May 2013

ILONA JASPERS

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EDUCATION :

Sept. 1997	Doctor of Philosophy in Environmental Health Sciences New York University Medical Center, Tuxedo, NY
Thesis :	Cellular Mechanisms Mediating Ozone-induced IL-8 Production in Respiratory Epithelial Cells
May 1994	Master of Science in Environmental Health Sciences New York University Medical Center, Tuxedo, NY
May 1992	Bachelor of Science in Biology; Seton Hall University, South Orange, NJ

EMPLOYMENT HISTORY:

10/2011 – present	Curriculum of Toxicology, University of North Carolina, Chapel Hill, NC Director
06/2011 - present	Department of Microbiology and Immunology, University of North Carolina, Chapel Hill, NC Associate Professor/Professor – joint appointment
06/2009 - present	The Hamner Institutes for Health Sciences, RTP, NC Joint Senior Investigator of Respiratory Biology
02/2009 - present	Environmental Science and Engineering, School of Public Health, University of North Carolina, Chapel Hill, NC Associate Professor/Professor – joint appointment
07/2007 - present	Department of Pediatrics, Division of Allergy, Rheumatolgy, and Infectious Diseases, University of North Carolina, Chapel Hill, NC Associate Professor/Professor – primary appointment
03/2005 - present	Center for Environmental Medicine, Asthma, and Lung Biology, University of North Carolina, Chapel Hill, NC Associate Director

12/2002 – 10/02011	Curriculum of Toxicology, University of North Carolina, Chapel Hill, NC Associate Professor
01/2003 – 10/2008	Environmental Science and Engineering, School of Public Health, University of North Carolina, Chapel Hill, NC Adjunct Assistant Professor
07/2000 – 06/2007	Department of Pediatrics, Division of Infectious Diseases and Immunology, University of North Carolina, Chapel Hill, NC Assistant Professor
7/1999 – 6/2000	Center for Environmental Medicine and Lung Biology, University of North Carolina, Chapel Hill, NC Research Associate
10/1997-6/1999	Center for Environmental Medicine and Lung Biology, University of North Carolina, Chapel Hill, NC Post-doctoral Research Fellow
6/1994 – 9/1997	Nelson Institute of Environmental Medicine, New York University Medical Center, Tuxedo NY Graduate Research Assistant, Student Representative on the Graduate Steering Committee Student representative on the Health & Safety Committee
9/1992 - 6/1994	Nelson Institute of Environmental Medicine, New York University Medical Center, Tuxedo NY N.I.E.H.S. Trainee in Inhalation Toxicology

SPECIAL HONORS AND AWARDS:

- Young Investigator Award sponsored by the Inhalation Specialty Section of the Society Of Toxicology, March 2004
- American Chemistry Council Early Career Award in Inhalation Toxicology, March 2003
- Young Investigator Award sponsored by The Oxygen Society, November 1998

PUBLICATIONS:

Book Chapters

Jaspers, I., Horvath, K. Effects of Airborne Particles on Respiratory Viral Infection. In: Particle-Lung Interactions, (P. Gehr, F. Blank, C. Muehlfeld, and B. Rothen-Rutishauser, Eds.), Second Edition, 2009. Pgs 151-166.

Jaspers I. Diesel Exhaust and Viral Infections. In: Toxicology of the Lung, (D. Gardner, Ed.), Target Organ Toxicology Series, CRC Press, Boca Raton, FL, 2005. Pgs. 559-585.

Schlesinger RB, **Jaspers I**. Sulfur Oxides. In: Respiratory System Toxicology, (R. Roth, Ed.), vol. 8, Comprehensive Toxicology (I.G. Sipes, C.A. McQueen, A.J. Gandolfi, Eds) Elsevier Science Inc., New York, NY, 1997. Pgs. 313-330.

Refereed Papers/Articles

Original Research:

Fischer Ii WA, Chason KD, Brighton M, **Jaspers I**. Live attenuated influenza vaccine strains elicit a greater innate immune response than antigenically-matched seasonal influenza viruses during infection of human nasal epithelial cell cultures. Vaccine. 2014 Mar 26;32(15):1761-7. doi: 10.1016/j.vaccine.2013.12.069. Epub 2014 Jan 30.

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.

Meyer M, Bauer RN, Letang BD, Brighton L, Thompson E, Simmen RC, Bonner J, **Jaspers I**. Regulation and activity of secretory leukoprotease inhibitor (SLPI) is altered in smokers. Am J Physiol Lung Cell Mol Physiol. 2014 Feb;306(3):L269-76. doi: 10.1152/ajplung.00290.2013. Epub 2013 Nov 27

McIntosh-Kastrinsky R, Diaz-Sanchez D, Sexton KG, Jania CM, Zavala J, Tilley SL, **Jaspers I**, Gilmour MI, Devlin RB, Cascio WE, Tong H. Photochemically altered air pollution mixtures and contractile parameters in isolated murine hearts before and after ischemia. Environ Health Perspect. 2013 Nov-Dec;121(11-12):1344-8. doi: 10.1289/ehp.1306609. Epub 2013 Oct 17.

Müller L, Brighton LE, Carson JL, Fischer WA 2nd, **Jaspers I**. Culturing of human nasal epithelial cells at the air liquid interface. J Vis Exp. 2013 Oct 8;(80). doi: 10.3791/50646.

Rager JE, Bauer RN, Müller LL, Smeester L, Carson JL, Brighton LE, Fry RC, **Jaspers I**. DNA methylation in nasal epithelial cells from smokers: identification of ULBP3-related effects. Am J Physiol Lung Cell Mol Physiol. 2013 Sep 15;305(6):L432-8. doi: 10.1152/ajplung.00116.2013. Epub 2013 Jul 5.

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]

Bauer RN, Diaz-Sanchez D, **Jaspers I**. Reply. J Allergy Clin Immunol. 2012 Oct;130(4):1012-3. doi: 10.1016/j.jaci.2012.07.034. Epub 2012 Aug 28.

Lichtveld KM, Ebersviller SM, Sexton KG, Vizuete W, **Jaspers I**, Jeffries HE.In vitro exposures in diesel exhaust atmospheres: resuspension of PM from filters versus direct deposition of PM from air. Environ Sci Technol. 2012 Aug 21;46(16):9062-70. doi: 10.1021/es301431s. Epub 2012 Aug 9.

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.

Rager JE, Lichtveld K, Ebersviller S, Smeester L, **Jaspers I**, Sexton KG, Fry RC.A Toxicogenomic Comparison of Primary and Photochemically Altered Air Pollutant Mixtures. *Environ Health Perspect.* 2011 Nov;119(11):1583-9. Epub 2011 Jul 14.

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.

Horvath KM, Brighton LE, Zhang W, Carson JL, **Jaspers I**. Epithelial Cells From Smokers Modify Dendritic Cell Responses in the Context of Influenza Infection. *Am. J. Resp. Cell Mol. Biol.* 2010 Oct 8. [Epub ahead of print].

Noah TL, Zhou H, Monaco J, Horvath K, Herbst M, **Jaspers I**.Tobacco Smoke Exposure And Altered Nasal Responses To Live Attenuated Influenza Virus. *Environ Health Perspect* . 2011 Jan;119(1):78-83. Epub 2010 Oct 4.

Liu Q, Zhang H, Smeester L, Zou F, Kesic M, **Jaspers I**, Pi J, Fry RC. The NRF2-mediated oxidative stress response pathway is associated with tumor cell resistance to arsenic trioxide across the NCI-60 panel. BMC Med Genomics. 2010 Aug 13;3(1):37.

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.

Zhou, H., Wang, X., Brighton, L.E., Hazucha, M., **Jaspers, I.,** Carson, J.L. Increased Nasal Epithelial Ciliary Beat Frequency Associated With Lifestyle Tobacco Smoke Exposure. *Inhal. Toxicol*. 21(10): 875-81, 2009.

Jaspers, I, Sheridan, P.A., Zhang, W., Brighton, L.E., Chason, K.D., Hua, X. and Tilley, S.L. Exacerbation of allergic inflammation in mice exposed to diesel exhaust particles prior to viral infection. *Particle & Fibre Toxicology* 6:22, 2009.

Wu, W., Alexis, N.E., Bromberg, P.A., **Jaspers, I**., Peden, D.B. Mechanisms of LPS-induced CD40 Expression in Human Peripheral Blood Monocytic Cells. *Biochem. Biophys. Res. Com.* 379(2): 573-5757, 2009.

Silbajoris, R., Huang, J.M., Cheng, W-Y., Dailey, L., Tal, T.L., **Jaspers, I**., Ghio, A.J., Bromberg, P.A., Samet, J.M. Nanodiamond particles induce IL-8 expression through a transcript stabilization mechanism in human airway epithelial cells. *Nanotoxicology* 3(2): 152-160, 2009

Ciencewicki, J.M., Brighton, L.E**., Jaspers, I**. Localization of type I Interferon Receptor Limits Interferon-induced TLR3 in Epithelial Cells*. J Interferon & Cyt. Res*. 29(5): 289-97, 2009.

de Bruijne, K., Ebersviller, S., Sexton, K.G., Lake, S., Leith, D., Goodman, R., Jetters, J., Walters, G.W., Doyle-Eisele, M., Woodside, R., Jeffries, H.E., **Jaspers, I**. Design and Testing of Electrostatic Aerosol In vitro Exposure System (EAVES): An Alternative Exposure System for Particles. *Inhal. Toxicol*. 21(2):91-101, 2009.

Gowdy K, Krantz QT, Daniels M, Linak WP, **Jaspers I**, Gilmour MI. Modulation of pulmonary inflammatory responses and antimicrobial defenses in mice exposed to diesel exhaust. *Toxicol Appl Pharmacol.* 15;229(3):310-9, 2008 .

Ciencewicki JM, Gowdy K, Krantz QT, Linak WP, Brighton LE, Gilmour MI, **Jaspers I**. Diesel Exhaust Enhanced Susceptibility to Influenza Infection is Associated with Decreased Surfactant Protein Expression. *Inhal. Toxicol.* 19(14): 1121-1133, 2007.

Jaspers I, Zhang W, Brighton LE, Carson JL, Styblo M, Beck MA. Selenium Deficiency Alters Epithelial Cell Morphology and Responses to Influenza*. Free Rad. Med. Biol*. 42:1826-1837, 2007.

Kim YM, Cao D, Reed W, Wu W, **Jaspers I**, Tal T, Bromberg PA, Samet JM. Zn(2+)-induced NF-kappaB-dependent transcriptional activity involves site-specific p65/RelA phosphorylation. *Cell Signal.* 19: 538-546, 2007.

Doyle M, Sexton KG, Jeffries H, **Jaspers I**. Atmospheric Photochemical Transformations Enhance 1,3-Butadiene-induced Inflammatory Responses in Human Epithelial Cells: The role of ozone and other photochemical degradation products. *Chem. Biol. Interaction* 166 (1-3): 163-9, 2007.

Bleck B, Tse DB, **Jaspers I**, Curotto de Lafaille MA, Reibman J. Diesel Exhaust particle-exposed human bronchial epithelial cells induce dendritic cell maturation. *J. Immunol.* 176(12): 7431-7, 2006.

Ciencewicki JM, Brighton LE, Carson JL, Wu W, Madden MC, **Jaspers I**. Diesel Exhaust Enhances Toll-like Receptor 3 Expression and Signaling in Respiratory Epithelial Cells. *Am. J. Phyiol.* 290:L1154-L1163, 2006.

Wang X, Wu Y, Stonehuerner JD, Dailey LA, Richards JD, **Jaspers I**, Piantadosi CA, Ghio AJ. Oxidant Generation Promotes Iron Sequestration in BEAS-2B Cells Exposed to Asbestos. *Am J Respir Cell Mol Biol*. 34(3): 286-292, 2006.

Jaspers I, Ciencewicki JM, Zhang W, Brighton LE, Carson JL, Beck MA, Madden MC. Diesel Exhaust Enhances Influenza Infections in Respiratory Epithelial Cells. *Toxicol. Sci.* 85:990-1002, 2005.

Kim YM, Reed W, Lenz AG, **Jaspers I**, Silbajoris R, Nick HS, Samet JM. Ultrafine Carbon Particles Induce Interleukin-8 Gene Transcription and p38 MAPK Activation in Normal Human Bronchial Epithelial Cells. *Am. J. Physiol Lung Cell Mol. Physiol*. 288(3): L432-41, 2005.

Doyle M, Sexton KG, Jeffries H, Bridge K, **Jaspers I.** Effects of 1,3-Butadiene, Isoprene, and Their Photochemical Degradation Products on Human Lung Cells. *Environ. Health Perspect*. 112(15):1488-1495, 2004.

Sexton KG, Jeffries HE, Jang M, Kamens RM, Doyle M, Voicu I, **Jaspers I.** Photochemical Products In Urban Mixtures Enhance Inflammatory Responses In Lung Cells. *Inhalation Toxicol*. 16 (Suppl. 1): 107-114, 2004.

Ghio AJ, Nozik-Grayck E, Turi J**, Jaspers I**, Mercatante DR, Kole R, Piantadosi CA. Superoxide-Dependent Iron Uptake: A New Role for Anion Exchange Protein 2. *Am. J. Respir. Cell Mol. Biol.* 29: 653-660, 2003.

Drobna Z, **Jaspers I,** Thomas DJ, Syblo M. Differential Activation of AP-1 in Human Bladder Epithelial Cells by Inorganic and Methylated Arsenicals. *FASEB J.* 17:67-69, 2003.

Ordan O, Rotem R**, Jaspers I**, Flescher E. The Stress-Responsive JNK Mitogen-Activated Protein Kinase Mediates Aspirin-induced Suppression of B16 Melanoma Cellular Proliferartion. *Brit. J. Pharmacol*. 138: 1156-1162, 2003.

Styblo M, Drobna Z, **Jaspers I**, Lin S, Thomas DJ. The Role of Biomethylation in Toxicity and Carcinogenicity of Arsenic: A Research Update. *Environ. Health Perspect*. 110 (Supplement 5): 767-771, 2002.

Turi JL**, Jaspers I**, Dailey LA, Madden MC, Brighton LE, Carter JD, Nozik-Grayck E, Piantadosi CA, Ghio AJ. Oxidative stress activates anion exchange protein 2 and AP-1 in airway epithelial cells. *Am J Physiol*.283(4):L791-L798, 2002.

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Wu W**, Jaspers I**, Graves LM, Samet JM. Role of Ras in Metal-induced EGF Receptor and NF-κB Signaling in Human Airway Epithelial Cells. *Am. J. Physiol*. 282:L1040-1048, 2002.

Samet JM, Silbajoris R, Huang T, **Jaspers I**. Transcription Factor Activation Following Exposure of an Intact Lung Preparation to Metallic Particulate Matter. *Environ. Health Perspect*. 110(10):985-990, 2002.

Jaspers I, Zhang W, Frasier A, Samet JM, Reed W. H_2O_2 has opposing effects on IKK activity and proteasomal degradation of IκBα in airway epithelial cells *Am. J. Resp. Cell Mol. Biol*. 24:769-777, 2001.

Flescher E, Rotem R, Kwon P, Azare J, **Jaspers I**, Cohen D. Aspirin Enhances Mutidrug Resistance Gene 1 Expression in Human Molt-4 T lymphoma Cells. *Anticancer Res.* 20: 4441-4444, 2000.

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. Bio*l. 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.

Invited and Peer-reviewed Review Articles:

Müller L, **Jaspers I**. Epithelial cells, the "switchboard" of respiratory immune defense responses: effects of air pollutants. Swiss Med Wkly. 2012 Jul 31;142:w13653. doi: 10.4414/smw.2012.13653.

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

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

Ciencewicki JM, **Jaspers I**. Air pollution and Respiratory Virus Infections. *Inhal. Toxicol.* 19(14): 1135-1146, 2007.

Invited Presentations

- Environment and Viral Infections: A Human Model; Invited Speaker at the Gordon Research Conference: Biology of Acute Respiratory Infections; Lucca, Italy, February 2014

- Smoking and Viral Infections: Observations from right Under your Nose; Invited Seminar by the Pulmonary Division, of the University of Southern California, Los Angeles, CA, November 2013

- Inhaled pollutants and host defense: studies from right under your nose; invited seminar by the Integrated Toxicology and Environmental Health Program (ITEHP), Duke University; Durham, NC, March 2013.

- Understanding How Smoking Affects Influenza Infections: *In vitro* to *In Vivo* and Back and Air pollution; invited seminar at the Division of Pulmonary and Critical Care Medicine, Vanderbilt School of Medicine, Nashville, TN, January 2013.

- Viral infections: Observations from right under your nose; Invited seminars at the Center in Molecular Toxicology, Vanderbilt School of Medicine, Nashville, TN, January 2013.

- Air pollution and Viral Infections: Observations made from right under your nose; Invited Seminar at the Environmental Health Department Colloquium; Harvard School of Public Health, Boston, MA, September 2012.

- Interactions between air pollution and influenza virus infections: in vitro to in vivo and back; Invited Seminar at the Division of Respiratory Medicine, University of British Columbia, Vancouver, Canada, February 2012.

- Antiviral host defenses in the nose: Role of the epimmunome; James Hogg Research Centre Seminar Series presentation; University of British Columbia, Vancouver, Canada, February 2012.

- Air pollution and antiviral host defense: Emerging roles of the epimmunome; Invited Seminar at the Division of Pulmonary and Critical Care Medicine; University of Rochester; December 2011.

- Interactions between air pollutants and viral infections: Emerging roles of the epimmunome. Invited Seminar at Duke University Medical Center, Durham, NC. December, 2011.

- Air pollution and antiviral host defense: Role of the epimmunome**;** Invited Seminar at the Department of Pharmacology and Toxicology; University of Arizona; November 2011

- Air pollution and antiviral host defense: Role of the epimmunome**;** Invited Seminar at the Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences. October 2011.

- How Air Pollution Can Affect Influenza Infection; Invited Lecturer at North Carolina State University Toxicology Seminar Series; September 2010.

- Translational Research Approaches to Investigate the Effects of Smoking on Influenza Infections: Translational Medicine Symposium, April 2010; UNC-CH.

- From cells-to-mouse-to-human: Effects of air pollutants on influenza infections; Keynote Speaker at the Department of Environmental and Molecular Toxicology Research Day; January 2010; Oregon State University.

- Air Pollution and Respiratory Virus Infections; Invited Lecturer at the British Association for Lung Research, Imperial College, London, England. September 2008.

- From cells - to mouse - to human: Interactions between air pollutants and influenza virus; Invited Seminar at Duke University Medical Center, Durham, NC. February, 2008.

- From cells - to mouse - to human: Interactions between air pollutants and influenza virus; Invited Seminar at the University of Alabama, Birmingham, April 2007.

- From cells - to mouse - to human: Interactions between air pollutants and influenza virus; Invited Seminar at the Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences. March 2007.

- Diesel Exhaust & Influenza:Potential Interactions at the Respiratory Epithelium; Invited Seminar at the University of Vermont, December, 2006.

- Effects of Diesel Exhaust on Epithelial Cells: Potential Interactions with Viral Infections. Invited Speaker at the ETH-Conference on Combustion Generated Nanoparticles; Zurich, Switzerland. August, 2006.

- Effects of environmental pollutants on viral infections. Invited Seminar at the University of Bern, Switzerland, Institute for Anatomy. October, 2005.

- Effects of Diesel Exhaust on Influenza Infections. Invited Seminar at CIIT Centers for Health Research. August 2004.

- Influenza Infection of Human Airway Epithelial Cells: Effects of Exogenous Stressors. Invited Seminar at Louisiana State University, Department of Pathology, School of Veterinary Medicine. November 2002.

- Oxidative Stress and Activation of NF-κB in Airway Epithelial Cells. Invited Seminar at the Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences. March 2001.

- Metal-induced Activation of NF-κB-dependent Transcription. Invited Seminar at New York University, Department of Environmental Medicine. October, 1999.

TEACHING RESPONSIBILITIES:

Lecturer/Instructor in Courses for Graduate Students at the University of North Carolina at Chapel Hill, Chapel Hill, NC

Lecturer in “Immunobiology”
Department of Microbiology & Immunology
Fall 2011 - present

Lecturer in “Human Environmental Disease”
Department of Pathology
Fall 2010 - present

Lecturer in “Air Pollution Chemistry and Physics”
Department of Environmental Science and Engineering, School of Public Health
Fall 2009 - present

Lecturer in “Health Effects of Outdoor and Indoor Air Pollution”, ENVR 732
Department of Environmental Science and Engineering, School of Public Health
Fall 2002 – present

Co-Instructor of "BBSP Seminar"
Biological, Biomedical Science Program, School of Medicine
Fall 2008

Instructor of “Special Topics/ESE” ENVR 890: “Air Pollution and Infections”
Department of Environmental Science and Engineering, School of Public Health
Fall 2006

Instructor of “Special Topics/ESE” ENVR 200: “PM Health Effects”
Department of Environmental Science and Engineering, School of Public Health
Spring 2006

Guest Lecturer in “In-house Seminar Series”: “Effects of Diesel Exhaust on Influenza Virus Infections”
Department of Environmental Science and Engineering, School of Public Health
January 2005

Instructor of “Special Topics/ESE” ENVR 200: “Advanced Cell Biology of Atmospheric Air Pollutants”
Department of Environmental Science and Engineering, School of Public Health
Spring 2004

Instructor of “Special Topics/ESE” ENVR 200: “Cellular Biology of Atmospheric Air Pollutants”
Department of Environmental Science and Engineering, School of Public Health
Fall 2003

Instructor of “Special Topics/ESE” ENVR 200: “Health Effects of Air Pollution in the Lung”
Department of Environmental Science and Engineering, School of Public Health
Spring 2003

Grand Rounds

At UNC

How Smoking May Affect Your Ability to Fight Influenza; Pathology Grand Rounds; January 2010, UNC-CH

Cigarette Smoke and Influenza: Basic and Translational Studies; Pediatric Grand Rounds; February 2009, UNC-CH

Post-Doctoral Mentor

Erica Pawlak, PhD
December 2013 – present

Ellen Glista-Baker, PhD
July 2013 – present

Shannon Jones, Ph.D.
September 2012 – present

Loretta Mueller, Ph.D.
April 2011 – April 2013

Claire Chehrazi, M.D.
Summer 2010 – July 2012

Matthew Kesic, Ph.D.
Summer 2009 – July 2012

Faculty Mentor

William Fischer, MD
Division of Pulmonary and Critical Care Medicine
Summer 2012 – present

Samuel Jones, MD
Department of Surgery
Spring 2012 - present

Graduate Student Thesis Advisor

Megan Meyer; Ph.D. Student in the Department of Microbiology and Immunology; UNC-CH
Summer 2011 – present

Rebecca Bauer; Ph.D. Student in the Curriculum of Toxicology; UNC-CH
Summer 2010 – present

Katie Horvath; Ph.D. Student in the Curriculum of Toxicology; UNC-CH
Summer 2007 – Summer 2011

Jonathan Ciencewicki; Ph.D. Student in the Curriculum of Toxicology; UNC-CH
Fall 2003 - Summer 2007

Rebecca Boyles; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Summer 2005 - Fall 2008

Graduate Student Co-Advisor

Dana Walsh; Ph.D. Student in the Curriculum in Toxicology; UNC-CH
July 2012 – present

Kim Lichtveld; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Spring 2004 - November 2012

Seth Ebersviller; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Spring 2005 - January 2012

Cassandra O'Lenick; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Fall 2006 - Summer 2008

Melanie Doyle; Ph.D. Student in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Fall 2003 - Summer 2006

Kevin Bridge; Masters of Public Health in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Fall 2003 - Summer 2004

Melanie Doyle; Masters of Science Student in the Department of Environmental Science and Engineering, School of Public Health, UNC-CH
Spring 2003 - Fall 2003

Postbaccalaureate Research Education Program (PREP)

Blanche Letang; UNC PREP, UNC-CH School of Medicine
August 2012 – present

Desinia Johnson; UNC PREP, UNC-CH School of Medicine
August 2010 – April 2011

Undergraduate Internships

Sarah Anderson; Biology & Chemistry Major at UNC-CH
September 2012 – present

Whitney McCoy; Summer Pre-Graduate Research Experience (SPGRE); Biology Major at Winston-Salem State University, NC
Summer 2008

Margot Veranes; Biochemistry Major at Smith College, MA
Summer 2001

Doctoral Graduate Student Thesis Committee Need dates for yellow highlighted entries:

Justin Miller, Ph.D. Candidate, Department of Nutrition, present
Maiko Arashiro, Ph.D. student, Dept of Env. Sci. & Engineering, present
Laya Bhavaraju, Ph.D. Candidate, Curriculum of Toxicology, present
Darmood Wei, Ph.D. Candidate, Curriculum of Toxicology, present
Jose Zavala, Ph.D. student, Dept of Env. Sci. & Engineering, present
Heather Paich, Ph.D. Department of Nutrition, Spring 2013
Ying-Hsuan Lin, Ph.D. Dept of Env. Sci. & Engineering, Spring 2013
Christina Perez, Ph.D. Curriculum of Toxicology, Spring 2013
Julia Rager, Ph.D. Dept of Env. Sci. & Engineering, Spring 2013
Shannon Jones, Ph.D. Curriculum of Toxicology, Summer 2012
Jennifer Nichols, Ph.D., Curriculum of Toxicology, Spring 2012
Samantha Snow, Ph.D. Candidate, Curriculum of Toxicology, Spring 2013
Tarra Irons, Ph.D. Curriculum of Toxicology, Spring 2011
Jennifer Griggs, MS, Curriculum of Toxicology, Spring 2011
Jonathan Shannahan, Ph.D., Curriculum of Toxicology, Spring 2011
Erik Karlsson, Ph.D. Department of Nutrition, Spring 2010
Monica High, Ph.D. Candidate, Curriculum of Toxicology, Spring 2010
Kymberly Gowdy, Ph.D., Department of Immunology, NCSU, Summer 2008
Tamara Tal, Ph.D. Candidate, Curriculum of Toxicology, Summer 2008
Tina Stevens, Ph.D. Candidate, Curriculum of Toxicology, Summer 2008
Brian Dewar, Ph.D. Candidate; Curriculum of Toxicology, Summer 2007
Gillian Backus, Ph.D. Curriculum of Toxicology, Summer 2006
Yumee Kim, Ph.D. Department of Environmental Science and Engineering, Summer 2006
Wei Li, Ph.D. Department of Nutrition, Summer 2006

Other Teaching Responsibilities
William Paterson College, Wayne, NJ
Department of Biology
Assistant Instructor of Human Biology,
Fall 1994 - Spring 1996

GRANTS:

Active

"Diesel Exhaust-induced Alterations of Influenza Infectivity"
Multiple Principal Investigators: Ilona Jaspers, Ph.D.; Terry Noah, M.D.
Agency: NIEHS/NIH (2RO1 ES013611)
Period: 07/01/2010 - 06/30/2015 $251,380 20% effort
This project examines the mechanisms by which exposure to diesel exhaust enhances susceptibility to influenza infections using *in vitro* and human *in vivo* models. Specifically, the roles of NK cells will be examined.

Human Health Effects of Environmental Pollutants
Principal Investigator: David Peden, M.S., M.D.
Role: Co-investigator
U.S. EPA CR83346301
Period: 07/01/2007 – 01/31/2015 $546,656 5% effort
This is a training grant to support students and post-docs associated with the Curriculum in Toxicology.

"Cigarette Smoke and Susceptibility to Influenza Infection"
Multiple Principal Investigators: Ilona Jaspers, Ph.D.
Agency: NHLBI/NIH (1 R01 HL095163-03S1)
Period: 07/01/2011 - 06/30/2014 $57,190 0% effort
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"
Multiple Principal Investigators: Ilona Jaspers, Ph.D.; Terry Noah, M.D.
Agency: NHLBI/NIH (1 R01 HL095163)
Period: 07/01/2009 - 06/30/2014 $250,000 20% effort
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"
Principal Investigator: Richard Kamens, Ph.D.
Role: Co-investigator
Agency: EPA/NSF CBET - 1057532
Period: 10/01/2010 - 9/30/2013 $158,000 5% effort
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
PI: Johnny Carson, Ph.D.
Role: Co-investigator
Flight Attendant Medical Research Institute
Period: 07/01/2010 – 06/30/2013 $100,000 4% effort
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"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: NIEHS/NIH (T32 ES007126)
Period: 07/01/2008 - 06/30/2013 $500,656 0% effort
This is a training grant to support students and post-docs associated with the Curriculum in Toxicology

"The Impact of Tobacco Exposure on the Lung's Innate Defense System"
Principal Investigator: Robert Tarran, Ph.D
Lead Investigator Project 4: Ilona Jaspers, Ph.D.
Agency: NIH P50 RFA-DA-13-003
Period: 9/1/2013 – 8/31/2018 $325,000 21% effort
Using in vitro and in vivo approaches determine the effects of new and alternative tobacco products on innate and antiviral host defense responses in epithelial cells.

"Cigarette Smoke, NK cells, and Viral Infections"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: Flight Attendant Medical Research Institute
Period: 07/01/013 to 06/30/16 $100,000 15% effort
Using a translational research approach, this project examines the effects of environmental tobacco smoke on NK cell activation in the context of influenza infections in humans.
Note: Scheduled to get funded starting 07/01/2013

"Diesel Exhaust-induced Alterations of Influenza Infectivity"
Multiple Principal Investigators: Ilona Jaspers, Ph.D.; Terry Noah, M.D.
Agency: NIEHS/NIH ViCTER program (2RO1 ES013611-07S1)
Period: 11/01/2012 to 06/30/2015 $292,750 10% effort
Involving a cross-disciplinary translational research team, this project will develop novel tools to examine pollutant-induced alteration of cellular signaling in single cells and investigate the role of neutrophils and DAMPS in the effects of diesel exhaust on viral infections.
Note: Anticipated to get funded starting 07/01/2013

Completed

"Bioengineering partnership to improve chemical hazard testing paradigms"
Principal Investigators: Ivan Rusyn, M.D., Ph.D.
Role: Co-Investigator
Agency: NIH/NIEHS VicTER program (3R01 ES015241-03S1)
Period: 9/21/2010 - 11/30/2012 $289,000 4% effort
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.

RESEARCH PROJECTS COMPLETED IN THE LAST THREE YEARS

"SHS and influenza-induced immune responses"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: Flight Attendant Medical Research Institute

Period: 07/01/2009 - 06/30/2012 $100,000 11% effort
Using a translational research approach, this project examines the effects of environmental tobacco smoke on influenza-induced immune responses in humans.

"Immunobiology of Acute Environmental Asthma"
Principal Investigator: David Peden, MD
Agency: NIAID/NIH (3U19AI077437-03S1)
Period: 07/10/2010 – 06/30/2011 $149,502 12% effort
Using translational research approaches, this project compares the role of the inflammasome during influenza infections in normal and asthmatic human volunteers.

"SCCOR in Host Factors in Chronic Lung Diseases"
Principal Investigator: Richard Boucher, M.D.
Agency: NHLBI/NIH
Period: 2/1/2006 - 11/30/2011 $215,884 5% effort
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

"Clinical and Laboratory Studies of Human Nasal Epithelium"
Principal Investigator: Johnny Carson, Ph.D.
Co-Investigator: Ilona Jaspers, Ph.D.
Agency: Flight Attendant Medical Research Institute
Period: 7/01/2004 - 06/30/2010 $100,000 4% effort
The focus of this project is to examine non-cancerous effects of environmental tobacco smoke on human nasal epithelial cells.
"Diesel Exhaust-induced Alterations of Influenza Infectivity"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: NIH (RO1 ES013611)
Period: 07/01/2005 - 06/30/2009 $185,535 35% effort
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.

"ETS and Influenza-induced Responses in Nasal Epithelium"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: Flight Attendant Medical Research Institute
Period: 07/01/2006 - 06/30/2009 $99,919 15% effort
Using a translational research approach, this project examines the effects of environmental tobacco smoke on the susceptibility to influenza infections in humans.

"Nutrition, Viral Mutation and Host Defense"
Principal Investigator: Melinda A. Beck, Ph.D.
Co-Investigator: Ilona Jaspers, Ph.D.
Agency: NIH (RO1 AI055050-01)
Period: 09/30/2003 - 01/31/2008 $408,270 30% effort
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"
Principal Investigator: Harvey Jeffreys, Ph.D.
Co-Investigator: Ilona Jaspers, Ph.D.
Agency: American Chemistry Council
Period: 07/01/2003 - 06/30/2006 $184,870 15% effort
This Project investigates whether photochemical transformations alter the toxicity of known industrial air pollutants, such as methanol.

"Diesel Exhaust-induced Alterations of Influenza Pathogenesis"
Principal Investigator: Ilona Jaspers, Ph.D.
Agency: American Chemistry Council
Period: 07/01/2003 - 06/30/2006 $29,837 20% effort
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"
Principal Investigator: David B. Peden, M.D.
Co-Investigator: Ilona Jaspers, Ph.D.
Agency: NIH/NHLBI, 2 RO1 HL62624
Period: 01/01/2002 - 12/31/2005 $250,000 5% effort
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"
Principal Investigator: Harvey Jeffreys, Ph.D.
Co-Investigator: Ilona Jaspers, Ph.D.
Agency: U.S. Environmental Protection Agency (US EPA CR829762)
Period: 07/01/02 to 06/30/03 $228,515 15% effort
The focus of this project is to examine the health effects of complex urban pollutant mixtures.

GRANTS PENDING:

"Ozone, Lipid-Protein Adducts, and Biological Effect"
Multiple Principal Investigators: Ilona Jaspers, Ph.D.; Ned Porter, PhD
Agency: NIEHS/NIH
Period: 11/01/2014 - 10/31/2016 $150,000 10% effort

PROFESSIONAL SERVICE:

- Reviewer for following peer-reviewed scientific journals: Journal of Biological Chemistry, Lung, 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; Particle and Fibre Toxicology; 2002 - present
- Member of the Editorial Board for Inhalation Toxicology, 2007 - 2013

- Member of the Editorial Board for American Journal of Physiology – Lung Cell and Molecular Physiology; 2012 - present
- Member of the Editorial Board for American Journal of Respiratory Cell & Molecular Biology; 2012 - present
- Director of the Visiting Pulmonary Scholar program; 2009 - present
- Co-organizer for the 'Careers in Toxicology" workshop, July 2012
- Co-founder of BioDeptronix, LLC (currently serve as Scientific Advisor for the Company); 2012 - present

Professional Societies

- The Society of Free Radical in Medicine and Biology; 1999 - 2010
- Society of Toxicology; 1996 - present
- American Thoracic Society/American Lung Association; 2000 - present

Committees

- Member of Lung Injury, Remodeling, and Repair (LIRR) study section, NIH, 2010 – present
- Member, IMSD Advisory Committee, UNC-CH 2009 - present
- Strategic Planning Committee for the Department of Pediatrics, UNC-CH, 2012
- Reviewer for Flight Attendant Medical Research Institute Center of Excellence, Jan. 2012
- External Science Advisory Board for the U19 Gulf Coast Research Consortium on Women's Health (GROWH); Tulane University, 2011
- Chair, Graduate Student Admissions Committee for Biological and Biomedical Sciences Program, UNC-CH, 2009 – 2011
- Director of Admissions, Curriculum in Toxicology, UNC-CH, Summer 2008 – 2011
- Reviewer for Flight Attendant Medical Research Institute Center of Excellence, Dec. 2010
- Ad-hoc reviewer, Special Emphasis Panel, RC1 Grant Applications Review, "Respiratory Sciences", 2009
- Ad-hoc reviewer, Special Emphasis Panel, R15 Grant Application review, ZRG1 CVRS, 2009
- Ad-hoc reviewer Special Emphasis Panel "Systemic Injury of Environmental Exposure", NIH, October 2008 – 2009
- Ad hoc reviewer for Special Emphasis Panel "Lung Cancer and Inflammation", NCI/NIH, June 2007
- Ad hoc reviewer for the NIH (Lung Injury Repair & Remodeling study section), June 2005 + 2006
- Review Panel for Health Effects Institute, February 2006
- Inhalation Specialty Section Executive Committee of the Society of Toxicology; Secretary/Treasurer, 2001-2003

- Reviewer for Health Effects Institute; RFA 05-1A “Studies to Compare Characteristics of PM Associated with Health Effects”; 2005
- External Advisory Committee for the Swiss National Science Foundation Project; Project leader: Dr Marianne Geiser,; 2011 - present
- Faculty Promotion Committee for Dr Rebecca Fry, Department of Environmental Sciences and Engineering, SoPH, UNC-CH,; 2012 - 2013

REFLECTIVE STATEMENT:

My primary research interest lies in the potential adverse health effects of exposures to environmental or toxic agents on respiratory immune responses. This interest has been driven by epidemiological evidence supporting the notion that exposure to air pollutants or cigarette smoke enhances the susceptibility to respiratory pathogens and development of pulmonary diseases, such as asthma, especially in pediatric populations. The countless resources here at UNC have allowed me to apply and develop several models to investigate the effects of air pollutants on pulmonary immunobiology, including organotypic models of human respiratory epithelium, human in vivo exposure models, and animal models of respiratory disease. For the past few years, I have focused my research efforts on the effects of air pollution exposure on the susceptibility to subsequent respiratory virus infections. Using tightly linked translational in vitro and in vivo models, my laboratory has been investigating the effects of air pollutants on Influenza virus infections and explored potential nutritional intervention to mediated these effects. While we have been successful in establishing human in vitro and in vivo experimental models, many of the techniques we are currently using have limitations with regards to the kind of information we are able to extract from either in vitro experiments or clinical samples obtained from human volunteers. In collaboration with other groups at UNC, I am currently working on novel experimental technologies and platforms to extract mechanistic information from the limited amount of samples we are able to obtain from our in vitro or in vivo models. The ability to tap into existing resources and the scientific collaborative support to develop new models continue to make my scientific career here at UNC exciting, very productive, and rewarding.

Besides my research efforts, my time is divided between two other responsibilities: administrator and teacher/mentor. For the past few years I have taken on the role of Associate and now Deputy Director for the Center of Environmental Medicine, Asthma, and Lung Biology here at UNC. This has provided me with an opportunity to develop and expand my leadership skills as well as given me a chance to learn about the administrative processes involved in running a large research center, such as the CEMALB. More recently I have taken on the role of Director for the Curriculum in Toxicology. Leading one of the premier Toxicology programs in the country is certainly an honor and I am very fortunate to have been given such a responsibility. I am planning to expand the program, integrate the science of Toxicology better into the School of Medicine, and provide opportunities for medical trainees. The Curriculum in Toxicology has recently enrolled its first MD/PhD student and Allergy/Immunology fellow in the program. Toxicology is a translational discipline and provides ample research opportunities for clinical trainees.

The other increasingly demanding role I have is that of the teacher/mentor. Although this role continues to require a lot of my time, I find teaching and mentoring graduate students, post-docs, fellows and junior faculty the most rewarding part of my job. I have been the Director of Admission for the Curriculum in Toxicology for several years, chaired the Pathogenesis admission Committee for the Biological and Biomedical Sciences Program (BBSP), review application for students applying to the Environmental Sciences and Engineering Department in the School of Public Health, and interview MD/PhD candidates. Through mentoring, co-

mentoring, and participating in dissertation committees I have been able to establish new collaborations and develop ties with numerous investigators throughout the University. Two of my past students have been recipients of the Howard Hughes Medical Institute sponsored program in Translational Research here at UNC. I have been actively involved in this program and strongly believe this to be an outstanding opportunity to establish or strengthen collaborations between basic and physician scientists. Overall, I am excited to see and mentor such scientific talent, have the ability to tap into existing infrastructure for students/post-docs/fellow, and provide potential applicants with an overview of what we have to offer here at UNC.