

LORETTA GEORGINA QUE, MD.

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Professor (Tenure)  
Department of Internal Medicine  
Division of Pulmonary, Allergy and Critical Care  
Duke University Health System

### **CONTACT INFORMATION**

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Durham, NC 27710 !  
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### **CHRONOLOGY of EDUCATION**

- 06/1981-05/1985 ! University of Illinois  
Champaign-Urbana, IL  
BS, Biology (cum laude with Honors), May 1985
- 07/1985-05/1989 ! University of Chicago, Pritzker School of Medicine  
Hyde Park, IL  
MD, May 1989
- 07/1989-06/1990 ! Yale-New Haven Hospital  
New Haven, CT  
Medical Internship
- 07/1990-06/1992 ! Yale-New Haven Hospital  
New Haven, CT  
Medical Residency
- 07/1993-06/1996 ! Duke University Medical Center  
Durham, NC  
Pulmonary-Critical Care Fellowship

### **CHRONOLOGY OF EMPLOYMENT**

- 07/1992-06/1993 ! Yale-New Haven Hospital  
New Haven, CT  
Medical Instructor
- 07/1996-2/2001 ! Duke University Medical Center  
Durham, NC  
Associate in Medicine
- 3/2001-12/2010 ! Duke University Medical Center  
Durham, NC  
Assistant Professor of Medicine

1/2011-3/2019 ! Duke University Medical Center  
Durham, NC  
Associate Professor of Medicine (Tenure)

3/2019-present ! Duke University Medical Center  
Durham, NC  
Professor of Medicine (Tenure)

### **HONORS and AWARDS**

1985 cum laude, University of Illinois, Champaign, IL  
1985 Golden Key National Honor Society, University of Illinois, Champaign, IL  
1985 Phi Beta Kappa, University of Illinois, Champaign, IL  
1989 American Medical Women's Association, University of Chicago, Hyde Park, IL  
1996 Glaxo-Wellcome Award  
2000 Mentored Clinical Scientist Development Award (K08)  
2014 Master Clinician/Teacher Award, nominee  
2017 Senior Faculty Teaching Award, Duke Health, Durham, NC  
2017 Kaganov Research Initiative Award, Duke Health, Durham, NC  
2018 Member, Pulmonary-Allergy Drugs Advisory Committee for the Food and Drug Administration

### **MEDICAL BOARD CERTIFICATIONS**

1992; 2012 American Board of Internal Medicine  
1997, 2017, 2027 American Board of Pulmonary Medicine  
1998, 2019 American Board of Critical Care Medicine

### **SERVICE**

#### ***Professional Societies and Affiliations***

1994-present American Thoracic Society active member  
2003- American College of Chest Physicians, Fellow  
2004-2009 American Thoracic Society: Member, Strategic Planning Committee

2009-2010	American Thoracic Society: Chair-elect, Strategic Planning Committee
2010-2013	American Thoracic Society: Chair, Strategic Planning Committee
2011-2012	American Thoracic Society: Member, Finance Committee
2002-2014	Member, American Association of Pulmonary Critical Care Program Directors
2016-present	Member, <sup>129</sup> Xe MRI Clinical Trials Consortium
2017-present	Member, Academy Health
2012-2018	Member, NIH AsthmaNet, Publications Committee
2018-	Member, American Thoracic Society-Diversity Committee

#### **Local/State**

2014-2017 !	Visiting Pulmonary Scholar Symposium Judge, Greater Research Triangle Area, NC
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#### **Duke School of Medicine**

2005-2009 !	Course Instructor, Clinical Core on Critical Care Duke University School of Medicine, Durham, NC
2013-present !	Mentor, K-club/Path to Independence program; Duke School of Medicine, Durham, NC
2017-present !	Co-Director, Duke Rodent and Inhalational Physiology Core Facility Duke University School of Medicine, Durham, NC

#### **Duke Department of Internal Medicine and Division of Pulmonary Critical Care**

1999-2002 !	Director of Bronchoscopy/Pulmonary Physiology, Durham Veterans' Administration Hospital, Durham, NC
2001-2014 !	Program Director, Pulmonary Critical Care Fellowship Program Duke University Medical Center, Durham, NC
2001-Present !	Pulmonary Critical Care Fellowship - Recruitment Faculty Interviewer
2001-2014 !	Program Director, Advanced Pulmonary Critical Care Fellowship Program, Duke University Medical Center, Durham, NC
2001-2010 !	Program Director, Medicine-Pediatrics Pulmonary Fellowship Program, Duke University Medical Center, Durham, NC

- 2006-2012 ! Course Instructor, Central Venous Catheter Workshop  
Duke University Medical Center, Durham, NC
- 2009-present ! Faculty Coordinator, Duke Wednesday AM Interdisciplinary Chest  
Conference (CME); Duke University Medical Center, Durham, NC
- 2013-2015 ! Course Instructor, Point of Care Ultrasound Workshop  
Duke University Medical Center, Durham, NC
- 2013-2014 ! Director, Annual Pulmonary Fellows' Scientific Retreat  
Duke University Medical Center, Durham, NC
- 2014-present ! Principle Investigator, American Lung Association, Airways Clinical  
Research Center
- 2017-present ! Medical Director, Pulmonary Clinical Research Unit;  
Duke University Health System, Durham, NC
- 2017-present ! Medical Residency Recruitment Interviewer

#### **National Study Section/Grant Review**

- 2008 ! NHLBI Special Emphasis Panel, August 14, 2009. Molecular phenotypes  
for Lung Diseases; SRO: Keith A. Mintzer, PhD
- 2009 ! NIH/NIEHS Ad Hoc Reviewer, December 15, 2009. SRO: Darryl Zeldin,  
MD
- 2011 ! Scientific Therapeutics Information, Inc., Eighth Annual Young  
Investigators' Forum, Advisory Committee Member, Sept 15-18, 2011.  
Atlanta, GA.
- 2011 ! NIH/NIEHS Ad Hoc Reviewer, October 4-5, 2011. Manhattan Beach, CA. ;  
SRO: George Barnas, PhD
- 2013-2019 ! NIH/LCMI Permanent Study Section Member; SRO: George Barnas, PhD

#### **Editorial Service**

- 2010 ! Editorial board, American Journal of Respiratory Cell and Molecular  
Biology
- 2011 ! Editorial board, American Journal of Respiratory Cell and Molecular  
Biology
- 2011 ! Guest Co-Editor, BBA-Gen, special edition: Biochemistry of Asthma
- 2012-2016 ! Associate Editor, American Journal of Respiratory Cell and Molecular  
Biology

2017

Editorial board, American Journal of Respiratory Cell and Molecular Biology

***Ad Hoc Manuscript Review***

American Journal of Respiratory Cell and Molecular Biology

American Journal of Respiratory and Critical Care Medicine

Annals of the American Thoracic Society

Clinical and Experimental Allergy

Drug Delivery

Journal of Allergy and Clinical Immunology

Journal of Clinical Investigation

Pediatric Pulmonary

Plos One

Proceedings of the National Academy of Sciences

Respiratory Research

**Invited Talks**

Spring Conference in Protein Research, San Juan, Puerto Rico, April 15-17, 2004, Lecture: Critical Role of GSNO Reductase in Asthma.

Clinical Respiratory Physiology Pathophysiology Workshop, Taipei, Taiwan, August 20-21, 2005, Lectures: 1) Pathophysiology of Hyperoxic Lung Injury; 2) Pathophysiology of Hypercarbic Lung Injury

Duke University Medical Grand Rounds, Durham, NC, July 7, 2006, Lecture: NO "SNO" in Asthma.

Research Triangle Park Visiting Scholars Seminar, Durham, NC, August 5, 2006: GSNO reductase, S-nitrosothiols, and Allergic Asthma.

Duke Airway Biology Forum, Durham, NC, January 26, 2007.

National Symposium on the Advancement of Women in Science, Harvard College, April 13-15, 2007.

ATS Scientific Symposium: The Host Response in Asthma: A Look at Innate Immunity, May 23, 2007.

University of North Carolina Cystic Fibrosis Center Seminar Series, Chapel Hill, NC, December 7, 2007. S-nitrosothiols and the Asthmatic Airway. !

Duke University Medical Center Pulmonary Research Seminar: S(NO) in Asthma; Durham, NC; ! April 1, 2008. !

National Institute of the Environmental Health Sciences (NIEHS): Visiting Scholars Program; ! S(NO) in Asthma, Durham, NC; April 2, 2008. !

ATS Scientific Symposium: Risks and benefits of S-nitrosothiol-based therapy for Asthma and other diseases: An Emerging Field; May 20, 2008. !

Research Triangle Park: Visiting Professor Series; SNO Metabolism and GSNOR in Asthma, ! Chapel Hill, NC, March 4, 2009. !

ATS Symposium, GSNOR Regulates Airway SNO and AHR in Asthma, San Diego, CA, May 19, ! 2009. !

ATS Sunrise Seminar: Obesity and Asthma-New Insights and Challenges, San Diego, CA. May ! 26, 2009. !

University of North Carolina-Biotechnology: GSNOR and Asthma, Chapel Hill, NC, March 5, ! 2010. !

Use of Methacholine Challenge Testing in Clinical Practice. Duke Fellows' Didactic Lecture ! Series, June 28, 2011, Durham, NC. !

NO Colloquium: GSNO-based therapies in Asthma; April 25, 2012, Duke University Medical ! Center !

Invited Scientist Speaker, S(NO) and Asthma. September 25, 2014. National Jewish Health, Denver, CO. !

Medicine Grand Rounds. Duke University Medical Center. The Changing Face of Asthma and ! the Expanding Role of S(NO). February 13, 2015 !

Duke Immunology 610 – School of Medicine lecture: Immunology of Asthma. September 9, ! 2015. !

Biomarkers for Severe Asthma: Duke University Severe Asthma Conference-Mechanisms, ! Diagnosis, and Treatments. October 3, 2015. !

E-cigarettes – Friend or Foe. December 22, 2015. Duke Clinical Research Institute Conference. !

NOS-ADMA-Arginase Pathway in Obese Asthma. May 24, 2016. Duke Pulmonary Research ! Conference, Duke Health System. !

Introduction to Asthma. Sept 10, 2016. Duke Pulmonary Fellows' Didactic Conference. !

Pulmonary Function Testing. Duke Allergy Wednesday Fellows' Conference. October 19, 2016. !

Duke University Severe Asthma Symposium. Obese Asthma: Etiology, Diagnosis and Management. December 3, 2016.

E-cigarettes and How They Work. March 2, 2018. AAAAI. Orlando, Florida.

E-cigarettes and Lung Health. July 10, 2018. Sunshine Hospital. Weifang, China. Sunshine Hospital.

Management and Diagnosis of Severe Asthma in China. July 21, 2018, Sunshine Hospital. Weifang, China.

Duke University Medical Grand Rounds, Durham, NC, November 16, 2018, Lecture: Overweight and Out of Breath: New insights into the Pathogenesis and Management of Obese Asthma.

Duke University Kaganov Symposium, Durham, NC, May 2, 2019, Lecture: An injectable depot of GLP-1 improves airway physiology in an obese asthma model.

### **Mentorship/Research Supervision of Trainees**

#### **High School Students:**

2009 ! Peitong Duan, Summer research project. Attended Massachusetts Institute of Technology

2017 ! Jack Womble, Summer research project. Student University of North Carolina, Chapel Hill

2019 ! Naemon Mahmood, Summer research project. William G. Enloe Magnet High School, Raleigh, NC.

#### **College Students:**

2003 Courtney Lockhart, University of Texas. Attended Harvard Medical School.

2004 Patrice Whitehead, University of Tuskegee. Summer research project. Lab Technician, Duke

2010-2012 Jennifer Huang, Duke University. Student Vanderbilt University Medical School.

2019 Jack Womble, Summer research project. University of North Carolina, Chapel Hill.

#### **Medical Residents:**

2007 ! Mashaal Al-Hegelan, MD, Medicine SAR  
Project: Affect of Obesity in Asthma

2016-2017 ! Shannon Niedermeyer, MD  
Project: Identification of Asthma/COPD exacerbator risk by total protein:Albumin ratio

## **Mentorship of Fellows: !**

- 2005 ! Armin Meyer, MD  
Assistant Professor, University of South Carolina
- 2003-2006 ! Alison Clay, MD  
Project: Medical Education in the ICU  
Assistant Professor, Duke University Health System
- 2009-2011 ! Amy Treece, MD  
Project: Role of NOS in H1N1-induced Lung Edema  
Clinical Instructor, USC-Greenville
- 2011-2012 ! Mashael Al-Hegelan, MD  
Project: Arginase regulation of Airway Responsiveness in Allergic Asthma  
Assistant Professor, Duke University Health System
- 2013-2015 ! Isaretta Riley, MD  
Project: Health Care Disparities in Asthma  
Medical Instructor, Duke University Health System
- 2014-2017 ! Devon Paul, MD  
Project: Validation of Spirometry Prediction Equations in Western Kenya  
Awarded: Fogarty  
Medical Instructor, Duke University Health System
- 2015-2017 ! Anne Mathews, MD  
Project: Assessment of the role and treatment of stress, anxiety and depression  
in patients admitted to pulmonary rehabilitation program for COPD  
Medical Instructor, Duke University Health System
- 2016-2017 ! Coral Giovachinni, MD  
Project: Use and Perceived risk of E-cigarettes among students in North Carolina  
Interventional Pulmonary Fellow, Duke University Health System
- 2016-2017 ! Laura Beth Mann Dosier  
Pediatric Pulmonary Fellow  
Project: Sepsis-induced red blood cell dysfunction
- 2016-2017 ! Rohan Shyam Virgincar, PhD  
Biomedical Engineering Fellow  
Thesis: Preclinical 129Xe MRI: Development, Applications and Dissemination
- 2017- Lindsay Boole, MD  
Project: Phase 1 Clinical trial: Evaluate the safety, tolerability and intrapulmonary  
pharmacokinetics of fosfomycin (ZTI-01) in healthy adult subjects in a Phase 1  
clinical trial  
Pulmonary Critical Care Fellow, Duke University Health System
- 2018- Neelima Naviluri, MD



Project: Evaluation of Chronic Hypoxemia from Cardiopulmonary Disease Among Patients Admitted to a Major Referral Hospital in Western Kenya and Their Perspectives on Oxygen Use.  
Awarded, VECD Fogarty, 2019 and Chest Award, 2019

### **Mentorship of Junior Faculty**

Jennifer Ingram, PhD  
Research Assistant Professor, Duke University Health System, Durham, NC  
Focus of research: IL-13 and GLP-1 Regulation of Airway Remodeling in Obese Asthma  
Awarded R01, 2017

Julie Ledford, PhD  
Research Assistant Professor, University of Arizona Medical Center, Tucson, AZ  
Focus of research: Surfactant Protein A regulation of Asthma  
Awarded: R01, 2014

Isaretta Riley, M.D., M.P.H.  
Medical Instructor, Duke University Health System, Durham, NC  
Focus of research: Health care disparities in Asthma  
Awarded: REACH Equity career development award- Adherence to Inhaled Corticosteroids in Asthma (ARICA, *uh-REEK-uh*), December, 2018; ATS Health Equality and Diversity Fellowship Award, May, 2019.

Anne Mathews, MD  
Medical Instructor, Duke University Health System, Durham, NC  
Focus of research: Role of stress, anxiety and depression in patients with COPD undergoing pulmonary rehabilitation

Robert Tighe, MD  
Assistant Professor of Medicine, Duke University Health System, Durham, NC  
Focus of research: Modulation of ozone induced epithelial permeability by CXCL10 and CXCL3 axis.  
Awarded: One's Award (NIH/NIEHS), 2018

### **CLINICAL RESPONSIBILITIES**

Supervise and round in Duke Medical Intensive Care Unit 6 weeks/year

Duke Asthma Outpatient Clinic ½ day/week

Ad Hoc Preceptor for Pulmonary Fellows Outpatient Clinic

Preceptor for Internal Medicine residents in Pulmonary Outpatient Clinic

### **PUBLICATIONS**

#### **Refereed Journal Articles:**

1. ! **Que LG**, Kang BH, Huang YCT, Piantadosi CA, Chang LY: Anti-ICAM-1 antibody and ICAM-1 gene deficiency do not prevent pulmonary neutrophil recruitment in polymicrobial sepsis. *Shock* 9 (4):304-309, 1998. PMID: 9565260.
2. ! **Que LG**, Kantrow SP, CP Jenkinson, Huang YCT: Induction of arginase isoforms in the lung during hyperoxia. *American Journal of Physiology* 275 (19): L96-L102, 1998. PMID: 9688940.
3. ! Carraway MS, Welty-Wolf KE, Kantrow SP, Huang YCT, Simonson SG, **Que LG**, Kishimoto TK, and Piantadosi CA: Antibody to E- and L-selectin does not prevent lung injury or mortality in septic baboons. *Am J of Respir Crit Care Med* 157 (3 Pt 1):938-49, 1998. PMID: 9517615.
4. ! Lau CL, Bentley RC, Gockerman JP, **Que LG** and D'Amico TA. Malignant melanoma presenting as a mediastinal mass. *Annals of Thoracic Surgery*. 67(3): 851-2, 1999 Mar. PMID: 10215250.
5. ! **Que LG** and Huang YCT. Pharmacologic adjuncts to mechanical ventilation. *Seminars in Respiratory and Critical Care Medicine*, 21.3, 2000. PMID: 16088735.
6. ! Liu L, Hausladen A, Zeng M, **Que L**, Heitman J and Stamler JS/ A metabolic enzyme for S-Nitrosothiol conserved from bacteria to humans. *Nature* 410: 490-494, 2001 Mar. PMID: 11260719.
7. ! Liu L, Hausladen A, Zeng M, **Que L**, Heitman J and Stamler JS. Nitrosative stress: protection by glutathione-dependent formaldehyde dehydrogenase. *Redox Report* 6 (4) 209-10, 2001. PMID: 11642709.
8. ! Qing Yu, **Que LG**, and Rockey DC. Adenovirus-mediated gene transfer to nonparenchymal cells in normal and injured liver. *Am J Physiol Gastrointest Liver* 282(3):G565-G572, 2002. PMID: 11842008.
9. ! **Que LG**, George SE, Gotoh T, Mori M, and Huang YCT. Effects of arginase isoforms on NO production by nNOS. *Nitric Oxide* 6 (1):1-8, 2002. PMID: 11829529.
10. Liu L, Yan Y, Zeng M, Zhang J, Hanes MA, Ahearn G, McMahon TJ, Dickfeld T, Marshall HE, **Que LG**, and Stamler JS. Essential roles of S-Nitrosothiols in vascular homeostasis and endotoxic shock. *Cell*, 116:617-628, 2004. PMID: 14980227.
11. **Que LG**, Liu L, Yan Y, Whitehead GS, Gavett GH, Schwartz DA, Stamler JS. Protection from asthma by an endogenous bronchodilator. *Science* 308:1618-21, 2005. PMID: PMC2128762.
12. Clay AS, **Que L**, Andolsek KM, Sebastian MW, Petrusa ER, and Govert JA. Debriefing in the intensive care unit: A feedback tool to facilitate bedside teaching. *Critical Care Medicine*: 35(3): 738-54, 2007. PMID: 17255866.
13. Whalen EJ, Foster MW, Matsumoto A, Ozawa K, Violin JD, **Que LG**, Benhar M, Keys JR, Koch WJ, Daaka Y, Lefkowitz RJ, Stamler JS. Regulation of  $\beta$ -

adrenergic receptor signaling by S-nitrosylation of G protein-coupled receptor kinase 2. *Cell* 129 (3):511-22, 2007. PMID:17482545.

14. **Que LG**, Yang Z, Stamler JS, Lugogo NL, Kraft M. S-nitrosoglutathione reductase: an important regulator of human asthma. *Am J Respir Crit Care Med* 180 (3), 226-31, 2009. PMID: PMC2724715.
15. Chudgar SM, Cox CE, **Que LG**, Andolsek K, Knudsen NW, Clay AS. Current teaching and evaluation methods in critical care medicine: has the Accreditation Council for Graduate Medical Education affected how we practice and teach in the intensive care unit? *Crit Care Med*. 2009 Jan;37(1):49-60. PMID: 19050627.
16. \*\*Pastva AM, Walker JK, Maddox LA, Mukherjee S, Giamberardino C, Hsia B, Potts E, Zhu H, Degan S, Sunday ME, Lawson BL, Korfhagen TR, Schwartz DA, Eu JP, Foster WM, McMahon TJ, **Que L**, Wright JR. Nitric oxide mediates a relative airway hyporesponsiveness to LPS in SP-A deficient mice. *Am J Respir Cell Molecular Biology*, 2010, Feb 44(2):175-84. [PMCID 3049231].
17. Wahidi MW, Silvestri GA, Coakley R, Ferguson JS, Shepherd RW, Moses L, Conforti J, **Que LG**, Anstrom KJ, McGuire F, Colt H, Downie GH. A prospective multi-center study of competency metrics and educational interventions in the learning of bronchoscopy among starting pulmonary fellows. *Chest* May :137(5):1040-90, 2010. [PMID: 19858234].
18. Choudhry S\*, **Que LG\***, Yang Z, Liu L, Eng C, Kim SP, Kumar G, Thyne S, Chapela R, Rodriguez-Santana JR, Rodriguez-Cintron W, Avila PC, Stamler JS, and Burchard EG. GSNO reductase and beta2-adrenergic receptor gene-gene interaction: bronchodilator responsiveness to albuterol. *Pharmacogenet Genomics*. 2010 Jun;20(6):351-8. \* These authors contributed equally to this manuscript. [PMCID: PMC2883564].
19. Huang YC, Schmitt M, Yang Z, **Que LG**, Stewart JC, Frampton MW, Devlin RB. Gene expression profile in circulating mononuclear cells after exposure to ultrafine carbon particles. *Inhal Toxicol*, 2010; Aug 22(10):835-46. PMID: PMC3855293.
20. Norfolk SG, Hollingsworth JL, Wolfe DR, Govert JA, **Que LG**, Cheifetz IM, and Hollingsworth JW. Rescue therapy in adult and pediatric patients with H1N1 influenza infection: a tertiary center ICU experience from April-October, 2009. *Crit Care Med*. 2010 Nov;38(11):2103-7. PMID: PMC3739437.
21. **Que, LG**, Stiles, JV, Sundy, JS, Foster, WM. Pulmonary function, bronchial reactivity, and epithelial permeability are response phenotypes to ozone and develop differentially in healthy humans. *J Appl Physiol*. 2011, Sep;111(3):679-87. Epub 2011 Jun 23. PMID: 21700892, PMID: PMC3174797.
22. \*\*Foster MW, Yang Z, Potts EN, Foster WM, **Que LG**. S-nitrosoglutathione Supplementation To Ovalbumin Sensitized and Challenged Mice Ameliorates Methacholine-Induced Bronchoconstriction. *Am J Physiol Lung Cell Mol Physiol*. 2011, Nov;301(5):L739-44. Epub 2011 Jul 22. PMID: 21784966.

23. C Castillo, E George, DB McQuaid, E Volker, and **LG Que**. What fellows are reading: Duke University Pulmonary Critical Care Fellowship Training Program. *Am J Respir Crit Care Med*, 2011; 184:980-981.
24. **L.G. Que**, Y. Janssen-Heininger, Biochemistry of asthma, *Biochim. Biophys. Acta* 2011 Nov;1810(11):1007. PMID: 22017859.
25. \*\*Hsai BJ, Pastva AM, Giamberardino CD, Potts-Kant EN, Foster WM, **Que LG**, Abraham SN, Wright JR, and Zaas DW. Increased nitric oxide production prevents airway hyperresponsiveness in caveolin-1 deficient mice following endotoxin exposure. *Journal of Allergy and Therapy*, Jan. 3; suppl 1(4): 2155, 2012. PMID: PMC3836011.
26. Wang Y, Zhu Z, Church TD, Lugogo NL, **Que LG**, Francisco D, Ingram JL, Huggins M, Beaver D, Wright JR, and Kraft M<sup>1</sup>. SHP-1 as a critical regulator of *Mycoplasma pneumoniae*-induced inflammation in human asthmatic airway epithelial cells. *Journal of Immunology*. 2012, 188(7):3371-81. PMID: 22371396.
27. \*\*Lugogo NL, Hollingsworth JW, Howell DL, **Que LG**, Francisco D, Church TD, Potts-Kant EM, Ingram JL, Wang Y, Jung SH and Kraft M. Alveolar macrophages from overweight/obese subject with asthma demonstrate a proinflammatory phenotype. *Am J Respir Crit Care Med*. 2012, Sep 1:186(5): 404-11. [PMID: PMC3443798].
28. Foster MW, Yang Z, Gooden DM, Thompson JW, Ball CH, Turner ME, Hou Y, Pi J, Moseley MA, and **Que LG**. Proteomic characterization of the cellular response to nitrosative stress mediated by S-nitrosoglutathione reductase inhibition. *J Proteome Res*. 2012, 11(4):2480-91. PMID: PMC3327136.
29. Foster MW, Thompson J, **Que LG**, Yang I, Schwartz D, Moseley M and Marshall H. ID: pr-2013-00066g: Proteomic analysis of human bronchoalveolar lavage fluid after subsegmental exposure. *J Proteome Res*. 2013, May 3;12(5):2194-205. PMID: 23550723; PMID: PMC3822014.
30. Catania J, **Que LG**, Govert JA, Hollingsworth JW, Wolfe CR. High ICU admission rate for 2013-2014 Influenza is associated with a low rate of vaccination. *Am J Respir Crit Care Med*. 2014, 15;189(4):485-7. PMID: 24512430.
31. Wu, J, Yang, J, Yang, K, Wang, H, Gorentla, B, Shin, J, Qui, Y, **Que, LG**, Foster, WM, Xia, Z, Chi, H, and Zhong, XP. TSC1 is critical for iNKT cell terminal maturation and controls iNKT-1/17 balance. *J Clin Invest* 2014 Apr 1;124(4):1685-98. PMID: 24614103, PMID: PMC3973110.\*(Under review. Concern raised for technical irregularities in a figure.)
32. Castro M\*, King TS, Kunselman SJ, Cabana MD, Denlinger L, Holguin F, Kazani SD, Moore WC, Moy J, Sorkness CA, Avila P, Bacharier LB, Bleecker E, Boushey HA, Chmiel J, Fitzpatrick AM, Gentile D, Hundal M, Israel E, Kraft M, Krishnan JA, LaForce C, Lazarus SC, Lemanske R, Lugogo N, MartinRJ, Mauger DT, Naureckas E, Peters SP, Phipatanakul W, **Que LG**, Sheshadri A, Smith L, Solway J, Sullivan-Vedder LM, Sumino K, Wechsler ME, Wenzel S, White S, and Sutherland ER, for the National Heart, Lung and Blood Institute's AsthmaNet

Effect of vitamin D3 supplementation on asthma treatment failures in adults with symptomatic asthma and lower vitamin D levels: The VIDA Randomized Clinical Trial. *JAMA* 2014; 311:2089-2091. PMID: PMC4217655.

33. Ingram JL, Slade D, Church TD, Francisco D, Heck K, Sigmon RW, Ghio M, Murillo A, Firszt R, Lugogo NL, **Que L**, Sunday ME, Kraft M. Role of Matrix Metalloproteinases-1 and -2 in IL-13-suppressed Elastin in Airway Fibroblasts in Asthma. *Am J Respir Cell Mol Biol*. 2016 Jan; 54(1):41-50. PMID 26074138.
34. Ledford JG, Addison KJ, Francisco D, Foster MW, Voelker DR, **Que LG**, Kraft M. Genetic Variation in Surfactant Protein-A2 Results in Altered Regulation of Eosinophil Activities and Enhanced Eosinophilia in Patients with Asthma. *Ann Am Thorac Soc*. 2016 Mar;13 Suppl 1: S101. PMID: 27027938; PMID: PMC5015737.
35. Baffi C, Wood L, Winnica D, Strollo P; Gladwin M; **Que L**, and Holguin F. Metabolic syndrome and the lung. *Chest*. 2016 Jun;149(6):1525-34. PMID: PMC4944780.
36. Yu YR, O’Koren EG, Hotten DF, Kan MJ, Kopin D, Nelson ER, **Que LG**, Gunn MD. A protocol for the comprehensive flow cytometric analysis of immune cells in normal and inflamed murine non-lymphoid tissues. *Plos One*. 2016. Mar 3;11(3): e0150606. PMID: PMC4777539.
37. He M, Driehuys B, **Que LG**, Huang YT. Using Hyperpolarized <sup>129</sup>Xe MRI to Quantify the Pulmonary Ventilation Distribution. *Acad Radiol*. 2016 Dec;23(12):1521-1531. PMID: 27617823.
38. Durack J, Lynch SV, Nariya S, Bhakta NR, Beigelman A, Castro M, Dyer AM, Israel E, Kraft M, Martin RJ, Mauger DT, Rosenberg SR, Sharp-King T, White SR, Woodruff PG, Avila PC, Denlinger LC, Holguin F, Lazarus SC, Lugogo N, Moore WC, Peters SP, **Que L**, Smith LJ, Sorkness CA, Wechsler M, Wenzel SE, Boushey HA, Huang YJ; National Heart, Lung and Blood Institute’s “AsthmaNet”. Features of the bronchial bacterial microbiome associated with atopy, asthma and responsiveness to inhaled corticosteroid treatment. *J Allergy Clin Immunol*. 2016 Nov 9. pii: S0091-6749(16)31283-0. PMID: 27838347.
39. Ray S, Chiba N, Yao C, Guan X, McConnell AM, Brockway B, **Que L**, McQualter JL, Stripp BR. Rare SOX2<sup>+</sup> Airway Progenitor Cells Generate KRT5<sup>+</sup> Cells that Repopulate Damaged Alveolar Parenchyma following Influenza Virus Infection. *Stem Cell Reports*. 2016 Nov 8;7(5):817-825. PMID: 27773701, PMID: PMC5106521.
40. Winnica D, **Que LG**, Baffi C, Grasemann H, Fiedler K, Yang Z, Etling E, Wasil K, Wenzel SE, Freeman B, Holguin F. L-citrulline prevents asymmetric dimethylarginine-mediated reductions in nitric oxide and nitrosative stress in primary human airway epithelial cells. *Clin Exp Allergy*. 2016 Aug 26. doi: 10.1111/cea.12802. [Epub ahead of print] PMID: 27562295.
41. Giovacchini CX, Mahmood K, and **Que LG**. A Rare Case of Disseminated Blastomycosis Diagnosed Via Endobronchial Ultrasound Guided Transbronchial

Needle Aspiration (EBUS-TBNA). *Jacobs Journal of Pulmonology*, 2016, 2(3): 033.

42. Giovacchini CX, Pacek L, McClernon FJ, and **Que LG**. Use and Perceived Risk of E-cigarettes among North Carolina Middle and High School Students. *N C Med J*. 2017 1-2;78(1):7-13. PMID:28115555.
43. Paul D, Neely NB, Clement M, Riley I, Al-Hegelan M, Phelan M, Kraft M, Murdoch DM, Lucas J, Bartlett J, McKellar M, and **Que LG**. Development and validation of an electronic medical record (EMR)-based computed phenotype of HIV-1 infection. *J Am Med Inform Assoc*. 2017 Jun 22. doi: 10.1093/jamia/ocx061 PMID: 28645207.
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\*\*article retracted due to research misconduct by a technician in collaborating laboratory

## Acknowledgments:

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## External support - gifts, grants, and contracts

### Present:

#### ACTIVE

RO1HL146542 (Que)

07/01/2019-06/30/2024

University of Colorado – Denver / NIH

A Randomized Phase II Clinical Trial of L-Citrulline to Improve Asthma Control in Obese Late Onset Asthma

This proposal is a proof of concept dose ranging human interventional trial using a 3-period cross-over design with each subject randomly assigned to receive placebo or two L-citrulline doses (7.5



g/d or 15 g/d) (Aim 1). Pre – post L-citrulline bronchoscopic lavage and brushing analyses performed in a subset of participants to determine underlying mechanisms regulating NO bioavailability and subsequent asthma control in obese asthma at the cellular level (Aim 2) and subcellular level (Aim 3). The study will be performed jointly by Dr. Que at Duke and Dr. Holguin at the University of Colorado in Denver, CO.

HHSN2722013000171 TO22-C-Opt 1 (Walter/Que) 09/01/2017-04/30/2019,  
NIH NCE 01/31/2020

VTEU Task Order 16-0058 - Task C

The major goal of this task order will be a Phase 1 trial to evaluate the safety, tolerability, and intrapulmonary pharmacokinetics of ZTI-01 in healthy adult subjects.

Co-PI

HHSN2722013000171- TO22-D-Opt 2 (Walter/Que) 09/01/2017-04/30/2019,  
NIH NCE 01/31/2020

VTEU Task Order 16-0058.B1C1D1.0076 - Task D

The first goal of this proposal is to complete development and validation of assays to measure Fosfomycin and urea concentrations in matrices as described in the protocol. Goal 2 is to complete analysis of clinical samples in accordance with established protocols and SOPs. Goal 3 is to transfer all data to the Statistical and Data Coordinating Center (SDCC).

Co-PI

5R01-HL130234-02 (Ingram) 09/18/2017-06/30/2021

NIH

Mechanisms that Direct Airway Remodeling in Obese Asthma

The major goals of this project are identifying the mechanism of leptin-directed pro-fibrotic responses in airway fibroblasts in obese asthma, defining the role of GLP-1 in blocking allergen-induced airway fibrotic processes and determine the impact of bariatric surgery and weight loss on airway fibrosis in obese asthma.

Co-I

5R01-HL105643-07 (Driehuys) 06/01/2017-05/31/2021

NIH

Early Detection of Changes in Pulmonary Gas Exchange by Hyperpolarized Xe MRI

The major goal of this project is to develop a time- and cost-efficient, non-invasive MRI exam to quantify the relative burdens of emphysematous, interstitial, and vascular pulmonary functional impairment.

Co-I

1R01-ES027574-02 (Tighe) 12/15/2017-11/30/2022

NIH

CXCL10/CXCR3 regulation of ozone-induced epithelial permeability

The major goals of this project are to define the requirements for and mechanisms of CXCR3 signaling in O<sub>3</sub>-induced epithelial permeability at the cellular level; define the impact of CXCL10-CXCR3 signaling on O<sub>3</sub>-induced epithelial barrier dysfunction in vivo; and to define if a human intronic CXCR3 polymorphism that reduces CXCR3 functionality defines genetic susceptibility to O<sub>3</sub>-derived alterations in airway inflammation, and epithelial permeability.

Co-I

31339SUB52222 (Que) 09/17/2018-07/31/2019

University of Vermont/NIH

Mitochondrial Redox Perturbations in Obese Allergic Asthma

Goals: Collaborate by helping to perform a pilot study of the mitochondrial targeted anti-oxidant MitoQ in obese allergic asthmatics. Early onset obese asthma patients will be recruited, enrolled and randomized to receive either MitoQ vs placebo for 12 weeks(Aim 3). Pre-post MitoQ lung physiology measurements will be collected to assess effect of MitoQ on lung function, and plasma and nasal cells will be collected for measurement of 8-isoprostanes and mROS, respectively.

400350 (Que)

07/01/2017-06/30/2019

American Lung Association / NHLBI

American Lung Association Airways Clinical Research Centers Network (ALA-ACRC)

Goals: The American Lung Association Asthma Clinical Research Centers performs clinical trials related to asthma in children and adults. Since its inception in 1999, the program has performed guideline-changing research in asthma has been published in the leading journals.

PI

D3250R00023 (Que)

08/24/2018-08/23/2023

AstraZeneca Pharmaceuticals, LP

A Longitudinal Prospective Observational Study of the Characteristics, Treatment Patterns and Health Outcomes of Individuals with Severe Asthma in the United States

Goals: The CHRONICLE Study is a multi-center, non-interventional, prospective cohort study of adults with severe asthma who do not achieve control with high-dose ICS therapy with additional controllers and/or require systemic corticosteroid or monoclonal antibody therapy.

PI

Clinical Trial (SciAlla)

06/01/18-05/31/2021

AstraZeneca Pharmaceuticals, AB

D5180C00009 SOURCE: A multicenter randomized double blind placebo controlled Phase 3 study to evaluate the efficacy and safety of Tezepelumab. Goals: The purpose of the present study is to demonstrate the ability of tezepelumab versus placebo in reducing oral corticosteroid (OCS) use in adults with asthma requiring treatment with maintenance OCS in combination with inhaled corticosteroids (ICS) plus long acting b2 agonist (LABA) with or without other asthma controller therapy, while maintaining asthma control.

Clinical Trial (Que)

07/15/2018-07/14/2021

AstraZeneca Pharmaceuticals, LP

AZ D5180C00018 DESTINATION: A multicentre double blind randomized placebo controlled parallel group phase 3 safety extension study to evaluate safety & tolerability of Tezepelumab.

Goals: The purpose of this extension study is to evaluate the long-term safety and tolerability of tezepelumab versus placebo in adults and adolescents (12 years of age and older) with a history of asthma exacerbations and inadequately controlled severe asthma receiving medium or high dose inhaled corticosteroid (ICS) plus at least one additional asthma controller medication with or without oral corticosteroids.

Z7224L02-PROMIS II (Que)

11/15/2018-11/14/2021

Zambon SpA

38858 PROMIS II

Goals: Multinational, randomized, double-blind, placebo controlled, parallel group (2 groups), Proof of Concept (PoC) study that is designed to assess the efficacy, safety, and tolerability of SAR440340 in patients with moderate-to-severe COPD on an established Long-acting  $\beta$ 2 adrenergic agonist (LABA), Long-acting muscarinic antagonist (LAMA), and/or ICS background therapy (double or triple therapy).

T32 HL007538 (PI: Piantadosi/Hogan)

07/01/82 – 03/31/20

NIH/NHLBI

Interdisciplinary Training Program in Lung Disease

The major goals for this proposal are to train postdoctoral trainees to acquire the basic knowledge, understanding, and skills for an academic career emphasizing research in the general field of lung diseases.

Mentor; no effort

5T32 AI007062-39 (PI: Sleasman)

09/1/2016-8/31/2021

NIH/NIAID

Research Training in Allergy and Clinical Immunology

The major goals for this proposal are to train postdoctoral trainees to acquire knowledge in allergy and immunology.

Mentor; no effort.

T32-EB001040 (PI: Kathryn Nightingale)

07/15/2003 – 8/31/2019

NIH/NIBIB

Training in Medical Imaging

Goals for this training program include: (1) bring together the broad community of medical imaging researchers and educators at Duke University to create and coordinate graduate trainee opportunities, (2) bring together the broad community of medical imaging researchers and educators at Duke University to create and coordinate graduate trainee opportunities, (3) establish a robust educational program in the responsible conduct of research (RCR), and (4) attract well qualified women and underrepresented minority applicants.

Mentor; no effort

**Completed last 3 years:**

No number (Shen/Que)

11/01/2017 – 06/01/2019

Kaganov Research Initiative

Pulmonary Neuropeptide Regulation of Fibrotic Airway Disease

The goal of this proposal is to examine whether PYY secreting cells, recently observed in the lung, protect against asthma and airway fibrosis and then deliver mRNA for proteins to reduce asthma inflammation and fibrosis.

Co-PI

HHSN272201300017I- TO22-B-Base (Walter/Que)

09/01/2017-04/30/2019

NIH

VTEU Task Order 16-0058 - Task B

The major goal of this proposal is to complete development of a Version 1.0 protocol based on collaboration with the Protocol Team and utilizing the DMID template protocol and DMID Protocol Number 16-0058.

Co-PI

R01-HL107590-04 (Que)

01/07/13 – 01/31/18

National Institutes of Health

Modulation of Asthma by GSNO-based Therapies

The goal of this proposal is to advance our understanding of the potential impact and limitations of GSNO-based therapies as acute and chronic treatments for asthma.

R01HL125602-01 (Que)

08/01/15 – 03/31/2017

University of Arizona

Surfactant Protein-A regulation of eosinophil apoptosis in asthma

Goals: As Associate Professor of Medicine in the Division of Pulmonary, Allergy and Critical Care Medicine at Duke University, my lab will perform studies evaluating airway physiology in the wild-type, house dust mite challenged SP-A deficient mice treated with specific SP-A 20-mer peptide fragments containing the 223Q/K site and in the transgenic humanized SP-A expressing SP-A223Q and SP-A223K.

A handwritten signature in black ink, appearing to read "Sunita Dore". The signature is written in a cursive, flowing style.

July 12, 2019 !