

CURRICULUM VITAE
David B. Peden, MD, MS, FAAAAI.

PERSONAL



Office Address:

Center for Environmental Medicine, Asthma, and Lung Biology
104 Mason Farm Road, CB#7310
The University of North Carolina School of Medicine
Chapel Hill, NC 27599-7310
919-966-0768 (phone), 919-966-9863 (fax)

EDUCATION:

- 7/87-7/90 Fellowship, Allergy & Immunology
Allergic Diseases Section (Michael A. Kaliner, MD, Chief)
Laboratory of Clinical Investigation
National Institute of Allergy & Infectious Diseases
National Institutes of Health
Bethesda, MD
- 7/84-6/87 Internship and Residency in Pediatrics, Department of Pediatrics
West Virginia University Medical Center
Morgantown, WV
- 1984 Doctor of Medicine
West Virginia University
- 1984 Master of Science, Pharmacology and Toxicology
(Knox Van Dyke, PhD, major advisor)
West Virginia University
- 1980 Bachelor of Arts, *cum laude*, Citation in the Departmental Honors Program,
Department of Biology, West Virginia University

Professional Certification/Licensure:

American Board of Pediatrics:

Diagnostic Laboratory Immunology (#130), 1990 (permanent certification)

General Pediatrics (#38304), 1988, re-certified through Dec 2026

American Board of Allergy and Immunology (#3150), 1989, re-certified through 2031

American Board of Medical Examiners (#298021), 1985 (permanent certification)

North Carolina Medical License #35461

Maryland License #D35066 (Inactive)

West Virginia License #14377 (Inactive)

DEA# FP2368985

NPI 1417037987

PROFESSIONAL EXPERIENCE:

Primary Academic Appointments at UNC:

- 2/12-date Harry S. Andrews Distinguished Professor of Pediatrics
Department of Pediatrics
Division of Allergy & Immunology
School of Medicine
University of North Carolina at Chapel Hill, Chapel Hill, NC

- 6/02-date Professor of Pediatrics, School of Medicine,
University of North Carolina at Chapel Hill, Chapel Hill, NC

- 9/96-6/02 Associate Professor of Pediatrics
School of Medicine, University of North Carolina at Chapel Hill

- 8/92-9/96 Assistant Professor of Pediatrics
School of Medicine, University of North Carolina at Chapel Hill
Chapel Hill, NC

- 7/92-8/92 Visiting Assistant Professor of Pediatrics
School of Medicine-University of North Carolina at Chapel Hill
Chapel Hill, NC

Current Administrative Positions:

- 12/11-date Senior Associate Dean for Translational Research
School of Medicine, University of North Carolina at Chapel Hill

- 5/20-date Medical Director,
Center for Environmental Medicine, Asthma & Lung Biology
School of Medicine, University of North Carolina at Chapel Hill
Chapel Hill, NC

- 1/23-date Director, UNC Clinical Research Alliance
UNC School of Medicine
University of North Carolina at Chapel Hill
Chapel Hill, NC

- 3/23-date Director, Pilot Project Program
NC Translational and Clinical Science Institute (CTSA)
University of North Carolina at Chapel Hill
Chapel Hill, NC

Active additional academic positions:

- 6/03 -date Professor of Medicine
School of Medicine, University of North Carolina at Chapel Hill
Chapel Hill, NC

- 11/08-date Professor, Department of Microbiology & Immunology
School of Medicine, University of North Carolina at Chapel Hill
Chapel Hill, NC
- 12/02-date Faculty Member, Curriculum in Toxicology
School of Medicine, University of North Carolina at Chapel Hill
Chapel Hill, NC
- 4/03-date Adjunct Professor of Epidemiology,
Gillings Global School of Public Health, University of North Carolina at
Chapel Hill
- 6/11-date Adjunct Professor of Environmental Sciences and Engineering,
Gillings Global School of Public Health, University of North Carolina at
Chapel Hill

Prior Administrative Positions:

- 5/18-3/23 Associate Director for Cross-Disciplinary Science
NC Translational and Clinical Science Institute (CTSA)
University of North Carolina at Chapel Hill
Chapel Hill, NC
- 5/16-9/21 Vice Chair for Translational Research
Department of Pediatrics, School of Medicine
University of North Carolina at Chapel Hill
Chapel Hill, NC
- 2/02-5/20 Chief, Division of Allergy, Immunology & Rheumatology (included
Pediatric Infectious Diseases from 2004-2012)
Department of Pediatrics, School of Medicine
University of North Carolina at Chapel Hill
Chapel Hill, NC
- 7/02-5/20 Director,
Center for Environmental Medicine, Asthma & Lung Biology
School of Medicine-University of North Carolina at Chapel Hill
Chapel Hill, NC
- 7/17-6/18 Interim Director
Institute for the Environment
University of North Carolina at Chapel Hill
Chapel Hill, NC
- 11/13-5/18 Service Director for Team Science
NC Translational and Clinical Science Institute (CTSA)
University of North Carolina at Chapel Hill
Chapel Hill, NC
- 12/04-6/16 Associate Chair for Research
Department of Pediatrics, School of Medicine

University of North Carolina at Chapel Hill
Chapel Hill, NC

11/07-11/13 Co-Director, Inflammatory Diseases Institute
School of Medicine-University of North Carolina at Chapel Hill

12/11-11/13 Service Director for Clinical Research Resources
NC Translational and Clinical Science Institute (CTSA)
University of North Carolina at Chapel Hill
Chapel Hill, NC

11/07-12/11 Deputy Director for Child Health Research,
NC Translational and Clinical Science Institute (CTSA)
University of North Carolina at Chapel Hill
Chapel Hill, NC

7/04-9/10 Program Director, Allergy and Immunology Training Program
University of North Carolina Hospitals
Chapel Hill, NC

10/01-7/02 Deputy Director,
Center for Environmental Medicine & Lung Biology
School of Medicine-University of North Carolina at Chapel Hill
Chapel Hill, NC

9/95-10/01 Associate Director,
Center for Environmental Medicine & Lung Biology
School of Medicine-University of North Carolina at Chapel Hill
Chapel Hill, NC

5/00-1/02 Medical Director, Pediatric Ambulatory Services
Department of Pediatrics
University of North Carolina at Chapel Hill, Chapel Hill, NC

7/92-12/01 Director, Allergy & Immunology Program
Division of Pulmonary Medicine & Allergy
Department of Pediatrics, University of North Carolina-CH

3/98-9/99 Co-Director,
Allergy, Immunology & Rheumatology Consultation Service
Department of Pediatrics, University of North Carolina-CH
Chapel Hill, NC

7/92-9/95 Investigator,
Center for Environmental Medicine & Lung Biology
School of Medicine-University of North Carolina at Chapel Hill
Chapel Hill, NC

6/90-6/92 Attending Physician
Allergy Consultation Service
National Institutes of Health, Bethesda, MD

- 7/87-6/92 Medical Staff Fellow
Allergic Diseases Section, Laboratory of Clinical Investigation
National Institute of Allergy & Infectious Diseases
National Institutes of Health, Bethesda, MD
- 7/88-6/89 Chief Medical Staff Fellow
National Institute of Allergy & Infectious Diseases
National Institutes of Health, Bethesda, MD
- 7/86-7/87 Chief Resident of Pediatrics
Department of Pediatrics, West Virginia University Medical Center
Morgantown, WV

HONORS:

President, American Academy of Allergy, Asthma and Immunology, 2017-2018
(Presidential Track Offices: Secretary/Treasurer, 2015-2016, President-Elect, 2016-2017,
President, 2017-2018, Past President, 2018-2019)

Academic Awards:

Beta Beta Beta (Biology Honor Society at West Virginia University), 1978
Alpha Epsilon Delta (Pre-Medical Honor Society at West Virginia University), 1978
Norman Award (WVU Undergraduate Research Award in Biology), 1980
Distinguished Alumnus of the West Virginia University School of Medicine, 2014

Scientific Awards:

Member, American Pediatric Society, 2017-date
2nd place presentation: Allergy and Immunology Section of the Southern Medical
Association Meeting, 1989.
Clifford W. Perry Award from the American Lung Association of North Carolina, 1996
Elected to the Society for Pediatric Research, 1996
2007 Jerry Dolovich Memorial Lectureship of the American Academy of Allergy, Asthma and
Immunology
AAAAI Foundation and I Leonard Bernstein MD Memorial Lectureship of the American
Academy of Allergy, Asthma and Immunology, 2018
World Allergy Organization Special Recognition Award, 2018

Clinical Awards:

Best Doctors listing for Allergy and Immunology, 2007-2021
Teladoc Health Inc, Global Expert Panel, 2021-date
Castle Connolly Top Doctors for Allergy and Immunology, 2012-date

BIBLIOGRAPHY:

H Factor: 60 (Google Scholar)
ORCID ID: 0000-0003-4526-4627

Books and Chapters (in reverse chronological order):

1. Hernandez ML and Peden DB. Chapter 30, Air Pollution: Indoor and Outdoor in: Allergy: Principles and Practice, 9th Edition, Eds: Burks AW, Holgate ST, O'Hehir R, Broide DH, Bacharier LB, Hershey GKK, Peebles RS Elsevier (Saunders) (Philadelphia), 2020

2. Peden DB. Chapter 4, Air Pollution and Asthma, in: Air Pollution and Health Effects, Eds: Nadadur S and Hollingsworth J, Springer-Verlag (London), 2015
3. Hernandez ML and Peden DB. Chapter 30, Air Pollution: Indoor and Outdoor in: Allergy: Principles and Practice, 8th Edition, Eds: Adkinson NF, Bochner B, Burks AW, Busse WW, Holgate ST, Lemanske R, O'Hehir R, Elsevier (Saunders) (Philadelphia), 2014
4. Stewart GA, Peden DB, Thompson PJ and Ludwig M. Allergens and Air Pollutants. Chapter 4 in Allergy. Holgate ST, Church MK, Broide DH and Martinez FD. 2012, Elsevier (London)
5. Dillon MA and Peden DB. Health Effects of Environmental Exposures while in Automobiles. Chapter 10 in Environmental and Occupational Lung Disease. Tarlo S, Cullinan P, Nemery B, 2010 John Wiley and Sons.
6. Peden D. Indoor and Outdoor Air Pollution. Chapter 32 in Allergy: Principles and Practice, 7th Edition, Adkinson NF, Busse WW, Bochner B., Holgate S, Simons FES and Lemanske, RF (Eds) 2009 Elsevier (Philadelphia)
7. Peden DB. Genetic and Environmental Factors in Asthma. Chapter 3. IN Asthma Health & Society: A Public Health Perspective. Andrew Harver and Harry Kotses (Eds). In Press 2007, Springer (New York)
8. Stewart GA, Thompson PA, Peden D and Alexis N. Allergens and Pollutants Chapter 17. Allergy, Holgate ST, Church MJ, Lichtenstein LM (EDs), Mosby 2006
9. Peden, D. Development of Atopy in Children. in Lung Development, Aging and the Environment, Harding R, Pinkerton K, Hooper S, Plopper C (eds) 2004 Academic Press (San Diego)
10. Peden D. Indoor and Outdoor Air Pollution. Chapter 32 in Allergy: Principles and Practice, Middleton E, Reed CE, Ellis EF, Adkinson NF, Yunginger JW , Busse WW, Bochner B., Holgate S (Eds) 2003 Harcourt (Philadelphia)
11. Peden D. Indoor and Outdoor Air Pollution. Update series of Allergy: Principles and Practice, Update Edition Middleton E, Reed CE, Ellis EF, Adkinson NF, Yunginger JW, Busse WW, Bochner B., Holgate S. (Eds) 5/2001 Mosby (St. Louis)
12. Peden D. Allergic Rhinitis. IN Essence of Office Pediatrics. Stockman J, Lohr JA Eds 2000 Saunders (Philadelphia)
13. Peden D. Contributor, CRC Desk Reference for Allergy and Asthma. Simon HU (Ed) CRC press (Boca Raton) 2000
14. Peden, DB. Air Pollution and Asthma. IN Environmental Asthma. R. Bush (Ed) (2000) Marcel Dekker, (New York)
15. Peden, DB and Boehlecke, B. Airborne contaminants and asthma: The effects of ozone, NO₂, SO₂, endotoxin and diesel exhaust particles on normal and asthmatic lungs. IN Asthma: Causes and Mechanisms of an Epidemic Inflammatory Disease. Platts-Mills TAE (Ed.), Lewis (Boca Raton) 1999

16. Folinsbee LJ and Peden DB. Air pollution and exercise-induced asthma (Chapter 12, pp 259-286). IN Exercise-Induced Asthma. McFadden R (Ed). 1999 Marcel Dekker, (New York)
17. Peden DB. Controlled exposures of asthmatics to air pollutants (Chapter 37, pp. 865-880) IN Air Pollution and Health. Holgate S, Koren H, and Samet J (Eds), 1999 Academic Press (London)
18. Peden, DB. Effect of air pollution in asthma and exercise. IN Allergic Disease in Sports Medicine. Weiler J.M. (Ed) 1997, Marcel Dekker, New York
19. Peden DB. Bronchial asthma: pediatric. IN Patient care guidelines for nurse practitioners, p 167-173, Hoole AJ, Pickard CG, Jr, Ouimette RM, Lohr JA and Greenberg RA (Eds) 1995, J.B. Lippincott, Philadelphia
20. Peden DB. Allergic rhinitis: pediatric and adult. IN Patient care guidelines for nurse practitioners, p 143-146, Hoole AJ, Pickard CG, Jr, Ouimette RM, Lohr JA and Greenberg RA (Eds) 1995, J.B. Lippincott, Philadelphia
21. Van Dyke K, Van Dyke C, **Peden D**, and Matamoros M: Preliminary events leading to the production of luminol dependent chemiluminescence by human granulocytes. In Bioluminescence and chemiluminescence-basic chemistry and analytical application, Academic Press, 45-53, 1981.
22. Castranova V, Jones GS, Phillips RM, **Peden D**, and Van Dyke K: Defects associated with the transmembrane potential granulocytes in chronic granulomatous disease. In Bioluminescence and chemiluminescence-basic chemistry and analytical application, Academic Press, 327-333, 1981.
23. **Peden D**, Van Dyke Ch, Van Dyke C, Van Dyke K, Castranova V, Jones G, and Ringrose M: Arachidonate-based chemiluminescence in human granulocytes and platelets using the Monolight 301 (drug studies). In Bioluminescence and chemiluminescence-basic chemistry and analytical application, Academic Press, 385-390, 1981

Refereed papers/articles/reviews (in reverse chronological order):

1. Carr TF, Fajt ML, Kraft M, Phipatanakul W, Szeffler SJ, Zeki AA, **Peden DB**, White SR; Precision Interventions for Severe and/or Exacerbation-Prone Asthma Network Research Group. Treating asthma in the time of COVID. J Allergy Clin Immunol. 2023 Apr;151(4):809-817. doi: 10.1016/j.jaci.2022.12.800. Epub 2022 Dec 14. PMID: 36528110; PMCID: PMC9749385.
2. Corren J, Larson D, Altman MC, Segnitz RM, Avila PC, Greenberger PA, Barody F, Moss MH, Nelson H, Burbank AJ, Hernandez ML, **Peden D**, Saini S, Tilles S, Hussain I, Whitehouse D, Qin T, Villarreal M, Sever M, Wheatley LM, Nepom GT, Sanda S; Immune Tolerance Network ITN057AD CATNIP Study Team. Effects of combination treatment with tezepelumab and allergen immunotherapy on nasal responses to allergen: A randomized controlled trial. J Allergy Clin Immunol. 2023 Jan;151(1):192-201. doi: 10.1016/j.jaci.2022.08.029. Epub 2022 Oct 9. PMID: 36223848.

3. Qiu AY, Leng S, McCormack M, **Peden DB**, Sood A. Lung Effects of Household Air Pollution. *J Allergy Clin Immunol Pract*. 2022 Nov;10(11):2807-2819. doi: 10.1016/j.jaip.2022.08.031. Epub 2022 Sep 2. PMID: 36064186.
4. Urrutia-Pereira M, Chong-Neto HJ, Annesi Maesano I, Ansotegui IJ, Caraballo L, Cecchi L, Galán C, López JF, Aguttes MM, **Peden D**, Pomés A, Zakzuk J, Rosário Filho NA, D'Amato G. Environmental contributions to the interactions of COVID-19 and asthma: A secondary publication and update. *World Allergy Organ J*. 2022 Sep;15(9):100686. doi: 10.1016/j.waojou.2022.100686. Epub 2022 Aug 8. PMID: 35966894; PMCID: PMC9359502.
5. Unni DR, Moxon SAT, Bada M, Brush M, Bruskiwich R, Caufield JH, Clemons PA, Dancik V, Dumontier M, Fecho K, Glusman G, Hadlock JJ, Harris NL, Joshi A, Putman T, Qin G, Ramsey SA, Shefchek KA, Solbrig H, Soman K, Thessen AE, Haendel MA, Bizon C, Mungall CJ, **Biomedical Data Translator Consortium (Peden D is a member of the consortium)**. Biolink Model: A universal schema for knowledge graphs in clinical, biomedical, and translational science. *Clin Transl Sci*. 2022 Aug;15(8):1848-1855. doi: 10.1111/cts.13302. Epub 2022 Jun 6. PMID: 36125173; PMCID: PMC9372416.
6. Alexis NE, Zhou LY, Burbank AJ, Almond M, Hernandez ML, Mills KH, Noah TL, Wells H, Zhou H, **Peden DB**. Development of a screening protocol to identify persons who are responsive to wood smoke particle-induced airway inflammation with pilot assessment of GSTM1 genotype and asthma status as response modifiers. *Inhal Toxicol*. 2022 Aug 15:1-11. doi: 10.1080/08958378.2022.2110334. Epub ahead of print. PMID: 35968917. Open Access
7. Chen H, Tong H, Shen W, Montilla TS, Case MW, Almond MA, Wells HB, Alexis NE, **Peden DB**, Rappold AG, Diaz-Sanchez D, Devlin RB, Bromberg PA, Samet JM. Fish oil blunts lung function decrements induced by acute exposure to ozone in young healthy adults: A randomized trial. *Environ Int*. 2022 Jul 13;167:107407. doi: 10.1016/j.envint.2022.107407. Epub ahead of print. PMID: 35850080.
8. Agache I, Antolin-Amerigo D, de Blay F, Boccabella C, Caruso C, Chanez P, Couto M, Covar R, Doan S, Fauquert JL, Gauvreau G, Gherasim A, Klimek L, Lemiere C, Nair P, Ojanguren I, **Peden D**, Perez-de-Llano L, Pfaar O, Rondon C, Rukhazde M, Sastre J, Schulze J, Silva D, Tarlo S, Toppila-Salmi S, Walusiak-Skorupa J, Zielen S, Eguluz-Gracia I. EAACI position paper on the clinical use of the bronchial allergen challenge: Unmet needs and research priorities. *Allergy*. 2022 Jun;77(6):1667-1684. doi: 10.1111/all.15203. Epub 2022 Jan 20. PMID: 34978085.
9. Fecho K, Thessen AE, Baranzini SE, Bizon C, Hadlock JJ, Huang S, Roper RT, Southall N, Ta C, Watkins PB, Williams MD, Xu H, Byrd W, Dančík V, Duby MP, Dumontier M, Glusman G, Harris NL, Hinderer EW, Hyde G, Johs A, Su AI, Qin G, Zhu Q; **Biomedical Data Translator Consortium (Peden D is a member of the consortium)**. Progress toward a universal biomedical data translator. *Clin Transl Sci*. 2022 May 25. doi: 10.1111/cts.13301. Epub ahead of print. PMID: 35611543
10. Rouadi PW, Idriss SA, Bousquet J, Laidlaw TM, Azar CR, Al-Ahmad MS, Yañez A, Al-Nesf MAY, Nsouli TM, Bahna SL, Abou-Jaoude E, Zaitoun FH, Hadi UM, Hellings PW, Scadding GK, Smith PK, Morais-Almeida M, Maximiliano Gómez R, Gonzalez Diaz SN, Klimek L, Juvelekian GS, Riachy MA, Canonica GW, **Peden D**, Wong GWK, Sublett J, Bernstein JA, Wang L, Tanno LK, Chikhladze M, Levin M, Chang YS, Martin BL, Caraballo L, Custovic A,

- Ortego-Martell JA, Lesslar OJL, Jensen-Jarolim E, Ebisawa M, Fiocchi A, Ansotegui IJ. WAO-ARIA consensus on chronic cough - Part III: Management strategies in primary and cough-specialty care. *Updates in COVID-19. World Allergy Organ J.* 2022 May 14;15(5):100649. doi: 10.1016/j.waojou.2022.100649. PMID: 35600836; PMCID: PMC9117692
11. Fecho K, Ahalt SC, Appold S, Arunachalam S, Pfaff E, Stillwell L, Valencia A, Xu H, **Peden DB** Development and Application of an Open Tool for Sharing and Analyzing Integrated Clinical and Environmental Exposures Data: Asthma Use Case JMIR Form Res 2022 Apr 1 ;6(4):e32357 doi: 0.2196/32357 PMID: 3536314
 12. Georas SN, Wright RJ, Ivanova A, Israel E, LaVange LM, Akuthota P, Carr TF, Denlinger LC, Fajt ML, Kumar R, O'Neal WK, Phipatanakul W, Szeffler SJ, Aronica MA, Bacharier LB, Burbank AJ, Castro M, Alexander LC, Bamdad J, Cardet JC, Comhair SAA, Covar RA, DiMango EA, Erwin K, Erzurum SC, Fahy JV, Gaffin JM, Gaston B, Gerald LB, Hoffman EA, Holguin F, Jackson DJ, James J, Jarjour NN, Kenyon NJ, Khatri S, Kirwan JP, Kraft M, Krishnan JA, Liu AH, Liu MC, Marquis MA, Martinez F, Mey J, Moore WC, Moy JN, Ortega VE, **Peden DB**, Pennington E, Peters MC, Ross K, Sanchez M, Smith LJ, Sorkness RL, Wechsler ME, Wenzel SE, White SR, Zein J, Zeki AA, Noel P; PrecISE Study Team. The Precision Interventions for Severe and/or Exacerbation-Prone (PrecISE) Asthma Network: an overview of Network organization, procedures and interventions. *J Allergy Clin Immunol.* 2022 Feb;149(2):488-516.e9. doi: 10.1016/j.jaci.2021.10.035. Epub 2021 Nov 29. PMID: 34848210. PMC8821377
 13. Jiang Q, Im S, Wagner JG, Hernandez ML, **Peden DB**. Gamma-tocopherol, a major form of vitamin E in diets: Insights into antioxidant and anti-inflammatory effects, mechanisms, and roles in disease management. *Free Radic Biol Med.* 2021 Dec 9;178:347-359. doi: 10.1016/j.freeradbiomed.2021.12.012. Epub ahead of print. PMID: 34896589.
 14. Rouadi PW, Idriss SA, Bousquet J, Laidlaw TM, Azar CR, Sulaiman Al-Ahmad M, Yáñez A, Al-Nesf MAY, Nsouli TM, Bahna SL, Abou-Jaoude E, Zaitoun FH, Hadi UM, Hellings PW, Scadding GK, Smith PK, Morais-Almeida M, Gómez RM, González Díaz SN, Klimek L, Juvelekian GS, Riachy MA, Canonica GW, **Peden D**, Wong GWK, Sublett J, Bernstein JA, Wang L, Tanno LK, Chikhladze M, Levin M, Chang YS, Martin BL, Caraballo L, Custovic A, Ortego-Martell JA, Jensen-Jarolim E, Ebisawa M, Fiocchi A, Ansotegui IJ. WAO-ARIA consensus on chronic cough - Part 1: Role of TRP channels in neurogenic inflammation of cough neuronal pathways. *World Allergy Organ J.* 2021 Dec 4;14(12):100617. doi: 10.1016/j.waojou.2021.100617. PMID: 34934475; PMCID: PMC8654622.
 15. Rouadi PW, Idriss SA, Bousquet J, Laidlaw TM, Azar CR, Al-Ahmad MS, Yañez A, Al-Nesf MAY, Nsouli TM, Bahna SL, Abou-Jaoude E, Zaitoun FH, Hadi UM, Hellings PW, Scadding GK, Smith PK, Morais-Almeida M, Gómez RM, Gonzalez Diaz SN, Klimek L, Juvelekian GS, Riachy MA, Canonica GW, **Peden D**, Wong GWK, Sublett J, Bernstein JA, Wang L, Tanno LK, Chikhladze M, Levin M, Chang YS, Martin BL, Caraballo L, Custovic A, Ortego-Martell JA, Jensen-Jarolim E, Ebisawa M, Fiocchi A, Ansotegui IJ. WAO-ARIA consensus on chronic cough - Part II: Phenotypes and mechanisms of abnormal cough presentation - Updates in COVID-19. *World Allergy Organ J.* 2021 Nov 22;14(12):100618. doi: 10.1016/j.waojou.2021.100618. PMID: 34963794; PMCID: PMC8666560.
 16. Lan B, Haaland P, Krishnamurthy A, **Peden DB**, Schmitt PL, Sharma P, Sinha M, Xu H, Fecho K. Open Application of Statistical and Machine Learning Models to Explore the

- Impact of Environmental Exposures on Health and Disease: An Asthma Use Case. *Int J Environ Res Public Health*. 2021 Oct 29;18(21):11398. doi: 10.3390/ijerph182111398. PMID: 34769911.
17. **Peden DB**. Prenatal exposure to particulate matter air pollution: a preventable risk for childhood asthma, *Journal of Allergy and Clinical Immunology* (2021), doi: <https://doi.org/10.1016/j.jaci.2021.07.007>.
 18. Bennett WD, Burbank A, Almond M, Wu J, Ceppe A, Hernandez M, Boucher RC, **Peden DB** Acute and durable effect of inhaled hypertonic saline on mucociliary clearance in adult asthma, *ERJ Open Res*. 2021 Jun 7;7(2):00062-2021. doi: 10.1183/23120541.00062-2021. eCollection 2021 Apr. PMID: 34184161
 19. Israel E, Denlinger LC, Bacharier LB, LaVange LM, Moore WC, Peters MC, Georas SN, Wright RJ, Mauger DT, Noel P, Akuthota P, Bach J, Bleecker ER, Cardet JC, Carr TF, Castro M, Cinelli A, Comhair SAA, Covar RA, Alexander LC, DiMango EA, Erzurum SC, Fahy JV, Fajt ML, Gaston BM, Hoffman EA, Holguin F, Jackson DJ, Jain S, Jarjour NN, Ji Y, Kenyon NJ, Kosorok MR, Kraft M, Krishnan JA, Kumar R, Liu AH, Liu MC, Ly NP, Marquis A, Martinez FD, Moy JM, O'Neal WK, Ortega VE, **Peden DB**, Phipatanakul W, Ross K, Smith LJ, Szeffler SJ, Teague WG, Tulchinsky AF, Vijayanand P, Wechsler WE, Wenzel SE, White SR, Zeki AA and Ivanova A. PrecISE: Precision Medicine in Severe Asthma An Adaptive Platform Trial with Biomarker Ascertainment. *J Allergy Clin Immunol*. 2021 May;147(5):1594-1601. doi: 10.1016/j.jaci.2021.01.037. Epub 2021 Mar 2.
 20. Annesi-Maesano I, Forastiere F, Balmes J, Garcia E, Harkema J, Holgate S, Kelly F, Khreis H, Hoffmann B, Maesano CN, McConnell R, **Peden D**, Pinkerton K, Schikowski T, Thurston G, Van Winkle LS, Carlsten C. The clear and persistent impact of air pollution on chronic respiratory diseases: a call for interventions. *Eur Respir J*. 2021 Mar 18;57(3):2002981. doi: 10.1183/13993003.02981-2020. Print 2021 Mar. PMID: 33737377
 21. Tanno LK, Demoly P, Martin B, Berstein J, Morais-Almeida M, Levin M, Fiocchi A, Sanchez-Borges M, Caraballo LR, Wong G, Ortega-Martell JA, Rouadi P, Yanez A, Wang LL, **Peden DB**, Chikhadze M, Gonzalez-Diaz SN, Fontaine JF, Sublett J, Chang YS, Passalacqua G, Ansotegui I, Ebisawa M, Senna G, Caminati M. Allergy and coronavirus disease (COVID-19) international survey: real-life data from the allergy community during the pandemic. *World Allergy Organ J*. 2021 Jan 31 : 100515. doi: 10.1016/j.waojou.2021.100515 [Epub ahead of print] PMID: 33552380
 22. Rosário Filho NA, Urrutia-Pereira M, D'Amato G, Cecchi L, Ansotegui IJ, Galán C, Pomés A, Murrieta-Aguttes M, Caraballo L, Rouadi P, Chong-Neto HJ, **Peden DB**. Air pollution and indoor settings. *World Allergy Organ J*. 2021 Jan 7;14(1):100499. doi: 10.1016/j.waojou.2020.100499. eCollection 2021 Jan. PMID: 33510831
 23. Hernandez ML, Ivins S, Chason K, Burbank AJ, Rebuli ME, Kobernick A, Schower SA, Zhou H, Alexis NE, and **Peden DB**. Respiratory effects of sedentary ozone exposure at the 70 ppb National Ambient Air Quality Standard. *Am J Respir Crit Care Med*. 2021 Jan 5. doi: 10.1164/rccm.202006-2597LE. PMID: 33400891 PMID: 33400891

24. Alam R, **Peden D**, Lach J. Wearable Respiration Monitoring: Interpretable Inference with Contet and Sensor Biomarkers. *IEEE J Biomed Health Inform.* 2020 Nov 4;PP. doi: 10.1109/JBHI.2020.3035776. PMID: 33147151
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212. Van Dyke K, **Peden D**, Van Dyke C, Jones G, Castranova V, Ma J. Inhibition by nonsteroidal antiinflammatory drugs of luminol-dependent human-granulocyte chemiluminescence and [3H]FMLP binding. Effect of sulindac sulfide, indomethacin metabolite, and optical enantiomers (+) and (-) MK830. *Inflammation.* 1982 Mar;6(1):113-25. PubMed PMID: 7085041.
213. Van Dyke K, Pekoe G, **Peden D**, Mengoli H, Castranova V, and English D: Multipurpose radiomatic automated flow liquid scintillation counter system for measurement of burst of delayed chemiluminescence reaction: model drug inhibition with luminol-dependent myeloperoxidase. *Microchemical J.*, 27:276-289, 1982.
214. Pekoe G, Van Dyke K, and **Peden D**: A novel method for measuring initial burst chemiluminescence in a liquid scintillation counter using the myeloperoxidase-H₂O₂-CL reaction: *Microchemical J.*, 27:221-230, 1982

215. Castranova V, Jones GS, Phillips RM, **Peden D**, Vandyke K. Abnormal responses of granulocytes in chronic granulomatous disease. *Biochim Biophys Acta*. 1981 Jul 6;645(1):49-53. PubMed PMID: 6789879.
216. Van Dyke K, Van Dyke C, **Peden D**, Jones G, Castranova V, Brestel E, and Ringrose M: Luminol dependent chemiluminescence analysis of human platelets. *Microchemical J*. 25:514-523, Dec. 1980.

Submitted papers/articles (in reverse chronological order):

1. Sines B, Donaldson JM, Ahmad A, Krishnamurthy A, **Peden DB**, Ehre C. Retrospective analysis of the association between T2-directed biologic therapies and COVID-19 severity in T2-high asthmatic patients. Submitted, 4/2023
2. Schworer SA, Hinderliter AL, Caughey MC, Robinette C, Chason KD, Li H, Zhou H, Sood AK, Burbank AJ, **Peden DB**, Hernandez ML. Inhaled endotoxin induces a systemic neutrophil response without affecting cardiovascular measures. Submitted 5/2023
3. Allen A, Richardson BD, Almond M, Chronowski K, Tolentino A, Quackenbush EB, Schmitz JL, Hudgens M, **Peden DB**, Barzin AH, Damania B, Dittmer DP. SARS-CoV-2 Seroprevalence Among an Asymptomatic suburban and rural Population in the USA. Submitted 7/2023
4. **Peden DB**, Chapter 2, Respiratory Effects of Air Pollution, in *Climate Change in Allergy, Immunology Clinics of North America*, Eds Wright R, Demain J, Elsevier, submitted 6/2023

Abstracts (Since 1996):

1. Kelada SN, Smith G, Wells H, Almond M, Alexis NE, **Peden DB**. A Shared Genetic Locus Is Associated With Airway Inflammatory Response to Acute Ozone Exposure in Mice and Humans. A25. 'OMICS AND THE EXPOSOME: HIGH DIMENSIONAL METHODS IN ENVIRONMENTAL LUNG HEALTH RESEARCH. May 1, 2023, A1157-A1157 American Thoracic Society International Conference, Washington, DC
2. Mills CA, Mordant AL, Herring LE, Alexis NE, Wells H, **Peden DB**, Rager J and Jaspers I. Quantitative Proteomic Analysis of Sputum from 'Responder' and 'Non-responder' Individuals Exposed to Woodsmoke Pollutants. US HUPO Conference, Chicago Mar 5-8, 2023
3. **Peden D**, Rouadi P, Murrieta-Aguttes M, Hitier S, Zhou FL, Pfaffenberger B, See J, Lee W-N, Ansotegui IJ. A Real-World Digital Study Evaluating Associations Between Levels of Allergens and Air Pollutants and Severity and Frequency of Symptoms of Allergic Rhinitis (the DSApp Study). Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Phoenix, AZ, February, 2022
4. Hernandez M, Vadlamudi A, Ivins S, Chason K, Almond M, **Peden D**. Low level ozone exposure at rest causes changes in lung function among healthy volunteers. *J Allergy Clin Immunol* [Abstract] 2020; 145: AB82. Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Virtual, March, 2020

5. Schworer S, Vadlamudi A, Ivins S, Wells H, Chason K, Almond M, **Peden D**, Hernandez M. Low-level O₃ exposure at rest causes nasal inflammation and neutrophilic bronchitis. *J Allergy Clin Immunol* [Abstract] 2020; 145: AB126. Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Virtual, March, 2020
6. Vadlamudi A, **Peden DB**, Hernandez ML, Burbank AJ, Mills KH. Wood Smoke Particles increase markers of systemic inflammation in healthy volunteers. *J Allergy Clin Immunol* [Abstract] 2019; 143: AB80. Annual Meeting of the American Academy of Allergy, Asthma and Immunology, San Francisco, CA, March, 2019
7. Sood AK, Wells HB, Burbank AJ, Lawson M, Zhou H, **Peden DB**, Hernandez ML. Systemic Neutrophilic Responses Do Not Correlate With LPS-induced Neutrophilic Airway Inflammation. *J Allergy Clin Immunol* [Abstract] 2019; 143: AB190. Annual Meeting of the American Academy of Allergy, Asthma and Immunology, San Francisco, CA, March, 2019
8. Burbank AJ, Hernandez ML, Mills KH, Alexis NE, **Peden DB**. Impact of GSTM1 Genotype on Airway Response to Inhaled Wood Smoke Particles Abstract 90, Presented at the Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 3, 2018, Orlando, FL.
9. Hernandez ML, Dhingra R, Burbank AJ, Todoric K, Loughlin C, Frye M, Duncan KE, Robinette C, Mills KH, Devlin R, **Peden DB**, Diaz-Sanchez D. Impact of asthma control on susceptibility to ambient air pollution among African American teens with asthma. Abstract 311, Presented at the Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 3, 2018, Orlando, FL.
10. Moran TP, Immormino RM, Nakano H, Hernandez ML, **Peden DB**, Cook D. Neuropilin-2 is a negative regulator of allergic airway inflammation. Abstract 568, Presented at the Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 3, 2018, Orlando, FL.
11. Alexis NE, Zhou Q, **Peden D**, Zhou H. Stability of baseline measures of sputum cell counts in healthy individuals over 12 months: Practical implications for Study design. Abstract P196 presented at the American Thoracic Society International Conference, May 21, 2017, Washington, DC
12. Hernandez ML, Burbank A, Alexis NE, Duran CG, Bennett WD, Jiang Q, Wang T, Zhou H, **Peden D**. Gamma tocopherol (Vitamin E) reduces acute airway neutrophilia in mild asthmatics. Abstract 611, presented at the American Thoracic Society International Conference, May 22, 2017, Washington, DC
13. Bennett WD, Wu J, Lay JC, Burns PE, Jones SK, Almond M, Burbank A, Hernandez ML, **Peden D**. Vitamin E prevents the slowing of mucociliary clearance associated with inhaled endotoxin challenge in mild asthmatics. Abstract 622, presented at the American Thoracic Society International Conference, May 22, 2017, Washington, DC
14. N.E. Alexis, H.B. Wells, S. Miller, B. Goldstein, Y. Saini, S., Donaldson, **D. Peden**. Sputum Macrophage Profiles in Healthy Individuals, Airway Disease, Tobacco Smokers and Alternative Tobacco Users. Abstract 4347 presented at the American Thoracic Society International Conference, May 16, 2016, San Francisco, CA

15. Chervinskiy SK, Smeester L, Kulis MD, **Peden DB**, Vickery, BP, Fry, RC. Glutathione S-Transferase Mu 1 (GSTM1) Gene Associated with Allergic Rhinitis in a Food Allergy Cohort J.Allergy Clin Immunol Meeting Abstract: 32 Volume: 135 Issue: 2 Pages: AB10-AB10 Supplement: S Published: FEB 2015 Conference Title: Annual Meeting of the American-Academy-of-Allergy-Asthma-and-Immunology (AAAAI) Conference Date: FEB 20-24, 2015 Houston, TX
16. Hernandez ML, Todoric K, Mills K, Zhou HB, **Peden DB**. Impact Of BMI On Ozone-Induced IL-1 beta In The Airways Of Human Volunteers. J.Allergy Clin Immunol Meeting Abstract: 802 Volume: 133 Issue: 2 Pages: AB232-AB232 Supplement: S Published: FEB 2014 Annual Meeting of the American-Academy-of-Allergy-Asthma-and-Immunology (AAAAI) FEB 28-MAR 04, 2014, San Diego, CA
17. Todoric K, Hernandez ML, Zhou HB, **Peden DB**. Impact Of Energy Expenditure On Ozone-Induced Inflammation. J.Allergy Clin Immunol, Meeting Abstract: 342 Volume: 133 Issue: 2 Pages: AB99-AB99 Supplement: S Published: FEB 2014 Conference Title: Annual Meeting of the American-Academy-of-Allergy-Asthma-and-Immunology (AAAAI), FEB 28-MAR 04, 2014, San Diego, CA
18. Bennett WD, Herbst M, Almond M, Zeman KL, Wu J, Duckworth H, Hernandez M, **Peden DB**. Effect Of Inhaled Endotoxin (LPS) On Regional Particle Deposition And Mucociliary Clearance In Healthy Nonsmokers, Smokers, And Mild Asthmatics. Journal Of Aerosol Medicine And Pulmonary Drug Delivery Volume: 26 Issue: 2 Pages: A60-A60 APR 2013
19. Ferris M, Alexander T, Iglesia E, Duncan D, **Peden D**, Sheikh S, Park Y. Severe DRESS syndrome managed with therapeutic plasma exchange, PEDIATRIC NEPHROLOGY Meeting Abstract: 14 Volume: 28 Issue: 1 Pages: 173-173 Published: JAN 2013
20. William D. Bennett, M Herbst, M Almond, K L. Zeman, J Wu, M Hernandez, and **D B. Peden**. Effect Of Inhaled Endotoxin On Regional Particle Deposition And Mucociliary Clearance In Healthy Nonsmokers, Smokers, And Mild Asthmatics. Am. J. Respir. Crit. Care Med. 185: A1302 2012 American Thoracic Society International Conference, San Francisco, CA
21. Kelly E. Duncan, Lisa A. Dailey, Johnny L. Carson, Michelle L. Hernandez, **David B. Peden**, and Robert Devlin. Cultured Basal Airway Epithelial Cells From Asthmatics Display Baseline Gene Expression Profiles That Differ From Normal Healthy Cells And Exhibit Differential Responses To Ambient Air Pollution Particles. Am. J. Respir. Crit. Care Med. 185: A4291. 2012 American Thoracic Society International Conference, San Francisco, CA
22. A. R. Auerbach, W. Wu, **D. Peden**, M. Hernandez. Endotoxin Challenge Increases Production of IL-1 β in the Peripheral Blood but not in Sputum of Allergic Asthmatics. Presented at the 2012 meeting of the American Academy of Allergy, Asthma and Immunology, Orlando, FL, March 2012.
23. R. Fry, H. Zhou, B. Zou, J. Rager, J. Brickey, J. Ting, **D. Peden**, N. Alexis. Inflammatory Gene Expression Differentiates With Airway Neutrophil Response To Ozone. Presented at the 2012 meeting of the American Academy of Allergy, Asthma and Immunology, Orlando, FL, March 2012.

24. Hernandez ML, Alexis NE, Lay JC, Zhou H, Jiang Q, **Peden DB**. Vitamin E Reduces Airway Granulocyte Recruitment after Inhaled Endotoxin Challenge in Normal Volunteers. Presented at the 2012 meeting of the American Academy of Allergy, Asthma and Immunology, Orlando, FL, March 2012.
25. R.N. Bauer, L. Brighton, J.P. Ting, **D. Peden**, I. Jaspers. Influenza-Induced Expression Of Inflammasome Components Is Enhanced In The Asthmatic Airway Epithelium. 2011 American Thoracic Society International Conference, Denver, CO
26. S. Jones, M. Kesic, M. Sanders, I. Jaspers, B. Joyner, S. Ortiz-Pujols, K. Short, A. Meyer, B. Cairns, **D. Peden**, T.L. Noah. Bacterial Infection And Airway Inflammation In Acute Inhalational Injury, 2011 American Thoracic Society International Conference, Denver, CO
27. W. Wu, **D. Peden**, R. McConnell, L. Dailey, W. Zhang, M. Jardim, M. Kesic, A. Eiguren-Fernandez, S. Fruin, D. Diaz-Sanchez. Modulation Of Pro-Inflammatory Mediator Expression By GSTM11 In Diesel Exhaust Particle-Treated Normal Human Bronchial Epithelial Cells. 2011 American Thoracic Society International Conference, Denver, CO
28. Doreswamy V, Alexis N, **Peden DB**. Nasal Response to Repeated Challenge with Endotoxin in Healthy Volunteers. 2010 Annual Meeting AAAAI. J Allergy Clin Immunol 125(2) Pages: AB127-AB127 Supplement: Suppl. 1 Published: FEB 2010
29. Kwan M, Allen IC, Brickey WJ, **Peden DB**, Ting JP. The Nlrp3 Inflammasome Affects Airway Inflammation, IgE/IL-13 Production And Mast Cell Function In A Subchronic Model Of Asthma 2010 Annual Meeting AAAAI. J Allergy Clin Immunol 125(2)Pages: AB237-AB237 Supplement: Suppl. 1 Published: FEB 2010
30. N.E. Alexis, H. Zhou, J.C. Lay, R. Devlin, S. Kleeberger, **D.B. Peden**. GSTM1(null) Has No Effect on the FEV1 Response to Acute Ozone Exposure but Significantly Affects the Proportion of Inflammatory Cells in the Airways of Allergic and Non Allergic Individuals J Allergy Clin Immunol Vol 123 (2) pp: S139-S139, 2009
31. M.L. Chou, M.L. Hernandez, W. Wu, **D. Peden**. Gamma And Alpha-Carboxyethylhydroxychromane Inhibit Basophil Degranulation After Stimulation With DerF1 J Allergy Clin Immunol Vol 123 (2) pp: S197-S197, 2009
32. M. Kwan, J. Wisner, W.J. Brickey, N.E. Alexis, C. Robinette, R.A. Roubey, J.P.Y. Ting, **D.B. Peden**. Gamma-tocopherol Treatment Alters Expression of Cytokine and Major Histocompatibility Molecules J Allergy Clin Immunol Vol 123 (2) pp: S201-S201, 2009
33. Jiang Q, Moreland M, Ames B, Illek B, Wagner J, **Peden DB** (2008) Vitamin E forms inhibited IL-13 induced eotaxin secretion by blocking stat6 activation in human lung epithelial A549 cells. (*Experimental Biology 2008*)
34. Illek B, Fischer H, Streich-Tilles T, Cheng A, Ames BN, Jiang Q, **Peden DB** (2007) Duox1-mediated release of hydrogenperoxide is modified by vitamin C. *Resp Crit Care Med* 175, A126. (*American Thoracic Society 2007, poster presentation*)
35. Schwarzer C, Kim EJ, Fischer H, Gruenert DC, Ames BN, **Peden DB**, Machen TE, Illek B (2007) Dual effects of pyocyanin-induced oxidative stress on CFTR chloride transport. *Ped*

Pulmonol suppl 30, 251. (North American Cystic Fibrosis Concurrence 2007, oral presentation)

36. Wu W, Alexis NE, Bromberg P, **Peden DB**. Involvement of Toll-like Receptor 4 and MAPK Pathways in LPS-induced CD40 Expression of Monocytes. 2006 International Conference of the American Thoracic Society, San Diego, CA.
37. Wu W, Alexis N, Dimeo F, Almond M, Bromberg PA, **Peden DB**. Cell-cell Contact Plays a Major Role in the Inhibitory Effect of Neutrophils on Monocyte Functions. 2006 International Conference of the American Thoracic Society, San Diego, CA
38. N. Alexis, JC. Lay, K. Zeman, **Peden, DB**, W. Bennett. Particle Uptake by Airway Macrophages is Enhanced in Asthmatics *In Vivo*: Use of Radiolabeled Aerosol Inhalation Delivery and Induced Sputum Techniques. 2006 International Conference of the American Thoracic Society, San Diego, CA
39. J.G. Wagner, PhD, J.R. Harkema, DVM, PhD, D. Patel, MD PhD, **D.B. Peden, MD** Treatment with α -Tocopherol Protects from Ozone-Induced Exacerbation of Allergic Airway Responses in Brown Norway Rats. 2006 International Conference of the American Thoracic Society, San Diego, CA
40. G.S. Backus, A.K. Bauer, H.-Y. Cho, **D.B. Peden**, S.R. Kleeberger. Protective Role of IL-10 in Ozone-Induced Inflammation. 2006 International Conference of the American Thoracic Society, San Diego, CA
41. K. Yeatts, PhD, E. Svendsen, PhD, J. Creason, PhD, R. Williams, BS, N. Alexis, PhD, P. Herbst, MS, L. Neas, PhD, B. Devlin, PhD, W. Cascio, MD, **D. Peden, MD**. Ambient Coarse Particulate Matter Associated with Heart Rate Variability, Blood Coagulation, and Blood Lipids in Adult Asthmatics. 2006 International Conference of the American Thoracic Society, San Diego, CA
42. B. Illek, Ph.D., E.J. Kim, Ph.D., H. Fischer, Ph.D., Q. Jiang, Ph.D., B. Ames, Ph.D., **D. Peden, M.D.** Vitamin C and Other Antioxidants Support CFTR Cl Transport in Airways,. 2006 International Conference of the American Thoracic Society, San Diego, CA
43. N E Alexis, John C Lay, **David B Peden**. Low Dose Inhaled Endotoxin Induces Elevated Neutrophils in the Airways of Asthmatics, A Response not Observed in Normals. Submitted for presentation, Meeting of the American Academy of Allergy, Asthma and Immunology Miami Beach, Fl, 2006
44. N E Alexis, M Almond, **D B Peden**. Body Mass Index (BMI) in Asthmatics is Associated with Airway Neutrophil Response to Inhaled Endotoxin: A role for Atopic Inflammation. JACI, 2005. Submitted for presentation, Meeting of the American Academy of Allergy, Asthma and Immunology Miami Beach, Fl, 2006
45. Esch R, Bush RK, **Peden D**, Lockey RF. Sublingual-oral administration of standardized allergenic extracts/vaccines: Safety and dosing studies Meeting of the American Academy of Allergy, Asthma and Immunology Miami Beach, Fl, 2006
46. Yeatts K, Svendsen E, Creason J, Williams R, Alexis N, Bromberg P, Neas L, **Peden, D** Ambient Course Particles Associated with Change in Hemataologic Factors in Adult

Asthmatics. Presented at the 2005 Annual Meeting of the International Society of Environmental Epidemiology, South Africa

47. Relationship Between Induced Oxidant Generation and Asthma Severity. Yeatts K, Svendsen E, Heidenfelder B, Williams A, Inmon J, Devlin B, Neas L, **Peden D**, Gallagher J. Abstract Accepted, 2005 International Conference of the American Thoracic Society. Am J Respir. Crit Care Med.
48. Yeatts K, Svendsen E, Alexis N, Reed W, Harder S, Lay J, Bromberg P, Neas L, Devlin R, **Peden D**. CD11b expression in the airway is associated with asthma severity, airway inflammation, and reduced percentage of CD54-positive blood lymphocytes in asthmatics. Abstract Accepted, 2005 International Conference of the American Thoracic Society. Am J Respir. Crit Care Med.
49. Yeatts KB, Svendsen E, Alexis N, Williams R, Creason J, Reed W, Harder S, Bromberg P, Neas L, Devlin R, **Peden DB**. Fine particulate matter associated with airway neutrophilia in a subpopulation of adult asthmatics. Abstract Accepted, 2005 International Conference of the American Thoracic Society. Am J Respir. Crit Care Med.
50. Alexis NE, Almond M, Dimeo F, **Peden DB**. Effect of Escalating Doses of LPS on Markers of Airways Inflammation and Innate Immunity in Healthy Volunteers. Accepted abstract, Annual Meeting of the American Academy of Allergy, Asthma and Immunology 3/2003, Denver, Colorado
51. N. Alexis, **D. Peden**. IL-4 Induces an Enhanced IL-6 Response and Signs of Allergic-Type Inflammation in the Nasal Airways of Non-Allergic, Non-Asthmatic Individuals. Abstract, 2nd Annual Meeting of The Federation of Clinical Immunology Societies, June, 2002
52. N. Alexis, **D. Peden**. Inducible Tachyphylaxis to Inhaled LPS in Healthy Volunteers. Submitted Abstract, 1st Annual Meeting of The Federation of Clinical Immunology Societies, May 2001
53. Eldridge M, Alexis N, Arnold R, **Peden, D**. Inhaled endotoxin induces a monocyte dependant peripheral blood granulocyte activation in atopic asthmatics. Abstract 2000 International Conference of the American Thoracic Society. Am J Respir. Crit Care Med. A844, 161 (3) 2000.
54. Eldridge, M and **Peden D**. Allergen provocation augments endotoxin-Induced nasal inflammation in atopic asthmatics. 2000 Meeting of the American Academy of Allergy, Asthma and Immunology.
55. Tucker K, Boehlecke B, **Peden D**. Effect of nasal endotoxin on eosinophil influx in allergic subjects Abstract, J Allergy and Clin Immunol. 1999 AAAAI meeting.
56. **Peden D**, Boehlecke B, Horstman D, Devlin RB. Effect of acute prolonged ozone exposure on inflammatory mediators in allergic asthmatics. Abstract, Am J. Respir. Crit Care Med 1997
57. **Peden D**. Boehlecke B, Horstman D, Devlin RB. Ozone induces eosinophil influx into the bronchial airways of mite-sensitive asthmatics. Abstract, J. Allergy Clin Immunol 1997

58. **Peden, D**, Boehlecke B, Horstman D, RB Devlin. Influx of Bronchial neutrophils and eosinophils in asthmatics after exposure to 0.16 ppm ozone. Am J Respir. Crit Care Med. 153, A700, 1996
59. **Peden, D**, Wortman, I, Dailey L. Epithelial inhibition of mast cell activity, J. Allergy Clin Immunol. 97, 265 (A332), 1996

TEACHING RECORD:

Current Recurring Lectures:

1. Lectures for Allergy fellows: Air Pollution, Asthma, Sinusitis, Immunodeficiency, Food Allergy, Drug Allergy (annually)
2. Residents Noon Conference: Air pollution

UNC & AHEC Grand Rounds (1996-Present):

1. Peden DB. Air Pollution and Inhalational Inflammation, Department of Surgery Research Grand Rounds, 4/23/2014
2. Peden DB. Air Pollution and Asthma. Mountain AHEC, Asheville, NC, 3/9/13
3. Peden DB. "Air Pollution and Asthma" UNC Department of Pediatrics, UNC CH 9/27/12
4. Peden DB. "Acetaminophen and Asthma. Pediatrics Grand Rounds at Moses Cone Hospital, 6/6/2012
5. Peden DB. "Acetaminophen and Asthma" Pediatrics Grand Rounds, Wake AHEC, 3/21/12
6. Peden DB "Translational studies of innate and IgE mediated airway inflammation in asthma" Department Seminar, Department of Microbiology and Immunology, UNC CH 3/31/08
7. Peden, D. "Air Pollution and Asthma". AHEC Grand Rounds Presentation, Department of Pediatrics Moses Cone Hospital, Greensboro, NC 11/10/04
8. Peden D. "Asthma Update and New Therapies" AHEC Grand Rounds, Department of Pediatrics. New Hanover Regional Hospital, Wilmington, NC, 11/02/04
9. Peden, D. and Donohue, J. "New Developments in Adult and Pediatric Asthma" Combined Medicine/Pediatrics Grand Rounds UNC School of Medicine Chapel Hill NC, April 3, 2003
10. Peden D, Asthma and Allergy Update: Chronic Control Therapy, AHEC Pediatric Grand Rounds, New Hanover Medical Center, Wilmington, NC, Feb 4, 2003
11. Peden, D. and Donohue, J. "New, Newer and Future Therapies for Asthma ". Student Health Grand Rounds, UNC School of Medicine, Chapel Hill NC, March 20, 2002

12. Peden, D. and Donohue, J. "New, Newer and Future Therapies for Asthma ". Combined Medicine/Pediatrics Grand Rounds , UNC School of Medicine, Chapel Hill NC, Nov 1, 2001
13. Peden, D., Overview of Asthma Disease/Update in Pediatric Asthma Management presented in "Respiratory Disease Update: Focus on COPD and Asthma" program School of Nursing Continuing Education Program William and Ida Friday Center Chapel Hill, NC, Oct 19, 2001
14. Peden, D., Asthma and Allergy Update: Chronic Controller Medication Pediatric Grand Rounds, WakeMed Raleigh, NC, Oct 17, 2001
15. Peden, D. Asthma and Allergy Update, Grand Rounds, Maria Parham Hospital, Henderson, NC, May 1, 2001
16. Peden, D. "Update on asthma and allergy" Student Health Service Grand Rounds, Chapel Hill, NC Feb 14, 2001
17. Peden, D. "Pediatric Asthma Program at UNC" Pediatric Grand Rounds-UNC School of Medicine, Chapel Hill, NC, November, 1999
18. Cross, A., Ingram, D., Gold, S., and Peden, D. "Eosinophilia in a 14 year old boy", Pediatric Grand Rounds-UNC School of Medicine, Chapel Hill, NC, October, 1999
19. Peden, D. "Update in Management of Asthma & Allergy", Pediatric Grand Rounds Wake Medical Center (WakeMed), Raleigh, NC, August 18, 1999
20. Peden, D. "Update in Asthma Management", Telelecture, Mountain AHEC, August 24, 1999
21. Peden, D. "Air Pollution and Asthma", Pediatric Grand Rounds-UNC School of Medicine, Chapel Hill, NC, July, 1999
22. Peden, D. "Asthma Update", Pediatric Grand Rounds, Maria Parham Hospital, Henderson, NC, April, 1999
23. Peden, D. "Asthma Therapy" Student Health Colloquium, North Carolina State University, Wake AHEC, Raleigh, NC. March, 1999
24. Peden, D. "Use of Inhaled Steroids in Asthma" Pediatric Grand Rounds, Randolph Memorial Hospital, Asheboro, NC. March, 1999
25. Peden, D. and Henke D. "Review of Allergic Diseases", Combined Medicine/Pediatric Grand Rounds, UNC School of Medicine. Oct 1, 1998.
26. Peden D. "Asthma Update 97", Pediatric Grand Rounds, Dept. of Pediatrics, UNC School of Medicine. August 21, 1997.

Invited Regional, National and International Presentations (1996-present):

1. Peden DB. Severe Asthma-Comorbidities. Invited Presentation. World Allergy Organization Symposium for Food and Respiratory Allergies, May 19, 2023, Kona, Hawaii
2. Peden DB. Impact of Climate Change on Occupational Health and Safety. Invited Presentation. World Allergy Organization Symposium for Food and Respiratory Allergies, May 18, 2023, Kona, Hawaii
3. Peden DB. Immunopathology of Outdoor & Indoor Air Pollution. Invited Presentation. WAO-PSAAI Pan Arab Allergy Meeting, Dubai, United Arab Emirates (virtual), January 27, 2023
4. Peden DB. Development of childhood asthma and air pollution. Invited Presentation. World Allergy Congress, Istanbul, Turkiye, October 14, 2022.
5. Peden DB. Advances in occupational disorders in the new decade. Invited Presentation. The World Allergy Organization-British Society of Allergy and Clinical Immunology 2022 UK Conference, Edinburgh, Scotland, April 26, 2022
6. Peden DB. Pollution and Allergy/Immunology. Invited Presentation. The Journal of Allergy and Clinical Immunology (JACI) Year-in-Review Workshop. Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Phoenix, AZ, February, 2022
7. Peden DB. Indoor Air Quality, Allergic Airway Diseases. Invited presentation. 2021 Annual Scientific Meeting of the American College of Allergy, Asthma & Immunology New Orleans, LA 11-6-2021
8. Peden DB. The Phil Fireman Lectureship of the International Asthma Conference at Nemacon "Vaping and Asthma". Hybrid Conference, Nemacon, PA 10-24-2021
9. Peden DB. "Planetary Health: Environment and Allergy" WAO Symposium: Patients, Environment, and Big Data. Mario Sanchez Borges Memorial Lectureship of the Asia Pacific Association of Allergy, Asthma and Clinical Immunology 2021 International Conference. Singapore 10-13-2021
10. Peden DB, Air Pollution and Human Health: Who's at risk and what can we do about it? Department of Medicine Grand Rounds, Penn State College of Medicine, Hershey, PA (Virtual) 12-8-2020
11. Peden DB, Environmental Factors on Airway and Allergic Disease: Air Pollution and Global Warming, Japanese Society of Allergology/World Allergy Organization Joint Congress 2020, Conjoint Asia Pacific Association of Pediatric Allergy 2020 Congress September 17-October 20, 2020 (Virtual)
12. Peden DB, Impact of Climate Change on the Immune System. European Academy of Allergy, Asthma and Immunology Digital Congress, June 8, 2020
13. Peden, DB, The Ann O'Neill Shigeoka Memorial Lecture: Air Pollution and Lung Disease invited presentation, Grand Rounds, Department of Pediatrics, University of Utah, Salt Lake City, UT 1-16-2020
14. Peden DB, "Climate Change and the Impact on Allergic Conditions", Annual meeting of the American College of Allergy, Asthma and Immunology, Houston, TX, 11-11-19

15. Peden DB, "Effects of air pollution on human health and inflammation", 2019 Joint Meeting of the Asian Pacific Association of Allergy, Asthma and Clinical Immunology and the Chinese Society of Allergy, Beijing, China, 9-7-19
16. Peden DB, "Determinants of Human Response to Air Pollutants", invited presentation, School of Public Health, Beijing University, Beijing, China, 9-3-19
17. Peden DB, "The Effect of Air Pollutants on Asthma, Allergic and Immunologic Disease", 2019 Annual Meeting, Western Society of Allergy, Asthma and Immunology, Maui, HI, 1-23-2019
18. Peden DB, "Indoor Biomass and Wildfire Exposure and Human Health", 2019 Annual Meeting, Western Society of Allergy, Asthma and Immunology, Maui, HI, 1-22-2019
19. Peden DB. "The Impact of Air Pollution on the Epigenetics of Allergic Disease and Asthma". 2018 Annual Meeting, American College of Allergy, Asthma and Immunology, Seattle, WA, 11-17-2018
20. Peden DB, "Global perspective of air pollution on allergy prevalence and relapse". 2018 Joint Congress of the APAAACI & APAPARI, Bangkok, Thailand, 10-14-2018
21. Peden DB, "Air Pollution and Allergy". 2018 Joint Congress of the APAAACI & APAPARI, Bangkok, Thailand, 10-13-2018
22. Peden DB. "Core competencies & Convergence for personalized/global health", 2018 Institute for Biological Engineering Annual Meeting, Norfolk, VA, April 7, 2018
23. Peden DB. Keynote Speaker, "Environmental Impacts on Pollen and Wildfire Effects on Human Health", 2018 CSTE Climate & Respiratory Health Meeting, Centers for Disease Control and Prevention, Atlanta, GA, March 15, 2018.
24. Peden DB. "Environmental Impacts on Asthma: Biology to Intervention" AAAAI Foundation and I. Leonard Bernstein, MD FAAAAI Memorial Lectureship, Presented in the Presidential Plenary Session at the Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 2, 2018, Orlando, FL.
25. Peden DB. "Pharmaceutical and Nutraceutical Interventions for Air Pollution induced Lung Disease". Research Seminar, Xinxiang Medical University, School of Public Health, Xinxiang, Henan Province, China, September 20, 2017
26. Peden DB. "Environmental Impacts on Allergic Disease" Asthma & Allergy Foundation of America, Alaska Chapter 12th Annual Alaska Asthma & Allergy Conference, Girdwood, AK, September 8-9, 2017
27. Peden DB. "Interventions to reduce the impact of pollutants on allergic disease", Presented at the Annual Meeting of the European Academy of Allergy and Clinical Immunology, June 18, 2017
28. Peden DB. "Pollutants and Asthma", Presented at Allergy/Immunology Grand Rounds, University of Wisconsin, Madison, Wisconsin, February 1, 2017

29. Peden DB. "Immunomodulation of Allergic Diseases". Presented at the Current Topics in Allergy and Clinical Immunology CME course, Division of Immunology, Department of Internal Medicine Grand Rounds, Carver College of Medicine, University of Iowa, Iowa City, Iowa. September 23, 2016
30. Peden DB. Paul M. and Dorothy E. Seebohm Visiting Lectureship in Allergy "Environmental Impact on Asthma and Allergic Diseases", Presented at the Department of Internal Medicine Grand Rounds, Carver College of Medicine, University of Iowa, Iowa City, Iowa. September 22, 2016
31. Peden DB. "Influence of Environmental Factors on Asthma and COPD". Presented at the Life Spectrum of Asthma Meeting of the American Academy of Allergy, Asthma and Immunology, Chicago, IL, July 31, 2016
32. Peden DB. "Adverse health effects and disease due to air pollution" 2016 Frank P. Anderson, MD Memorial Lecture, Children's Hospital of Georgia & Department of Pediatrics, Medical College of Georgia, Augusta University, Augusta, Georgia, June 17, 2016
33. Peden DB. Development of Interventions for PM Induced Airway and Systemic Diseases, NIEHS Symposium "Indoor exposure to biomass/woodsmoke exposure and pulmonary health" at the American Thoracic Society International Conference, May 15, 2016, San Francisco, CA
34. Peden DB. Translational studies of air pollution-induced inflammation. Invited Speaker, National Jewish Health, January 14, 2016, Denver, CO
35. Peden DB. Environmental factors contributing to severe asthma. Duke University Severe Asthma Conference—Mechanisms, Diagnosis, and Treatments, October 3, 2015. Searle Conference Center, Duke University, Durham, NC
36. Peden DB, Clinical Relevance of Juvenile Toxicity Studies, Society of Toxicologic Pathology Regional Meeting, National Institute of Environmental Health Sciences / National Toxicology Program, Research Triangle Park, NC, March 13, 2015
37. Peden DB, Population Health and Bridging Community-Clinical Connections. 2015 Summit of the Asthma Alliance of North Carolina, 3/4/2015, Burlington, NC
38. Farooqui N and Peden DB, Difficult Cases: Occupational Asthma in the Difficult Cases Symposia Presentation, The American Academy of Allergy, Asthma & Immunology Annual Meeting, February 20, 2015, Houston Texas
39. Peden DB, Literature Review on Air Pollution's Effects on Atopic Disease, Winter Meeting of the NC Asthma, Allergy and Immunology Society, January 31, 2015, Greensboro, NC
40. Peden DB, Smoking, Air Pollution, Indoor Triggers. 2014 the "Great Raft Debate", Annual Meeting of the American College of Allergy, Asthma and Immunology, 11/8/14, Atlanta, Georgia

41. Peden DB, Development of interventions to mitigate adverse health effects caused by pollution. 2014 International Symposium on Environmental Pollution and Health, Xixiang, China, 9/15/2014
42. Peden DB, Asthma Literature Review, Annual Meeting of the NC Asthma, Allergy and Immunology Society, July 12, 2014, Greensboro, NC
43. Peden DB, Air Pollution Effects in Asthma and Human Health, Annual Meeting of Southeastern Allergy, Asthma and Immunology Society, Asheville, NC, September 20, 2013
44. Peden DB: Plenary presentation, "How do different factors such as genetics, age, and nutrition impact human responses to chemical exposures?". ICCA-LRI and NCATS Workshop "What is Normal? Implications for Chemical Safety Assessment. Santa Fe, NM June 11-12, 2013
45. Peden DB: Grand Rounds, Allegheny General Hospital and West Penn Allegheny Health System Asthma Summit: "National Impact of Air Pollution on Asthma", Pittsburgh, PA 5/17/2012
46. Peden DB. "Report of the Asthma Exacerbations Sub-Committee", in the symposium NIH Asthma Outcomes". World Allergy Organization Meeting, 12/6/2011, Cancun, Mexico
47. Peden DB. "Human Studies of GSTM1 and Response to Pollutants"; Mailman School of Public Health, Columbia University, 10/27/2011
48. Peden DB. "Report of the Asthma Exacerbations Sub-Committee" Part of the symposium on the NIH Asthma Outcomes Workshop, International Meeting of the American Thoracic Society, Denver, CO, 5/2011
49. Peden DB "Immunobiology of Acute Environmental Asthma". Presented in the Postgraduate Course Advances by the NIAID Asthma and Allergic Diseases Cooperative Research Centers, International Meeting of the American Thoracic Society, Denver, CO, 5/2011
50. Peden DB "Air Pollution and Asthma" NIAID Grand Rounds, Bethesda, MD, 1/21/2011
51. Peden DB, "Environmental and Oxidant Stress in Asthma". Aspen Allergy Meeting, Aspen, CO. July 29,2010
52. Peden DB, "Environmental Pollutants and Asthma" Boston City-Wide Allergy and Immunology Rounds, Boston, MA, April 13, 2010
53. Peden DB, "Environmental Influences on Respiratory Disease" Spring Meeting of the West Virginia Chapter of the American Academy of Pediatrics, Morgantown, WV, April 10, 2010
54. Peden DB, "Translational Research for Environmental Health" NC TraCS Symposium: Translational Research to Address Health Disparities across the Lifespan, Chapel Hill, NC March 19, 2010
55. Peden DB, "Health Effects of Air Pollution" 2010 National Air Quality Conferences Air Quality Forecasting, Mapping, and Monitoring and Communicating Air Quality. Sponsored by the US Environmental Protection Agency, March 17, 2010, Raleigh, NC

56. Peden DB, "Health Impacts of Climate Change in Allergy and Asthma" presented at the Plenary Session "New Environmental Aspects in Allergy and Asthma" of the 2009 World Allergy Conference of the World Allergy Organization, Buenos Aires, Argentina, December 9, 2009
57. Peden DB, "Environmental Influences on Airway Disease: Gene X Environment Interactions" presented at the 36th Annual Postgraduate Course of the Alexander Spock Symposium| "Genetic & Public Health Frontiers of Pediatric Medicine", Duke University Medical Center, Durham, NC, November 7, 2009
58. Peden DB, "Oxidant Stress and Airway Disease" presented at the 4th International Conference on Oxidative/Nitrosative Stress and Disease", New York Academy of Sciences, New York, NY, October 30, 2009
59. Peden DB, "Immunobiology of Acute Environmental Asthma". Course presentation at the 2009 International Conference of the American Thoracic Society, May 2009
60. Peden DB, "The Biology of Antioxidant Complementary and Alternative Medicine Approaches in Allergy". Presented in the Symposium "The Science of Alternative Medicine in Allergy: A Tribute to Stephen Straus" at the Annual Meeting of the American Academy of Allergy, Asthma and Immunology March 14, 2009
61. Peden DB "Patient/Physician Perspective - The Environment / Immune System Interface - How it fits together" Presented at the "Environment, Public Policy and Human Health Emerging Trends" forum sponsored by the American Academy of Allergy, Asthma and Immunology at the Cannon Caucus Room of the US House of Representatives, Washington DC, March 13, 2009
62. Peden DB. "Mechanisms of Asthma Exacerbation due to Air Pollution". 2008 Southeast Allergy, Asthma & Immunology Society Annual Meeting, October 18, 2008, The Homestead, Hot Springs, VA
63. Peden DB. What Is The Role Of Environmental Exposures In Predisposing To Bronchiectasis? Presentation in the Symposium "Childhood bronchiectasis: views from around the world" 2008 ATS International Conference, May 18,2008, Toronto, Ont., Canada
64. Peden D. "Endotoxin: Mechanisms at Play (in causing asthma exacerbation)". Workshop presentation, The American Academy of Allergy, Asthma & Immunology Annual Meeting, Philadelphia, PA 3/15/2008
65. Peden D. "Monocyte and Macrophage Biology in Asthma", Research Seminar, Division of Allergy and Immunology, Creighton University, Omaha, NE 11/16/07
66. Peden D. "Air Pollution and Asthma". Nebraska Academy of Allergy, Asthma & Immunology 11/15/07, Omaha, NE
67. Peden D. " The changing prevalence of asthma, atopic allergy and autoimmune diseases" 44th Congress of the European Societies for Toxicology, Amsterdam, The Netherlands, 10/08/2007

68. Peden DB. Upregulation of Airway Macrophages and Monocytes by Environmental Agents in Asthma. Research Seminar, Department of Pediatrics, Mount Sinai School of Medicine, New York, NY , 6/14/2007
69. Peden, DB " Endotoxins Can Modulate Allergic Inflammatory Responses" in the Symposium "What Makes an Allergen Allergenic?" The American Academy of Allergy, Asthma & Immunology Annual Meeting, San Diego, CA, 2/27/2007
70. Peden, D., "The Impact of Poor Air Quality in Asthma (and what you can do about it)" Pediatric Grand Rounds, Duke University, Durham, NC 1/23/2007
71. Peden, D. "The Environment and Asthma", 2006 Dees Symposium on Allergy and Immunology, Duke University, Durham, NC 10/28/2006
72. Peden, D. "Monocytes and Macrophages in Asthma" Airway Biology Forum, Duke University, Durham, NC 9/15/2006
73. Peden, D. Invited Workshop Participant, "Enhancing Capacity to Study Gene-Environment Interactions in Complex Traits". Harvard School of Public Health, Cambridge, MA 6/18/2006
74. Peden, D. "Environmental Causes of COPD: Outdoor Environment" Invited Speaker, "COPD in Never Smokers" Workshop, NHLBI/NIOSH, Bethesda, MD 5/1-2/2006
75. Peden, D. "Translational Research on the Biology of Response to Pollutants". Environmental Cardiology Research Group, Department of Medicine, East Carolina University, Greenville, NC 4/27/06
76. Peden, D. "Pollution, air quality and asthma" Pediatric Grand Rounds, East Carolina University, Greenville, NC 4/27/06
77. Peden, D. "Environmental Influences on the Biology of Asthma", Invited Speaker, Asthma and the Environment Seminar Series, Asthma Program, NHEERL, US EPA, Research Triangle Park, NC 4/10/2006
78. Peden, D. "Air pollution and asthma" Long Island Allergy & Asthma Society Meeting, Long Island, NY 1/26/2006
79. Peden, D. "What causes asthma and what can we do about it? Environmental Influences" American College of Chest Physicians Annual Meeting, Montreal, CA, Oct 31,2005
80. Peden, D. "The Air that Children Breath: Not All is Healthy". Invited Seminar Presentation, American Academy of Pediatrics Annual Meeting, Washington DC, Oct 9,2005
81. Peden, D. Health effects of inhaled endotoxin. University of Southern California Department of Preventive Medicine Seminar. Los Angeles, CA, Oct 8, 2005
82. Peden, D. Environment, Lifestyle, Genetics and Asthma Development. Invited Speaker, JRC (of the EU) /EOHSI International Workshop "Modifiers of Chemical Toxicity: Implications for Human Health Risk Assessment" June, 2005, Poros, Greece.

83. Peden D. "Environmental Modulation of Allergic Disease" Invited Plenary Presentation, 62nd Annual Meeting of the American Academy of Allergy, Asthma and Immunology, San Antonio, TX, March 19, 2005
84. Peden D. "Air Pollution-Is the air safe to breathe?" Alexander Spock Symposium, Duke University Department of Pediatrics, Durham, NC, 10/30/04
85. Peden, D. "*In vivo* studies of inhaled endotoxin on airway inflammation in humans". Lung Biology Research Seminar Series, University of Rochester School of Medicine & Dentistry, Rochester NY, 1/6/04.
86. Peden D. "The Impact of Air Pollution in Asthma" Greater Washington Allergy, Asthma & Immunology Society Conference Series, 12/3/03, (DC Area), Vienna, VA
87. Peden, D "Endotoxin exposure in asthma" Workshop presentation, World Allergy Organization meeting, Vancouver, BC, Canada, 9/8/03
88. Peden, D. "Effect of ozone and bioaerosols in asthma" Invited presentation Pennsylvania Asthma and Allergy Association, Hershey, PA 6/21/03
89. Peden, D. "Immunological Lung Development And Exposure Timing Aspects Relevant To Potential Air Pollution Mechanisms" Invited presentation in the symposium "Air Pollution as a Cause of Childhood Asthma and Chronic Airway Disease" 99th International Conference of the American Thoracic Society, Seattle, WA, May 21, 2003
90. Peden, D. "Endotoxin and Allergic Diseases: A Two Edged Sword" April 2003 Meeting of the American Association of Veterinary Dermatology, Monterey, CA
91. Peden, D. "Environmental Ozone as a Predictor of Exercise-Related Lung Symptoms" Workshop Presentation, 60th Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Denver, CO March 12, 2003
92. Peden, D. Visiting Professor, Houston Allergy Society (Baylor University, University of Texas at Houston, University of Texas-Medical Branch), Houston, Texas Dec 3-5,2002.
93. Peden, D. "Short and Long Term Risks of Undertreatment of Pediatric Asthma" Invited Speaker, Annual Meeting of the American College of Chest Physicians, San Diego, CA Nov 4, 2002.
94. Peden, D. "Mechanisms of increased susceptibility of children to air pollution" Invited Speaker, European Respiratory Society Meeting, Stockholm, Sweden, September 16, 2002 (Invited Speaker)
95. Peden, D. "Allergies and Asthma", Invited Guest, "The People's Pharmacy", National Public Radio, August, 2002
96. Peden, D "Asthma" North Carolina Asthma Summit, Friday Center, Chapel Hill, NC, July, 2002

97. Peden, D. "The Impact of Pollution on Allergy and Asthma: An Epidemiological and Clinical Studies Overview", Invited presentation in the symposium "Allergens and Air Pollutants: Co-Exposures and Airway Responses" 98th International Conference of the American Thoracic Society, Atlanta, Georgia, May 19, 2002
98. Peden, D. "Endotoxin and Diesel Effects on Airway Inflammation"
Invited presentation in the mini-symposium "Airway Responsiveness and non-allergic stimuli: Irritants, Endotoxin and other agents" 98th International Conference of the American Thoracic Society, Atlanta, Georgia, May 19, 2002
99. Peden, D. "Allergic Rhinitis" Invited Speaker, 9th Annual Allergy Fellows Symposium Atlanta, Georgia May 17, 2002
100. Peden, D. "Development and sensitivity of the immune system"
Invited Speaker Health Effects Institute Annual Conference 2002
Seattle, Washington, April 28, 2002
101. Peden, D. "Impact of Air Pollution on Allergic Respiratory Diseases"
Workshop Presentation, 58th Annual Meeting of the American Academy of Allergy, Asthma and Immunology, New York, NY, March 6, 2002
102. Peden, D. "New Advances in Asthma and Allergies"
Presented at the "Masters of Pediatrics" Conference
University of Miami School of Medicine
Miami Beach, FL, Jan 15, 2002
103. Peden, D. "Air Pollution and Asthma...a Red Air Day Really Matters!!"
Presented at the "Frontiers of Pediatrics" Conference
Medical University of South Carolina
Charleston, SC, Dec 2, 2001
104. Peden, D. "New Therapies for Asthma and Allergies"
Presented at the "Frontiers of Pediatrics" Conference
Medical University of South Carolina
Charleston, SC, Dec 1, 2001
105. Peden, D. Asthma and Allergy Update: Chronic Controller Medication
Medicine/Pediatric Grand Rounds, Womack Army Medical Center
Ft. Bragg, NC, Oct 17, 2001
106. Peden, D. "Sinusitis and Asthma" Presented in the *Current Strategies in the Management of Asthma: From the Infant to the Elderly* conference, presented by the National Institute of Allergy and Infectious Diseases (NIAID) and the National Institute of Environmental Health Sciences (NIEHS) of the National Institutes of Health (NIH), Chaired by William Busse, MD and Sally Wenzel, MD. Washington, DC, June 18-19, 2001
107. Peden, D. "Role of Pollutants in Asthma" Presented in the *Current Strategies in the Management of Asthma: From the Infant to the Elderly* conference, presented by the National Institute of Allergy and Infectious Diseases (NIAID) and the National Institute of Environmental Health Sciences (NIEHS) of the National Institutes of Health (NIH), Chaired by William Busse, MD and Sally Wenzel, MD. Washington, DC, June 18-19, 2001

108. Peden D. "Environmental influences on the development of allergy and asthma" presented in the "Respiratory allergies: Paradoxes and controversies" workshop of the International Congress of Toxicology, Brisbane, Australia July 8-13, 2001.
109. Peden, D. "Inhalation studies of air pollutants in asthma" 8th International Inhalation Symposium "Crucial Issues in Inhalation Research -Mechanistic, Clinical and Epidemiologic" Hanover, Germany, 6 - 9 June, 2001
110. Peden, D. Invitation. "Air pollution effects on asthma -role of air toxics in asthma pathogenesis vs. biological allergens" presentation in the symposium, "Environmental Air Toxics: Role is Asthma Occurrence" sponsored by The Mickey Leland National Urban Air Toxics Research Center, School of Public Health, University of Texas at Houston, Houston Texas, May 30-31, 2001
111. Peden, D. "Respiratory Health and Air Quality" Invited presentation-Conference: Dispelling the Fear and Discovering the Truth: Linking the Environment and Health. Sustainable Universities Initiative of the State University System of South Carolina. Columbia, SC, April 6, 2001
112. Peden, D "The Role of Ozone in Augmenting Allergic Responses", presentation in the Workshop entitled "Interaction Between Allergens and Irritants in Airway Inflammation", Annual Meeting of the American Academy of Allergy, Asthma and Immunology, New Orleans, LA, March 19, 2001
113. Peden, D., Visiting Professor, NIEHS Seminar Series at UTMB in Galveston, TX, Dec 6, 2000
114. Peden D., "Air Pollution in Asthma" in the Environment and Allergy symposium of the Annual Meeting of the American College of Allergy, Asthma and Immunology, Seattle, WA, November 3, 2000
115. Peden D. "Little Particles, Big Effects" New Trends in Allergy V International Symposium, Davos, Switzerland, September 15-17, 2000
116. Peden D., "Atmospheric Contaminants and Human Health" Ecology and Health 2000 Conference, Mr. William Friday and Dr. Dennis McBride Co-Chairs, UNC School of Public Health and NC Division of Health, Sponsors, June 29, 2000, Raleigh, NC
117. Peden D., "Food Allergies in Pediatrics" Combined Duke-UNC Primary Care Conference. April 7, 2000, Friday Center, Chapel Hill, NC
118. Peden D., "The Role of Endotoxin in Asthma and Allergy" Invited presentation, Symposium presentation: The role of endotoxin in occupational and environmental lung disease: exposure-response relationships and susceptibility factors, Society of Toxicology, Philadelphia, PA 3/21/00
119. Peden D., Nel, A. and Balmes J., "Air Pollution and Asthma" Workshop at the 2000 annual meeting of the American Academy of Allergy, Asthma & Immunology, San Diego, CA, 3/4/00 (Workshop Chairman)

120. Peden D. "Health Effects of Air Pollution" Public hearing before the Environmental Resources Board, State of North Carolina, Invited by Secretary Holman of the State Department of the Environment and Natural Resources. January, 2000
121. Peden, D. "Exercise-induced Asthma"
Pediatric Oktoberfest, West Virginia University School of Medicine
Morgantown, WV, October, 1999
122. Peden, D. "Air Pollution and Asthma"
Grand Rounds, Gundersen Lutheran Medical Center
La Crosse, WI, August 30, 1999
123. Peden, D. "Update in Asthma Treatment"
Pediatric Grand Rounds, Texas Tech School of Medicine
Lubbock Texas, June, 1999
124. Peden, D. "Ozone and Asthma" Governor's Summit: Clearing the Air
Asheville, NC 4/7/99
125. Peden, D. "Air Quality and Asthma" "Breathing New Life into North Carolina's Childhood Asthma Care: Maximizing Local Resources" Friday Center, Chapel Hill, NC March 18, 1999
126. Peden, D. Environmental Modulation of Allergic Inflammation. EOD Workshop, 1999 Annual Meeting of the American Academy of Asthma, Allergy and Immunology, March 2, 1999
127. Peden, D. Air Pollution and Asthma. Invited Speaker. EOD Symposium, 1999 Annual Meeting of the American Academy of Asthma, Allergy and Immunology, February 28, 1999
128. Peden, D. Controversies in Asthma Therapy. Invited speaker. Infectious Diseases in Children Symposium 98, sponsored by Pediatric Infectious Diseases. New York, NY. November 1998
129. Peden D. Effect of Air Pollution in Asthma. Invited speaker, Biannual Susan B. Dees Allergy and Immunology Symposium, sponsored by Duke University Medical Center and the American Academy of Asthma, Allergy & Immunology. Durham, NC, November, 1998
130. Peden D. Effect of ozone on asthma in children. Invited speaker, Annual meeting of the National Capital Area Chapter of the Society of Toxicology. Bethesda, MD, May 1998
131. Peden D. Quality of Life: The patient's bottom line. Invited Speaker, Symposium: Allergic Rhinitis: Charting a Course for the 21st century. Washington, DC, May 1998
132. Boehlecke B, Peden D. Endotoxin and Asthma. Center for Indoor Air Research Symposium, Aug, 1997, Jackson Hole, WY
133. Peden D. Interaction of asthma, allergies and the environment on the lower respiratory tract. Guest faculty: Allergies, Asthma and the Environment Symposium, University of Chicago, May, 1997, Chicago, Illinois

134. Peden D. Effect of Air Pollution in Asthma. Invited speaker: Effect of infection and irritants in asthma symposium; 1997 ATS/ALA International Conference, May 1997, San Francisco, CA, 1997
135. Peden, D. In vivo studies of pollutants in asthma. International roundtable on the effect of pollutants in asthma. Salzburg, Austria, Sept, 1996
136. Peden, D. The use of nasal lavage in assessing the effect of pollutants on allergen-induced airway inflammation. Invited speaker: Asthma & the environment workshop, US EPA National Health and Environmental Effects Research Laboratory, Chapel Hill, NC, May, 1996
137. Peden, D. Interactions between allergen and air pollutants in atopic asthmatics. Invited speaker: Biomarkers of upper airway responses to irritants symposium; 1996 ATS/ALA International Conference, May 1996, New Orleans, LA, 1996
138. Peden, D, Boehlecke B, Horstman D, RB Devlin. Influx of bronchial neutrophils and eosinophils in asthmatics after exposure to 0.16 ppm ozone. 1996 ATS/ALA International Conference, May 1996, New Orleans, LA
139. Peden, D. Impact of ozone on the upper and lower airways; interaction with allergens. 35th Annual Swineford Allergy Conference, The University of Virginia Asthma and Allergic Disease Center, Charlottesville, VA , April 19, 1996
140. Peden, D, Wortman, I, Dailey L. Epithelial inhibition of mast cell activity, 52nd annual meeting, American Academy of Allergy, Asthma & Immunology, New Orleans, LA. March, 1996
141. Peden, D.B. Ozone. Workshop on Air Pollution & Asthma. 52nd annual meeting, American Academy of Allergy, Asthma & Immunology, New Orleans, LA. March, 1996

Training grant director:

National Institute of Allergy and Infectious Diseases-Joint Allergy/Immunology Training Grant (Duke University, Sleasman, J, PI, D Peden mPI at UNC) 2T32AI007062 "Research Training in Allergy and Clinical Immunology" Role: multi-Principal Investigator, \$371,126/year, 8/1/2022-8/1/2027

Research Teaching/Mentorships:

Junior Faculty Mentor for:

1. Jada Brooks, PhD, RN, Assistant Professor, School of Nursing, Primary Mentor, K23 "Inflammatory Mediators, Hazardous Air Pollutants, and Positivity", 6/2016-11/2021, NIEHS K23 funding
2. Timothy Moran, MD, PhD, Assistant Professor of Pediatrics, Primary Mentor, KL2 scholar and K08 "The Role of Neuropilin-2 In Regulating Environmental Airways Injury" 5/1/2019 to 4/30/2022

3. Patricia Silveyra, PhD, Associate Professor, School of Nursing, Primary Mentor, K01HL133520. Sex-specific mechanisms of ozone-induced acute lung inflammation. 2017-2020
4. Samuel Jones, MD (Burn Surgeon, KL2 program, K08, Co-Primary Mentor, with Bruce Cairns, MD 2013-2016)
5. Bradford Harris, MD (Pediatric Critical Care Medicine, K30 program 1/2004-1/2006)-currently an FDA review officer
6. Matt Laughon, MD (Neonatology, K30 program 1/2006 to 12/2008)-Professor of Pediatrics-Neonatology
7. Marianne Muhlebach, MD (Pediatric Pulmonology, K30 program)-Associate Professor of Pediatrics-Pulmonary Medicine
8. Michelle Hernandez, MD (Allergy & Immunology, K30 program, KL2 program, K23 primary mentor)-Associate Professor of Pediatrics
9. Maureen Su, MD (Pediatric Endocrinology), Co-Mentor at UNC, Associate Professor of Pediatrics, member of mentoring committee
10. Brian Vickery, MD (Allergy/Immunology)-Assistant Professor, Chair of Mentoring Committee
11. Ian Davis, MD, PhD (Hematology/Oncology)-Associate Professor, Chair of Mentoring Committee
12. Ilona Jaspers, PhD-currently a tenured professor and director of the CEMALB, I have been a primary administrative and team science mentor for her.

Primary Research Advisor for:

1. Allison Burbank, MD, Allergy/Immunology fellow (7/2015-6/30/2018)
2. Aaron Kobernick, MD, MPH, Allergy/Immunology fellow (7/2015-6/30/2016)
3. Robin Muller, MS Toxicology program/MD school (9//2011-7/2014)
4. Madeline Adams, MD (Allergy and Immunology Fellow, 7/2008-2010, Private Practice)
5. Vinod Doreswamy, MD (Allergy and Immunology Fellow, 7/2007-2010, Private Practice)
6. Michael Chou, MD (Allergy and Immunology Fellow, 7/2007-6/2009, Private Practice)
7. Taryn Richardson, MD (Allergy and Immunology Fellow 7/2007-6/2009, Private Practice)
8. Ceila Loughlin, MD (Pediatric Pulmonary Fellow, 7/05-6/08, Professor of Pediatrics, Pediatric Pulmonology, UNC)

9. Reuben Howden, Ph.D (NIEHS postdoctoral fellow in the joint CEMALB/LRB research program 7/2002-2007, currently Assistant Professor, UNC Charlotte)
10. Stephen Parsons, M.D, Ph.D (Resident in Pediatrics-Senior Research Project-winner of the 2002 Outstanding Resident Research Award 1/2002-6/2002, Neonatologist, WakeMed)
11. Kelly Griffith, Pharm.D. candidate, School of Pharmacy 2/2001-4/2002, Private Practice
12. Marlowe Eldridge, M.D. (UNC GCRC/NIEHS Fellow, 7/98-8/2000)
13. Gregory Bensch, M.D. (Resident, Internal Medicine, 8/95-7/97)
14. Peter Michelson, M.D. (Pediatric Pulmonary Fellow, 7/93-7/95)
15. Greg Bottei, M.D. (Adult Pulmonary Fellow, 7/93-7/95)

Assistant preceptor:

1. Malinda Longphre, Ph.D., Visiting Postdoctoral Fellow from the laboratory of Steven Kleeberger, Ph.D, School of Hygiene and Public Health, Johns Hopkins University 5/98-7/98
2. Franciose Pradel, Candidate for the M.S. in Pharmacy Administration, School of Pharmacy (Project: The pharmacological and sociocultural management of childhood asthma, Dr. Hartzema-major professor, School of Pharmacy) -completed.

Clinical Teaching /Attending on Clinical Service

1. Preceptor for the Allergy/Immunology Fellows in the pediatric allergy/immunology continuity clinic
2. Preceptor for the Pediatric Immunology Service.

Graduate Supervision, Committees

Graduate Dissertation Committee Chair:

1. Gillian Backus-Hazzard, Candidate for the Ph.D degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated 2006)
2. Johnathan Ciencewicki, Candidate for the Ph.D degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated 2007)
3. Tina Stevens, Candidate for the Ph.D degree, Curriculum in Toxicology School of Medicine, University of North Carolina (graduated 2008)
4. Monica High, Candidate for the Ph.D. degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated 2010)
5. Jennifer Nichols, Candidate for the Ph.D. degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated, 2012)
6. Nicole Kurhanewicz, Candidate for the Ph.D degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated 2016)

Graduate Dissertation Committee Member:

1. Morgan Nalesnik, Candidate for the Ph.D. degree, Curriculum in Toxicology, School of Medicine, University of North Carolina (in progress 2023-date, I Jaspers, Chair)
2. Ryan Snyder, Candidate for the Ph.D degree, Curriculum in Toxicology, School of Medicine, University of North Carolina (graduated, 2020, R Fry, Chair)
3. Andres Henriquez-Coria, Candidate for the Ph.D degree, Curriculum in Toxicology School of Medicine, University of North Carolina (graduated, 2018, R Fry, Chair)
4. Katherine Horvath, Candidate for the Ph.D. degree, Curriculum in Toxicology School of Medicine, University of North Carolina (Graduated, Ilona Jaspers, Chair)
5. Rachel Cote, Candidate for the PhD degree, Curriculum of Genetics (B Koller, Chair)
6. Maria Mirabelli, MS, Candidate for the Ph.D. degree, Department of Epidemiology, School of Public Health, University of North Carolina (S Wing, Chair).
7. Leslie (Goodno) Elliott, MS, Candidate for the Ph.D degree, Department of Epidemiology, School of Public Health, University of North Carolina (D Loomis, Chair)
8. Mark Sortir, MS, Candidate for the Ph.D degree, Department of Epidemiology, School of Public Health, University of North Carolina Tom Heil, BS, Candidate for the Ph.D degree, Department of Biomedical Engineering (Steve Downs, MD-major professor)
9. Marc Cribbs, B.A., Candidate for the M.S. degree in the Oral Biology Program of the School of Dentistry (Roland Arnold, Ph. D-major professor, School of Dentistry)-7/99
10. H. Henry Liu, DDS, Candidate for the Ph. D. degree in the Oral Biology Program of the School of Dentistry (Project: Role of Neutrophils in Periodontal Disease, Roland Arnold, Ph. D-major professor, School of Dentistry)-5/99

GRANTS:

Grants & Contracts Funded (Active):

US Environmental Protection Agency:

Environmental Protection Agency Cooperative Agreement CR 84033801 “Convergence Science in Environmental Health (COSINE)” Jaspers I, PI, Role: Co-Lead, Administrative Core, Core Leader: Human Clinical Studies Program. Percent Effort 15%, Grant dates: 01/04/2022-1/21/2025

National Institutes of Health:

National Center for Advancing Translational Sciences/National Institutes of Health-UM1TR004406 “North Carolina Translational and Clinical Sciences Institute (NC TraCS)” (Institutional Clinical and Translational Science Award). Lead PI: John Buse, Role: Key Personnel/Investigator (Pilot Project Lead) percent effort 20%. Funding period: 04/01/2023-03/31/2030. Total funding \$69,918,134.00

National Heart Lung and Blood Institute P01-HL108808- Development of Novel Mucolytic Therapies for Lung Disease (Boucher/Peden). 9/1/2017-6/30/2024 (NCE). This is a renewal

application for a translational program project grant from NHLBI focused on developing and testing mucolytics for treatment of CF and asthma. CEMALB and Marsico Lung Institute investigators will undertake these studies. The study will involve a phase I safety/proof of concept study of hypertonic saline in asthma patients. Annual award \$2,656,117/year total costs. Role: contact PI, 25% effort.

National Heart Lung and Blood Institute U24HL138998-01 Title: Data, Modeling and Coordination Center For Precise Network (Ivanova/LaVange). UNC serves as the Data Coordinating Center for NHLBI's Precision Interventions for Severe and/or Exacerbation-Prone Asthma (PreclSE) Network. The objective of PreclSE is to conduct sequential, adaptive, phase II/proof of concept trials with precision interventions in stratified patient with severe asthma populations. Patients with severe asthma are heterogeneous, and thus a hard-to-treat population. This group coordinates the PreclSE network and Drs. Ivanova, LaVange, and Peden are on the PreclSE executive committee. Role: Key Personnel (Director of the network Safety Core, Sponsor-Investigator for the IND and Co-Investigator) 20% effort (grant period 9-23-17 to 6-30-23, NCE to 6-30-25).

National Center for Advancing Translational Sciences 1OT2TR003430-01 (Ahalt, Krishnamurthy PI) ICEES+ Knowledge Provider: Leveraging open Clinical and Environmental data to Accelerate and Drive Innovation in Translational Research and Clinical Care. This proposal focuses on extending translational research use cases employing data drawn from electronic health records, molecular data, and environmental exposure data. Role: Investigator, 5% effort, Role: Key Personnel (1/2020-11/2023)

National Institute of Allergy and Infectious Diseases-Joint Allergy/Immunology Training Grant (D Peden contact PI at UNC, Duke University, Sleasman, J, mPI,) 2T32AI007062 "Research Training in Allergy and Clinical Immunology" Role: contact Principal Investigator, \$371,126/year. Reviewed 2/2022, funding period; 8/1/2022-7/31/2027.

National Institute of Allergy and Infectious Diseases/Tulane University HHS-NIH-NIAID-BAA2021-1 "Novel Mucosal Vaccine Approaches for Pneumonia" Role: UNC Site Lead PI Percent Effort 5% Proposed grant dates 12/15/2022-4/30/2027 Total costs for entire period: \$4,880,874 (8% current effort)

Department of Defense:

DA Army Medical Research Acquisition Activity- "Bronchitis in the Military: Diagnosis, Risk Mitigation, and Treatment" W81XWH-18-1-0731, Total budget \$9,964,278.00, (Boucher, PI), role-Investigator (co-PI, project 4). 09/15/2018 -09/14/2022. (NCE to 9/24) Percent effort 3%

Grants & Contracts (Pending):

Grants & Contracts Funded (Completed):

National Center for Advancing Translational Sciences/National Institutes of Health-NCATS UL1TR002489 "UNC Clinical and Translational Science Award" (Institutional Clinical and Translational Science Award). Total Direct Costs \$11,497,887/year (3/30/2018-2/28/2023, J Buse and N. Shaheen, mPI). Role: Associate Director for Cross-Disciplinary Science, Percent Effort 5%

National Institute of Environmental Health Sciences R01ES025124, "Gamma tocopherol chemoprevention of wood smoke PM2.5-induced airway inflammation". Role: Principal

Investigator Percent Effort 15% \$2,826,485 total costs for entire grant period (3/1/2016-2/28/2023).

Benaroya Res Inst-Virginia Mason/NIAID -Immune Tolerance Network
FY21ITN452/UM1AI109565 (Peden) This is a multi-center, randomized, initially blinded, phase 2 trial to assess SARS-CoV-2 vaccination systemic allergic reactions in two populations: one population including individuals with a history of allergic reactions (High-Allergy [HA]) or mast cell disorders (MCDs) and one non-atopic population. Role: Site PI

Environmental Protection Agency Cooperative Agreement CR 83578501 "Human Health Effects of Environmental Pollutants" (Catalog #of Federal Domestic Assistance Number: 66.511) for the Office of Research and Development Consolidated Research, US EPA. Role: Principal Investigator, Percent Effort 15%. \$800,000 base funding annual total costs, up to \$600,000 annual total costs for supplemental projects (4/1/2015-3/31/2022).

NSF Nanosystems Engineering Research Center for Advanced Self-Sustaining Integrated Sensor Technologies (ASSIST); Total budget annually \$4,000,000, (10/1/2012-9/30/2017) UNC subcontract: \$140,000. Role: UNC Principal Investigator/Medical Director (V. Misra, Lead PI, North Carolina State University, Prime account).

National Center for Advancing Translational Sciences 1-OT3-TR002020 (Ahalt) Carolina Biomedical Data Translator 09/01/16-08/31/20 NIH \$682,061 This proposal focuses on building a pilot that uses data drawn from electronic health records, molecular data, and environmental exposure data. Role: Investigator, 5% effort, Role: Key Personnel

National Institutes of Allergy and Infectious Diseases (NIH/Benaroya Res Inst Subcontract) 1UM1AI1109565-01 (Nepom) 5/1/14-1/31/18 \$162,419. The Collaborative Network for Clinical Research in Immune Tolerance. The purpose of this study is to determine if anti-TSLP in conjunction with antigen-specific Immunotherapy can induce tolerance to cat allergen. Role: Site Principal Investigator

National Institute of Environmental Health Sciences Grant R01-ES023349. "Phase II studies of gamma tocopherol as an intervention for environmental asthma". Role: Principal Investigator, Percent Effect 15%, \$2,562,381 total costs throughout the entire grant period (grant period 9/12/2013-4/30/18, NCE to 4/30/19).

Environmental Protection Agency CR 83346301 "Health effects of exposure to air pollutants in humans." Total Funds Requested \$17,999,995 over entire funding period (7-1-2007 to 1-31-2015). Maximum direct costs/year \$1,800,000. Role: Principal Investigator, Percent effort: 15%

National Institutes of Health-NIAID. U19AI077437-05S1 in the NIAID Asthma and Allergic Diseases Cooperative Research Center (AADCRC) Program. "Immunobiology of Acute Environmental Asthma" Role: PI. Percent Effort: 5%. Total costs for administrative supplement \$186,113; 3-1-2013 to 2-28-2014).

National Institutes of Health-NIAID. U19AI077437-05 in the NIAID Asthma and Allergic Diseases Cooperative Research Center (AADCRC) Program. "Immunobiology of Acute Environmental Asthma" Role: PI. Percent Effort: 25%. \$1,200,000/year direct costs for project (3-1-2008 to 2-28-2013, on NCE through 2-28-2014).

National Institutes of Health (NIEHS-1RC1ES018417) Investigating gene x environment interaction using human exposures to O₃ & LPS. Funding period 10-1-2009 to 9-30-2011. Total Direct Costs: \$660,000 over entire funding period. Role: Principal Investigator Percent effort: 15% on No Cost Extension to 9/30/2012

National Institutes of Health-NHLBI P50HL084934 "SCCOR in Host Factors in Chronic Lung Diseases" Project IV "Smoking and airway innate host defense: in vivo studies" (R Boucher PI). Role Project Leader, Percent Effort: 20% \$300,000 direct costs for project. (9-1-2006 to 9-1-2011, on No Cost Extension to 9/30/2012)

National Institutes of Health (NCCAM- P01AT002620) of the NCCAM Centers for Excellence in CAM Research, "Translational Research Center for CAM Therapy of Asthma" \$998,069/year direct costs, Role Principal Investigator/PPG Program Director. Percent Effort 25% (9/30/2004-9/30/2009)

National Institutes of Health (NIEHS-R01ES012706) "O₃ & LPS-induced airway inflammation in humans *in vivo*" \$205,632/year direct costs 5-year project, Role Principal Investigator, Percent Effort: 5% (9/1/2004-8/31/2009)

National Institutes of Health (NHLBI-RO1 HL080337) Airway Biology of Acute Asthma: Translational Studies. \$350,000/year direct costs, 4 year project, Role Principal Investigator. Percent Effort 15% 4/1/2005-3/31/2009.

Environmental Protection Agency CR829522 "Health effects of environmental pollutants in humans." Includes NIEHS IAG Supplement to Environmental Protection Agency (Philip Bromberg, M.D., Project Manager.; David B. Peden, MD Deputy Project Manager-essential personnel), 5/15/01-5/15/06 Direct costs of entire project \$1.2 million/year: Role: Deputy Principal Investigator, Percent effort: 10%

National Institutes of Health (NIAMS) 1U01AR052181-01. Health and Literacy in Child and Adult Assessment (Guess, H, PI). Role: Co-Investigator Percent Effort (5%)

National Institutes of Health: (NHLBI-R01HL062624). "Endotoxin and Bronchial Inflammation in Asthma" 2 R01 HL62624-04. Total Direct Costs: \$800,000 , 1/1/02-12/31/05 (on no cost extension through 12/06), Role PI, 20% effort.

Glaxo Smith Kline (D. Peden, PI). A 2-period, double-blind, randomized, clean air controlled, crossover study to evaluate the airway inflammation following challenge with inhaled ozone or clean air and intermittent exercise in patients with mild to moderated chronic obstructive pulmonary disease (COPD). \$260,000 direct costs 7/1/03-12/05

National Institutes of Health-NHLBI "CD14 and LPS-induced inflammation in chronic bronchitis". RO1-HL66559 Role, PI: Total direct costs: \$900,000.00, 9/29/00-9/28/04, 25% effort

Cystic Fibrosis Foundation (Wanda O'Neal, PI) 03/01/01 - 02/29/04 CF Therapeutic Targets Revealed by Expression Arrays Project 2: Differential Expression of Inflammation Related Genes Annual direct costs: \$91,401 Unpaid Consultant

Cystic Fibrosis Foundation (Carla Ribiero, PI) 11/15/00 - 11/14/03 Ca²⁺ Signals and Cystic Fibrosis Airway Inflammation Annual direct costs: \$125,000 5% Effort

Center for Indoor Air Research: "Effect of airborne endotoxin exposure on bronchial reactivity to mite allergen in mild allergic asthmatics" (PI: Brian Boehlecke, M.D.) Role: Investigator, Total Direct Costs: \$370,803.00, Active through 12/98, 5% Effort.

"A Randomized, Double-Blind, Double-Dummy, Parallel-Group Trial Assessing the Efficacy and Safety of Fluticasone Propionate 50 or 100 mcg BID Via the Multi-Dose Powder Inhaler, Fluticasone Propionate 50 or 100 mcg BID Via the Diskhaler« and Placebo in Subjects Aged 4-11 Years With Chronic Asthma", Glaxo Research Institute-FLTA2006, Role: P.I., Total costs: \$56,000.10% Effort. 3/13/95-12/96.

"A 12 month, open-label trial to assess the long-term safety of albuterol 200 mcg QID in GR016642x propellant via the MDI in adolescent and adult subjects with asthma" Glaxo Wellcome Inc-SALA3003, Role: P.I., Total costs \$72,976. 10% effort 8/8/96-6/98

"A Randomized, Double-Blind, Double-Dummy, Parallel-Group, Clinical Trial Assessing the Safety and Efficacy of Albuterol Powder 200 mcg QID Via the Discus Versus Albuterol Aerosol 200 mcg (180 ex-actuator) QID via the Metered Dose Inhaler Versus Placebo in Pediatric Subjects Aged 4-11 Years with Asthma" Glaxo Wellcome Inc-SALA 3008, Role: PI, Total Direct Costs: \$46,700, 10% Effort

Glaxo Wellcome Protocol SAS30001: "A stratified, randomized, double-blind, placebo controlled parallel group 12 week trial evaluating the safety and efficacy of the Salmeterol/Fluticasone Propionate combination in GR106642X MDI, 42/88 mcg BID and Salmeterol in propellant 11/12 MDI, 42mcg BID, Fluticasone Propionate in propellant 11/12 MDI, 88mcg BID, and placebo propellant GR106642X MDI in adult and adolescent subjects with asthma" Role: Principal Investigator (for this site), Total Direct Costs: \$51,420 Begins 12/98-completion, 5% effort

Merck: "A randomized, double blind, multicenter study to evaluate the effect of adding either montelukast or salmeterol xinafoate to inhaled fluticasone in adult asthmatics" Role Principal Investigator (for this site), Budget Role: Principal Investigator (for this site), Total costs \$62,712.00 5% effort

Centers for Disease Control and Prevention & National Heart Lung and Blood Institute (DHHS). 1-R01 HL62624-04 "Endotoxin and Bronchial Inflammation in Asthma" Total Direct Costs: \$732,100, 1/1/99-12/31/01, Role PI, 35% effort.

Environmental Protection Agency "Health effects of exposure to air pollutants in humans." (Philip Bromberg, M.D., P.I.), U.S. CR-824915 5/16/96-5/15/01 Direct costs of entire project: \$1,448,389.00/year Role: Co-Principal Investigator, Percent effort: 31.5%

National Institutes of Health (NHLBI) "Viruses and Epithelial Chemokines in Asthmatic Children" (PI: Terry Noah, MD) Role: Co-Investigator, Total Direct Costs: \$675,000 7/01/98-6/30/03, 10% Effort

Investigational New Drug Applications with the FDA:

BB-9998: "Airway Response to Clinical Center Reference Endotoxin in Healthy Adults"

BB-10790: "Airway Response to House Dust Mite Allergen"

71475: "Airway Response to Ozone Exposure"

BB-13004: "Airway response to Clinical Center Reference Endotoxin in Adults using Vitamin and Nutritional Supplements".

BB-13010: "Effect of house dust mite allergen challenge in persons using nutritional supplements"

BB-13086: "Phase 1 Study of *Dermatophagoides farinae* inhalation in humans"

145962 "PreClSE (Precision Interventions for Severe and/or Exacerbation-Prone Asthma) Network Study"

PROFESSIONAL SERVICE:

State of North Carolina

Commissioner on the North Carolina Environmental Management Commission 5/8/2008-6/30/2013

To discipline (Pediatrics, Allergy & Immunology, and Environmental Research):

Professional Society Memberships:

Fellow, American Academy of Pediatrics
Fellow, American Academy of Allergy, Asthma and Immunology
Fellow, American College of Allergy, Asthma and Immunology
Member, American Thoracic Society
Member, North Carolina Thoracic Society
Member, Society for Pediatric Research
Member, Clinical Immunology Society
Member, Society of Toxicology
Member, American Pediatric Society

American Board of Allergy and Immunology (1/1/2003-12/31/2008):

Elected Co-chair elect, 2004, Co-chair 2005 and Chair for 2006 Examination Co-Chair for the 2006 examination
Elected as a Director of the American Board of Allergy and Immunology, term 1/1/2003-12/31/2008

ACGME-Residency Review Committee for Allergy and Immunology

Elected as Vice Chair & Committee Member, 1/2008-6/2014
Elected as Chair of the RRC for the term 7/1/2011-6/30/2014

United States Environmental Protection Agency Regulatory Review Panels

Appointed to the EPA Clean Air Science Advisory Committee-Augmented for Sulfur Oxides Panel, 2014-2018
Appointed to the EPA Clean Air Science Advisory Committee Particulate Matter Review Panel (2015-2018)

Food and Drug Administration Regulatory Review Panels:

Appointed to the Allergenic Products Advisory Committee, October 2014
Appointed to the Allergenic Products Advisory Committee as Chair, 8/2018-8/2024
Appointed to the Pulmonary and Allergy Drugs Advisory Committee as a temporary voting member, May 11, 2023

National Institutes of Health/EPA Funding reviews:

Regular member, Infectious Diseases, Reproductive Health, Asthma and Pulmonary (IRAP) Conditions Study Section, CSR, NIH term 7/1/2012-6/30/2016

Individual Meetings:

Member, Meeting, 2023/01 ZAI1 JTS-I (J1) 1: Asthma and Allergic Diseases Cooperative Research Centers (U19 Clinical Trial Optional) 12/14-15/2022 (NIAID review)
Chair, Meeting 2022/02 ZAI1-AM-I-M2 (U01) NIAID Clinical Trial Implementation Cooperative Agreement (U01 Clinical Trial Required).
Member, Meeting 2022/01 ZHL1 CSR-F (F2) 2 Early Phase Clinical Trials (R61, R33, NHLBI)
Member, Meeting, Asthma & Allergic Diseases Cooperative Research Centers 3/22/2021 (NIAID review)
Chair, Meeting 2021/01 ZAI1-KJK-I-J1 11/17/2020 (NIAID review)
Chair, Meeting 2021/01 ZAI1-KJK-I-J2 11/17/2020 (NIAID review)
Member, Meeting 2020/05 ZAI1-JA-I-M1, 3-24-2020 (NIAID review)
Member, Meeting 2019/10 ZTR1-CI-9-01, 6-14-19 (CTSA review)
Member, Meeting 2019/01 ZAI1-PTM-I-J1, 9/24/2018 (NIAID)
Member, Meeting 2018/10 ZTR1-CI-9-01, 6/14/2018 (U54/KL2, CTSA, NCATS)
Member, Meeting 2018/05 ZAT1-VS-08, 3/22/18 (NCCIH)
Member, Meeting 2018/05 ZES1-JAB-S-R1 2/15/2018 (NIEHS)
Member, Meeting 2017/12, HLBP, 11/3/2017 (P01, NHLBI)
Chair, Meeting 2017/09 ZAI1-PA-I-J1 (AADCRC U19, NIAID)
Member, Meeting 2017/08 ZHL1-CSR-Q-S1, NHLBI 7/17/2017
Member, Meeting 2017/05, ZTR1-CI-8-01, NCATS (CTSA review) 2/16/2017
Member, Meeting 2017/05, HLBP, 1/11/2017 (translational P01, NHLBI)
Member, Meeting 2017/01, HLBP, 10/4/2016 (P01, NHLBI)
Co-Chair, Meeting 2016/10 IRAP
Member, Meeting 2016/05 ZHL1-PPG-S-M1
Chair, Meeting 2016/05 ZAI1-LAR-I-M1 (AADCRC U19, NIAID)
Member, Meeting 2016/05 IRAP
Member, Meeting 2016/01 ZAT1-SM-38, NCCIH
Member, Meeting 2016/01 IRAP
Member, Meeting 2015/10 IRAP
Member, Meeting 2015/10 HLBP
Member, Meeting 2015/10 IRAP
Member, Meeting 2015/01 ZAI1-QV-I-J1, NIAID
Member, Meeting 2015/01 IRAP
Member, Meeting 2015/01 HLBP
Member, Meeting 2014/10 IRAP
Member, Meeting 2014/10 HLBP, NHLBI
Member, Meeting 2014/05 ZAI1-MM-I-M2, NIAID
Member, IRAP, 12/17/2013, CSR
Member, ZAI1-QV-I-J2, 12/11/2013, NIAID
Member, IRAP, 06/25/2013, CSR
Member, HLBP, 05/13/2013, NHLBI
Chair, ZTR1-CI-2-01, 02/13/2013, NCATS
Member, HLBP, 10/17/2012, NHLBI
Member, IRAP, 10/04/2012, CSR
Member, ZAI1-MFH-I-J2, 09/27/2012, NIAID
Member, HLBP, 08/31/2012, NHLBI
Member, HLBP, 04/27/2012, NHLBI
Member, ZHL1 -CSR -J -(M3), 04/16/2012, NHLBI
Member, HLBP, 04/27/2012, NHLBI
Member, ZHL1 -CSR -H -(M1) 03/04/2011, NHLBI
Member, 2012/01 HLBP 10/06/2011, NHLBI PPG

Member, 2011/05 ZAI1 -WFD -I -(M2), 03/14/2011, NIAID
Member, 2011/05 ZHL1 -CSR -H -(M1) 03/04/2011, NHLBI
Member, ZRG1 CVRS-J 02 M, Member Conflicts: Asthma, Lung Immunology, and Lung Physiology 2/23/2011
Member, 2011/05 HLBP -(02), PPG Review 1/27/2011
Member, NIH/NHLBI PPG review, 9/14/2010
Member, NIH/NHLBI PPG review, 2/18/2010
NHLBI RO1 Review, 12/14/2009
NCCAM, ZAT1 -RB -(02), 2009/10
NCCAM Review Meeting, 7/15/2009
Chair, Clinical Science SEP ZAT1, NCCAM RB 01 6/12/2009
Member, NCCR Special Emphasis Panel, ZRR1 CR-1(01) CTSA 1 02/10/09
Member, Clinical Trials Review Group, NHLBI, June 2008
Chair, Clinical Science Study Section (R21), NCCAM June, 2008
Chair, Clinical Science Study Section (R21), NCCAM Feb, 2008
Chair, Clinical Science Study Section (R21), NCCAM Oct, 2007
Chair, Clinical Science Study Section (R21) 2007/1 ZAT1 NCCAM June 4-5, 2007
Member, PPG review, HLBP workgroup, NHLBI, April 3, 2007
Chair, ZAT1 JH (21) Special Emphasis Panel (Teleconference), NCCAM, 3/14/2007
Chair, Clinical Science Study Section (R21) 2007/1ZAT1JH (18), NCCAM 10/30/06
Member, Special Emphasis Panel DCES-001 Directors Challenge, NIEHS, 8/15.06
Chair, Clinical Science Study Section (R21) 2006/10 ZAT1 JH (16), June 12-13 2006
Member, NCCAM Clinical Science Study Section (R21) ZAT1 JH (15), Feb13 2006
Participant, NIEHS Strategic Planning Forum, Oct 17-18, 2005
Chair; Special Emphasis Panel (ZAT G 15 1) CERC Program 7/12/2005
Member: K23 Award Review Special Emphasis Panel (ZES1 LKB-A) 12/6/2004
Ad hoc Member: Lung Injury, Repair and Remodeling (LIRR) Study Section, 6/8/04
Member: NIEHS Special Emphasis Panel (ZES1 LKB-E(CA)) for RFA ES-03-010 The role of Air Pollutants in Cardiovascular Disease, March 4-5, 2004
Member: NHLBI SEP (ZHL1 CSR-L (M1)) NHLBI Childhood Asthma Research and Education (CARE) Network, February 22, 2004
Member: EPA Review panel of the National Urban Air Toxics Center, 9/17/2003
Member: NIH, CSR Conflict Special Emphasis Panel ZRG1 SSS3 02, 6/17/2003
Member: NIEHS Special Study Section (ZES1 LWJ-B-(DU)) PO1 application, February 26-28, 2003 NIEHS
Member: NHLBI Special Emphasis Panel (ZHL1 CSR - P(S2)) Centers for Reducing Asthma Disparities 02-006, July 18, 2002
Member: Immunology IRG Special Study Section 4 (ZRG1 SSS-4) PO1 application, April 23, 2002, NIH
Member: EPA Grant Review Panel for the Mickey Leland Air Toxics Center, Houston, TX, 2001
Member: Special Emphasis Panel: RFA AI-00-012: Asthma and Allergic Diseases Centers; April 9-11, 2001, NIAID
Chairman: Special Emphasis Panel for SBIR: Topics 72 and 73, NIEHS; 2/2000
Member: Special Emphasis Panel: RFA AI-96-005: Asthma, Allergic and Immunologic Diseases Cooperative Research Centers (AAIDCRC); NIAID, 6/1997

Editorial Appointments:

7/2021-date: Editor-in-Chief, ***Journal of Allergy and Clinical Immunology:Global***
3/13-6/2021: Editor-in-Chief, ***Current Allergy and Asthma Reports***
3/05-6/2021: Associate Editor for the ***Journal of Allergy and Clinical Immunology***
3/03-6/2021: Editorial Board for the ***Journal of Allergy and Clinical Immunology***

5/04-2010: Editorial Board for the ***Annals of Allergy and Clinical Immunology***
1/02-12/2004: Immunotoxicology/Environmental Section Editor for ***Clinical Immunology***

Ad Hoc Reviewer:

***Science Translational Research
New England Journal of Medicine
American Journal of Respiratory and Critical Care Medicine
Journal of Pediatrics
American Journal of Respiratory Cell and Molecular Biology
Journal of Applied Physiology
American Journal of Physiology
Environmental Health Perspectives
Journal of Clinical Investigation
Experimental Lung Research
Journal of the American Medical Association
Clinical and Experimental Allergy
Journal of Immunology
Journal of Allergy and Clinical Immunology
Toxicological Sciences
Environmental Research
Annals of Allergy, Asthma and Immunology***

Committee duties in national or international organizations:

World Allergy Organization

1. Elected to the Board of Directors, World Allergy Organization, 12/2019-12/2024

American Academy of Allergy, Asthma and Immunology:

1. Elected to the Presidential Track of the American Academy of Allergy, Asthma and Immunology, Secretary-Treasurer 2015-2016, President-Elect 2016-2017, President 2017-2018, and Past President 2018-2019.
2. At large member, Executive Committee Board of Directors, the American Academy of Allergy, Asthma and Immunology 3/2012-3/2013
3. Board of Directors, the American Academy of Allergy, Asthma and Immunology, term 3/2010-3/2014
4. Pediatric Councilor, Executive Committee-Program Directors Assembly 3/2008-3/2010.
5. Member: Air Pollution Committee 1993-date
6. Prior member of the following Committees:
 - a. Vice Chair; Complementary and Alternative Medicine Committee 3/2008-3/2009
 - b. Rhinitis, Academic Grants, ERT Grants
 - c. Chair: Air Pollution Committee through 2002
 - d. Officer of the Environmental and Occupational Diseases Interest Section:
 - i. Chair, 3/2005-2007,
 - ii. Vice Chair 3/2003-2005,
 - iii. Secretary 2001-2003
 - e. Chair: Workshops Committee through 2001

American Thoracic Society:

Member: Environmental and Occupational Health (EOH) Assembly
Program Committee Member, Environmental and Occupational Health Assembly

Consultancies and Invited Workshops:

1. Member, Environmental Health Perspectives Editor-in-Chief Search Committee, NIEHS, 2019
2. Scientific Director review committee for NIEHS, January and February 2019
3. Executive Committee, NHLBI Precision Interventions for Severe and/or Exacerbation-Prone Asthma (PreclSE) Network 9/2017-date
4. External Advisory Committee, Environmental Polymorphism Registry, NIEHS 11/2016
5. Member, Search Committee, Director for Clinical Research, NIEHS, 2012-13
6. Scientific Advisory Board, NIEHS funded P30 Center, Johns Hopkins University Bloomberg School of Public Health, through 2013
7. External Advisory Board, NIEHS funded P30 Center, Rutgers University, ongoing through 2016
8. Member, Search Committee, Director of Intramural Research, NIEHS, 2010
9. NIAID/NHLBI Asthma Outcomes Workshop, Co-Chair Exacerbations Committee 3/17/2010, Bethesda, MD
10. Workshop on Harmonization of Human Clinical Chamber Air pollution Exposure Studies, NIEHS, 3/31/2010, RTP, NC
11. Workshop on Environmental Exposure Units, NIAID, 6/18/2010, Bethesda, MD
12. Scientific Advisory Board, Helmholtz Zentrum München-German Research Center for Environmental Health (GmbH), Munich, Bavaria, Germany, through 2012

State Committees:

North Carolina Thoracic Society/American Lung Association:
Chairman: Asthma Camp Committee (9/1992-9/2000)

WITHIN UNC-CHAPEL HILL

University of North Carolina School of Medicine:

Committee Service:

Member: Chair Search Advisory Committee, Department of Biostatistics, School of Public Health, 5/2023-7/2023
Member: One UNC Clinical Research Task Force, UNC, UNC School of Medicine and UNC Health 1/2022-present
Member: Academic Research Organization Feasibility Team, School of Medicine, 7/2018-present
Member, Clinical Research Support Office, School of Medicine, 4/2020-3/2022
Member, Chair Search Committee, Department of Genetics, 2017-18.
Chair, Review Committee for the Director of the CIDDD (5-year review), Fall 2015
Co-Chair, Chair Search Committee, Department of Cell Biology & Physiology, 2012-2013
Co-Chair, Ad Hoc Committee for Review of the Cell & Molecular Physiology Department, Jan-Feb/2013
Member, NC Children's Hospital Strategic Plan Steering Committee, 2012-13
Member, Department of Pediatrics Strategic Plan Steering Committee, 2012-13
Member, School of Medicine Strategic Plan Steering Committee 2012-2013
Ad Hoc Chair, Scientific Integrity Review, UNC School of Medicine, 2009
Member, Research Advisory Committee, UNC School of Medicine (9/2007-date)
Member, Chair Search Committee, Department of Microbiology/Immunology (6/2007-12/2007)
Dean's Advisory Committee (2002-present)
Conflict of Interest Committee (1998-2002)
General Clinical Research Center Advisory Committee (1992-1997)

Attending Duties (Current):

1. Precepting Attending in the Pediatric Allergy/Immunology Fellows Clinic, serves both a clinical and teaching role
2. Pediatric Allergy & Clinical Immunology inpatient consultation and attending service (year-round), serves both a clinical and teaching role.
3. Pediatric Rheumatology inpatient consultation and attending service (year-round)

Attending Duties (Previous):

1. Director of the Pediatric Asthma, Allergy & Immunology Clinic service (1992-2020)
2. General Pediatric Service (supervising and teaching pediatric housestaff and students in required pediatric inpatient service rotation-1month/year 1993-2006)
3. Pediatric Pulmonary Medicine inpatient consultation and admitting service (2 weeks/year 1996-2010, supervising and teaching pediatric house staff and students in this elective pediatric inpatient & outpatient rotation)

Programmatic Activities (Clinical):

1. Chair of the Children's Asthma Management Program Workgroup (Department of Pediatrics and North Carolina Children's Hospital, 2000-2006)
2. UNC Hospitals Asthma Workgroup (ongoing)
3. UNC Children's Hospital Outpatient Children's Implementation Group (January 2015-2018)
4. Subspecialty Clinic Task Force for the Department of Pediatrics

University of North Carolina at Chapel Hill-Campus Wide:

- Faculty Advisor: Carolina Judo Club at UNC (1994-present)
- Faculty Advisory Council, UNC Institute for the Environment (2005-present)
- Member, Program Steering Committee, Carolina Environmental Program (7/2003-4/2007)

RESEARCH STATEMENT:

My research foci include is the impact of environmental agents and pollutants on respiratory and systemic inflammation and physiology, assessment of novel interventions for asthma and airway disease, and have leadership roles in institutional research initiatives at UNC. Across my career at UNC, I have been the PI for approximately \$70,000,000 of funded research projects supported by the NIH, EPA and NSF.

As a senior translational investigator in environmental medicine and medical director of the UNC Center for Environmental Medicine, Asthma and Lung Biology, I am committed to developing programs and systems by which investigators with translational, cellular, molecular, epidemiological, behavioral, engineering and computational skills work in concert to address these questions. In addition to our long-standing collaborations with the EPA, we have undertaken collaborations with North Carolina State University engineers, resulting in my being named as Medical Director of the NSF Nanosystems Engineering Research Center for

Advanced Self-Sustaining Integrated Sensor Technologies (ASSIST) which is led by engineers at North Carolina State University, focused on developing personal monitors for environmental exposures and physiological responses.

These research interests are broadly focused on the biology of airway and systemic inflammation and lung function in humans, with emphasis on asthma, allergic disease and immunological processes in the lung, employing translational, clinical and epidemiological methods to examine these questions with four interrelated foci of interest. Of note, I have developed a number of model airway challenge protocols with ozone, endotoxin, particulate matter and allergen, which allows for screening of potential interventions, testing sensor devices, and identification/confirmation of genetic or physiologic risk factors for pollutant-induced and airway disease.

Air pollutants impact airway diseases such as asthma, COPD, inhalational injury and airway infection as well as triggering cardiovascular events. Our efforts include assessment of candidate personal mitigation strategies (chemoprevention, personal monitoring) for pollutant-induced disease, providing scientific support for regulatory approaches to mitigate pollutant-induced disease at the state and national level. We also have identified and examined genetic, biological, behavioral and societal risk factors that increase risk for pollutant-induced disease. These studies are undertaken within a unique collaborative relationship with the Division of Public Health and Integrated Toxicology of the US EPA. We have also had significant collaborations with NIEHS.

The primary impact of these research activities includes publishing studies which have been directly cited in development of EPA reviews of the National Ambient Air Quality Standards included in federally published NAAQS Criteria Documents and in the Federal Register. My research has also facilitated service on Clean Air Science Advisory Committee subcommittees and a term on the NC Environmental Management Commission. These venues have allowed translation of my research into policy interventions to improve human health outcomes.

I am also engaged in phase I and phase II clinical/translational trials for airway disease. I serve as site PI for studies of novel interventions for airway disease. These include assessment of the effect of immunobiological agents (anti-TSLP) on allergen immunotherapy, a national study of allergic adverse reactions of mRNA vaccines directed against SARS-CoV2, a Tulane led development of a nasal vaccine for *Klebsiella* pneumonia, with our team leading the Phase I studies of this vaccine. I am also the chief medical monitor and sponsor-investigator for a NHLBI national phase II studies of several candidate interventions for severe and exacerbation prone asthma which is coordinated at UNC.

We have collaborated extensively with the Marsico Lung Institute, led by Richard Boucher, MD Director of the Cystic Fibrosis/Pulmonary Research and Treatment Center. This builds on our collaborations with the CF center in translational research on airway diseases and includes the medical and pediatric pulmonary divisions. The Marsico Lung Institute has developed a non-profit research company, Spirovention, to catalyze early phase development of lung therapies.

My research activity in both environmental research and clinical trials for respiratory disease, coupled with my clinical expertise in pediatrics and allergy/immunology (across all ages) has led to my having roles in overall clinical/translational research activities. This includes involvement with the NC Translational and Clinical Sciences Institute, initially leading the Child Health Core, then the Patient and Clinical Interactions Resource (which now includes the Child Health Service, the Clinical and Translational Research Center and Patient Recruitment Service), and

now serving as Director of the Pilot Projects for NC TRaCS. I also co-chaired both the review leading to the founding of the Department of Cell Biology and Physiology and the search for its inaugural chair, and the alignment of the Curriculum in Toxicology (Directed by Ilona Jaspers) with the Center for Environmental Medicine, Asthma and Lung Biology.

I also serve as Senior Associate Dean for Translational Research for the School of Medicine Office of Research. In this research leadership role, I work to identify areas in which multi-disciplinary translational team approaches can be employed to address important health care and environmental questions and needs. This draws on my personal research and leadership experience, with a variety of faculty researchers. I am also leading the UNC School of Medicine effort to develop an Academic Research Organization for the Office of Research to coordinate multi-site clinical trials in both federal and pharmacological industry funded studies. This organization has been named the UNC Clinical Research Alliance, and I serve as the inaugural director and Chief Research Officer.

I also serve as chair of the FDA Allergenic Products Advisory Committee, reviewing regulatory actions regarding new allergic products and I am Editor-in-Chief of the *Journal of Allergy and Clinical Immunology: Global*. In general, the strength of my research capabilities is in carrying out translational and clinical investigation, with a significant focus on research administration.

TEACHING STATEMENT:

During my medical and scientific education, I have had many mentors and role models to look to in developing my teaching style and methods. I have had opportunity to examine teaching in the form of formal lectures, practical instruction (inpatient ward rotations, graduate school laboratory work, clinic precepting), mass media presentations and small group discussion formats. I found that teachers who were able to articulate a respect for the needs and viewpoint of learners were the most effective teachers. Their teaching style, be it lecture, ward rotation or other venue, would engage interaction with the audience and invite questions or comments. Conversely, lectures that were essentially restatement of items in textbooks were usually not effective. Using these broad examples, I have tried to employ an interactive, open style of course and subject matter presentation.

It is also important to outline how the material being presented may be useful for the learners. That is different from simply mandating that it is important. For example, I will point out examples how the subject matter may be employed in practical situations that may be faced by the members of the learner audience. I also feel it is essential to not simply outline the "basics" of a given topic, but to incorporate very new information, including material from current literature searches. This is important not only to keep the lecture current, but also to demonstrate that knowledge is always advancing, and that ongoing review is essential to continued competence in a given area. One very real benefit I get from educational activity is the opportunity to update my own fund of knowledge. Likewise, an interactive teaching style often leads to questions from learners that requires investigation on my part to address. This process not only allows advancement of didactic knowledge, but also reinforces to the learner the value of their point of view in the learning process.

While I was chief of the Division of Allergy and Immunology, I was the founding director of the UNC Allergy and Immunology Training Program serving in that role from 2005-2010. We quickly emerged as one of the premier programs in the country, especially for persons interested in developing research skills in conjunction with clinical expertise. To develop the allergy and immunology program, we had to develop an entire curriculum which was approved both at the

local (UNC) and national (ACGME) levels. This has included a didactic curriculum, methods of evaluation of trainees, faculty and staff, and clinical rotations. By summer of 2023, we have had 30 graduates with 94% passing the national certifying examination on the first try. In 2016, I became mPI of the newly configured combined Duke-UNC Allergy/Immunology T32 training grant. I became contact PI in 2022 and led our competitive renewal efforts, securing a five-year renewal. From 2016-2020, we graduated 10 trainees, 9 of which took either academic or government science positions.

As noted above, my area of expertise and focus is allergy and clinical immunology. Instruction in this area involves explaining immune response, relating it to clinical states that the learners have some experience, and then reinforcing how immune response is relevant to that disease state. I also invite questions and interaction, both to engage the audience and to be confident that the initial teaching points are generally understood so that they can be built upon in subsequent discussion. Presently, my primary group of clinical learners are allergy and immunology fellowship trainees, and I regularly participate in didactic instruction and serve as a clinical preceptor in the Pediatric Allergy/Immunology Continuity Clinic. As outlined in earlier sections of this CV, I have also served as a primary research mentor for many allergy and immunology trainees. I have also served as a mentor to several junior faculty in the Department of Pediatrics, who in turn are engaged in education of allergy/immunology and post-doctoral fellows.

I am also very involved in graduate student and post-doctoral fellow education. The Curriculum in Toxicology was aligned with the Center for Environmental Medicine, Asthma and Lung Biology in 2012. Even before that time, I was frequently asked to serve as Chair or Member of numerous Toxicology PhD and MS committees. I also have joint faculty status in Microbiology/Immunology and have served on committees for this department.

Another significant opportunity for teaching is peer instruction at grand rounds and other didactic presentations (workshops and seminars and national specialty meetings). Key elements of an effective didactic presentation to peers include using a clear and organized lecture style, identifying key goals of the learners (what do they want out of the experience), addressing the goals of the audience, engaging the audience by asking questions and presenting very novel information. Also important is to be available after the presentation for a time so that people can pose specific questions or discuss specific clinical situations.

In summary, I view teaching as a dynamic, interactive process. Engaging the learners and respecting their needs, knowledge and experience are important in developing a comfortable teaching environment. Encouraging active participation by learners and providing cutting edge information on a given topic are the most important goals for teaching.