## **Curriculum Vitae**

#### Ilona Jaspers, PhD



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**Education** 

Postgraduate: 08/1994 - 09/1997 PhD, New York University Medical Center, Tuxedo, NY

**Environmental Health Sciences** 

Graduate: 08/1992 - 05/1994 MS, New York University Medical Center, Tuxedo, NY

**Environmental Health Sciences** 

Undergraduate: 08/1988 - 05/1992 BS, Seton Hall University, South Orange, NJ

**Biology** 

**Employment** 

Director

10/2011 - present

University of North Carolina, Chapel Hill, NC

Curriculum of Toxicology

Associate Professor/Professor – joint appointment

6/2011 - present

University of North Carolina, Chapel Hill, NC

Department of Microbiology and Immunology

Joint Senior Investigator of Respiratory Biology

6/2009 - 11/2015

The Hamner Institutes for Health Sciences, RTP

Associate Professor/Professor – joint appointment

2/2009 - present

School of Public Health, University of North Carolina, Chapel Hill, NC

**Environmental Science and Engineering** 

Associate Professor/Professor – primary appointment

7/2007 - present

University of North Carolina, Chapel Hill, NC

Department of Pediatrics, Division of Allergy, Rheumatology, and Infectious Diseases

**Associate Director** 

3/2005 - present

University of North Carolina, Chapel Hill, NC

Center for Environmental Medicine, Asthma, and Lung Biology

**Associate Professor** 

12/2002 - 10/2011

University of North Carolina, Chapel Hill, NC

Curriculum of Toxicology

**Adjunct Assistant Professor** 

1/2003 - 10/2008

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#### School of Public Health, University of North Carolina, Chapel Hill, NC

**Environmental Science and Engineering** 

#### **Assistant Professor**

7/2000 - 6/2007

# University of North Carolina, Chapel Hill, NC

Department of Pediatrics, Division of Infectious Diseases and Immunology

#### **Research Associate**

7/1999 - 6/2000

## University of North Carolina, Chapel Hill, NC

Center for Environmental Medicine and Lung Biology

#### **Post-doctoral Research Fellow**

10/1997 - 6/1999

#### University of North Carolina, Chapel Hill, NC

Center for Environmental Medicine and Lung Biology

# Graduate Research Assistant, Student Representative on the Graduate Steering Committee, Student representative on the Health & Safety Committee

6/1994 - 9/1997

# **New York University Medical Center, Tuxedo NY**

Nelson Institute of Environmental Medicine

# **Honors and Awards**

APSselect award certificate for manuscript entitled "E-cigarette use results in suppression of immune and
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inflammatory response genes in nasal epithelial cells similar to cigarette smoke"

2004 Young Investigator Award sponsored by the Inhalation Specialty Section of the Society of Toxicology

2003 American Chemistry Council Early Career Award in Inhalation Toxicology

1998 Young Investigator Award sponsored by The Oxygen Society

#### **Bibliography**

#### **Books and Chapters**

**Jaspers I**, Horvath K. 2009. "Effects of Airborne Particles on Respiratory Viral Infection." In: <u>Particle-Lung Interactions</u>, Second Edition. Eds: P Gehr, F Blank, C Muehlfeld, and B Rothen-Rutishauser. p. 151-166.

**Jaspers I**. 2005. "Diesel Exhaust and Viral Infections." In: <u>Toxicology of the Lung, Target Organ Toxicology Series</u>. Eds: D Gardner. CRC Press. Boca Raton, FL. p. 559-585.

Schlesinger RB, **Jaspers I**. 1997. "Sulfur Oxides." In: <u>Comprehensive Toxicology</u>. Eds: IG Sipes, CA McQueen, AJ Gandolfi. Elsevier Science Inc. Chapter: Respiratory System Toxicology, (R. Roth, Ed.). New York, NY. Vol. 8. p. 313-330.

#### **Original Research**

Chason KD, **Jaspers I**, Parker J, Sellers S, Brighton LE, Hunsucker SA, Armistead PM, Fischer WA 2nd. Age-associated Changes in the Respiratory Epithelial Response to Influenza Infection. J Gerontol A Biol Sci Med Sci. 2018 Jun 7. doi: 10.1093/gerona/gly126. [Epub ahead of print] PubMed PMID: 29878083.

Rebuli ME, Pawlak EA, Walsh D, Martin EM, **Jaspers I.** Distinguishing Human Peripheral Blood NK Cells from CD56(dim)CD16(dim)CD69(+)CD103(+) Resident Nasal Mucosal Lavage Fluid Cells. Sci Rep. 2018 Feb 21;8(1):3394. doi: 10.1038/s41598-018-21443-5. PubMed PMID: 29467466; PubMed Central PMCID: PMC5821812.

Jaspers, Ilona: September, 2018

Carson JL, Hernandez M, **Jaspers I**, Mills K, Brighton L, Zhou H, Zhang J, Hazucha MJ. Interleukin-13 stimulates production of nitric oxide in cultured human nasal epithelium. In Vitro Cell Dev Biol Anim. 2018 Mar;54(3):200-204. doi: 10.1007/s11626-018-0233-y. Epub 2018 Jan 29. PubMed PMID: 29380192.

Arashiro M, Lin YH, Zhang Z, Sexton KG, Gold A, **Jaspers I**, Fry RC, Surratt JD. Effect of secondary organic aerosol from isoprene-derived hydroxyhydroperoxides on the expression of oxidative stress response genes in human bronchial epithelial cells. Environ Sci Process Impacts. 2018 Feb 21;20(2):332-339. doi: 10.1039/c7em00439g. PubMed PMID: 29292423.

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Reidel B, Radicioni G, Clapp P, Ford AA, Abdelwahab S, Rebuli ME, Haridass P, Alexis NE, **Jaspers I**, Kesimer M. E-Cigarette Use Causes a Unique Innate Immune Response in the Lung Involving Increased Neutrophilic Activation and Altered Mucin Secretion. Am J Respir Crit Care Med. 2017 Oct 20. doi: 10.1164/rccm.201708-1590OC. [Epub ahead of print] PubMed PMID: 29053025.

Guimbellot JS, Leach JM, Chaudhry IG, Quinney NL, Boyles SE, Chua M, Aban I, **Jaspers I**, Gentzsch M. Nasospheroids permit measurements of CFTR-dependent fluid transport. JCI Insight. 2017 Nov 16;2(22). pii: 95734. doi: 10.1172/jci.insight.95734. [Epub ahead of print] PubMed PMID: 29202459.

Lin YH, Arashiro M, Clapp PW, Cui T, Sexton KG, Vizuete W, Gold A **Jaspers I**, Fry RC, Surratt JD. Gene Expression Profiling in Human Lung Cells Exposed tolsoprene-Derived Secondary Organic Aerosol. Environ Sci Technol. 2017 Jul 18;51(14):8166-8175. doi: 10.1021/acs.est.7b01967. Epub 2017 Jul 5. PubMed PMID: 28636383

Clapp PW, Pawlak EA, Lackey JT, Keating JE, Reeber SL, Glish GL, **Jaspers I**. Flavored E-cigarette Liquids and Cinnamaldehyde Impair Respiratory Innate Immune Cell Function. Am J Physiol Lung Cell Mol Physiol. 2017 May 11:ajplung.00452.2016. doi: 10.1152/ajplung.00452.2016. [Epub ahead of print] PubMed PMID: 28495856.

Carson JL, Zhou L, Brighton L, Mills KH, Zhou H, **Jaspers I**, Hazucha M.Temporal structure/function variation in cultured differentiated human nasalepithelium associated with acute single exposure to tobacco smoke or E-cigarette vapor. Inhal Toxicol. 2017 Feb;29(3):137-144. doi: 10.1080/08958378.2017.1318985.PubMed PMID: 28470140.

Walsh DM, McCullough SD, Yourstone S, Jones SW, Cairns BA, Jones CD, Jaspers I, Diaz-Sanchez D. Alterations in airway microbiota in patients with PaO2/FiO2ratio ≤ 300 after burn and inhalation injury. PLoS One. 2017 Mar30;12(3):e0173848. doi: 10.1371/journal.pone.0173848. eCollection 2017. PubMed PMID: 28358811; PubMed Central PMCID: PMC5373524.

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Speen AM, Kim HH, Bauer RN, Meyer M, Gowdy KM, Fessler MB, Duncan KE, Liu W, Porter NA, **Jaspers I.** Ozone-derived Oxysterols Affect Liver X Receptor (LXR) Signaling: A POTENTIAL ROLE FOR LIPID-PROTEIN ADDUCTS. J Biol Chem. 2016 Nov 25;291(48):25192-25206. PubMed PMID: 27703007; PubMed Central PMCID: PMC5122785.

Martin EM, Clapp PW, Rebuli ME, Pawlak EA, Glista-Baker E, Benowitz NL, Fry RC, **Jaspers I.** E-cigarette use results in suppression of immune and inflammatory-response genes in nasal epithelial cells similar to cigarette smoke. Am J Physiol Lung Cell Mol Physiol. 2016 Jul 1;311(1):L135-44. doi: 10.1152/ajplung.00170.2016. Epub 2016 Jun 10. PubMed PMID: 27288488.

Pawlak EA, Noah TL, Zhou H, Chehrazi C, Robinette C, Diaz-Sanchez D, Müller L, Jaspers I. Diesel exposure suppresses natural killer cell function and resolution of eosinophil inflammation: a randomized controlled trial of exposure in allergic rhinitics. Part Fibre Toxicol. 2016 May 6;13(1):24. doi: 10.1186/s12989-016-0135-7. PubMed PMID: 27154411; PubMed Central PMCID: PMC4859992.

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Jones SW, Zhou H, Ortiz-Pujols SM, Maile R, Herbst M, Joyner BL Jr, Zhang H, Kesic M, **Jaspers I**, Short KA, Meyer AA, Peden DB, Cairns BA, Noah TL. Bronchoscopy-derived correlates of lung injury following inhalational injuries: a prospective observational study. PLoS One. 2013 May 17;8(5):e64250. doi: 10.1371/journal.pone.0064250. Print 2013.

Müller L, Chehrazi CV, Henderson MW, Noah TL, **Jaspers I**. Diesel exhaust particles modify natural killer cell function and cytokine release. Part Fibre Toxicol. 2013 Apr 24;10(1):16. [Epub ahead of print]

Müller L, Brighton LE, **Jaspers I**. Ozone exposed epithelial cells modify co-cultured natural killer cells. Am J Physiol Lung Cell Mol Physiol. 2013 Mar 1;304(5):L332-41

Meyer M, Kesic MJ, Clarke J, Ho E, Simmen RC, Diaz-Sanchez D, Noah TL, Jaspers I. Sulforaphane induces SLPI secretion in

the nasal mucosa. Respir Med. 2013 Mar;107(3):472-5.

Bauer RN, Brighton LE, Mueller L, Xiang Z, Rager JE, Fry RC, Peden DB, **Jaspers I**. Influenza enhances caspase-1 in bronchial epithelial cells from asthmatic volunteers and is associated with pathogenesis. J Allergy Clin Immunol. 2012 Oct;130(4):958-967.

Kesic MJ, Hernandez M, Jaspers I. Airway protease/antiprotease imbalance in atopic asthmatics contributes to increased Influenza A virus cleavage and replication. Respir Res. 2012 Sep 19;13(1):82. [Epub ahead of print]

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Kesic MJ, Meyer M, Bauer R, **Jaspers I.** Exposure to ozone modulates human airway protease/antiprotease balance contributing to increased influenza A infection. *PLoS One*. 2012;7(4):e35108. Epub 2012 Apr 9.

Horvath KM, Brighton LE, Herbst M, Noah TL, **Jaspers I**. Live Attenuated Influenza Virus (LAIV) induces different mucosal T cell function in nonsmokers and smokers. *Clin Immunol*. 142(3):232-6. Epub 2012 Jan 6.

Noah TL, Zhou H, Zhang H, Horvath KM, Robinette C, Kesic M, Meyer M, Diaz-Sanchez D, **Jaspers I.** Diesel Exhaust Exposure And Nasal Response To Attenuated Influenza In Normal And Allergic Volunteers. Am J Resp Crit Care Med 2012 Jan 15;185(2):179-85. Epub 2011 Oct 27.

Horvath KM, Herbst M, Zhou H, Zhang H, Noah TL, Jaspers I. Nasal lavage natural killer cell function is suppressed in smokers after live attenuated influenza virus. *Resp. Res.* 2011 4;12:102.

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Wu W, Doreswamy V, Diaz-Sanchez D, Samet JM, Kesic M, Dailey L, Zhang W, **Jaspers I**, Peden DB.GSTM1 modulation of IL-8 expression in human bronchial epithelial cells exposed to ozone. *Free Radic Biol Med*. 2011 Jul 15;51(2):522-9. Epub 2011 May 14.

Kesic MJ, Simmons SO, Bauer R, **Jaspers I**.Nrf2 expression modifies influenza A entry and replication in nasal epithelial cells. *Free Radic Biol Med*. 2011 Jul 15;51(2):444-53. Epub 2011 Apr 19.

Rager JE, Smeester L, **Jaspers I**, Sexton KG, Fry RC. Epigenetic Changes Induced by Air Toxics: Formaldehyde Exposure Alters miRNA Expression Profiles in Human Lung Cells. *Environ Health Perspect*. 2010 Apr;119(4):494-500. Epub 2010 Dec 9.

Gowdy KM, Krantz QT, King C, Boykin E, **Jaspers I**, Linak WP, Gilmour MI. Role of oxidative stress on diesel-enhanced influenza infection in mice. *Part Fibre Toxicol*. 2010 Nov 22;7:34.

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Carson JL, Lu TS, Brighton L, Hazucha M, **Jaspers I**, Zhou H. Phenotypic and physiologic variability in nasal epithelium cultured from smokers and non-smokers exposed to secondhand tobacco smoke. *In Vitro Cell Dev Biol Anim*. 46(7): 606-12, 2010.

**Jaspers I**, Horvath KM, Zhang W, Brighton LE, Carson JL, Noah TL Reduced Expression of IRF7 in Nasal Epithelial Cells from Smokers after Infection with Influenza. *Am J Respir Cell Mol Biol*. 43(3):368-75; 2010.

Jardim MJ, Fry RC, **Jaspers I**, Dailey L, Diaz-Sanchez D. Disruption of microRNA expression in human airway cells by diesel exhaust particles is linked to tumorigenesis-associated pathways. *Environ Health Perspect*. 117(11):1745-51, 2009.

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**Jaspers I**, Samet JM, Erzurum S, Reed W. Vanadium-induced κB-dependent Transcription Depends Upon Peroxide-Induced Activation of the p38 Mitogen-Activated Protein Kinase *Am. J. Resp. Cell Mol. Biol.* 23:95-102, 2000.

Gertzberg N, Clements R, **Jaspers I**, Ferro TJ, Neumann P, Flescher E, Johnson A. TNF-α Induced AP-1 Activity Is Modulated By Reactive Nitrogen Species And Protein Kinase G Activation. *Am. J. Resp. Cell Mol. Biol.* 22: 105-115, 2000.

**Jaspers I**, Samet JM, Reed W. Arsenite Exposure of Cultured Airway Epithelial Cells Activates κB-dependent IL-8 Gene Expression in the Absence of NF-κB Nuclear Translocation. *J. Biol. Chem.* 274:31025-31033, 1999.

Wu W, Graves LM, Jaspers I, Devlin RB, Samet JM. Activation of the EGF receptor Signaling Pathway in Human Airway Epithelial Cells Exposed to Metals. *Am. J. Physiol.* 277:L924-L931, 1999.

**Jaspers I**, Chen LC, Flescher E. Induction of IL-8 Expression by Ozone is Mediated by Tyrosine Kinase and Protein Kinase A, but not by Protein Kinase C. *J. Cell. Physiol*. 177:313-323, 1998.

**Jaspers I**, Flescher E, Chen LC. Respiratory Epithelial Cells display Polarity in their Release of the Chemokine IL-8 after Exposure to Ozone. *Inflammation Res.* 46(Suppl 2):S173-S174, 1997.

Alpert SE, Walenga RW, **Jaspers I**, Qu Q, Chen LC. Ozone Inactivates Cyclooxygenase in Human Tracheal Epithelial Cells Without Altering PGHS-2 mRNA or Protein. *Am. J. Physiol*. 272: L879-L887, 1997.

**Jaspers I**, Flescher E, Chen LC. Ozone-induced IL-8 Expression and Transcription Factor Binding in Respiratory Epithelial Cells. *Am. J. Physiol*. 272: L504-L511, 1997.

Xiao Q, Jaspers I, Matthew E, Lea AM. Changes in the glucose-6-phosphatase complex in hepatomas. *Mol.Cell. Biochem.* 122(1): 17-24, 1993.

#### **Other Peer Reviewed Articles**

Clapp PW, **Jaspers I.** Electronic Cigarettes: Their Constituents and Potential Links to Asthma. *Curr Allergy Asthma Rep.* 2017 Oct 5;17(11):79. doi: 10.1007/s11882-017-0747-5. Review. PubMed PMID: 28983782.

Meyer M, **Jaspers I**. Respiratory protease/antiprotease balance determines susceptibility to viral infection and can be modified by nutritional antioxidants. *Am J Physiol Lung Cell Mol Physiol*. 2015 Jun 15;308(12):L1189-201. PMCID: PMC4587599.

**Jaspers I**. Cigarette smoke effects on innate immune mechanisms in the nasal mucosa. Potential effects on the microbiome. *Ann Am Thorac Soc.* 2014 Jan;11 Suppl 1:S38-42. doi: 10.1513/AnnalsATS.201306-154MG.

Müller L, **Jaspers I**. Jul 31, 2012. "Epithelial cells, the 'switchboard' of respiratory immune defense responses: effects of air pollutants." *Swiss Med Wkly*. Vol: 142. p. w13653.

Bauer RN, Diaz-Sanchez D, **Jaspers I**. Jan 2012. "Effects of air pollutants on innate immunity: the role of Toll-like receptors and nucleotide-binding oligomerization domain-like receptors." *J Allergy Clin Immunol*. Iss: 1. Vol: 129. p. 14-24; quiz 25-6.

Noah TL, Zhou H, **Jaspers I**. Feb 2012. "Alteration of the nasal responses to influenza virus by tobacco smoke." *Curr Opin Allergy Clin Immunol*. Iss: 1. Vol: 12. p. 24-31.

Ciencewicki JM, **Jaspers I**. 2007. "Air pollution and Respiratory Virus Infections." *Inhal Toxicol*. Iss: 14. Vol: 19. p. 1135-1146.

## Solicited/Invited Oral Presentation – Academia/Research Institutes

**Jaspers I.** September 2018. "Effects of Combustible Tobacco Products on Mucosal Immunity" American Association of Dental Research, Bethesda, MD

**Jaspers I.** May 2018. "Vaping: Perspectives Of An Inhalation Toxicologist Who Is Also A Mother Of Teenagers" Children's Research Institutes, UNC-CH, Chapel Hill, NC

**Jaspers I.** February 2018. "Effects of E-cigarettes on Respiratory Immune Responses" Society for Research on Nicotine and Tobacco

**Jaspers I.** January 2018 "Human Studies to Determine the Effects of Flavored E-cigarettes on Respiratory Immune Responses" Department of Pediatrics, Pulmonary Division, UNC-CH, Chapel Hill, NC

**Jaspers I.** December 2017. "Human Studies to Determine the Effects of Flavored E-cigarettes on Respiratory Immune Responses" Society for Risk Assessment, Arlington, VA

**Jaspers I.** November 2017. "Health Effects of E-cigarettes: What do we really know?" North Carolina State University, Toxicology Seminar Series, Raleigh, NC

**Jaspers I.** October 2017. "Respiratory Health Effects of E-cigarettes: What We Do and What We Don't Know", National Institutes of Environmental Health Sciences, RTP, NC

**Jaspers I.** August 2017. "Toxicity of E-cigarettes: What we do and what we don't know". Center for Evaluation and Coordination of Training and Research Webinar, Tobacco Centers of Regulatory Sciences

**Jaspers I.** June 2017. "Effects of E-cigarettes on Pulmonary Host Defense Responses. International Symposium on Aerosol Medicine", Santa Fe, NM

**Jaspers I.** May 2017. "Translational Approaches to Understand the Effects of Biomass Smoke". American Thoracic Society Meeting, Washington, DC

Jaspers I. February 2017. "Lifestyle Modifications; Keeping Flora Healthy". FAMRI Sinusitis Symposium, Miami, FL

**Jaspers I.** February 2017. "E-Cigarettes And Potential Adverse Health Effects: What We Do And Do Not Know". University of the Virgin Islands, St. Thomas, VI

**Jaspers I.** December 2016. "Effects of E-cigarettes on Respiratory Mucosal Immune Responses". Society for Risk Assessment, San Diego, CA

**Jaspers I.** May 2016. "Mucosal Immune Responses To E-cigarette Exposures: Preclinical And Clinical Models." American Thoracic Society Meeting. San Francisco, CA.

**Jaspers I.** May 2016. "Effects of Wood Smoke Exposure on Nasal Mucosal Host Defense Responses After Infection with Live-Attenuated Influenza Virus." American Thoracic Society Meeting. San Francisco, CA.

**Jaspers I.** May 2016. "Effects of E-cigarettes on Pulmonary Host Defense Responses." American Thoracic Society Meeting. San Francisco, CA.

**Jaspers I.** April 2016. "Respiratory Health Effects of Vaping E-cigarettes: A Translational Research Approach." Keynote Speaker at the retreat for the Toxicology Program, University of Rochester. Rochester, NY.

**Jaspers I.** March 2016. "The Evolution of the Postdoc: Transitioning from Trainee to Professional in the Modern Era – An Academic Perspective." Presentation at the Society of Toxicology Meeting. New Orleans, LA.

**Jaspers I.** February 2016. "Pulmonary Effects of Exposure to Tobacco Smoke and New Tobacco Products." Presentation and Press Conference at the AAAS Meeting, Washington, DC.

**Jaspers I**. January 2016. "Tobacco-Induced Health Effects: It's Not Just Cigarettes Anymore." University of Arizona. Tucson, AZ.

**Jaspers I**. May 2015. "Translational Research Models to Understand the Link between Environmental Exposures and Exacerbation of Allergic Inflammation." American Thoracic Society Meeting. Denver, Colorado.

**Jaspers I.** April 2015. "Translational Research Approaches to Examine the Effects of Smoking on Respiratory Host Defense Responses." Eastern Carolina University.

**Jaspers I**. April 2015. "Translational Research Approaches to Examine Air Pollution Effects on Respiratory Host Defense Responses." Keynote Speaker at the Translational Medicine Symposium. UNC-CH.

Jaspers I. March 2015. "Inhalation of smoke: How it affects respiratory immune responses." University of Pennsylvania.

**Jaspers I.** March 2015. "Pulmonary Effects of Exposure to Tobacco Smoke and New Tobacco Products." Symposium Presentation at the Society of Toxicology. San Diego, California.

**Jaspers I**. February 2015. "What is really going up in Smoke: Antiviral Host Defense Responses in the Respiratory Mucosa." Lovelace Respiratory Research Institute. Albuquerque, NM.

**Jaspers I**. November 2014. "How inhaled pollutants may affect host defense responses: A translational approach." Convergent Seminar Series, North Carolina State University. Raleigh, NC.

**Jaspers I**. October 2014. "E-Cigarettes: It's not just tobacco anymore." Annual North Carolina Chapter of the Society of Toxicology, National Institute of Environmental Health Sciences.

**Jaspers I.** February 2014. "Environment and Viral Infections: A Human Model." Gordon Research Conference: Biology of Acute Respiratory Infections. Lucca, Italy.

**Jaspers I**. November 2013. "Smoking and Viral Infections: Observations from right Under your Nose." Pulmonary Division, University of Southern California. Los Angeles, CA.

**Jaspers I.** March 2013. "Inhaled pollutants and host defense: studies from right under your nose." Integrated Toxicology and Environmental Health Program (ITEHP), Duke University. Durham, NC.

**Jaspers I**. January 2013. "Understanding How Smoking Affects Influenza Infections: In vitro to In Vivo and Back and Air pollution." Division of Pulmonary and Critical Care Medicine, Vanderbilt School of Medicine. Nashville, TN.

**Jaspers I**. January 2013. "Viral infections: Observations from right under your nose." Center in Molecular Toxicology, Vanderbilt School of Medicine. Nashville, TN.

**Jaspers I**. September 2012. "Air pollution and Viral Infections: Observations made from right under your nose." Environmental Health Department Colloquium, Harvard School of Public Health. Boston, MA.

**Jaspers I**. February 2012. "Antiviral host defenses in the nose: Role of the epimmunome." James Hogg Research Centre, University of British Columbia. Vancouver, Canada.

**Jaspers I**. February 2012. "Interactions between air pollution and influenza virus infections: in vitro to in vivo and back." Division of Respiratory Medicine, University of British Columbia. Vancouver, Canada.

**Jaspers I**. December 2011. "Interactions between air pollutants and viral infections: Emerging roles of the epimmunome." Duke University Medical Center. Durham, NC.

Jaspers I. December 2011. "Air pollution and antiviral host defense: Emerging roles of the epimmunome." Division of

Pulmonary and Critical Care Medicine, University of Rochester.

**Jaspers I**. November 2011. "Air pollution and antiviral host defense: Role of the epimmunome." Department of Pharmacology and Toxicology, University of Arizona.

**Jaspers I**. October 2011. "Air pollution and antiviral host defense: Role of the epimmunome." Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences.

**Jaspers I**. September 2010. "How Air Pollution Can Affect Influenza Infection." North Carolina State University Toxicology Seminar Series.

**Jaspers I**. April 2010. "Translational Research Approaches to Investigate the Effects of Smoking on Influenza Infections." Translational Medicine Symposium, University of North Carolina at Chapel Hill.

**Jaspers I**. January 2010. "From cells-to-mouse-to-human: Effects of air pollutants on influenza infections." Department of Environmental and Molecular Toxicology Research Day, Oregon State University.

**Jaspers I**. September 2008. "Air Pollution and Respiratory Virus Infections." Invited Lecturer at the British Association for Lung Research, Imperial College. London, England.

**Jaspers I**. February 2008. "From cells - to mouse - to human: Interactions between air pollutants and influenza virus." Duke University Medical Center. Durham, NC.

**Jaspers I**. April 2007. "From cells - to mouse - to human: Interactions between air pollutants and influenza virus." University of Alabama, Birmingham.

**Jaspers I**. March 2007. "From cells - to mouse - to human: Interactions between air pollutants and influenza virus." Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences.

**Jaspers I**. December 2006. "Diesel Exhaust & Influenza:Potential Interactions at the Respiratory Epithelium." University of Vermont.

**Jaspers I**. August 2006. "Effects of Diesel Exhaust on Epithelial Cells: Potential Interactions with Viral Infections." ETH-Conference on Combustion Generated Nanoparticles. Zurich, Switzerland.

**Jaspers I**. October 2005. "Effects of environmental pollutants on viral infections." University of Bern, Switzerland, Institute for Anatomy.

Jaspers I. August 2004. "Effects of Diesel Exhaust on Influenza Infections." CIIT Centers for Health Research.

**Jaspers I.** November 2002. "Influenza Infection of Human Airway Epithelial Cells: Effects of Exogenous Stressors." Louisiana State University, Department of Pathology, School of Veterinary Medicine.

**Jaspers I**. March 2001. "Oxidative Stress and Activation of NF-κB in Airway Epithelial Cells." Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences.

**Jaspers I**. October 1999. "Metal-induced Activation of NF-κB-dependent Transcription." New York University, Department of Environmental Medicine.

#### Solicited/Invited Oral Presentation - Community Outreach

Jaspers I. April 2018. "Vaping/Juuling: What do you want to (or should) know?". Trinity School of Durham, Durham NC

Jaspers I. March 2018. "Health Effects of E-cigarettes". North Carolina Museum of Natural History Science Café, Raleigh, NC

**Jaspers I.** February 2018. "How to Incorporate Toxicology and E-cigarettes Into High School Teaching". Out Of The Box Session, Durham Public School Teachers Durham, NC

Jaspers I. January 2018. "Toxicology and E-cigarettes" Institute for the Environment Bagel Breakfast, Chapel Hill, NC

Jaspers I. January 2018. "E-cigarettes: A good thing? Or not so good?" Morehead Planetarium Teen Science Café, Chapel Hill, NC

**Jaspers I.** September 2017. "E-Cigarettes And Potential Adverse Health Effects: What We Do And Do Not Know" Community Outreach and Engagement Core (COEC), Lead and Healthy Homes Task Force, Chapel Hill, NC

**Jaspers I.** August 2017. "Effect of E-Cigarettes on Pulmonary Host Defense Responses". NC Tobacco Prevention and Control Branch, NCDHHS, Raleigh, NC

Jaspers I. November 2016. "Are E-cigarettes Safer than Cigarettes? Let's have a Vape Debate!" Tarheel Tox Talks, Chapel Hill, NC

**Jaspers I.** June 2016. "Health Effects of E-cigarettes: What We Do And What We Don't Know." TRUtalk, TRU Deli. Chapel Hill, NC.

# **Teaching**

# **Student Preceptorships**

05/2018 – present	Grace Nipp
	UNC-CH
	Environmental Science and Engineering Major
8/2015 – 05/2018	Jessica Hoffman
	UNC-CH Environmental Science/Applied Math Major
5/2018 - 7/2018	William Martin Rivera
	University of Puerto Rico/SOLAR Scholar Biology Major
5/2017 - 7/2017	Shanaliz Natta University of the Virgin Islands/SOLAR Scholar
	Biology Major
6/2016 - 8/2016	Keylin White
	Spelman University/SOLAR Scholar Biology Major
0/2045 6/2046	· ·
8/2015 - 6/2016	Ben Setzer UNC-CH
	Biology Major
6/2015 - 8/2015	Corshe Stanley

North Carolina A&T University/SOLAR Scholar

**Biology Major** 

6/2015 - 8/2015 Norma Zuniga

Johnson C. Smith University

Biology Major

6/2014 - 12/2015 Camille Diamond

**UNC-CH** 

Biology/Psychology Major

6/2014 - 8/2014 Jonathan Chan

**UNC-CH** 

Chemistry Major, HHMI Summer research Program

6/2014 - 8/2014 Erin McGibbon

**UNC-CH** 

Psychology Major, TCORS Summer Research Program

9/2012 - 6/2013 Sarah Anderson

**UNC-CH** 

Biology & Chemistry Major

8/2012 – 6/2013 Blanche Letang

**UNC-CH School of Medicine** 

**UNC PREP** 

8/2010 - 4/2011 Desinia Johnson

**UNC-Chapel Hill School of Medicine** 

**UNC PREP** 

6/2008 - 8/2008 Whitney McCoy

Winston-Salem State University, NC

Summer Pre-Graduate Research Experience (SPGRE), Biology Major

6/2001 - 8/2001 Margot Veranes

Smith College, MA Biochemistry Major

Other Supervision

8/1994 - 5/1996 Assistant Instructor of Human Biology

William Paterson College, Department of Biology

Wayne, NJ

**Lecture- to graduate students** 

8/2008 - 12/2008 BBSP Seminar

University of North Carolina at Chapel Hill, School of Medicine.

Co-Instructor, Biological, Biomedical Science Program

8/2006 - 12/2006 Air Pollution and Infections

Department of Environmental Science and Engineering

University of North Carolina at Chapel Hill, School of Public Health

Instructor of "Special Topics/ESE" ENVR 890

1/2006 - 5/2006 PM Health Effects

Jaspers, Ilona: September, 2018

Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Instructor of "Special Topics/ESE" ENVR 200 1/2004 - 5/2004 Advanced Cell Biology of Atmospheric Air Pollutants Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Instructor of "Special Topics/ESE" ENVR 200 8/2003 - 12/2003 Cellular Biology of Atmospheric Air Pollutants Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Instructor of "Special Topics/ESE" ENVR 200 Health Effects of Air Pollution in the Lung 1/2003 - 5/2003 Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Instructor of "Special Topics/ESE" ENVR 200 8/2011 - 8/2016 **Immunobiology** University of North Carolina at Chapel Hill, Department of Microbiology & Immunology Lecturer 8/2010 - 8/2016 **Human Environmental Disease** University of North Carolina at Chapel Hill, Department of Pathology Lecturer 8/2009 - present Air Pollution Chemistry and Physics Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Lecturer 1/2005 Effects of Diesel Exhaust on Influenza Virus Infections Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Guest Lecturer in "In-house Seminar Series" 8/2002 - 12/2015 Health Effects of Outdoor and Indoor Air Pollution Department of Environmental Science and Engineering University of North Carolina at Chapel Hill, School of Public Health Lecturer, ENVR 732 Lab or Research Teaching/Mentorships 6/2014 - 5/2018Philip Clapp; Ph.D. Student in the Curriculum of Toxicology UNC-CH Graduate Student Thesis Advisor 6/2014 – 5/2018 Adam Speen; Ph.D. Student in the Curriculum of Toxicology **UNC-CH** Graduate Student Thesis Advisor 7/2012 - 10/2016 Dana Walsh; Ph.D. Student in the Curriculum in Toxicology

12/2013 - 6/2016

**UNC-CH** 

Erica Pawlak, PhD

Graduate Student Co-Advisor

	Post-Doctoral Mentor
6/2012 – 5/2015	William Fischer, MD Division of Pulmonary and Critical Care Medicine Faculty Mentor
1/2012 – 5/2015	Samuel Jones, MD Department of Surgery Faculty Mentor
6/2011 - 6/2015	Megan Meyer; Ph.D. Student in the Department of Microbiology and Immunology UNC-CH Graduate Student Thesis Advisor
9/2012 - 7/2015	Shannon Jones, Ph.D. Post-Doctoral Mentor
7/2013 - 6/2015	Ellen Glista-Baker, PhD Post-Doctoral Mentor
8/2012 - 6/2014	Robin Muller; MD/PhD Student in the Curriculum of Toxicology UNC-CH Graduate Student Thesis Advisor
6/2010 - 5/2014	Rebecca Bauer; Ph.D. Student in the Curriculum of Toxicology UNC-CH Graduate Student Thesis Advisor
4/2011 - 4/2013	Loretta Mueller, Ph.D. Post-Doctoral Mentor
1/2004 - 11/2012	Kim Lichtveld; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health UNC-CH Graduate Student Co-Advisor
7/2010 - 7/2012	Claire Chehrazi, M.D. Post-Doctoral Mentor
7/2009 - 7/2012	Matthew Kesic, Ph.D. Post-Doctoral Mentor
1/2005 - 1/2012	Seth Ebersviller; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health UNC-CH Graduate Student Co-Advisor
6/2007 - 6/2011	Katie Horvath; Ph.D. Student in the Curriculum of Toxicology UNC-CH Graduate Student Thesis Advisor
6/2005 - 8/2008	Rebecca Boyles; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health UNC-CH Graduate Student Thesis Advisor
8/2006 - 6/2008	Cassandra O'Lenick; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health UNC-CH

Graduate Student Co-Advisor 8/2003 - 6/2007 Jonathan Ciencewicki; Ph.D. Student in the Curriculum of Toxicology **UNC-CH** Graduate Student Thesis Advisor 8/2003 - 6/2006 Melanie Doyle; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health **UNC-CH** Graduate Student Co-Advisor 8/2003 - 6/2004 Kevin Bridge; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health **UNC-CH** Graduate Student Co-Advisor 1/2003 - 8/2003 Melanie Doyle; Masters of Science Student in the Department of Environmental Science and Engineering, School of Public Health **UNC-CH** Graduate Student Co-Advisor 5/2018 - present Parker Duffney, PhD Postdoctoral Mentor 5/2018 - present Elise Hickman; Ph.D. Student in the Curriculum of Toxicology, UNC-CH **Graduate Student Thesis Advisor** 5/2017 – present Alexia Perryman; Ph.D. Student in the Curriculum of Toxicology, UNC-CH Graduate Student Thesis Advisor 6/2016 - present Yael-Natalie Escobar; Ph.D. Student in the Curriculum of Toxicology, UNC-CH Graduate Student Thesis Advisor 4/2015 - present Meghan Rebuli, PhD Postdoctoral Mentor 8/2014 - present Uma Nagarajan, PhD **Department of Pediatrics Faculty Mentor** 8/2016 - present Camille Ehre, PhD **Department of Pediatrics Faculty Mentor Grand Rounds - at UNC** 5/2018 Vaping: Perspectives of an Inhalation Toxicologist who is also a mother of teenagers **UNC-CH Pediatrics Grand Rounds** 11/2015 Tobacco Products- it's not just Cigarettes anymore **UNC-CH Pediatrics Grand Rounds** 1/2010 How Smoking May Affect Your Ability to Fight Influenza

**UNC-CH** 

Pathology Grand Rounds

2/2009	Cigarette Smoke and Influenza: Ba	sic and Translational Studies
2/2009	Cigarette Jinoke and Innuenza. Da	sic and mansiational studies

**UNC-CH** 

**Pediatric Grand Rounds** 

Course	Director
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8/2014 - present Seminars in Toxicology

University of North Carolina at Chapel Hill

TOXC 722, Curriculum in Toxicology

8/2014 - present Biochemical and Molecular Toxicology

University of North Carolina at Chapel Hill

TOXC 442, Curriculum in Toxicology

#### **Committees**

3/2016 – 5/2018 Madelyn Huang, PhD Candidate

Curriculum in Toxicology

**Doctoral Graduate Student Thesis Committee** 

3/2016 – 5/2018 Temperence Rowell, PhD Candidate

Department of Cell and Molecular Physiology Doctoral Graduate Student Thesis Committee

3/2016 – 01/2018 Elizabeth Mutter-Rottmeyer, Ph.D

Curriculum in Toxicology

**Doctoral Graduate Student Thesis Committee** 

3/2013 – 1/2017 Maiko Arashiro, PhD

Dept of Env. Sci. & Engineering

**Doctoral Graduate Student Thesis Committee** 

10/2013 – 12/2016 Natalie Holman, PhD

Curriculum in Toxicology

**Doctoral Graduate Student Thesis Committee** 

9/2014 - 7/2016 Scott Neidich, PhD Candidate

Department of Nutrition

**Doctoral Graduate Student Thesis Committee** 

6/2015 - 11/2015 Holly Hall

Curriculum in Toxicology
Professional Science Masters

6/2015 - 11/2015 Amanda Krzywinski

Curriculum in Toxicology
Professional Science Masters

3/2012 - 1/2015 Laya Bhavaraju, Ph.D

Curriculum of Toxicology

**Doctoral Graduate Student Thesis Committee** 

8/2014 - 12/2014 Jazz Dickinson, PhD

**Department of Chemistry** 

**Doctoral Graduate Student Thesis Committee** 

6/2014 - 8/2014 Darmood Wei, Ph.D. Candidate

Curriculum of Toxicology

	Doctoral Graduate Student Thesis Committee
1/2014 - 5/2014	Justin Miller, Ph.D. Candidate Department of Nutrition Doctoral Graduate Student Thesis Committee
1/2014 - 5/2014	Jose Zavala, Ph.D. student Department of Environmental Science & Engineering Doctoral Graduate Student Thesis Committee
1/2013 - 5/2013	Julia Rager, Ph.D.  Department of Environmental Science & Engineering  Doctoral Graduate Student Thesis Committee
1/2013 - 5/2013	Samantha Snow, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2013 - 5/2013	Christina Perez, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2013 - 5/2013	Ying-Hsuan Lin, Ph.D.  Department of Environmental Science & Engineering  Doctoral Graduate Student Thesis Committee
1/2013 - 1/2013	Heather Paich, Ph.D.  Department of Nutrition  Doctoral Graduate Student Thesis Committee
6/2012 - 8/2012	Shannon Jones, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2012 - 5/2012	Jennifer Nichols, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2011 - 5/2011	Jennifer Griggs, MS Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2011 - 5/2011	Jonathan Shannahan, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2011 - 5/2011	Tarra Irons, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2010 - 5/2010	Monica High, Ph.D. Candidate Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
1/2010 - 5/2010	Erik Karlsson, Ph.D. Department of Nutrition
	Doctoral Graduate Student Thesis Committee

	Department of Immunology, NCSU  Doctoral Graduate Student Thesis Committee
6/2005 - 8/2008	Tamara Tal, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
6/2005 - 8/2008	Tina Stevens, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
6/2003 - 8/2007	Brian Dewar, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
6/2003 - 8/2006	Wei Li, Ph.D.  Department of Nutrition  Doctoral Graduate Student Thesis Committee
6/2003 - 8/2006	Gillian Backus, Ph.D. Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
6/2003 - 8/2006	Yumee Kim, Ph.D. Department of Environmental Science and Engineering Doctoral Graduate Student Thesis Committee
8/2018 – present	Kezia Addo Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
3/2018 – present	Kelsey Behrens Curriculum of Toxicology Doctoral Graduate Student Thesis Committee
3/2018 – present	Matthew Michael Anttila Department of Chemistry Doctoral Graduate Student Thesis Committee
5/2017 – present	Adelaide Tovar, PhD Candidate Curriculum in Genetics Doctoral Graduate Student Thesis Committee
3/2016 - present	Sabri Abdelwahab, PhD Candidate Department of Pathology Doctoral Graduate Student Thesis Committee
6/2015 - present	Virginia Bass, PhD Candidate Dept of Env. Sci. & Engineering Doctoral Graduate Student Thesis Committee
Grants	

# **Grants**

Active

Bronchitis in the Military: Diagnosis, Risk, Mitigation, and Treatment 09/15/2018 – 09/14/2022 DoD

Project Role: Project PI 20% effort

Funded Amount: \$9,964,278

Ozone, Oxysterols, and Lung Inflammation

4/1/2018 – 3/31/2023 NIEHS/NIH Project Role: MPI 20% Effort

Funded Amount: \$382,956/year

E-cig Flavors and their effects on respiratory immune responses

09/2017 – 08/2021 NHLBI/NIH Project Role: PI 20% Effort

Funded Amount: \$300,000/year

Non-Invasive Sampling Techniques To Assess Potential Health Disparities In Environmental Triggers Of Asthma

7/1/2017 – 6/30/2018 P30ES010126 - Multidisciplinary Pilot Award

Project Role: Pilot Project PI 0% Effort

Funded Amount: \$50,000

Pathogenesis of ozone-induced asthma exacerbation

4/1/2015 - 3/31/2020 NIEHS/NIH Project Role: Co-l 10% Effort

Funded Amount: \$1,250,000.00

The Impact of Tobacco Exposure on the Lung's Innate Defense System

9/1/2013 - 8/31/2018 NIH P50 RFA-DA-13-003

Project Role: Project PI, Project 4 21% Effort

Funded Amount: \$1,625,000.00

The Impact of Tobacco Exposure on the Lung's Innate Defense System – Training Core

9/1/2013 - 8/31/2018 NIH P50 RFA-DA-13-003

Project Role: PI 7% Effort

Funded Amount: \$1,000,000.00

Human Health Effects of Environmental Pollutants

04/01/2015 - 03/31/2022 U.S. EPA CR83346301

Project Role: Project Leader 5% effort

Total Funded Amount: \$17,995,081

Pre and Post-doctoral Training in Toxicology

07/01/2013 - 06/30/2018 Agency: NIEHS/NIH (T32 ES007126)

Project Role: PI 0% effort

Total Funded Amount: \$3,069,478

**EPA-UNC Toxicology Training Agreement** 

12/01/2015 - 11/30/2018 Principal Investigator: Ilona Jaspers, Ph.D.

U.S. EPA CR83515201 0% effort

Total Funded Amount: 2,000,000

Inactive

Novel Approach to Overcome CRS-induced Immune Dysfunction

7/1/2017 - 6/30/2018 Flight Attendant Medical Research Institute

Jaspers, Ilona: September, 2018

Project Role: PI 10% Effort

Funded Amount: \$300,000

Ozone, Lipid-Protein Adducts, and Biological Effect

1/1/2015 - 12/31/2016 NIEHS/NIH Project Role: PI 10% Effort

Funded Amount: \$275,000.00

**Diesel Exhaust-induced Alterations of Influenza Infectivity** 

11/1/2012 - 6/30/2017 (NCE) NIEHS/NIH VICTER program (2RO1 ES013611-07S1)

Project Role: PI 10% Effort

Funded Amount: \$292,750.00

Diesel Exhaust-induced Alterations of Influenza Infectivity

7/1/2010 - 6/30/2017 (NCE) NIEHS/NIH (2RO1 ES013611)

Project Role: PI 15% Effort

Funded Amount: \$1,250,000

Cigarette Smoke, NK cells, and Viral Infections

7/1/2013 - 6/30/2016 (NCE) Flight Attendant Medical Research Institute

Project Role: PI 10% Effort Funded Amount: \$325,000.00

Origin and Effects of Acquired Ciliary Defects

07/01/2013 - 06/30/2016 Flight Attendant Medical Research Institute

Role: Co-I 4% effort

Total Funded Amount: \$325,500

Human Health Effects of Environmental Pollutants

7/1/2007 - 1/31/2015 U.S. EPA CR83346301

Project Role: co-PI 5% Effort

Funded Amount: \$546,656.00

This is a training grant to support students and post-docs associated with the Curriculum in Toxicology.

**EPA-UNC Toxicology Training Agreement** 

1/1/2012 - 12/31/2014 U.S. EPA CR83515201

Project Role: PI 0% Effort

Funded Amount: \$572,737.00

This is a cooperative training agreement between the US EPA and the Curriculum in Toxicology to support

students and post-docs interested in training with EPA investigators

Cigarette Smoke and Susceptibility to Influenza Infection

7/1/2011 - 6/30/2014 NHLBI/NIH (1 R01 HL095163-03S1)

Project Role: PI 0% Effort

Funded Amount: \$57,190.00

This is a supplement to enhance diversity in biomedical research, currently supporting the dissertation research

of Megan Meyer

Cigarette Smoke and Susceptibility to Influenza Infection

7/1/2009 - 6/30/2014 NHLBI/NIH (1 R01 HL095163)

Project Role: PI 20% Effort

Funded Amount: \$250,000.00

Using Human in vitro and in vivo experimental system, this projects compares influenza-induced responses in smokers and non-smokers, the role of epigenetic modifications in these responses, and explores potential

therapies mitigating these effects.

Fate, Transport, and Toxicity of Engineered Nanoparticles in the Atmosphere

10/1/2010 - 9/30/2013 EPA/NSF CBET - 1057532

Project Role: co-Pl 5% Effort

Funded Amount: \$158,000.00

Using UNC's smog chambers, these studies will examine whether and how aging of nanoparticles in urban

atmospheres modifies their toxicity.

Origin and Effects of Acquired Ciliary Defects

7/1/2010 - 6/30/2013 Flight Attendant Medical Research Institute

Project Role: co-PI 4% Effort

Funded Amount: \$100,000.00

The focus of this project is to characterize ciliary regulatory pathways in developing and mature cells and investigate how exposure to individual chemical components of second hand smoke impact structure and

function of the airway epithelial layer.

Pre and Post-doctoral Training in Toxicology

7/1/2008 - 6/30/2013 NIEHS/NIH (T32 ES007126)

Project Role: PI 0% Effort

Funded Amount: \$500,656.00

This is a training grant to support students and post-docs associated with the Curriculum in Toxicology

Bioengineering partnership to improve chemical hazard testing paradigms

9/21/2010 - 11/30/2012 NIH/NIEHS VicTER program (3R01 ES015241-03S1)

Project Role: co-PI 4% Effort

Funded Amount: \$289,000.00

Involving a cross-disciplinary research team, this project will develop novel tools to provide a bridge between epidemiology-based human studies and lab-based mechanistic studies on the effects of air pollutants on human

health.

SHS and influenza-induced immune responses

7/1/2009 - 6/30/2012 Flight Attendant Medical Research Institute

Project Role: PI 11% Effort

Funded Amount: \$100,000.00

Using a translational research approach, this project examines the effects of environmental tobacco smoke on

influenza-induced immune responses in humans.

SCCOR in Host Factors in Chronic Lung Diseases

2/1/2006 - 11/30/2011 NHLBI/NIH Project Role: Co-PI 5% Effort

Funded Amount: \$215,884.00

The focus of the overall project is the role of airway surface composition in the etiology and host defense

mechanisms of chronic lung diseases such as Cystic Fibrosis and COPD

Immunobiology of Acute Environmental Asthma

7/10/2010 - 6/30/2011 NIAID/NIH (3U19AI077437-03S1)

Project Role: Co-PI 12% Effort

Funded Amount: \$149,502.00

Using translational research approaches, this project compares the role of the inflammasome during influenza

infections in normal and asthmatic human volunteers.

Clinical and Laboratory Studies of Human Nasal Epithelium

7/1/2004 - 6/30/2010 Flight Attendant Medical Research Institute

Project Role: co-PI 4% Effort

Funded Amount: \$100,000.00

The focus of this project is to examine non-cancerous effects of environmental tobacco smoke on human nasal

epithelial cells.

ETS and Influenza-induced Responses in Nasal Epithelium

7/1/2006 - 6/30/2009 Flight Attendant Medical Research Institute

Project Role: PI 15% Effort

Funded Amount: \$99,919.00

Using a translational research approach, this project examines the effects of environmental tobacco smoke on

the susceptibility to influenza infections in humans.

<u>Diesel Exhaust-induced Alterations of Influenza Infectivity</u>
7/1/2005 - 6/30/2009

NIH (RO1 ES013611)

Project Role: PI 35% Effort

Funded Amount: \$185,535.00

Participation: 0% effort (all effort on the renewal)

This project examines the mechanisms by which exposure to diesel exhaust enhances susceptibility to influenza infections using various in vitro and in vivo models. Specifically, the roles of oxidative stress and toll-like receptors

3 and 7 will be examined.

Nutrition, Viral Mutation and Host Defense

9/30/2003 - 1/31/2008 NIH (RO1 AI055050-01)

Project Role: co-PI 30% Effort

Funded Amount: \$408,270.00

This project investigates the effects of selenium deficiency on the occurrence of mutations in the influenza genome and the mechanisms mediating these effects using a mouse in vivo model and a human bronchial

epithelial cells in vitro model.

Innovative Experimental Techniques To Help Understand Exposure to Volatile Organic Air Toxics

7/1/2003 - 6/30/2006 American Chemistry Council

Project Role: co-PI 15% Effort

Funded Amount: \$184,870.00

This Project investigates whether photochemical transformations alter the toxicity of known industrial air

pollutants, such as methanol.

<u>Diesel Exhaust-induced Alterations of Influenza Pathogenesis</u>
7/1/2003 - 6/30/2006

American Chemistry Council

Project Role: PI 20% Effort

Funded Amount: \$29,837.00

This project investigates whether exposure to diesel exhaust alters the pro-inflammatory responses and antiviral defense responses in influenza-infected airway epithelial cells and the molecular mechanisms mediating these

effects.

**Endotoxin and Bronchial Inflammation in Asthma** 

1/1/2002 - 12/31/2005 NIH/NHLBI, 2 RO1 HL62624

Project Role: co-Pl 5% Effort

Funded Amount: \$250,000.00

The major goal of this grant is to compare the effects of LPS on airway inflammation, and methacholine response

and lung function in normals and asthmatics.

One Atmosphere Research Program for Urban Gaseous/Particulate Matter and Human Health Effects Studies

7/1/2002 - 6/30/2003 U.S. Environmental Protection Agency (US EPA CR829762)

Project Role: co-PI 15% Effort

Funded Amount: \$228,515.00

The focus of this project is to examine the health effects of complex urban pollutant mixtures.

# **Professional Service**

Within UNC-CH	
1/2018 – present	Center for Environmental Health and Susceptibility, Cardiopulmonary Section Leader
5/2018 – present	Institute for Environmental Health Solutions, Pulmonary Division Leader
3/2016 - present	Faculty Promotions Committee, Department of Pediatrics
9/2015 – 9/2016	Environmental Task Force Planning Committee
5/2015 - 2/2016	Department of Environmental Sciences and Engineering Faculty Search Committee
4/2015 - 7/2015	Fellowship Review Committee, Department of Pediatrics
1/2015 - 5/2015	School of Public Health Dean Rimer 5-year review Committee
11/2014	Member, Department of Pathology Graduate Program. Review Team
10/2014 - present	Faculty Compensation Committee, Department of Pediatrics
1/2012 - 12/2012	Strategic Planning Committee for the Department of Pediatrics
1/2009 - present	Member, IMSD Advisory Committee
To Discipline	
3/2017 – present	Councilor, Inhalation and Respiratory Specialty Section, Society of Toxicology
6/2017 – present	NIH, CSR Anonymization Project
8/2018	Chair; Special Emphasis Panel, ZES1 LAT-D (TS), Mechanism for Time-Sensitive Research
	Opportunities in Environmental Health Sciences (R21)
6/2018	Ad-hoc review, Special Emphasis Panel, ZRG1 BST-T-55
5/2018	Panel Member; Career Experts, Center for Career Development, American Thoracic Society
3/2018	Ad-hoc review, Special Emphasis Panel, ZRG1 CVRS-H (50) M
12/2017	Ad-hoc review, Special Emphasis Panel, ZCA1 SRO-Q (01)
08/2017-11/2017	Ad-hoc review, ZRG1 BBBP-J (41); PAR-17-144: Limited Competition: National Primate Research Centers (P51)
10/2017	Ad-hoc review, Special Emphasis Panel, ZRG1 CVRS-G (03) M
3/2017	Ad-hoc review, Special Emphasis Panel, ZRG1 CVRS-H (03) M
7/2016	Ad-hoc reviewer, Special Emphasis Panel, ZRG1 CVRS-N (02) M

7/2016	Chair, NIEHS/NIH Career IAM Review, ZES 1 LWJ-J (KS) 1
5/2016 – 6/2017	Reviewer for PRIDE Program, Dr. Patricia Silveyra, M.Sc.,Ph.D
4/2016	Chair, Flight Attendant Medical Research Institute, Richmond Center of Excellence Review Panel
5/2018 – present	External Advisory Board, Molecular and Biochemical Toxicology Training Program, Vanderbilt University
3/2016 - present	External Advisory Board; University of Rochester Environmental Health Sciences Center
7/2015 - present	Scientific Advisory Board: NIEHS Gulf Long-term Follow-up Study (GuLF STUDY)
05/2018 – present	American Thoracic Society, Environmental and Occupation Public Health Assembly (EOPH), Program Committee Chair
11/2014	Chair, Flight Attendant Medical Research Institute "Cilia/Sinusitis/COPD Panel" Review Panel
10/2014 – 09/2016	American Thoracic Society, Environmental and Occupation Public Health Assembly (EOPH), Program Committee
1/2010 - 6/2014	Member, Lung Injury, Remodeling, and Repair (LIRR) study section, NIH
1/2009 - 12/2009	Ad-hoc reviewer, Special Emphasis Panel, RC1 Grant Applications Review, "Respiratory Sciences"
10/1/2008 - 12/2009	Ad-hoc reviewer, Special Emphasis Panel "Systemic Injury of Environmental Exposure", NIH
6/2008 - 1/2011	Director of Admissions, Curriculum in Toxicology. UNC-CH
6/2007	Ad hoc reviewer, Special Emphasis Panel "Lung Cancer and Inflammation", NCI/NIH
6/1/2005 - 1/2006	Ad hoc reviewer, NIH (Lung Injury Repair & Remodeling study section)
1/2001 - 12/2003	Secretary/Treasurer, Inhalation Specialty Section Executive Committee of the Society of Toxicology
1/2000 - present	American Thoracic Society/American Lung Association
1/1999 - 12/2010	The Society of Free Radical in Medicine and Biology
1/1996 - present	Society of Toxicology
9/1992 - 6/1994	Trainee, Nelson Institute of Environmental Medicine, New York University Medical Center, Tuxedo NY. N.I.E.H.S. Trainee in Inhalation Toxicology
<u>Other</u>	
4/2014 - 6/2015	Member, Qualifications Review Board (QRB). Recruitment of the next Editor-in-Chief (EiC) for EHP
1/2012 - 12/2013	Faculty Promotion Committee for Dr Rebecca Fry, Department of Environmental Sciences and Engineering, SoPH. UNC-CH
8/2017 – 5/2018	Faculty Promotion Committee for Dr Kun Lu, Department of Environmental Sciences and Engineering, SoPH. UNC-CH
1/2012 - present	Member, Editorial Board for American Journal of Physiology –Lung Cell & Molecular Physiology

1/2012 - present	Member, Editorial Board for American Journal of Respiratory Cell & Molecular Biology
1/2012 – 10/2016	Co-founder of BioDeptronix, LLC (currently serve as Scientific Advisor for the company)
7/2012 - 7/2012	Co-organizer, "Careers in Toxicology" workshop
1/2012 - 2/2012	Reviewer, Flight Attendant Medical Research Institute Center of Excellence
1/2011 - 5/2015	External Advisory Committee for the Swiss National Science Foundation Project Project leader: Dr Marianne Geiser
1/2011 - 12/2011	External Science Advisory Board for the U19 Gulf Coast Research Consortium on Women's Health (GROWH), Tulane University
12/2010 - 12/2010	Reviewer, Flight Attendant Medical Research Institute Center of Excellence
1/2009 – 10/2016	Director, Visiting Pulmonary Scholar program
1/2009 - 1/2011	Chair, Graduate Student Admissions Committee for Biological and Biomedical Sciences Program, UNC-CH
1/2009 - 12/2009	Ad-hoc reviewer, Special Emphasis Panel, R15 Grant Application review, ZRG1 CVRS
1/2007 - 12/2013	Member, Editorial Board for Inhalation Toxicology
2/2006 - 2/2006	Review Panel for Health Effects Institute
1/2005 - 12/2005	Reviewer, Health Effects Institute; RFA 05-1A "Studies to Compare Characteristics of PM Associated with Health Effects"
1/2002 - present	Reviewer, Particle and Fibre Toxicology, Journal of Biological Chemistry, Journal of Clinical Investigation; Free Radicals in Medicine and Biology; American Journal of Physiology; European Respiratory Journal; Experimental Lung Research; American Journal of Respiratory Cell and Molecular Biology; Immunotoxicology; Journal of Allergy and Clinical Immunology; PloS ONE; PloS Pathogenesis