treating PH? *Pulmonary Hypertension Association: PATHLIGHT* 2009.

11. Aronica MA, **Erzurum SC**, Gildea T. Severe Asthma Monograph 2010. <http://www.clevelandclinicmeded.com/online/monograph/severe-asthma/default.asp>
12. Dweik R, **Erzurum SC**. Update on Pulmonary Vascular Diseases 2010. AM J RESP CRIT CARE MED 2011; 184(1):26-31.
13. Sahiner UM, Birben E, **Erzurum S**, Sackesen C, Kalayci O. Oxidative Stress in Asthma. WORLD ALLERGY ORGAN J. 2011; 4(10):151-8. PMID: PMC3488912
14. Basyigit I, Okumus G, **Erzurum S**, Asosingh K, Papakosta D. Pulmonary Hypertension. PULM MED. 2012; 2012:893157. PMID: PMC3503436
15. Birben E, Sahiner UM, Sackesen C, **Erzurum S**, Kalayci O. Oxidative stress and antioxidant defense. WORLD ALLERGY ORGAN J. 2012; 5(1):9-19. PMID: PMC3488923
16. Tudor RM, Archer SL, Dorfmueller P, **Erzurum SC**, Guignabert C, Michelakis E, Rabinovitch M, Schermuly R, Stenmark KR, Morrell NW. Relevant issues in pathology and pathobiology of pulmonary hypertension. J Am Coll Cardiol. 2013 Dec 24; 62(25 Suppl):D4-D12. PMID: PMC3970402
17. **Erzurum SC**. New Insights in Oxidant Biology in Asthma. ANN AM THORAC SOC. 2016 Mar; 13 Suppl 1:S35-9. PMID: PMC5015728
18. **Erzurum SC**. Aging and scientific medicine: 60 is the new 40. J CLIN INVEST. 2018 OCT; 128(10):4204-4207. PMID: PMC6159987
19. Khatri S, **Erzurum S**. Introduction to Clinics in Chest Medicine on Asthma. 2019 MAR; 40(1): 1-2.

### **Book Chapters**

1. **Erzurum SC**, Neff T. Eosinophilic Granuloma. *In: Current Therapy of Respiratory Disease*, B.C. Decker, Inc., Philadelphia 1989.
2. Dweik RA, **Erzurum SC**. Effects of nitric oxide and cyclic GMP on smooth muscle proliferation. *In: LAM and other diseases characterized by smooth muscle proliferation, Lung Biology in Health and Disease*, Marcel Dekker, Inc., New York 1999;131:333-349.
3. **Erzurum SC**, Lemarchand PL. Gene therapy for acute lung injury. *In: Gene Therapy for Acute and Acquired Diseases*, Kluwer Academic Publishers, Norwell, Massachusetts 2001:53-63.
4. Dweik RA, **Erzurum SC**. Regulation of NO synthases and gas phase NO by oxygen. *In: Disease Markers in Exhaled Breath, Lung Biology in Health and Disease*, Marcel Dekker, Inc., New York 2002;170:235-243.
5. **Erzurum, SC**. Regulation of Nitric Oxide Synthases in the Lung. *In: Disease Markers in Exhaled Breath: basic mechanisms and clinical applications*, NATO Science Series I: Life and Behavioural Sciences, IOS Press, Amsterdam, Netherlands 2002; 346: 3 – 10.
6. **Erzurum, SC**. Transcriptional regulation of airway inflammation. *In: Disease Markers in Exhaled Breath: basic mechanisms and clinical applications*, NATO Science Series I: Life and Behavioural Sciences, IOS Press, Amsterdam, Netherlands 2002; 346: 143 – 150.
7. **Erzurum, SC**. Exhaled NO is an optimal marker of severity and responsiveness to therapy in asthma. *In: Disease Markers in Exhaled Breath: basic mechanisms and clinical applications*, NATO Science Series I: Life and Behavioural Sciences, IOS Press, Amsterdam, Netherlands 2002; 346:199 – 201.

8. Xu W, **Erzurum SC**. Molecular Mechanisms of Increased Nitric Oxide in Airway Inflammation. *In: Therapeutic targets of Airway Inflammation, Lung Biology in Health and Disease*, Marcel Dekker, Inc., New York 2003; 177:167-175..
9. Goggans T, **Erzurum SC**. Primary Human Lung Cells in the Evaluation of Lung Diseases. *In: Therapeutic targets of Airway Inflammation, Lung Biology in Health and Disease*, Marcel Dekker, Inc., New York 2003; 177:55-60.
10. Arroliga M, **Erzurum SC**, Comhair SAA. Superoxide Dismutase Deficiency in Asthma. *In: Therapeutic Applications of Superoxide Dismutase (SOD)*. Eurekah.com; Landes Bioscience 2005, Chapter 11:1-11.
11. Xu W, **Erzurum SC**. The Interplay between Airways Inflammation and Reactive Oxygen/Nitrogen Species in Pulmonary Diseases. *In: Oxidative Stress: Clinical and Biomedical Implications*, Nova Science Publishers, New York 2007.  
[https://www.novapublishers.com/catalog/product\\_info.php?products\\_id=5939](https://www.novapublishers.com/catalog/product_info.php?products_id=5939)
12. Tuder, R, **Erzurum SC**. Pulmonary Endothelium and Pulmonary Hypertension. *In: The Pulmonary Endothelium – Function in Health and Disease* (editors N.F. Voelkel and S. Rounds); John Wiley & Sons 2009.
13. Lang D, **Erzurum SC**, Kavuru M. Asthma. *In: Cleveland Clinic's Current Clinical Medicine*. Elsevier. 2010
14. **Asosingh K, Rose J, Erzurum S**. Lung Stem Cells in the Epithelium and Vasculature; Chaper 9: Endothelial Colony-Forming Cells in Pulmonary Arterial Hypertension. (Editors: Amy Firth and Jason XJ Yuan) Springer. 2015
15. NHLBI Precision Medicine Workshop Report 2016.  
<http://www.nhlbi.nih.gov/health/resources/lung/nhlbi-and-cmref-workshop-enhancing-treatments-pulmonary-vascular-diseases-pvd-through-precision>

### **Editorials**

1. Lara A, **Erzurum SC**. A Urinary Test for Pulmonary Arterial Hypertension? *AM J RESP CRIT CARE MED* 2005; 172:262-263.
2. **Erzurum SC**, Burch T, Laskowski D, Mazzone PJ, Mekhail T, Jennings C, Stoller JK, Machado RF, Pyle J, Deffenderfer O, Dweik RA. Can the Electronic Nose Really Sniff out Lung Cancer. *AM J RESP CRIT CARE MED* 2005; 172:1060-1061.
3. Sznajder JI, Brochard L, Budinger GR, **Erzurum SC**, Israel E, Schumacker P. Process and impact as the journal moves forward. *AM J RESPIR CRIT CARE MED*. 2013; 187(9):897-8.
4. Carethers JM, Coughlin S, Diamond B, **Erzurum S**, Fried LP, Jameson JL, Kaushansky K, Klotman ME, Lemon S, Mitchell B, Rothman P, Sawyers C, Seidman C, Somlo S. The imperative to invest in science has never been greater. *J CLIN INVEST*. 2014 Sep 2; 124(9):3680-1. PMID: PMC4151225
5. Erzurum, SC. Finding the silver lining amid medical research funding cuts. *ECONOMIST*. 2018 Jan 23. <http://www.eiuperspectives.economist.com/serpil-erzurum>

### **Letters**

1. **Erzurum, SC**. Inhibition of Tumor Necrosis Factor for Refractory Asthma. *N ENGL J MED* 2006; 354:754-757. PMID: 16481645

2. Laskowski D, Beall CM, Dweik R, Strohl KP, Hutte R, **Erzurum SC**. Response to Hemmingsson, Horn and Linnarsson article “Measuring Exhaled Nitric Oxide at High Altitude” *RESPIR PHYSIOL NEUROBIOL*. 2010; 170(1):1-2; author reply 3-4. PMID: PMC2824919
3. Beall CM, Strohl KP, Laskowski D, Hutte R, **Erzurum SC**. Response to Hemmingsson “Lower exhaled nitric oxide in acute hypobaric than in normobaric hypoxia.” *RESPIR PHYSIOL NEUROBIOL*. 2010;170(3):211-2; author reply 213-4: PMID: PMC2844452

### Abstracts

1. **Erzurum SC**, Downey GP, Worthen GS, Bacterial lipopolysaccharide mediates microfilament-dependent retention of neutrophils in model capillaries: *Am Rev Resp Dis*, 1989;139: A298
2. Hellewell PG, Young SK, **Erzurum SC**, Henson PM, Worthen GS, Differential effects of ibuprofen on inflammation in the lung and skin: *Am Rev Resp Dis*, 1989;193: A299
3. **Erzurum SC**, Chu CS, Trapnell BC, Crystal RG, Human respiratory epithelium expresses the genes for catalase and superoxide dismutase: *Am Rev Resp Dis* 1991;143: A544
4. **Erzurum SC**, Chu C-S, Danel C, Trapnell BC, Crystal RG, *In vivo* antioxidant gene expression in human airway epithelium of normal individuals exposed to 100% oxygen: *Clin Res*, 1992;40: 318A
5. **Erzurum SC**, Chu CS, Danel C, Crystal RG, Human alveolar macrophages express antioxidant genes at a higher level than respiratory epithelial cells *in vivo*: *Am Rev Resp Dis*, 1992;145: A713
6. Danel C. **Erzurum SC**, Yoneyama K, Thunnissen FBJM, Crystal RG, Quantitative assessment of human airway epithelial and inflammatory cell populations in cystic fibrosis: *Am Rev Resp Dis*, 1992;145: A689
7. Hay JG, Danel C, Trapnell BC, **Erzurum SC**, Crystal RG, CC10 mRNA transcripts are expressed at extraordinarily high levels in human bronchial epithelium: *Am Rev Resp Dis*, 1992;145: A19
8. Yoo J, **Erzurum SC**, Hay JG, Crystal RG, Regulation of catalase gene expression in human bronchial epithelial cells: *Am Rev Resp Dis*, 1993;147(4): A206
9. Lemarchand P, Yoo JH, **Erzurum SC**, Crystal RG, Protection of bronchial epithelial cells from oxidant injury by adenovirus-mediated transfer of the human catalase cDNA. American Federation for Clinical Research Conference: *Clin Res*, 1993;41(2): 224A
10. Dweik RA, DeRaeve H, Lewis M, Kavuru M, Thomassen MJ, **Erzurum SC**, Inhaled steroids and  $\beta$ -agonists inhibit oxidant production by airway inflammatory cells *in vivo*: *Am J Resp Crit Care Med*, 1995;151(4): A138
11. Guo FH, DeRaeve H, Rice TW, **Erzurum SC**, Human respiratory epithelium nitric oxide synthase: A constitutively expressed inducible nitric oxide synthase isoform: *Am J Resp Crit Care Med*, 1995;151(4): A176
12. DeRaeve H, Thunnissen FBJM, **Erzurum SC**. Antioxidant status in airways of asthmatics. *AM J RESP CRIT CARE MED* 1995;151(4): A172
13. DeRaeve H, Thunnissen FBJM, **Erzurum SC**, Effect of inhaled therapy on antioxidant status in normal respiratory epithelium *in vivo*: *Am J Resp Crit Care Med*, 1995;151(4): A38

14. Guo FH, DeRaeve H, Thunnissen FBJM, **Erzurum SC**, Characterization of the constitutively expressed nitric oxide synthase in human respiratory epithelium *in vivo*, 1995 Experimental Biology Conference: FASEB J, 1995;9: A130
15. Thomassen MJ, **Erzurum SC**, DeRaeve H, Antal JM, Divis LT, Wiedemann HP, Effect of exosurf on the endogenous antioxidant enzymes of human alveolar macrophages: *Am J Resp Crit Care Med*, 1995;151(4): A309
16. Kavuru MS, Gibel K, Skibinski C, **Erzurum SC**, Keys TF, Quality of acute asthma care in northeast (NE) Ohio: *Am J Resp Crit Care Med*, 1995;151(4): A593
17. Kavuru MS, Gibel K, Skibinski C, Fishleder A, **Erzurum SC**, Keys TF, Evaluation of quality of acute asthma care in northeast (NE) Ohio: The Cleveland Clinic Foundation 14th Annual Research Day, 1995 p. 66.
18. Guo FH, DeRaeve HR, Rice TW, Stuehr DJ, Thunnissen FBJM, **Erzurum SC**, Continuous nitric oxide synthesis by inducible nitric oxide synthase in normal human airway epithelium: Cleveland Clinic Foundation 15th Annual Research Day, 1995 p. 43.
19. Dweik RA, DeRaeve HR, Lewis M, Thomassen MJ, **Erzurum SC**, Inhaled steroids and  $\beta$ -agonists inhibit oxidant production by airway inflammatory cells *in vivo*: Cleveland Clinic Foundation 15th Annual Research Day, 1995 p. 222.
20. Oppedisano R, Litwin D, Pien L, **Erzurum SC**, Kavuru M, Analysis of recruitment strategies for asthma clinical trials: *Chest*, 1995;108(3): 193S
21. Thomassen MJ, Antal JM, Divis LT, **Erzurum SC**, Wiedemann HP. The synthetic surfactant (exosurf) has antioxidant effects on transcriptional regulation of inflammatory cytokines: KEYSTONE SYMPOSIUM on Molecular and Cellular Biology; Oxidant Stress: from molecules to man. Sante Fe, New Mexico, January 1996.
22. Guo FH, DeRaeve H, Kavuru M, Thunnissen FBJM, Calhoun WC, **Erzurum SC**, Characterization of the continuously expressed nitric oxide synthase in normal human respiratory epithelium *in vivo*: Great Lakes Conference, 1995.
23. Guo FH, Dweik RA, Calhoun WC, **Erzurum SC**, Prolonged expression of inducible nitric oxide synthase in human airway epithelial cells *in vitro*: *Am J Resp Crit Care Med*, 1996;153: A538
24. Thomassen MJ, Antal MJ, Divis LT, **Erzurum SC**, Wiedemann HP, Surfactant suppresses NF-kB activation in human monocytic cells: *Am J Resp Crit Care Med*, 1996;153: A236
25. Dweik RA, Guo FH, Kaneko TF, **Erzurum SC**, Regulation of inducible nitric oxide synthase gene expression in human lung epithelial cells: *Am J Resp Crit Care Med*, 1996;153: A172
26. DeRaeve H, Thunnissen FBJM, Guo F, **Erzurum SC**, Decreased superoxide dismutase activity in asthmatic respiratory epithelium *in vivo* is mediated posttranslationally. *Am J Resp Crit Care Med*, 1996;153: A208
27. Kathawalla SA, Comhair S, **Erzurum SC**, Correlation of secretory glutathione peroxidase in airways of smoking individuals: *Am J Resp Crit Care Med*, 1996;153: A812
28. Thomassen, MJ, Buhrow LT, Connors MJ, **Erzurum SC**, Kavuru MS, Nitric oxide inhibits inflammatory cytokine production by human alveolar macrophages: *J Allergy Clin Immunol*, 1997;99: S57

29. Guo FH, Haque SJ, Willaims BRG, **Erzurum SC**, Protein synthesis-dependent factor(s) required for inducible nitric oxide synthase mRNA induction in human airway epithelial cells: *Am J Resp Crit Care Med*, 1997;155: A438
30. Comhair SAA, Thunnissen FBJM, DeRaeve HR, **Erzurum SC**, Oxidant regulation of extracellular glutathione peroxidase gene in human airway epithelial cells: *Am J Resp Crit Care Med*, 1997;155: A690
31. Comhair SAA, Lewis M, Thunnissen FBJM, Kaneko FT, Dweik RA, **Erzurum SC**, Increased extracellular glutathione peroxidase in epithelial lining fluid of beryllium patients: *Am J Resp Crit Care Med*, 1997;155: A190
32. Kaneko FT, Stuehr DJ, **Erzurum SC**, Evaluation of nitric oxide synthases present in the human airway: *Am J Resp Crit Care Med*, 1997;155: A438
33. Kaneko FT, Uetani K, Dweik R, Trapnell B, **Erzurum SC**, High levels of nitric oxide production by recombinant human iNOS cDNA expression plasmid: *AM J RESP CRIT CARE MED*, 1997;155: A461
34. Dweik RA, Laskowski D, **Erzurum SC**, Oxygen regulates nitric oxide production in the lungs of humans: *Am J Resp Crit Care Med*, 1997;155: A578
35. Dweik RA, Kaneko FT, **Erzurum SC**, Human airway epithelial cell lines express low level of nitric oxide synthase: *Am J Resp Crit Care Med*, 1997;155: A437
36. Dweik RA, Laskowski D, Hutte R, Kaneko FT, **Erzurum SC**, Nitric oxide levels are higher in distal than proximal airways in humans: *Am J Resp Crit Care Med*, 1997;155: A680
37. Uetani K, Guo FH, **Erzurum SC**, Prolongation of iNOS mRNA half-life by IL-4 in human airway epithelial cells: *Am J Resp Crit Care Med*, 1997;155: A438
38. Prayssac P, **Erzurum S**, Danel C, Eissa NT, Crystal RG, Herv P, Mazmanian M, Lemarchand P. Adenovirus-mediated transfer to the lungs of catalase and superoxide dismutase cDNAs prevents hypoxia toxicity but not ischemia-reperfusion injury in rats: *Am J Resp Crit Care Med*, 1997;155: A265
39. Ruhe Faruqi T, **Erzurum SC**, Kaneko FT, DiCorleto PE, Role of nitric oxide in polyinosinic-polycytidylic acid-induced endothelial cell expression of leukocyte adhesion molecules: 6th International Congress on Cell Biology & 36<sup>th</sup> American Society for Cell Biology; Annual Meeting, December 7-11, 1996, San Francisco, CA
40. Comhair SAA, Thunnissen FBJM, DeRaeve HR, **Erzurum SC**, Extracellular glutathione peroxidase gene expression in human lung: 1997 Experimental Biology Conference: *FASEB J* 1997;11: A647
41. Dweik RA, Abu-Soud H, Stuehr D, **Erzurum SC**, Kinetics of NO production in the human lung: dependence on oxygen levels: Gordon Conference on nitric oxide, February 2-7, 1997, Ventura, California
42. Raychaudhuri B, Buhrow L, Connors M, **Erzurum S**, Kavuru M, Thomassen MJ, *In vitro* effects of nitric oxide (NO) on inflammatory cytokine production by human alveolar macrophages: Fifth Annual Conference International Cytokine Society, November 9-13, 1997
43. Guo FH, Uetani K, Calhoun WC, **Erzurum SC**, Interferon  $\gamma$  and interleukin 4 stimulate prolonged expression of inducible nitric oxide synthase in human airway epithelium: Second International Meeting on Reactive Oxygen/Nitrogen Radicals and Cellular Injury, September 7-10, 1997, Durham, NC.
44. Dweik RA, Guo FH, **Erzurum SC**, Nitric oxide synthase in the human lungs: Shanghai Nitric Oxide Meeting, Shanghai, China, October 31-November 1, 1997

45. Raychaudhuri B, Buhrow LT, Connors MJ, **Erzurum SC**, Arroliga AC, Kaneko FT, Kavuru MS, Thomassen MJ. Nuclear factor kB activation in alveolar macrophages from patients with primary pulmonary hypertension: *Am J Resp Crit Care Med*, 1998;157: A594
46. Dweik RA, Kavuru MS, Pien LC, Oppedisano R, Laskowski D, **Erzurum SC**, High rates of nitric oxide production in asthma: *Am J Resp Crit Care Med*, 1998;157: A609
47. Dweik RA, Laskowski D, Sullivan EJ, Farver C, **Erzurum SC**, Increased nitric oxide in lymphangioleiomyomatosis: *Am J Resp Crit Care Med* 1998;157: A806
48. Comhair SA, Lewis M, **Erzurum SC**, Extracellular glutathione peroxidase induction by oxidants and glutathione in bronchial epithelial cells: *Am J Resp Crit Care Med*, 1998;157: A515
49. Kaneko FT, Arroliga AC, Dweik RA, Comhair SA, Laskowski D, Oppedisano R, Thomassen MJ, **Erzurum SC**, Correlation of nitric oxide reaction products to severity of pulmonary hypertension: *Am J Resp Crit Care Med*, 1998;157: A594
50. Guo FH, Dweik RA, Kaneko FT, Eissa NT, **Erzurum SC**, Molecular mechanisms of increased nitric oxide in asthma: *Am J Resp Crit Care Med* 1998;157: A701
51. Uetani K, Der DS, Williams BRG, **Erzurum SC**, Involvement of dsRNA-dependent protein kinase (PKR) in iNOS induction: *Am J Resp Crit Care Med*, 1998;157: A12
52. Raychaudhuri B, Connors MJ, Buhrow LT, Dweik RA, **Erzurum SC**, Kavuru MS, Thomassen MJ. Nitric oxide (NO) inhibits NFkB activation in alveolar macrophages from asthmatics: *FASEB J*, 1998;12: A177
53. Borrás T, Rowlette LL, **Erzurum S**, Epstein DL, Effect of adenovirus mediated gene transfer on outflow facility of post-mortem human and pig enucleated eyes: *International Eye Research Meeting (ISER)*, 1998
54. Abu-Soud HM, Ichimori K, Presta A, Dweik RA, **Erzurum SC**, Stuehr DJ, NO feedback inhibition enables the NOS isoforms to perform novel biologic functions: *Biochemistry and Molecular Biology of Nitric Oxide 3rd International Conference*, July 11-15, 1998, University of California, Los Angeles
55. Dweik RA, Laskowski D, **Erzurum SC**, Kinetics of accumulation of nitric oxide in the lower airways of humans: *Annals of Biomedical Engineering*, 1998;26:S48.
56. Dweik RA, Laskowski D, **Erzurum SC**, Kinetics of nitric oxide accumulation in the lower airways of asthmatics and controls: *Chest*, 1998;114: 260S
57. Bhattacharyya N, Chen HC, **Erzurum SC**, Banerjee S, Variant forms of DNA polymerase in lung carcinomas: *Proceeding of the American Cancer Association for Cancer Research*, 1998;39:647.
58. Dweik RA, Kaneko FT, Arroliga AC, Comhair SA, Thomassen MJ, **Erzurum SC**, Low levels of nitric oxide in the lower airways of patients with primary pulmonary hypertension: *American Heart Association scientific conference on control mechanisms in the fetal and neonatal pulmonary circulation*, Sedalia Colorado, September 10-13 1998.
59. Dweik RA, Kavuru MS, Piccin, R, Laskowski D, **Erzurum SC**, NO reaction products increased in segmental antigen challenge model of asthma exacerbation. *Am J Resp Crit Care Med*, 1999;159: A743
60. Thomassen MJ, Raychaudhuri B, Dweik R, Buhrow L, Malur A, Arroliga A, **Erzurum SC**, Kavuru M, NO blocks NFkB activation in alveolar macrophages in asthma and primary pulmonary hypertension: *5th Annual Meeting of the Oxygen Society*, 1998



61. Thomassen MJ, Raychaudhuri B, Dweik R, Buhrow L, Malur A, Farver C, **Erzurum SC**, Kavuru M, Effect of endobronchial allergen challenge on airway NO levels, eosinophils and GM-CSF in bronchoalveolar lavage from asthmatics: Keystone Symposia, February 1999
62. Raychaudhuri B, Kavuru MS, Buhrow L, Malur A, Dweik RA, **Erzurum SC**, Thomassen MJ. Effect of segmental allergen challenge (SAC) on transcription factor activation in bronchoalveolar lavage cells: *Am J Resp Crit Care Med*, 1999;159: A860
63. Thomassen MJ, Raychaudhuri B, Dweik RA, Buhrow L, Malur A, Farver C, **Erzurum SC**, Kavuru MS, Effect of segmental allergen challenge on airway NO levels, eosinophils and cytokines in bronchoalveolar lavage from asthmatics: *Am J Resp Crit Care Med*, 1999;159: A19
64. Comhair S, Bhathena P, Lewis M, Dweik R, Thomassen MJ, Kavuru MS, **Erzurum SC**, Decreased antioxidants in lungs of asthmatic patients in antigen segmental challenge model of asthma exacerbation: *Am J Resp Crit Care Med*, 1999;159:A19.
65. Uetani K, Der DS, de la Motte C, Lieberman BY, Williams BRG, **Erzurum SC**, Mechanisms of influenza A induction of NOS II in human airway epithelia: *Am J Resp Crit Care Med*, 1999;159: A447
66. Dweik RA, Comhair SAA, Kaneko FT, Guo FH, Farver C, Arroliga AC. **Erzurum SC**, Mechanisms of decreased NO in lungs of individuals with primary pulmonary hypertension: *Am J Resp Crit Care Med*, 1999;159: A695
67. Dweik RA, Piccin R, Laskowski D, Pien LC, **Erzurum SC**, Kavuru M, Temporal association of nitric oxide increase and airflow limitation in asthma after whole lung antigen challenge: *Am J Resp Crit Care Med*, 1999;159: A408
68. Zheng S, **Erzurum SC**, Loss of NOSII inducibility in cystic fibrosis airway epithelium: Biology, Chemistry and Therapeutic applications of Nitric Oxide International Conference, San Francisco CA, June 3-7, 2000
69. **Erzurum SC**, Loss of Superoxide Dismutase Activity in Asthma: The 2nd International Conference on Superoxide dismutases, Institut Pasteur, Paris 18-19, May, 2000
70. Uetani K, Der DS, Zamanian MD, de la Motte C, Lieberman BY, Williams BRG, **Erzurum SC**, Viral mechanisms of nitric oxide synthase 2 (NOS2) induction: Evidence for a central role of dsRNA-activated protein kinase (PKR) in signaling pathways: *Am J Resp Crit Care Med*, 2000;161: A128
71. Uetani K, **Erzurum SC**, Serum factor(s) requirement in nitric oxide synthase 2 (NOS2) expression in human respiratory epithelial cell lines: *Am J Resp Crit Care Med*, 2000;161: A534
72. Uetani K, **Erzurum SC**, Mechanism of interferon- $\gamma$  induction of human nitric oxide synthase 2 (NOS2): Characterization of respiratory epithelial cell-derived soluble mediator(s): *Am J Resp Crit Care Med*, 2000;161: A242
73. Numata M, Farver C, Chen Q, Almasan A, **Erzurum SC**, Increased nitric oxide synthase 3, caspase-3, and p53 in human non-small cell carcinoma: *Am J Resp Crit Care Med*, 2000;161: A675
74. Comhair SAA, Bhathena P, **Erzurum SC**, Transcriptional mechanism of redox regulation of the extracellular glutathione peroxidase gene in bronchial epithelial cells: *Am J Resp Crit Care Med*, 2000;161: A737
75. Dweik RA, Laskowski D, Bates JHT, **Erzurum SC**, A model of nitric oxide (NO) in the airway: *Am J Resp Crit Care Med*, 2000;161: A743
76. Dweik RA, Laskowski D, Farver C, **Erzurum SC**, Increased nitric oxide in lymphangioliomyomatosis: *Am J Resp Crit Care Med*, 2000;161: A376

77. Laskowski D, Ozkan M, **Erzurum SC**, Dweik RA, Validation of an analyzer to measure exhaled carbon monoxide levels in the part per billion range: *Am J Resp Crit Care Med*, 2000;161: A851
78. Özkan M, Laskowski D, **Erzurum SC**, Dweik RA, Standardization of exhaled nitric oxide measures in healthy controls and individuals with airway disease: *Am J Resp Crit Care Med*, 2000;161: A920
79. Dweik RA, Laskowski D, **Erzurum SC**, High levels of NO in exhaled breath in patients with chronic beryllium disease: *Am J Resp Crit Care Med*, 2000;161: A731
80. Farver CF, Wang N, Kaneko FT, **Erzurum SC**, Arroliga AC, Endothelial nitric oxide synthase expression in the lungs of patients with pulmonary hypertension by immunohistochemical analysis: *Am J Resp Crit Care Med* 2000;161: A144
81. Özkan M, Laskowski D, **Erzurum SC**, Dweik RA, High levels of CO in exhaled breath in patients with chronic beryllium disease, *The American College of Chest Physicians (ACCP): Chest*, 2000;118: 253S
82. Zheng S, **Erzurum SC**, Loss of NOSII inducibility in cystic fibrosis airway epithelium: *Nitric Oxide Biology and Chemistry*, 2000;4: 302
83. Dweik RA, Comhair SAA, Gaston B, Abu-Soud HA, Thomassen MJ, Kavuru M, **Erzurum SC**, Nitric Oxide Chemical Events In The Human Airway During The Immediate And Late Antigen-Induced Asthmatic Response: *American Rederation for Medical Research (AFMR)*, 2001; *plenary session*
84. Dweik RA, Comhair SAA, Gaston B, Abu-Soud HA, Thomassen MJ, Kavuru M, **Erzurum SC**, Nitric oxide chemical events in the human airway during the immediate and late antigen-induced asthmatic response: *Am J Resp Crit Care Med*, 2001;163: A47
85. Özkan M, Dweik RA, Laskowski D, Arroliga AC, **Erzurum SC**, High levels of NO in individuals with pulmonary hypertension receiving epoprostenol therapy: *Am J Resp Crit Care Med*, 2001;163: A114
86. Arroliga M, Khatri S, Comhair SAA, **Erzurum SC**, Relationship between serum eotaxin and reactivity to allergen induced asthmatic response: *Am J Resp Crit Care Med*, 2001;163: A197
87. Xu W, Comhair SAA, Zheng S, Chu SC, Marks-Konczalik J, Moss J, **Erzurum SC**, Analysis of NO synthase gene (NOS2) expression in human airway epithelial cells: *Am J Resp Crit Care Med*, 2001;163: A223
88. Uetani K, Shimuzu E, **Erzurum SC**, Expression of the interferon regulatory factor 1 (IF-1) in human airway epithelial cells: *Am J Resp Crit Care Med*, 2001;163: A228
89. Khatri SB, Özkan M, Laskowski D, McCarthy K, **Erzurum SC**, Gas exchange in asthmatics after allergen challenge: *Am J Resp Crit Care Med*, 2001;163: A420
90. Sharma P, Harbor P, Zheng S, Ray P, **Erzurum SC**, Haque SJ, Suppressor of cytokine signaling (OCS)-1 and SOCS-3 negatively control IL-4- and IL-13-mediated signal transduction in airway epithelial cells: *Am J Resp Crit Care Med*, 2001;163: A439
91. Arroliga M, Khatri S, Comhair SAA, **Erzurum SC**, Systemic antioxidants after antigen induced asthmatic response, *Am J Resp Crit Care Med*, 2001;163: A606
92. Özkan M, Laskowski D, **Erzurum SC**, Dweik RA, Differences in exhaled carbon monoxide and nitric oxide in alveolar and airway inflammation: *Am J Resp Crit Care Med*, 2001;163: A714
93. Zheng S, Haque J, **Erzurum SC**, Impaired nitric oxide synthase (NOS) II inducibility in cystic fibrosis airway epithelium: *Am J Resp Crit Care Med*, 2001;163: A843
94. Acharya SS, Laskowski D, **Erzurum SC**, Dweik RA, Exhaled carbon monoxide levels in ventilated patients: *Am J Resp Crit Care Med*, 2001;163: A899

95. Zheng S, **Erzurum SC**, Regulation of epithelial reactive oxygen and nitrogenspecies by inflammatory stimuli: Pediatric Pulmonology, September supplement 2001;128-129. Presented at North American Cystic Fibrosis Conference (NACFC), Orlando Florida Oct 25-28, 2001.
96. Sharma P, Harbor P, Rahaman O, Hsieh F, Ray P, **Erzurum SC**, Haque J, Negative regulation of the TH2 cytokine mediated signal transduction in airway epithelial cells by SOCS-1 and SOCS-3: Am J Resp Crit Care Med, 2002;165: A484
97. Zheng S, De B, **Erzurum SC**, Loss of NO synthase (NOS) 2 inducibility in CF airway epithelium: role in susceptibility to viral infection: Am J Resp Crit Care Med, 2002;165: A59
98. Londhe-Nerkar MN, Laskowski D, Hague K, Stelmach K, **Erzurum SC**, Dweik RA, Exhaled CO reflects right ventricular systolic pressure in pulmonary hypertension. Am J Resp Crit Care Med, 2002;165: A98
99. Xu W, Comhair SAA, Zheng S, Chu SC, Marks-Konczalik J, Moss J, Haque SJ, **Erzurum SC**, Mechanisms for regulation of NO synthase gene (NOS2) expression in airway epithelial cells: Am J Resp Crit Care Med, 2002;165: A208
100. Ho JC-M, Zheng S, Comhair SAA, Farver C, **Erzurum SC**, Differential expression of Manganese superoxide dismutase and catalase in lung cancer: Am J Resp Crit Care Med, 2002;165: A366
101. Arroliga ME, Khatri S, Comhair SAA, **Erzurum SC**, Correlation of airflow limitation to systemic superoxide dismutase activity in asthma: Am J Resp Crit Care Med, 2002;165: A559
102. Londhe-Nerkar MN, Dweik RA, Laskowski D, Hague K, Stelmach K, Arroliga AC, **Erzurum SC**, Correlation of NO to magnitude of hemodynamic improvement in pulmonary hypertension: Am J Resp Crit Care Med, 2002;165: A571
103. Khatri SB, Song W, Shen Z, McCarthy K, Kavuru MS, Hazen SL, **Erzurum SC**, Correlation of eosinophil peroxidase activity with airflow limitation in asthma: Am J Resp Crit Care Med, 2002;165: A689
104. Chapman JT, Laskowski D, Londhe MN, Dweik RA, **Erzurum SC**, Exhaled monoxides in idiopathic pulmonary fibrosis before and during interferon g1b administration: Am J Resp Crit Care Med, 2002;165: A728
105. Machado RF, Uuer A, Laskowski D, **Erzurum SC**, Dweik RA, Increased exhaled CO levels in bacteremic patients: Am J Resp Crit Care Med, 2002;165: A757
106. Comhair SAA, Xu W, Markgraaff HM, **Erzurum SC**, Induction of apoptosis in asthmatic epithelial cells in response to decreased SOD activity: Am J Resp Crit Care Med, 2002;165: A813
107. Hoit BD, Dalton N, **Erzurum SC**, Strohl K, Lai NC, Beall CM, Exhaled nitric oxide and cardiovascular homeostasis in Tibetan highlanders: FASEB J., 2003;17(II): A1279
108. Comhair SAA, Xu W, Markgraaff HM, **Erzurum SC**, Induction of apoptosis in asthmatic epithelial cells in response to decreased SOD activity: FASEB J., 2003;17(II): A819
109. Ghosh S, Masri F, Comhair SAA, Swaidani S, Aronica M, Aulak K, **Erzurum SC**, Nitration of Proteins in murine model of asthma: FASEB J., 2003; Late breaking abstract supplement:65(LB337)
110. Masri F, Comhair SAA, Machado R, Ghosh S, Stuehr DJ, **Erzurum SC**, Aulak K, Nitrosative modification of proteins in lung cancer: Research Showcase 2003 Case Western Reserve University, Cleveland OH.
111. Dweik R, Laskowski D, **Erzurum SC**, High levels of NO in exhaled breath in patients with chronic beryllium disease: Research Showcase 2003 Case Western Reserve University, Cleveland OH

112. Machado R, Uluer A, Laskowski D, **Erzurum SC**, Dweik R, Increased exhaled carbon monoxide in bacteremic patients: Research Showcase 2003 Case Western Reserve University, Cleveland OH
113. Ghosh S, Masri, F, Comhair SAA, Andreadis A, Swaidani S, Aronica M, Aulak K, **Erzurum SC**, Nitration of proteins in murine model of asthma: *Am J Resp Crit Care Med*, 2003;167: A889
114. Masri F, Comhair SAA, Machado R, Ghosh S, Stuehr D, **Erzurum SC**, Aulak K, Nitrosative modification of proteins in lung cancer: *Am J Resp Crit Care Med*, 2003;167: A735
115. Machado RF, Janocha AJ, Laskowski D, Comahir SAA, Markgraaf HM, Dweik RA, **Erzurum SC**. Analysis of exhaled breath condensate protein profile: *Am J Resp Crit Care Med*, 2003;167: A446
116. Comhair SAA, Iyengar K, Golish JA, **Erzurum SC**, Differential Gene expression in human lung squamous cell carcinoma: *Am J Resp Crit Care Med*, 2003;167: A339
117. Machado RF, Mazzone J, Laskowski D, Zheng S, Deffendorfer O, Burch T, Mekhail T, Stoller JK, Dweik RA, **Erzurum SC**, An electronic nose can differentiate the exhaled breath of individuals with lung cancer: *Am J Resp Crit Care Med* 2003;167: A190
- 118.
119. Taher MY, Machado RF, Laskowski D, **Erzurum SC**, Dweik RA, NO and CO in exhaled breath are dependent on endogenous oxygen levels: *Am J Resp Crit Care Med*, 2003;167: A53
120. Xu W, Comhair SAA, Zheng S, Haque SJ, **Erzurum SC**, Cooperative transcriptional activation of NOS2 through STAT-1 and c-FOS interaction: *Am J Resp Crit Care Med*, 2003;167: A50
121. Masri F, Comhair S, Stuehr D, **Erzurum SC**, Aulak K, Nitrosative Modification of Proteins in Lung Cancer: *Free Radical Biology and Medicine*, 2003;35: S170
122. Comhair SAA, Xu W, Arroliga M, Khatri SB, Thunnissen FBJM, Almasan A, Calhoun WJ, Janocha A, Song W, Hazen S, **Erzurum S**, Superoxide dismutase inactivation in pathophysiology of asthma: airway remodeling and reactivity: *Am J Resp Crit Care Med*, 2004;169: A868
123. Zheng S, Xu W, Bose S, Haque J, **Erzurum SC**, Impairs NOS2 signaling pathway in CF airway epithelium: *Am J Resp Crit Care Med*, 2004;169: A21
124. Masri F, Anand-Apte B, VasANJI A, Xu W, Goggans T, Drazba J, **Erzurum SC**, Definitive evidence of fundamental and inherent alteration in the phenotype of PPH endothelial cells. In angiogenesis: *Am J Resp Crit Care Med*, 2004;169: A22
125. Ghosh S, Masri F, Comhair SAA, Swaidani S, Aronica M, AulakKS, **Erzurum SC**, Nitration and decreased catalase activity in murine model of asthma: *Am J Resp Crit Care Med*, 2004;169: A79
126. Peikert T, Iyengar K, Cruikshank P, **Erzurum SC**, Comhair SAA. Expression of Melanoma Antigens A (MAGE-A) in non-small cell lung cancers: *Am J Resp Crit Care Med*, 2004;169: A239
127. Hsieh F, Sharma P, Goggans T, Haque SJ, **Erzurum SC**. Stem Cell factor (SCF) release by human airway epithelial cells (HAEC) supports the survival of cultured human mast cells in vitro: *Am J Resp Crit Care Med*, 2004;169: A305
128. Manali ED, Mazzone P, Bhattacharya N, Comhair SAA, Janocha A, Slattery S, **Erzurum SC**, Banerjee S, Alterations of DNA Polymerase beta gene in human lung cancer: *Am J Resp Crit Care Med*, 2004;169: A408

129. Chambellan A, Comhair SAA, Szabo K, Janocha A, Goggans T, **Erzurum SC**, Hyperoxia related genes in normal human bronchial epithelial cells: new insight and functional implications based on a gene expression profiling and in vitro study: *Am J Resp Crit Care Med*, 2004;169: A422
130. Laskowski D, Pyle JK, **Erzurum SC**, Dweik RA, Variability of NO levels utilizing different analyzers and measurement methods: *Am J Resp Crit Care Med*, 2004;169: A513
131. Xu W, Kaneko FT, Thunissen FBJM, Farver C, Zheng S, Comhair SAA, Dweik RA, Arroliga A, Hazen S, **Erzurum SC**, Mechanisms of decreased NO in lungs of individuals with pulmonary arterial hypertension: *Am J Resp Crit Care Med*, 2004;169: A393
132. Swaisgood CM, Swaidani S, **Erzurum S**, Aronica M, Plow EF, Plasminogen regulation of pathogenesis of asthma: *Am J Resp Crit Care Med*, 2004;169: A81
133. Masri FA, Anand-Apte B, VasANJI A, Xu W, Goggans T, Drazba J, **Erzurum SC**, Definitive evidence of fundamental and inherent alteration in the phenotype of primary pulmonary hypertension endothelial cells in angiogenesis: (Aspen Lung Conference) *Chest*, 2005 Dec;128(6 Suppl): 571S
134. Masri FA, Comhair SA, Koeck T, Stuehr DJ, Janocha, A, Ghosh S, Dweik RA, Golish J, Kinter M, Aulak, KS, PhD, **Erzurum SC**, Abnormalities in Nitric Oxide and Its Derivatives in Lung Cancer: *Proc Am Thor Soc*, 2005;2: A742
135. Xu W, Koeck T, Goggans TM, Masri F, Lane KB, Stuehr DJ, **Erzurum SC**, Alteration of Cellular Energy Metabolism in Pulmonary Artery Endothelial Cells from Primary Pulmonary Hypertension Lungs: *Proc Am Thor Soc*, 2005;2: A705
136. Uetani K, Meguro T, Kamisako T, Ogawa H, **Erzurum SC**, Influenza a Virus Inhibits Interferon- $\gamma$ -Inducible Gene Expression on Respiratory Epithelial Cells by Disruption of the Jak/Stat Pathway: *Proc Am Thor Soc*, 2005;2: A683
137. Chambellan AC, Xu W, Cruickshank P, Goggans T, **Erzurum SC**, Evidence That NOS2 Expression Requires the Presence of c-Fos in Human Airway Epithelial Cells: *Proc Am Thor Soc*, 2005;2: A558
138. Moore W, Calhoun W, Castro M, Chung F, **Erzurum SC**, Safety of Investigative Bronchoscopy in Severe Asthma: *Proc Am Thor Soc*, 2005;2: A241
139. Gaston B, Urban P, Hunt JF, **Erzurum SC**, Bleeker E, Castro M, Teague WG, Sustained Acidopnea in Severe Asthma: Longitudinal Assessment of Breath Condensate pH at Home: *Proc Am Thor Soc*, 2005;2: A241
140. Lara AR, Comhair SAA, Xu W, **Erzurum SC**, Relationship of Serum Arginase to Severity of Airflow Obstruction in Asthma: *Proc Am Thor Soc*, 2005;2: A241
141. Dweik RA, **Erzurum SC**, Low Levels of Exhaled Nitric Oxide in Severe Asthma: *Proc Am Thor Soc*, 2005;2: A240
142. Comhair SAA, Ricci K, Hazen SL, MD/PhD, **Erzurum SC**, Systemic Loss of Superoxide Dismutase Activity in Asthma Is Related to Asthma Severity: *Proc Am Thor Soc*, 2005;2: A240
143. Chambellan AC, Comhair SA, Szabo KA, Cruickshank P, MacKenzie P, Goggans T, **Erzurum SC**, Ubiquitin/Proteasome Pathway as an Early Protective Mechanism Against Hyperoxia in the Airway: *Proc Am Thor Soc*, 2005;2: A223
144. Peikert T, Specks U, **Erzurum SC**, Comhair SAA, Expression of Melanoma Antigen (MAGE) A4 Induces Apoptosis in 293 Cells: *Proc Am Thor Soc*, 2005;2: A57
145. Nethery D, Ghosh S, **Erzurum S**, Kern J, Nitration Inactivates Neuregulin-1 Signaling: *Proc Am Thor Soc*, 2005;2: A926

146. Fitzpatrick AM, Gaston BM, **Erzurum SC**, Teague WG,. Identification of a Severe Asthma Phenotype in Children Characterized by Atopy and Corticosteroid-Insensitive Nitrosopnea: Proc Am Thor Soc, 2006: A15
147. Moore W, Everett D, Busse W, Calhoun W, Castro M, Chung F, **Erzurum S**, Gaston B, Israel E, Teague G, Meyers D, Bleecker E, Wenzel S, Identification of Severe Asthma Subgroups Based on Age of Onset: Proc Am Thor Soc, 2006: A663
148. Moore W, Everett D, Busse W, Calhoun W, Castro M, Chung F, **Erzurum S**, Gaston B, Israel E, Teague G, Meyers D, Wenzel S, Bleecker E, Validation of the ATS Definition of Severe Asthma in the Severe Asthma Research Program: Proc Am Thor Soc, 2006: A473
149. Teague WG, Kazerouni N, Khetsuriani N, Erdman DD, Redd SC, Anderson LJ, Fitzpatrick A, **Erzurum SC**, Hunt J, Gaston BM, Effects of Naturally Acquired Rhinovirus Infection on Breath pH and Nitrogen Oxides in Children with Asthma: Proc Am Thor Soc, 2006: A281
150. Uetani K, Ogawa H, Kamisako T, Meguro T, **Erzurum SC**, Inhibition of Nitric Oxide Synthase 2 Expression by Interferons and in Human Airway Epithelial Cells: Proc Am Thor Soc, 2006: A423
151. Ghosh G, Janocha AJ, Aronica MA, Swaidani S, Comhair SAA, Xu W, Zheng L, Schimtt D, Kinter MT, Hazen SL, **Erzurum SC**, Oxidative Modifications and Inactivation of Catalase in Asthma: Proc Am Thor Soc, 2006: A267
152. Fitzpatrick AM, Gaston BM, **Erzurum SC**, Hunt JF, Brown LA, Hunter EA, Teague WE, Clinical Relevance of Breath pH Acidification in Children with Asthma: Proc Am Thor Soc, 2006: A268
153. Xu W, Zheng S, Quinones-Mateu ME, Comhair SAA, Slee R, Williams BRG, **Erzurum SC**, Alteration of Gene Expression in Cystic Fibrosis Airway Epithelial Cells Infected with Influenza A Virus: Proc Am Thor Soc, 2006: A411
154. Edwards ST, Comhair SA, Ricci KS, Hammel J, Dweik RA, Lara AR, Teague WG, Gaston B, Hazen SL, **Erzurum SC**, Predicting Severe Asthma Versus Non-Severe Asthma Using Serum Markers of Oxidative Stress: Proc Am Thor Soc, 2006: A213
155. Comhair SAA, Ricci KS, **Erzurum SC**, for the NIH Severe Asthma Research Program, Environmental Tobacco Smoke Exposure in Asthma: Proc Am Thor Soc, 2007: A260
156. Farha SY, Asosingh K, Laskowski D, Dweik RA, Wiedemann HP, **Erzurum SC**, Enhanced Gas Transfer and Neovascularization during the Menstrual Cycle : Proc Am Thor Soc, 2007: A941
157. Ghosh S, Janocha A, Bauer S, Bryan NS, Tejero J, Hemann C, Hille R, Stuehr D, **Erzurum SC**, Beall C, Nitric Oxide in High Altitude Adaptation: Proc Am Thor Soc, 2007: A942
158. Asosingh K, Swaidani S, Aronica M, **Erzurum SC**, Endothelial Progenitor Cell Recruitment and Angiogenic Switch in the Lung: Early Events in the Onset of Asthma: Proc Am Thor Soc, 2007: A834
159. Uetani K, Kamisako T, Ogawa H, **Erzurum SC**, Influenza A Virus Abrogates Interferon-gamma Response in Respiratory Epithelial Cells by Disruption of the Jak/Stat Pathway: Proc Am Thor Soc, 2007: A773
160. Fitzpatrick AM, Gaston BM, **Erzurum SC**, Brown LAS, Teague WG, Impaired Ammoniogenesis Does Not Account for Breath Acidification in Children with Severe Asthma: Proc Am Thor Soc, 2007: A506
161. Khatri SB, Comhair S, Ricci KS, Savill S, Teague WG, **Erzurum SC**, Systemic Superoxide Dismutase Activity in Asthmatics and Healthy Controls during High Ozone Season: Proc Am Thor Soc, 2007: A428

162. Dostanic-Larson I, Ricci KS, **Erzurum SC**, Comhair SAA, Idiopathic Pulmonary Arterial Hypertension Is Associated with Reduction in Superoxide Dismutase: Proc Am Thor Soc, 2007: A409
163. Wedes SH, Zhang R, Wu W, Comhair SAA, **Erzurum SC**, Hazen SL, Urinary Bromotyrosine and F2-Isoprostanes as Noninvasive Markers of Airway Inflammation in Asthma: Proc Am Thor Soc, 2007: A152
164. Dostanic-Larson I, Ricci KS, **Erzurum SC**, Comhair SAA, Idiopathic Pulmonary Arterial Hypertension Is Associated with Reduction in Superoxide Dismutase: Proc Am Thoracic Soc, 2007: A409
165. Xu W, Koeck T, Koo M, Comhair SAA, Jennings C, Dweik RA, Fijalkowska I, Tudor RM, Stuehr, DJ, **Erzurum SC**, Hypoxia Response in Pulmonary Hypertension Arterial Endothelial Cell: Proc Am Thoracic Soc, 2008: A251
166. Asosingh K, Aldred MA, VasANJI A, Drazba J, Sharp J, Farver C, Comhair SAA, Xu W, Licina L, Huang L, Anand-Apte B, Yoder MC, Tudor, RM, **Erzurum SC**, Increased levels of hyperproliferative and invasive bone marrow-derived CD34+CD133+ angiogenic progenitors in idiopathic pulmonary arterial hypertension: Proc Am Thoracic Soc, 2008: A771
167. Uetani K, Hiroi M, Kamisako T, Ohmori Y, **Erzurum SC**, Cleveland, OH, Osaka-Sayama, Influenza A Virus Suppresses the interferon signaling pathway by inhibiting phosphorylation of Stat 1 and Janus Kinases: Proc Am Thoracic Soc, 2008: A586
168. Matsumura SN, Han Y, Asosingh K., Swartz EC, **Erzurum SC**, Hsieh FH, Stem Cell Factor-dependent development of mast cells from endothelial colony forming cells: Proc Am Thoracic Soc, 2008: A511
169. Ghosh S, Ricci K, Janocha AJ, Comhair SAA, **Erzurum SC**, Loss of Copper/Zinc Superoxide Dismutase Activity in asthma: Proc AM Thoracic Soc, 2008: A466
170. Puwanant S, Park M, Tang W, Farha S, **Erzurum SC**, James Thomas. Department of Cardiovascular Medicine and Lung Biology The Cleveland Clinic, Cleveland, Ohio: Journal of the American Society of Echocardiography, May 2008, 21;5;531
171. Puwanant S, Park M, Tang WH, **Erzurum SC**, Fahra S, Thomas J, The Impact of Pulmonary Pressure and Right Ventricle on Left Ventricular Torsion Assessed by Speckle Tracking Echocardiography: American Heart Association Scientific Sessions, November, 2008, New Orleans, Louisiana
172. Farha SY, Asosingh K, Aldred M, Sharp J, Lichtin A, Loyd J, **Erzurum SC**, Angiogenic progenitor cells in familial pulmonary arterial hypertension: Proc AM Thoracic Soc, 2008; A534
173. Farha SY, Laskowski D, Steinhäusser W, **Erzurum SC**, Membrane Diffusion and Lung Capillary Blood Volume using DLNO and DLCO: Am Proc Thoracic Soc, 2008: A222
174. Swartz EC, Comhair SA, **Erzurum SC**, Hsieh FH, Differential expression of stem cell factor and c-kit in asthma: Proc Am Thoracic Soc, 2008: A106
175. Beall CM, Hoit BD, Dalton ND, Gebremedhin A, Janocha A, Zimmerman PA, Zimmerman AM, Strohl KP and **Erzurum S**, Amhara Highlanders In Ethiopia Elevate Pulmonary Artery Pressure And Blood Flow But Not Resistance: Hypoxia Proceedings, March 2009: Hypoxia XVI: Hypoxia and Exercise, Chateau Lake Louise, Alberta, Canada
176. K. Uetani, Itoh S, Hatamura I, Muragaki Y, **Erzurum SC**, IFN- Stimulates Prolonged Expression of HLA-DR in Human Airway Epithelium: Proc AM Thoracic Soc, 2009: A4967
177. DaVeiga SP, Swaidani S, Comhair SAA, **Erzurum SC**, MD, Aronica MA, Elevation of Hyaluronan Levels in Human Subjects with Atopic Asthma: Proc Am Thoracic Soc, 2009: A2852

178. Xu W, Fijalkowska I, Comhair SAA, Janocha AJ, Mavrakis LA, Tudor RM, **Erzurum SC**, Effect of MnSOD on HIF Activation in Endothelial Cells from PAH Lungs: Proc Am Thoracic Soc, 2009: A5121
179. Aldred MA, Comhair SAA, Garcia MV, Xu W, Asosingh K, Noon GP, Thistlethwaite PA, Tudor RM, **Erzurum SC**, Geraci MW, Coldren CD, Acquired Genetic Abnormalities in the Lungs of Patients with Pulmonary Arterial Hypertension: Proc Am Thoracic Soc, 2009: A6010
180. Balzar S, Comhair S, **Erzurum S**, Wenzel SE, Airway Intraepithelial Mast Cells Acquire a Different Phenotype Profile in Severe Asthma: Proc Am Thoracic Soc, 2009: A3722
181. Tilluckdharry L, Janocha A, Comhair SA, Dweik R, Gaston B, Teague WG, **Erzurum SC**, Bronchoalveolar Lavage and Serum Levels of Nitrogen Oxygen Species in Asthma: Proc Am Thoracic Soc, 2009: A2509
182. Farha S, Asosingh K, Sharp J, George D, Aldred MA, Steinle R, His E, Theil K, Lichtin A, Loyd JE, Park M, Tang W, Thomas J, **Erzurum SC**, Erythropoietin: Biomarker of Pulmonary Hypertension: Proc Am Thoracic Soc, 2009: A2662
183. Greenwald R, Fitzpatrick AM, **Erzurum S**, Gaston B, Teague WG, The Severe Asthma Phenotype Is Characterized by Elevated Levels of Formate in Exhaled Breath Condensate: Proc Am Thoracic Soc, 2009: A3921
184. Troy P, MD, Lewis G, Janocha AJ, Van Horn T, **Erzurum SC**, Waxman AB, Systrom DM, Abnormal Transpulmonary Metabolite Flux in Exercise Induced Pulmonary Arterial Hypertension: Proc Am Thoracic Soc, 2009: A4131
185. Liu L, Teague WG, **Erzurum S**, Davis MD, Marozkina NV, Fitzpatrick A, Yemen S, Curran-Everett D, Israel E, Castro M, Bleecker ER, Calhoun W, Wenzel S, Busse W, Chung KF, Hunt JF, Gaston B, Determinants of Breath Condensate pH in a Large Asthma Cohort: pH as a Potential Biomarker for Identifying Asthma Subpopulations: Proc Am Thoracic Soc, 2009: A2518
186. Asosingh K, Hanson J, Qi JH, Anand-Apte B, Aronica MA, **Erzurum SC**, Endothelial Progenitor Cells Mediate Mobilization and Recruitment of Eosinophils in Asthma: Proc Am Thoracic Soc, 2009: A5450
187. Leahy R, Chambellan A, Xu W, Cruickshank P, Asosingh K, Comhair SA, **Erzurum SC**, Survival of Lung Cancer Cells with of c-Fos Knockdown: Proc Am Thoracic Soc, 2009: A5030
188. Comhair SA, Mavrakis L, Xu W, Asosingh K, **Erzurum SC**, Human Lung Microvascular Endothelial Cells in Pulmonary Arterial Hypertension: Proc Am Thoracic Soc, 2009: A1853
189. Shah P, Fiterman J, MD, McEvoy C, **Erzurum S**, Safety of Bronchial Thermoplasty (BT) in Patients with Severe, Symptomatic Asthma: Positive Safety Profile in the AIR2 Trial: Proc Am Thoracic Soc, 2009: A2814
190. Farha S, Asosingh K, Laskowski D, Hammel J, Dweik R, Wiedemann HP, **Erzurum SC**, Respiratory Function in Asthmatic Women over Time of the Menstrual Cycle: Proc Am Thoracic Soc, 2009: A1306
191. Patel C, Trunick C, **Erzurum S**, Garg V, Khan S, Atreja A, iConnect: a Web-based 'Do it Yourself' Patient Recruitment Registry and Platform, American Medical Informatics Association, 2011
192. Farha S, Asosingh K, Sharp J, George D, Aldred MA, Steinle R, His E, Theil K, Lichtin A, Loyd JE, Park M, Tang W, Thomas J, **Erzurum SC**, Erythropoietin: Biomarker of Pulmonary Hypertension: Am J Respir Crit Care Med, April 2009, 179: A2662
193. Puwanant S, Park M, Popovic Z, Tang WH, Farha S, George D, Sharp J, Puntawangkoon J, Loyd JE, **Erzurum SC**, Thomas JD, Ventricular Geometry, Strain, and Rotational Mechanics in Pulmonary Artery Hypertension: Circulation, 2010, 121; 259-266



194. Xu W, Comhair SA, Janocha A, Mavrakis LA, **Erzurum SC**, Alteration of nitric oxide synthesis related to abnormal cellular bioenergetics in asthmatic airway epithelium: *Am J Respir Crit Care Med*, May 2010:A1436
195. Ratanamaneechat S, George D, Kham A, Baran J, Nagle K, Naples R, Hughes R, Mattox E, Peterson L, Mavrakis L, Koo M, **Erzurum S**, Comhair SA, Serum Superoxide Dismutase Activity as a Predictor of Adverse Events after H1N1 vaccination: *Am J Respir Crit Care Med*, May 2010: A6791
196. Parikh PS, Ratanamaneechat S, George D, Comhair SA, Baran J, Hughes R, Koo M, Mattox E, Nagle K, Naples R, Peterson L, **Erzurum S**, Jain A, Recruitment and Enrollment of Asthmatics in a Phase II Clinical Trial: *Am J Respir Crit Care Med*, May 2010: A2735
197. Dostanic-Larson I, Mavrakis L, Xu W, Tuder R, **Erzurum S**, Comhair SA, Mitochondrial Superoxide Dismutase Enzyme (MnSOD) Regulates Hypoxia Inducing Factor-1 Alpha (HIF-1a) Activity in Human Vascular Endothelial Cells: *Am J Respir Crit Care Med*, May 2010: A3936
198. Drake KM, Comhair SA, **Erzurum SC**, Aldred MA, microRNA processing is dysregulated by mutations associated with Pulmonary Arterial Hypertension: *Am J Respir Crit Care Med*, May 2010: A4019
199. Ghosh S, Mavrakis LA, Janocha AJ, Comhair SA, **Erzurum SC**, Aberrant eNOS phosphorylation in Idiopathic Pulmonary Arterial Hypertension: *Am J Respir Crit Care Med*, May 2010: A5239
200. Kao C, Wedes S, Ratanamaneechat S, George D, Dweik RA, Hughes R, Naples R, Comhair S, **Erzurum S**, Metabolic Fates of Arginine in Asthma: *Am J Respir Crit Care Med*, May 2010: A5615
201. Asosingh K, Hanson J, Cheng G, Aronica M, **Erzurum S**, Bone Marrow-Derived Angiogenic Progenitors Initiate Asthmatic Airway Inflammation: *Am J Respir Crit Care Med*, May 2010: A5776
202. Farha S, Asosingh K, Xu W, Sharp J, George D, Comhair SA, Lichtin A, Loyd JE, **Erzurum SC**, Hypoxia Inducible Factors And Myeloid Abnormalities In Pulmonary Arterial Hypertension: *Am J Respir Crit Care Med*, May 2011, 183: A1041
203. Asosingh K, Farha S, Graham B, Lichtin A, Sharp J, George D, Hanson J, Aldred M, Theil K, Loyd JE, Tuder R, **Erzurum SC**, Human Pulmonary Arterial Hypertension Bone Marrow-Derived CD133+ Myeloid Progenitors Induce Pulmonary Vascular Remodeling In Immunodeficient Mice: *Am J Respir Crit Care Med*, May 2011, 183: A1039
204. Slager RE, Li H, Moore W, Hawkins G, Peters SP, Busse WW, Castro M, Chung KF, **Erzurum SC**, Fitzpatrick AM, Gaston B, Teague WG, Israel E, Jarjour NN, Wenzel SE, Calhoun WJ, Meyers DA, Bleecker ER, Predictive Model Of Severe Atopic Asthma Phenotypes Using Interleukin 4/13 Pathway Polymorphisms, *Am J Respir Crit Care Med*, May 2011, 183:A1332
205. Ortega VE, Hastie A, Sadeghnejad A, Moore W, Hawkins GA, Peters SP, Busse WW, Calhoun WJ, Castro M, Chung KF, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Teague WG, Wenzel SE, Meyers DA, Bleecker ER, Rare Beta2-Adrenergic Receptor Gene Polymorphisms In Asthma Cases And Controls From The Severe Asthma Research Program: *Am J Respir Crit Care Med*, May 2011, 183:A1357
206. Decker I, Ghosh S, Comhair SA, Farha S, Wang S, Brittenham G, Lichtin A, **Erzurum SC**, High Levels Of Zinc Protoporphyrin Identify Iron Metabolic Abnormalities In Pulmonary Arterial Hypertension: *Am J Respir Crit Care Med*, May 2011, 183: A1997
207. Marozkina N, Teague WG, Thompson-Batt D, **Erzurum SC**, Gaston B, Charlottesville, Carbonyl Reductase 1 Expression And Activity Are Increased In Human Asthma: *Am J Respir Crit Care Med*, May 2011, 183: A2066

208. Kozlowski J, Castro M, Hoffman EA, Cook-Granroth J, **Erzurum SC**, Wenzel SE, Busse WW, Zheng J, Wilson B, Schechtman K, Gierada DS, Repeatability Of CT Airway Measurements In Severe Asthma: *Am J Respir Crit Care Med*, May 2011, 183: A2194
209. Drake KM, Comhair SAA, **Erzurum SC**, Aldred M, Dysregulated MicroRNA Processing In Pulmonary Arterial Hypertension Contributes To Endothelial And Smooth Muscle Cell Hyperproliferation: *Am J Respir Crit Care Med*, May 2011, 183: A2523
210. Marozkina N, Altes T, de Lange E, Curran-Everett D, Thompson-Batt D, Comhair SA, **Erzurum SC**, Teague WG, Gaston B, S-Nitrosoglutathione (GSNO) Catabolic Enzymes In Severe Asthma: *Am J Respir Crit Care Med*, May 2011, 183: A2566
211. Xu W, Comhair SA, Janocha AJ, Mavrakis LA, **Erzurum SC**, Cellular Bioenergetics In Asthma: *Am J Respir Crit Care Med*, May 2011, 183: A2807
212. Ghosh S, Willard B, Comhair SA, Aulak KS, Kinter M, **Erzurum SC**, Janus Function Of Copper-Zinc Superoxide Dismutase In Human Asthma: *Am J Respir Crit Care Med*, May 2011, 183:A2791
213. Sharma P, Comhair S, Ghosh S, Xu W, Veleparambil MM, Min B, Kang SW, Yu DY, Ho YS, **Erzurum SC**, Haque SJ, Antioxidant-Mediated Negative Regulation Of IL-4/IL-13 Signaling, *Am J Respir Crit Care Med*, May 2011, 183: A2794
214. Naples R, Laskowski D, McCarthy K, Mattox E, Comhair SAA, **Erzurum SC**, The Detection Of Changes In Carboxyhemoglobin Levels In Asthmatics: *Am J Respir Crit Care Med*, May 2011, 183: A4454
215. Sangani S, Bitik B, Ratanamaneechat S, Xu W, Comhair SAA, Kao C, **Erzurum SC**, Alanine Transaminase In The Higher Levels Of Nitric Oxide In Asthma: *Am J Respir Crit Care Med*, May 2011, 183:A6403
216. Farha S, Sharp J, Asosingh K, Park M, Hanson J, Comhair SA, Tang WH, Thomas J, Loyd JE, **Erzurum SC**, Mast Cells In Pulmonary Arterial Hypertension: *Am J Respir Crit Care Med*, May 2011, 183: A4949
217. Wei L, Warburton RR, Comhair SA, **Erzurum SC**, Hill NS, Fanburg BL, Association Of Serotonylation Of Fibronectin With Pulmonary Hypertension: *Am J Respir Crit Care Med*, May 2011, 183: A4956
218. Leahy R, Xu W, Comhair SAA, **Erzurum SC**, Hypoxia In Airway Epithelial Cell Differentiation: *Am J Respir Crit Care Med*, May 2011, 183: A5115
219. Janocha AJ, Koch CD, Tiso M, Gibbons L, Doctor A, Gaston B, Ponchia A, Beall C, **Erzurum SC**, Nitric Oxide And Hypoxia Inducible Factors In The Acclimatization Of Lowlanders To High Altitude: *Am J Respir Crit Care Med*, May 2011, 183: A5187
220. Ratanamaneechat S, George D, NeumannDR, DiFilippo FP, Comhair SA, Aronica M, Asosingh K, Ghosh S, Baran J, **Erzurum SC**, Imaging Inflammation With 99mTc-HMPAO SPECT/CT In Asthma, *Am J Respir Crit Care Med* 183;2011:A5566
221. Li X, Howard TD, Moore W, Ampleford EJ, Li H, Busse WW, Calhoun WJ, Castro M, Chung KF, **Erzurum SC**, Fitzpatrick AM, Gaston B, Israel E, Jarjour NN, Teague WG, Wenzel SE, Peters SP, Hawkins G, Bleecker ER, Meyers DA, Meta-Analyses Of Genome-Wide Association Studies In Five Asthma Populations Identify Novel Genes Associated With Lung Function: *Am J Respir Crit Care Med*, May 2011, 183: A6176
222. Fettig J, Kalhan S, **Erzurum SC**, Comhair S, Metabolomic Profile Of Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A6826.
223. Kao C, Wedes S, Ratanamaneechat S, Comhair S, Hsu J, Jahoor F, **Erzurum SC**, In Vivo Arginine Metabolism In Pulmonary Hypertension: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A3423.

224. Taliercio R, Laskowski D, Dweik R, **Erzurum SC**, Khatri S, Measurement Of Lung Compliance May Identify A Distinct Clinical Phenotype Of Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2195.
225. Slager R, Moore W, Peters S, Busse W, **Erzurum SC**, Wenzel S, Meyers D, RE Bleecker, Rare TH1 And TH2 Pathway Genetic Variants Contribute To Severe Allergic Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2509.
226. Ghosh S, Gupta M, Mavrakis L, Janocha A, Comhair S, Prasad SV, **Erzurum SC**, Loss Of Phosphatase-Mediated Activation Of ENOS In Pulmonary Arterial Hypertension: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A3430.
227. Xu W, Comhair S, George D, Cardenes N, Shiva S, Kao C, Wedes SH, Naples RF, Ghosh G, Farver CF, **Erzurum SC**, Mitochondrial Function And Oxidative Stress In Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A5653.
228. Oldham WH, Lewis GD, Janocha A, Naples RF, Pappagianopoulos P, Waxman A, **Erzurum SC**, Systrom D, Nitric Oxide Pathway Metabolite Flux In Exercise-Induced Pulmonary Arterial Hypertension: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A6736.
229. Veleparambil MM, Lauer M, Tremblay M, Hascall V, **Erzurum SC**, Haque SJ, Oxidative Stress Causes Constitutive Activation Of STAT6 By An IL-13-Independent Mechanism In Airway Cells: *Am. J. Respir. Crit. Care Med*. 2012; 185: A5646.
230. Ghosh S, Willard B, Comhair S, Xu W, Shiva S, Aulak K, Kinter M, **Erzurum SC**. Redox Dependent Function Of Copper-Zinc Superoxide Dismutase In Human Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A4960.
231. Wenzel SE, Kang D, Kaminski N, Milosevic J, Trudeau J, Meyers DA, Bleecker ER, Busse WW, **Erzurum SC**, Woodruff PG, Epithelial Microarray Studies From The Severe Asthma Research Program (SARP): *Am. J. Respir. Crit. Care Med.*, May 2012; 185: A2510.
232. Ratanamaneechat S, George D, Neumann DR, DiFilippo FP, Khan A, Aronica MA, Asosingh K, Ghosh S, Baran J, Comhair S, **Erzurum SC**, Heterogeneity Of Lung Inflammation In Asthma: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2783.
233. Aldred MA, Federici C, Comhair S, **Erzurum SC**, Drake KM, Somatic Deletion Of SMAD9 In Congenital Heart Disease-Associated Pulmonary Arterial Hypertension Leads To Altered MicroRNA Processing And Cell Hyperproliferation: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A6514.
234. Duong HT, Comhair SA, Mavrakis L, Savasky B, Aldred MA, **Erzurum SC**, Asosingh K, High Proliferative Endothelial Colony-Forming Cells Among Human Pulmonary Artery Endothelial Cells In Pulmonary Arterial Hypertension: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A5092.
235. Sharp J, Park M, Lundgrin EL, Tang W, Thomas J, Asosingh K, Comhair S, Dweik RA, Jennings C, Minai O, **Erzurum SC**, and Farha S, Coenzyme Q Affects Cardiac Function And Erythropoiesis In Pulmonary Arterial Hypertension: *Am. J. Respir. Crit. Care Med*. 2012; 185: A6738.
236. Li X, Moore W, Li H, Ampleford EJ, Busse WW, **Erzurum SC**, Wenzel SE, Howard TD, Hawkins GA, Meyers DA, Bleecker ER, Phenotype Determinants For Asthma Severity Clusters And Genetic Association For Cluster-Based Asthma Severity In Severe Asthma Research Program (SARP): *Am. J. Respir. Crit. Care Med*. 2012; 185: A2501.
237. Marozkina N, Zaman K, Stsiapura VI, Paget-Brown A, Dwyer S, Davis M, Lewis SJ, Wenzel SE, **Erzurum SC**, Teague WG, Comhair S, Gaston B, Airflow-Associated Nitric Oxide Synthase Activation Is A Critical Determinant Of Human Airway S-Nitrosothiol Levels: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A3929.

238. Chen T, Zhou G, Zhou Q, Ibe JC, Comhair S, **Erzurum SC**, Raj JU, MiR-17~92 Regulates Differentiation Of Pulmonary Arterial Smooth Muscle Cells Via A TGF-<sup>2</sup> Dependent Pathway: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2613.
239. Bhakta N, Solberg OD, Nguyen C, Peng JC, Wang TW, Nguyen CP, Arron JR, Fahy JV, Bleecker ER, Meyers DA, **Erzurum SC**, Busse WW, Kaminski N, Wenzel SE, Woodruff PG, Evidence For A Th2 Phenotype Across The Spectrum Of Asthma Severity: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2193.
240. Lundgrin EL, Park MM, Sharp J, Tang WHW, Thomas JD, Asosingh K, Comhair S, DiFilippo FP, Neumann DR, Graham BB, Tudor RM, **Erzurum SC**, Glycolytic Metabolism In Hearts Of Pulmonary Arterial Hypertension Patients: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A3450.
241. Ortega V, Hawkins G, Hastie AT, Moore WC, Sadeghnejad A, Busse WW, **Erzurum SC**, Wenzel SE, Peters SP, Meyers DA, Bleecker ER, Effects Of Rare beta2-Adrenergic Receptor Gene Variants And Long-Acting Beta Agonists On Healthcare Utilization And Corticosteroid Use In Two Multi-Ethnic Asthma Populations: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2514.
242. Asosingh K, Duong HT, Comhair SAA, Mavrakis L, Savasky B, Aldred MA, **Erzurum SC**. Lung-resident endothelial colony-forming cells in pulmonary arterial hypertension, International Society for Advancement of Cytometry meeting, June 23 – 27, 2012 Leipzig, Germany.
243. Harper Y, Asosingh K, Xu J, **Erzurum SC**, Tang WHW. Dysregulated arginine methylation is associated with deregulated proangiogenic progenitor activity and reduced adaptive vascular response in patients with advanced left sided heart failure, Heart Failure Society of America, September 9 -12, 2012, Seattle, WA.
244. DiFilippo FP, Patel S, Asosingh K, **Erzurum S**. Optimizing super-resolution on a clinical PET/CT for small animal PET. Society of Nuclear Medicine, June 9 – 13, 2012, Miami Beach, Florida.
245. Holguin F, Khatri S, **Erzurum SC**, Powers RW, Trudeau J, Wenzel SE, Reduced L-Arginine/ADMA As A Potential Mechanism To Explain Increased Symptom Severity And Reduced Atopy In Late Onset Obese Asthmatics: *Am. J. Respir. Crit. Care Med*, May 2012; 185: A2197.
246. W. Xu, S.A.A. Comhair, D. George, N. Cardenes, S. Shiva, C. Kao, S.H. Wedes, R.F. Naples, S. Ghosh, C.F. Farver, **S.C. Erzurum**. Mitochondrial Function And Oxidative Stress In Asthma, *Am J Respir Crit Care Med* 185;2012:A5653.
247. S. Ghosh, A.J Janocha, C. Venner, K. Asosingh, M. Aronica, **S.C. Erzurum**. Arginase II: A Check Point For Airway Inflammation In Mouse Model Of Asthma, *Am J Respir Crit Care Med* 187;2013:A2691
248. Fernandez-Bustamante A, Agazio A, Janocha A, Repine JE, **Erzurum S**, Seres T. Analysis of exhaled breath condensate nitric oxide metabolites in short-term mechanically ventilated patients during general anesthesia. 2013. International Anesthesia Research Society Annual Meeting, San Diego, CA, May 4-7, 2013.
249. Sharma A, Janocha A, Hill BT, Smith MR, **Erzurum SC**, and Almasan A. Targeting mTORC1 and Metabolism to Overcome Fludarabine Resistance. 2013. Cell Death Meeting, Cold Spring Harbor Laboratory, Cold Spring, NY, October 8-12, 2013.
250. Hammad T, Calabrese LH, Uchino K, John S, Stillman M, Tepper S, O'Rourke C, Janocha A, **Erzurum S**, Hajj-Ali R. Endothelin-1 Plays a Role In The Pathogenesis Of Reversible Cerebral Vasoconstriction Syndrome. 2013. American College of Rheumatology/Association of Rheumatology Health Professionals Annual Meeting, San Diego, CA, October 26-30, 2013.
251. Janocha A, Basnyat B, Neupane M, Gebremedhin A, Khan A, Ricci K, Naples R, Comhair S, **Erzurum S**, Beall C. Superoxide Dismutase in Adaptation to High Altitude Hypoxia. 2014. Keystone Symposium:

Sensing and Signaling of Hypoxia: Interfaces with Biology and Medicine, Breckenridge, CO, January 7-12, 2014.

252. Cheong HI, Leahy R, Major A, Xu W, Ghosh S, **Erzurum SC**. The role of oxygen tension in the differentiation and bioenergetics state of the airway epithelium. American Thoracic Society 2014, San Diego, California.
253. Cheong HI, Leahy R, Major A, Xu W, Ghosh S, **Erzurum SC**. The Role of Oxygen Tension and Bioenergetics in the Differentiation of the Airway Epithelium. 2014 Keystone Symposia: Sensing and Signaling of Hypoxia: Interfaces with Biology and Medicine. January 7 - January 12, 2014 Beaver Run Resort • Breckenridge, Colorado USA
254. Xu W, Comhair SAA, Farver CF, **Erzurum SC**. Arginine Metabolism and Bioenergetics in Asthma. American Thoracic Society 2013, Philadelphia, Pennsylvania. American Journal of Respiratory and Critical Care Medicine, Vol. 187, Meeting Abstracts, 2013: A2634
255. Li, X, Moore, WC, Hastie AT, Ampleford EJ, Li H, Hawkins GA, Busse WW, **Erzurum SC**, Kaminski N, Wenzel SE, Meyers DA, Bleecker ER. Deciphering Functional Variants for Genes Associated with Asthma Susceptibility Using eQTL Of Bronchial Epithelial Cells and Bronchial Alveolar Lavage. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, 2014: A1001
256. Comhair SAA, Cowan DC, Peterson L, Cowan J, Williamson A, Palmay R, Hazen S, **Erzurum SC**, Taylor DR. Noninvasive Biomarkers: Prediction Of Steroid Responsiveness In Asthma. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A2173
257. Zein J, Comhair SAA, Dweik RA, Moore WC, Bleecker ER, Busse WW, Calhoun W, Castro M, Chung KF, Israel E, Jarjour NN, Teague WG, Wenzel SE, Gaston B, Fitzpatrick AM, **Erzurum, SC**. The Distinctive Role of Age and Asthma Duration On Asthma Severity. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A2425.
258. Farha S, Comhair SAA, Aldred MA, **Erzurum SC**. Mitochondrial Haplogroups In Pulmonary Arterial Hypertension. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A2635
259. Farha S, Dweik RA, Rahaghi FF, Benza RL, Hassoun PM, Frantz RP, Torres F, Quinn, D, Comhair SAA, **Erzurum SC**, Asosingh K. Role Of KIT Inhibition By Imatinib In Pulmonary Arterial Hypertension. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A3299
260. Cheong HI, Leahy R, Xu W, Majors A, Ghosh S, **Erzurum SC**. The Role of Oxygen Tension in the Differentiation and Bioenergetics State of the Airway Epithelium. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A3415
261. Roach EC, Ayvaz S, Boyle M, Mattox E, Park M, Escano J, Khatri SB, Koo M, **Erzurum SC**. Clinical Trial Enrollment Using Electronic Health Records. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A3706
262. Roach EC, Kalaycio M, Park M, Tang WHW, Thomas JD, Asosingh K, **Erzurum SC**, Farha S. Myeloproliferative Diseases And Right Ventricular-Pulmonary Vascular Function, American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A4136
263. Aldred MA, Federici C, McNelly L, Comhair SAA, **Erzurum SC**, Drake KM. Levels Of DNA Damage Are Systemically Elevated In Patients With Pulmonary Arterial Hypertension And Can Be Suppressed With N-Acetylcysteine. American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A4769
264. Ghosh S, Gupta M, Mavrakis L, Janocha AJ, Comhair SAA, Prasad SVN, **Erzurum SC**. Protein Kinase C Mediated Deregulation Of eNOS Phosphorylation In Pulmonary Arterial Hypertension, American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A5561

265. Rahaman SO, Dominak LM, Paruchuri S, Southern BD, Abraham S, Niese KA, R.G. Scheraga RG, Ghosh S, Nagapasad S, Thodeti CK, Schilling WP, Tschumperlin DJ, Zhang DX, **Erzurum SC**, Olman MA. TRPV4 Calcium Channel Deficiency Protects Against Pulmonary Fibrosis In Mice And Abrogates Myofibroblast Differentiation, American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A6296
266. Ortega VE, Moore WC, Hawkins G, Ampleford EJ, Busse WW, Castro M, **Erzurum SC**, Israel E, Wenzel SE, Peters SP, Bleecker ER, Meyers DA. African Ancestry Is Associated With Lower Baseline Lung Function, Misclassification Of Disease Severity, And Healthcare Utilization In African Americans With Severe Asthma, American Thoracic Society 2014, San Diego, CA. Meeting Abstracts, A6366
267. Chun HJ, Hwangbo C, Lee HW, Kang H, Ju H, Han J, Papangeli I, Kim JD, HU X, Comhair SAA, Thomas JL, Alitalo K, **Erzurum SC**. VEGFR3 Regulates BMP2 Signaling in Pulmonary Arterial Hypertension. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A6346
268. Gauthier M, Tedrow JR, Wu W, Milosevic J, Bleecker ER, Meyers DA, **Erzurum SC**, Gaston BM, Busse WW, Jarjour NN, Kaminski N, Ray A, Wenzel SE. Differential Gene Expression Profiles in the Bronchial Epithelial Cells of Severe Asthmatics Treated with Oral Corticosteroids. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A2481
269. Lauer ME, Majors AK, Comhair S, Ruple LM, Dworski R, Grandon D, Laskowski D, Farver CF, Dweik RA, **Erzurum SC**, Hascall VC, Aronica MA. Hyaluronan in Asthma Severity and Experimental Asthma Exacerbation. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A2498
270. Gupta MK, Asosingh K, Aronica M, Comhair SAA, **Erzurum SC**, Panettieri RA, Naga Prasad SV. Loss of Beta ( $\beta$ )-Adrenergic Receptor Resensitization in Human Airway Smooth Muscle Cells from Asthmatic Patients. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A3536
271. Ortega VE, Moore WC, Zein J, Hastie AT, Ampleford E, Peters SP, Busse WW, Castro M, **Erzurum SC**, Israel E, Wenzel SE, Hawkins G, Bleecker ER, Meyers DA. African Ancestry is Associated with Lung Function, Healthcare Utilization, and Airways Inflammation in African Americans with Asthma, American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A1061
272. Fajt ML, Tedrow JR, Milosevic J, Trudeau JB, Bleecker ER, Meyers DA, **Erzurum SC**, Gaston BM, Busse WW, Jarjour NN, Kaminski N, Wenzel SE. Circadian Rhythm and Clock Gene Expression are Altered in Asthmatic Epithelium and Bronchoalveolar Lavage (BAL) Cells. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A3628
273. Riley C, Wenzel SE, Bleecker ER, Busse WW, Castro M, **Erzurum SC**, Fitzpatrick AM, Gaston BM, Israel E, Jarjour NN, Moore WC, Peters SP, Teague WG, Chung KF, Holguin F. The association Between Reduced Mid-Forced Expiratory Flow Rates (FEF<sub>25-75</sub>) with Clinical Outcomes in Patients with Asthma Participating in the Severe Asthma Research Program (SARP). American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A4188
274. Haslip M, Dostanic I, Huan Y, Zhang Y, Russell KS, Jurczak M, Mannam P, Giordano F, Chun HJ, Young L, **Erzurum SC**, Lee PJ. Endothelial Ucp2 Regulates Mitophagy and Pulmonary Hypertension During Intermittent-Hypoxia. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A5948
275. Baldarelli E, DiDonato J, Gaston BM, Teague WG, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Chung KF, Curran-Everett D, Israel E, Moore WC, Wenzel SE, Jarjour WN, Hazen SL, **Erzurum SC**, Comhair SAA. Increased Systemic Paraoxonase Activity is an Adaptive Response in Asthma. American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A5984
276. Pasha S, Ortega VE, Ampleford EJ, Bamshad MJ, Barnes KC, Busse WW, Castro M, **Erzurum SC**, Israel E, Mathias RA, Nickerson D, Wenzel SE, Hawkins G, Bleecker ER, Meyers DA. Rare SERPINA1 Variants are Associated with Lung Function and Health Care Utilization in a Multi-Ethnic Population

- from the Severe Asthma Research Program (SARP). American Thoracic Society 2015, Denver, CO. Meeting Abstracts, A6057
277. Uzunaslan D, Park M, Chirakarnjanakorn S, Jellis C, Roach EC, Highland KB, Thomas J, Farha SY, Erzurum SC, Tang WHW, Neumann D, Patel S, DiFilippo F. Determining the Role of Cardiac FDG Gated PET Scan for the Assessment of Right Ventricular Size and Function in Patients with Pulmonary Hypertension. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A7359
278. Zein JG, DeBoer MD, Teague WG, Comhair S, Castro M, Busse WW, Jarjour NN, Bleecker ER, Moore WC, Wenzel SE, Calhoun WJ, Gaston B, Erzurum SC. Sex Hormones Impact Asthma Severity and Lung Function in Adult Men and Women. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A1436
279. Gaston B, Myers RE, Phillips B, Mauger D, Bacharier LB, Ross K, Chmiel JF, Marozkina N, Fitzpatrick AM, Bleecker E, Castro M, Fahy JV, Ly N, Jarjour NN, Ramratnam S, Zein JG, Irani AM, Levy BD, Phipatanakul W, Holguin F, Auja S, Wenzel SE, **Erzurum SC**, Teague WG, DeBoer MD. Pubertal Changes Associated with Estrogen and Not Androgens Are More Strongly Associated with Lower Lung Function and Fixed Airflow Obstruction: A Cross-Sectional Analysis of Children and Adolescents in SARP III. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A2176
280. Chen J, Singla S, Sysol JR, Comhair S, Ye S, **Erzurum SC**, Machado RF. Autocrine and Paracrine Nicotinamide Phosphoribosyltransferase (NAMPT) Activity Promote Proliferation of Human Pulmonary Artery Smooth Muscle Cells. American Thoracic Society 2016, San Francisco, CA, A2213
281. Waxman AB, Bennett C, Janocha AJ, Comhair SAA, Kalhan SC, Leopold JA, **Erzurum SC**, Systrom DM. Abnormal Transpulmonary Metabolite Flux In Exercise Induced Pulmonary Arterial Vasculopathy. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A2909
282. Comhair SAA, Baicker-McKee SM, Bleecker E, Castro M, Fahy JV, Israel E, Jarjour N, Levy BD, Mauger D, Wenzel SE, Teague WG, Gaston B, **Erzurum SC**. Age and Gender-Specific Protective Effects of Superoxide Dismutase in Asthma Severity. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A3171
283. Janocha AJ, Gebremedhin A, Khan A, Ricci KS, Monocello L, Zhang R, Comhair SAA, **Erzurum SC**, Beall CM. Superoxide Dismutase Activity, Oxidative DNA Damage, and Nitric Oxide in Ethiopian High Altitude Populations. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A3172
284. Farha SY, Hu B, Comhair S, Zein JG, Dweik R, **Erzurum SC**, Aldred M. Maternal Ancestry and Risk of Pulmonary Arterial Hypertension. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A3948
285. Moore WC, Li X, Li H, Castro M, **Erzurum SC**, Fahy JV, Israel E, Jarjour NN, Levy BD, Bacharier LB, Fitzpatrick AM, Gaston B, Ly N, Myers RE, Ramratnam S, Phipatanakul W, Teague WG, Mauger D, Wenzel SE, Meyers DA, Bleecker ER. Clinical Cluster Phenotypes from the Severe Asthma Research Program (SARP1/2): Reproducibility in SARP 3 and the Importance of Baseline Lung Function in Disease Stability and Progression. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A7852
286. Xu W, Ghosh S, Comhair SAA, Asosingh K, Janocha AJ, Mavrakis LA, Bennett C, Gruca L, Graham BB, Queisser K, Kao CC, Wedes SH, Petrich J, Tudor R, Kalhan SC, **Erzurum SC**. Mitochondrial Arginine Metabolism in Bioenergetics of Asthma. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A4644
287. Cheong H, Dermawan JKT, Asosingh K, Queisser K, Xu W, Stephens O, Naga Prasad SV, **Erzurum SC**. Requirement of b-Adrenergic Receptor Activation for Hypoxia-Mediated Signaling. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A5924



288. Cahill KN, Katz H, Cui J, Kazani S, Crosby-Thompson A, Garofalo D, Castro M, Jarjour NN, Dimango E, **Erzurum SC**, Trevor J, Shenoy K, Chinchilli VM, Wechsler M, Boyce J, Israel E. Mast Cell Inhibition by Imatinib Reduces Airway Reactivity and Improves FEV1 in Severe Asthma. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A7892
289. Waxman AB, Grove LM, Systrom DM, Leopold JA, Dweik R, Heresi GA, **Erzurum SC**, Olman MA. Patients with Exercise Induced Pulmonary Arterial Hypertension Exhibit Coagulation System and Endothelial Activation. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A6587
290. Gupta MK, Ghosh S, Mavrakis LA, Comhair S, **Erzurum SC**, Naga Prasad SV. Beta Adrenergic Receptor Dysfunction in Pulmonary Arterial Hypertension. American Thoracic Society 2016, San Francisco, CA. Meeting Abstracts, A7282
291. Zein JG, Yaqoob Z, Al-Kindi SG, DeBoer M, Teague WG, Gaston B, **Erzurum SC**. Polycystic Ovary Syndrome Is Associated with a Higher Risk for Asthma. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A1307
292. Opina MTD, Bleecker ER, Hastie AT, Li X, Li H, Busse WW, Castro M, **Erzurum SC**, Israel E, Wenzel SE, Meyers D, Moore WC. Polycystic Ovary Syndrome Is Associated with a Higher Risk for Asthma. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A1365
293. Peters M, Kerr S, Fajt ML, Levy BD, Israel E, Phillips B, Mauger D, Comhair SA, **Erzurum SC**, Johansson MW, Jarjour NN, Coverstone A, Castro M, Hastie AT, Bleecker E, Wenzel SE, Woodruff PG, Fahy JV. Clinical Features of Refractory Airway Type-2 Inflammation in Severe Asthma. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A1372
294. Farha S, Saygin D, Park M, Roach C, Comhair SA, Highland K, Hammel J, Newmann D, DiFilippo F, Tang WW, **Erzurum S**. Pulmonary Arterial Hypertension Treatment with Carvedilol for Heart Failure. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A1045
295. Asosingh K, Lauruschkat C, Queisser K, Wanner N, Weiss K, Xu W, **Erzurum SC**. Critical Role for Arginine Metabolism in a Combined Th2 and Th17 Airway Inflammation in the House Dust Mite Model. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A2963
296. Ghosh A, Panettieri Jr. RA, **Erzurum SC**, Stuehr DJ. Evidence of a Dysfunctional Soluble Guanylate Cyclase in Human Airway Smooth Muscle Cells Derived from Asthma. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A2966
297. Stuehr D, Ghosh A, Koziol-White C, Asosingh K, Aronica M, Panettieri RA, **Erzurum S**. Soluble Guanylate Cyclase as an Alternative Target for Bronchodilator Therapy in Asthma. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A3162
298. Israel E, Mauger D, Sorkness RL, Gaffin J, Holguin F, Woodruff PG, Ly N, Bacharier L, Bhakta NR, Moore WC, Peters SP, Bleecker E, **Erzurum SC**, Phipatanakul W. Failure to Respond to Systemic Corticosteroids Identifies Severe Asthma Patients with Increased Likelihood of a Longitudinal Decline in Airway Function in the Severe Asthma Research Program. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A3184
299. Barrios CR, Ortega VE, Ampleford EJ, Busse WW, Castro M, **Erzurum SC**, Israel E, Pennington EJ, Wenzel SE, Hawkins G, Bleecker ER, Meyers DA. Rare, Pathogenic CFTR Variants Are Associated with Lung Function in a Multi-Ethnic Population from the Severe Asthma Research Program (SARP). American Thoracic Society 2017, Washington, DC. Meeting Abstracts A3245
300. Gupta M, Piedimonte G, Harford TJ, Panettieri, Jr. R, **Erzurum SC**, Naga Prasad SV. Nitric Oxide (NO) Axis Mediates  $\beta$ -Adrenergic Receptor Dysfunction in Human Airway Smooth Muscle Cells American Thoracic Society 2017, Washington, DC. Meeting Abstracts A4445



301. Gupta M, Ghosh S, Mavrakis L, Comhair SA, **Erzurum SC**, Naga Prasad SV. beta-Arrestin and PP2A Interaction Plays a Key Role in Determining the beta-Adrenergic Receptor Functionality in Pulmonary Arterial Hypertension. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A4471
302. Xu W, Comhair SA, Janocha AJ, Mavrakis LA, Bennett CD, Gruca LL, Queisser KA, Asosingh K, Kalhan SC, **Erzurum SC**. Arginine Metabolic Endotypes in Related to Asthma Severity. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A4697
303. Zein JG, Love TE, **Erzurum SC**. Asthma Is Associated with a Lower Risk of Sepsis and Sepsis-Related Mortality among Hospitalized Patients. American Thoracic Society 2017, Washington, DC. Meeting Abstracts A4699
304. Ortega VE, Daya M, Ampleford E, Zein JG, Rafaels N, Hastie AT, Levy BD, Castro M, **Erzurum SC**, Fahy JV, Fitzpatrick AM, Israel E, Jarjour NN, Wenzel SE, Hawkins GA, Moore WC, Peters SP, Barnes K, Bleecker ER, Meyers DA. Whole-Genome Admixture Mapping Reveals Novel Loci for Pre-Bronchodilator and Maximum, Post-Bronchodilator Lung Function in African Americans from the Severe Asthma Research Program. American Thoracic Society 2018, San Diego, CA. Meeting Abstracts A1323
305. Li X, Guerra S, Li H, Ledford JG, Busse WW, **Erzurum SC**, Moore WC, Kaminski N, Wenzel SE, Meyers DA, Kraft M, Bleecker ER. Genomic and Transcriptomic Analyses of CC16 as a Biomarker for Asthma. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A1326
306. Perelas A, Comhair SA, Mavrakis LA, **Erzurum SC**, Lempel J. Distinct Distribution of Intrathoracic and Visceral Fat in Asthma. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A1383
307. Stephens OR, **Erzurum SC**. Hypoxia-Inducible Factor-1 Regulation Via the Beta-Adrenergic Receptor. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2085
308. Goblet Cell Metaplasia and Loss of Ciliated Cells in the Epithelium of Severe Asthma - Results from the Severe Asthma Research Program (SARP). Boomer J, Goss C, Bacharier LB, Coverstone AM, Weaver R, Schechtman K, Schutz R, Sangoi T, Sajol G, Yin-Declue H, Brody SL, Israel E, Levy BD, Phipatanakul W, Jarjour NN, Wenzel SE, Fahy JV, Teague WG, Gaston BM, **Erzurum SC**, Moore WC, Bleecker ER, Phillips B, Fitzpatrick AM, Mauger D, Castro M. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2480
309. Peters MC, Phillips B, Mauger D, Hastie AT, Jarjour NN, Denlinger LC, Levy BD, Israel E, Castro M, **Erzurum SC**, Wenzel SE, Fahy JV. Longitudinal Analysis of Airway Type-2 Biomarkers in the Severe Asthma Research Program. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2495
310. Sood S, Sajol G, Goss C, Sheshadri A, Comhair SA, **Erzurum SC**, Hall C, Weaver R, Schutz R, Kozlowski J, Castro M. Longitudinal Evaluation of Airway Remodeling in Asthma Over Time by Airway Biopsy. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2496
311. Holguin F, Liu C, Comhair SA, Hazen S, Bleecker ER, Busse WW, Calhoun WJ, Castro M, Fitzpatrick AM, Gaston BM, Jarjour NN, Israel E, Chung KF, **Erzurum SC**, Wenzel SE, Teague WG, Sharma S, Kechris K, Winnica DE, Que LG. Upregulation of Paraoxonase 1 (PON1) in Severe Asthma. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2497
312. Daya M, Ortega VE, Ampleford E, Zein JG, Rafaels N, Castro M, **Erzurum SC**, Fahy JV, Fitzpatrick AM, Israel E, Jarjour NN, Levy BD, Wenzel SE, Hawkins GA, Moore WC, Peters SP, Barnes K, Meyers DA, Bleecker ER. Whole-Genome Admixture Mapping Reveals Novel Loci for Bronchodilator Response

- in African Americans from the Severe Asthma Research Program. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2498
313. Farha SY, Cheong HI, Park MM, Saygin D, Comhair SAA, Sharp JK, Highland KB, Tang WHW, **Erzurum SC**. Short-Term Cardiovascular Effects of Low Dose Carvedilol in Pulmonary Hypertension. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A2738
314. Gupta R, Margevicius S, DeBoer MD, Myers RE, Bacharier LB, Ly NP, Phipatanakul W, Celedon CJ, Fitzpatrick AM, Israel E, Levy BD, Castro M, Fahy JV, Teague WG, **Erzurum SC**, Moore WC, Bleecker ER, Jarjour NN, Wenzel SE. Children with Severe Asthma Are Likely to Become Less Severe During Adolescence: Preliminary Results of the SARP III Pediatric Longitudinal Study. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A7806
315. Asosingh K, Queisser K, Wanner N, Jin M, Aronica MA, **Erzurum SC**. House Dust Mite-Derived Protease Allergen Sensing by Lung Endothelial and Proangiogenic Cells Induces Asthma. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A5955
316. Modena B, Weathington NM, Whisenant TC, Bleecker ER, Busse WW, **Erzurum SC**, Gaston BM, Jarjour NN, Meyers DA, Milosevic J, Tedrow JR, Wu W, Kaminski N, Wenzel SE. Bronchial Alveolar Lavage Gene Expression Discovers New Biological Mechanisms and Further Refines Phenotypes in Severe Asthma. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A7361
317. Nguyen J, Bhakta NR, Peters MC, Bleecker ER, Castro M, **Erzurum SC**, Israel E, Jarjour NN, Mauger D, Wenzel SE, Fahy JV, Woodruff P, Christenson S. Distinguishing Molecular Phenotypes in Severe Asthma Using Genomic Signatures of the Airway Epithelial Inflammatory Response in the Severe Asthma Research Program. American Thoracic Society 2018, San Diego, CA. Meeting Abstract A7362