

CURRICULUM VITAE

University of Alabama at Birmingham School of Medicine Faculty

PERSONAL INFORMATION:

Name: William T. Harris, M.D.

Business address: 1600 7th Avenue South; ACC 620
Birmingham, AL 35233

Business telephone: (205) 939-9583 Facsimile: (205) 975-5983

Electronic mail: tharris@peds.uab.edu

Date/Place of Birth: January 13, 1972 Gainesville, Florida

Married: Kathryn B. Harris (October 25, 2003)

Children: Megan Patricia Harris (b. March 17, 2006)
Theodore Isaac Harris (b. May 29, 2008)
Abigail Erin Harris (b. March 9, 2010)
Oliver Findlay Harris (b. February 22, 2013)

EDUCATION AND PROFESSIONAL EXPERIENCE:

2012 – Present Medical Director, Aerodigestive Center. Children's Hospital of Alabama.

2011 – Present Director, Pediatric Bronchoscopy. University of Alabama at Birmingham.

2011 – Present Associate Scientist, Gregory Fleming James Cystic Fibrosis Research Center, University of Alabama at Birmingham

2009 – Present Investigator, Child Health Research Unit. University of Alabama at Birmingham

2008 – Present Assistant Professor, Pediatric Pulmonary, University of Alabama at Birmingham, Birmingham, AL

2007 – 2008 Clinical Instructor, Pediatric Pulmonology, University of North Carolina at Chapel Hill

2004 – 2007 Fellowship in Pediatric Pulmonology, University of North Carolina at Chapel Hill

2003 – 2004 Fellowship in Pediatric Intensive Care, Royal Brompton Hospital, Imperial College of Medicine, London, England

2000 – 2003	Resident in Pediatrics, Johns Hopkins School of Medicine, Baltimore, MD
1999 – 2000	Pediatric Pulmonary Research Associate. University of North Carolina, Chapel Hill, NC
1995 – 1999	M.D., Southwestern Medical School, University of Texas Health Care System. Dallas, Texas.
1994 – 1995	Exchange Participant. British Universities North American Council. London, England
1990 – 1994	B.S. Materials Science and Engineering. Rice University, Houston, Texas.

HONORS AND AWARDS:

2012 – Present	Cystic Fibrosis Foundation Harry Shwachman Clinical Investigator Award
2010 – 2012	NIH Children's Health Research Consortium Career Development Award
2010 -- 2011	UAB CCTS Clinical and Translational Research Training Program
2007 – 2008	UNC K30 Clinical Research Curriculum
2005 – 2006	UNC Department of Pediatrics Teaching Course
2002 – 2003	Johns Hopkins Hospital Residency Curriculum Committee
1995 – 1999	Southwestern Medical Foundation Scholarship Vice-President, Texas Medical Association, Southwestern Chapter
1990 – 1994	National Merit Scholarship Rice University Senate Rice University Student Volunteer Program Vice President <i>Rice Thresher Columnist</i> Rice University Senior Interviewer

CERTIFICATION/LICENSURE:

Alabama Medical Board (2008-present)

North Carolina Medical Board Licensure (2007-2008)

North Carolina Medical Board Training Licensure (July 2004-2007)

American Board of Pediatrics General Pediatrics Certification (October 2004)

American Board of Pediatrics Subspecialty (Pulmonology) Certification (October 2008)

PUBLICATIONS

Harris WT, Boyd JT, McPhail GL, Brody AS, Szczesiak RD, Clancy JP. Constrictive bronchiolitis in CF adolescents with refractory pulmonary decline. In preparation.

Sun H, Kotha K, Saqr, **Harris WT**, Sanders Y, Ostmann, Clancy JP. Downregulation of CFTR and TMEM16A by TGF-beta. In preparation.

Harris WT, Kelly DR, Zhou Y, Want D, Macewen M, Hagood JS, Clancy JP, Ambalavanan N, Sorscher EJ. Myofibroblast differentiation and enhanced TGF- β signaling in cystic fibrosis lung disease. PLoS One 2013; in press.

Solomon GM, Frederick C, Zhang S, Gaggar A, **Harris WT**, Woodworth BA, Steele C, Rowe SM. IP-10 is a potential biomarker of cystic fibrosis acute pulmonary exacerbations. PLoS One 2013; in press

Vadlamudi NB, Navaneethan U, Thame KA, Kelly DR, Dimmitt, **Harris WT**. Crohn's disease with pulmonary manifestations in children: 2 case reports and review of the literature. J Crohns Colitis 2013 Apr 1;7(3):e85-92. PMID: 22704660

Harris WT, Muhlebach M, Oster R, Knowles M, Clancy J, Noah T. Plasma TGF- β 1 in pediatric cystic fibrosis: Potential biomarker of lung disease and response to therapy. Pediatr Pulmonol 2011;48(7):688-95. PMID:21337732

Harris W, Knowles M, Muhlebach M, Noah T. Association of TGF- β 1 in early cystic fibrosis bronchoalveolar lavage fluids with inflammation and clinical parameters. Pediatr Pulmonol 2009; 44(11):1057-64.

Peterson-Carmichael SL, **Harris W**, Goel R, Noah TL, Johnson R, Leigh MW, Davis SD. Association of lower airway inflammation with physiologic findings in young children with cystic fibrosis. Pediatr Pulmonol 2009;44(5):503-11

Saito J, **Harris W**, Gelfond J, Noah T, Leigh M, Johnson R, Davis S. Physiologic, bronchoscopic, and bronchoalveolar lavage fluid findings in young children with recurrent wheeze and cough. Pediatr Pulmonol 2006; 41: 709-19.

Noah TL, Ivins SS, Abode KA, Stewart PW, Michelson PH, **Harris WT**, Henry MM, Leigh MW. Inhaled vs. systemic antibiotics and airway inflammation in children with cystic fibrosis and Pseudomonas. Pediatr Pulmonol. 2010 Mar;45(3):281-90.

Patel MR, Zdanski CJ, Abode KA, Reilly CA, Malinzak EB, Stein JN, **Harris WT**, Drake AF. Experience of the school-aged child with tracheostomy. Int J Pediatr Otorhinolaryngol. 2009 Jul;73(7):975-80. Epub 2009 Apr 28.

RESEARCH ABSTRACTS PRESENTED AT NATIONAL MEETINGS

Harris WT, Liu RM, Kong M, Halloran B, Zhang W, MacEwen M, Ambalavanan N, Sorscher EJ. *Developing a model of fibrotic lung disease in the CF mouse*. *Pediatr Pulmonol Supp* 36, 2013, A184, pg 270. (Abstract presented at the 2013 North American Cystic Fibrosis Conference, Salt Lake City, UT)

Britton LJ, Mims C, Harris WT, Brown J. *Predictors of patient outcomes at 12 months of age in patients diagnosed by newborn screening*. *Pediatr Pulmonol Supp* 36, 2013, A456, pg 372. (Abstract presented at the 2013 American Cystic Fibrosis Conference, Salt Lake City, UT)

Harris WT, Kelly DR, Hagood J, Ambalavanan N, Sorscher E. *Myofibroblast proliferation and fibrosis in CF lung disease*. *Pediatr Pulmonol Suppl* 35, 2012, A106, pg 259. (Abstract presented to the 2012 North American Cystic Fibrosis Conference, Orlando, FL)

Harris WT, Boyd JT, Vandyke R, Fenchel M, Brody A, McPhail GL, Clancy JP. *CF-related constrictive bronchiolitis in adolescents with refractory pulmonary decline*. *Pediatr Pulmonol Suppl* 35, 2012, A372, pg 357. (Abstract presented to the 2012 North American Cystic Fibrosis Conference, Orlando, FL)

Searcy H, Phillips S, Benner K, Britton LJ, **Harris WT**, Hoover W. *Eradication of Pseudomonas aeruginosa in pediatric patients with cystic fibrosis: a comparison of protocols*. *Pediatr Pulmonol Suppl* 35, 2012, A346, pg 347. (Abstract presented to the 2012 North American Cystic Fibrosis Conference, Orlando, FL)

Britton LJ, Mims C, **Harris WT**, Brown J. *Predictors of parental knowledge and patient outcomes in patients diagnosed by newborn screening*. *Pediatr Pulmonol Supp* 35, 2012, A436, pg 382. (Abstract presented to the 2012 North American Cystic Fibrosis Conference, Orlando, FL)

Hoover W, Philips C, Benner K, Britton LJ, **Harris WT**, Searcy H. *Effect of proton pump inhibitors on absorption and serum levels of vitamin D in cystic fibrosis patients*. *Pediatr Pulmonol Supp* 35, 2012, A533, pg 419. (Abstract presented to the 2012 North American Cystic Fibrosis Conference, Orlando, FL)

Harris WT, Macewen MW, Grenett HE, Clancy JP. *TGF- β production, activation and signaling in CF bronchial epithelial cells*. (Abstract presented to the 2011 ATS international conference, Denver, CO)

Harris WT, Grenett HE, Macewen MW, Clancy JP. *TGF- β 1 activation in cystic fibrosis cell culture model systems*. *Pediatr Pulmonol Supp* 33, 2010, A85, pg 249. (Abstract presented to the 2010 North American Cystic Fibrosis Conference, Baltimore, MD)

Solomon GM, Frederick C, Sabbatini G, Gaggar A, **Harris T**, Woodworth BA, Steele C, Rowe SM. IP-10 is a potential biomarker of acute pulmonary exacerbations of cystic fibrosis in nasal lavage. *Pediatr Pulmonol Supp* 33, 2010, A105, pg 256. (Abstract presented to the 2010 North American Cystic Fibrosis Conference, Baltimore, MD)

Dharmalingam P, Kurundkar A, **Harris WT**, Clancy JP. *Intestinal mucosal inflammation in cystic fibrosis*. *Pediatr Pulmonol Supp* 33, 2010, A572, pg 427. (Abstract presented to the 2010 North American Cystic Fibrosis Conference, Baltimore, MD)

Harris WT, Clancy JP, Grenett H, Hagood JS. *TGF- β 1 secretion and signaling in CF fibroblasts and epithelial cells*. Abstract 1642, Session B64. *Am J Respir Crit Care Med* 181;2010:A3518. (Abstract presented at the 2010 American Thoracic Society International Conference, New Orleans, LA)

Harris WT, Kelly DR, Hagood JS. *Interstitial remodeling: A potential link between TGF- β 1 and CF lung disease histopathology*. *Pediatr Pulmonol* 2009;32 (Suppl):243. A92 (Abstract presented at the 2009 North American Cystic Fibrosis Conference, Minneapolis, MN)

Harris WT, Muhlebach MS, Hagood JS, Noah TL. *Plasma TGF- β 1 in children with CF: Correlation with disease and response to therapy*. Abstract 1094, Session A26 (Abstract presented at the 2009 American Thoracic Society International Conference, San Diego, CA)

Harris WT, Muhlebach MS, Knowles MK, Noah TL. *TGF- β 1 in serum and BALF of pediatric CF patients with pulmonary exacerbation*. *Pediatr Pulmonol* 2007; 30 (Suppl): 263 (Abstract presented at the 2007 North American Cystic Fibrosis Conference, Anaheim, CA)

Harris WT, Noah TL. *TGF- β 1 and Inflammatory Markers in Pediatric CF BALF*. A4221 (Abstract presented at the 2008 American Thoracic Society International Conference, Toronto, ON)

Harris WT, Muhlebach MS, Knowles MK, Noah TL. *TGF- β 1 in serum and BALF of pediatric CF patients with pulmonary exacerbation*. *Pediatr Pulmonol* 2007; 30 (Suppl): 263 (Abstract presented at the 2007 North American Cystic Fibrosis Conference, Anaheim, CA)

Harris WT, Muhlebach MS, Noah TL. *TGF- β 1 in Pediatric CF BALF*. *Pediatr Pulmonol* 2006; 29 (Suppl): 263 (Abstract presented at the 2006 North American Cystic Fibrosis Conference, Denver, CO)

Harris WT, Muhlebach MS, Noah TL. *Effect of Azithromycin on TGF- β 1 Production from Pediatric CF BALF Cells in Short Term Culture*. *Proc Am Thorac Soc* 2006; 3: A407 (Abstract presented at the 2006 American Thoracic Society International Conference, San Diego, CA)

Harris WT, Muhlebach, M, Alexis, N, Lay J, Noah T. *Effect of azithromycin on phagocytosis, cytokine production, and surface marker expression in pediatric CF BALF cells in short term culture.* *Pediatr Pulmonol* 2005; 28 (Suppl): 242 (Abstract presented at the 2005 North American Cystic Fibrosis Conference, Baltimore, MD)

Harris WT, Wood RE, Davis SD, Retsch-Bogart G, Leigh MW. *Chronic/recurrent wheezing in infants and young children: a bronchoscopic study.* *Pediatr Res* 2000;47(Suppl):477A (Abstract presented at 2000 American Academy of Pediatrics/Society for Pediatric Research Conference, Boston, MA)

Caldwell, RA, Gillie, DJ, **Harris, WT**, Southern, KW, Boucher, RC, Knowles, MR, Barker, PM. *In vivo airway surface liquid chloride [Cl⁻] in rabbits, monkeys, and humans measured with miniaturized solid-state Cl⁻ electrodes.* *Pediatr Pulmonol* 2000;20 (Suppl):201 (Abstract presented at 2000 North American Cystic Fibrosis Conference, Baltimore, MD)

CLINICAL PRESENTATIONS AT NATIONAL MEETINGS

Harris WT. *Predictors of Patient outcomes at 12 months of age in patients diagnosed by newborn screening.* 2013 North American Cystic Fibrosis Conference, Salt Lake City, UT

Harris WT. *Consequences of CFTR dysfunction on airway development, repair and remodeling.* 2013 North American Cystic Fibrosis conference, Salt Lake City, UT

Harris WT. *Myofibroblast differentiation and fibrosis in CF lung disease.* 2012 NIH National Institute of Child Health and Human Development (NICHD) Child Health Research Centers annual retreat, Santa Monica, CA

Harris WT. *Myofibroblast differentiation in cystic fibrosis: Additional clues from the CF pig.* 2011 ATS International conference, Denver, CO

Harris WT. *Can you handle the heat: A pinch of salt and perhaps a pound of prevention.* 2007 North American Cystic Fibrosis Conference, Anaheim, CA

Harris WT. *An unexpected but perhaps preventable complication: Catheter-related thrombosis in a CF patient with Factor V Leiden.* 2005 North American Cystic Fibrosis Conference, Baltimore, MD

TEACHING RECORD

Lectures

To Students and Residents

“An approach to Noisy Breathing”

“Pragmatic Inpatient CF Care”

“Managing the Refractory Asthmatic”

“Pediatric Board Review”

To Colleagues

Pediatric

Grand Rounds

“A Pediatric Puzzler”

“Introducing the Children’s of Alabama Aerodigestive Center”

Mississippi River Regional Pediatric Pulmonary Teleconference

“Mycobacteria in CF: Risk factors, diagnosis, treatment and implications for transplant”

Pediatric Pulmonology State of the Art

“Introducing the Children’s of Alabama Aerodigestive Center”

Children’s Hospital Investigator’s Forum

“TGF- β 1 in CF: Novel modalities of lung disease modification”

“Myofibroblast differentiation and fibrosis in CF lung disease”

CF Research Center Seminar

“Investigating TGF- β 1 in CF lung disease: More questions than answers”

“TGF- β dependent myofibroblast differentiation in cystic fibrosis”

EPA Center for Environmental Medicine, Asthma and Lung Biology Seminar Series

“TGF- β 1 in CF lung disease”

UNC Evening of Scholarship

“Effect of azithromycin on phagocytosis, cytokine production, and surface marker expression in pediatric CF BALF cells in short-term culture”

Pediatric Pulmonary Fellow’s Conference

“Primer on pulmonary host defense mechanisms”

“Primer on pulmonary growth and development”

CONTINUING MEDICAL EDUCATION COURSES TAKEN

UAB CCTS Clinical and Translation Research Training Program, 2010

University of Pittsburgh, Fundamentals of Bench Research Course, 2010

UNC K30 Clinical Research Curriculum, 2007-2008

UNC Department of Pediatrics Teaching Course, 2005-2006

Cincinnati Children’s Hospital Flexible Bronchoscopy Course, 2003

SCHOLARLY REVIEWS

Reviewer: Pediatric Pulmonology

Reviewer: American Journal of Respiratory and Critical Care Medicine

Reviewer: Pediatric Allergy, Immunology and Pulmonology

Reviewer: Respirology

Reviewer: American Journal of Physiology - Lung Cellular and Molecular Physiology

Reviewer: American Journal of Rhinology and Allergy

Reviewer: Kaul Pediatric Research Institute

Reviewer: UAB Cystic Fibrosis Program P30 Pilot and Feasibility Grant Program

Mentorship:*Fellows:*

2012-present: Ammar Saadoon, Pediatric Pulmonology, "Vitamin D and airway malacia"

2012-present: Nagraj Kasi, Pediatric Kasi, "Gut microbiome in CF GI disease"

2010-present: NICU Scholarly Oversight Committee

Medical Students:

2012-present: Michael Woodall, MS3, "Caregiver perception in CF newborn screening"

Undergraduate Students:

2012-present: Kaitlyn Brown, Honors Biology, "Comparison of CF vs non-CF epithelial and fibroblast phenotype"

GRANTS FUNDED:**ACTIVE:**

2013-2015 Kaul Pediatric Research Initiative Junior Faculty Award
Title: "Effect of Vitamin D Deficiency on Murine Lung Development and Function"
Specific Aim #1. To determine the effect of maternal vitamin D deficiency on pulmonary development and function in the offspring.
Specific Aim #2. To evaluate the consequences of postnatal vitamin D deficiency on airways structure and lung function.

2012-2015 CFF Shwachman Clinical Investigator Award
Title: "Myofibroblast differentiation in cystic fibrosis"
Specific Aim #1: To establish myofibroblast differentiation as a novel pathway contributing to lung fibrosis and airway remodeling in CF.

Specific Aim #2: To stimulate myofibroblast differentiation through increased TGF- β activation in CF cell culture model systems.

2013-2014 Site PI: Vertex Pharmaceuticals 809/770 combo study in age 6-11
Study of lumacaftor in combination with ivacaftor in cystic fibrosis subjects 6 to 11 years of age with F508del-CFTR mutation.

2013-2016 Site PI: Vertex Pharmaceuticals. VTX-770-109.
A Phase 3, 2-Arm, Roll-Over Study to Evaluate the Long-term Safety and Pharmacodynamics of Ivacaftor Treatment in Pediatric Subjects with Cystic Fibrosis and a CFTR Gating Mutation

2012-2014 Site PI: Vertex Pharmaceuticals. VTX-770-108
A Phase 3, 2 Part, Open-Label Study to Evaluate the Safety, Pharmacokinetics, and Pharmacodynamics of Ivacaftor in Subjects with Cystic Fibrosis and a CFTR Gating Mutation

COMPLETED:

2012-2013 Site PI: Cystic Fibrosis Foundation Therapeutic Development Network (TDN)
Bronchoalveolar Lavage Fluid (BALF) Specimen Bank and Lower Airway Microbiome Analysis in Children and Adults with and without cystic fibrosis

2010-2012 UAB CHRC K12 Career Development Grant
Title: Fibrosis in cystic fibrosis: Novel mechanisms through which TGF- β 1 modifies CF lung disease.
Role: Primary Investigator
Aim 1: Define the role of CFTR in TGF- β 1 regulation
Aim 2: Examine the mechanisms of myofibroblast transformation in CF
Aim 3: To establish hypoxia as a potent trigger of TGF- β 1 associated airway fibrosis in a murine model of CF lung disease.

2010-2012 Kaul Pediatric Research Initiative Junior Faculty Award
Title: Myofibroblast proliferation in Cystic Fibrosis: A novel mechanism of disease modification
Role: Primary Investigator
Aim1: Myofibroblast differentiation is enhanced in the CFTR null mouse fibroblast exposed to CF-relevant cytokines
Aim2: Loss of CFTR results in increased fibroblast proliferation and resistance to apoptosis.
Aim3: CFTR function is inversely related to TGF- β 1 regulation of fibroblast differentiation.

- 2009-2011: Cystic Fibrosis Foundation: Gregory Fletcher James CF Research Center
Title: TGF- β 1 in CF: Activity, disease association and therapeutic possibilities
Role: Primary investigator
Aim1: Compare TGF- β 1 secretion from CF and non-CF bronchial epithelial cells in vitro culture
Aim2: Define TGF- β 1 dependent signaling in CF bronchial epithelial cells in short-term culture
Aim3: Examine “targetable” mechanisms of TGF- β 1 activation in bronchial epithelial cell culture
- 2009-2011 UAB Pulmonary Injury and Repair Center: Pulmonary Research Award
Title: TGF- β 1 in CF lung disease: Activity, disease association and therapeutic possibilities
Role: Primary Investigator
Aim1: Compare TGF- β 1 activity in CF vs. non-CF bronchial epithelial culture systems
Aim2: Stimulate TGF- β 1 activation and downstream signaling in CF bronchial epithelial cells
Aim3: Inhibit Thrombospondin-mediated TGF- β 1 activation in CF and non-CF epithelial cell culture systems
- 2007 – 2008 Cystic Fibrosis Foundation 4th year clinical research grant
Title: TGF- β 1 in CF lung disease
Role: Primary investigator
Aim 1: Measure effect of AZM on sputum TGF- β 1.
Aim 2: Correlate BALF TGF- β 1 w/ clinical parameters of CF lung disease
- 2005 – 2006 University of North Carolina Medical School alumni grant
Title: Effect of azithromycin on macrophages in early CF
Role: Primary Investigator
Aim: Determine the effect of *ex vivo* incubation with AZM on CF BALF macrophage function
- 2003 – 2006 Cystic Fibrosis Foundation fellowship training grant
Role: Trainee
Faculty Mentor: Terry Noah, MD

COMMUNITY SERVICE:

- 2008- Dawson Memorial Baptist Church Sunday School Volunteer
Urban Ministry: Urban Kids Outreach Ministry
Kids Connection, Counselor
Children’s Cares (Children’s of Alabama community outreach), co-founder
- 2004-2007 CKMC Children’s Church, Presenter
CKMC Nursery, Volunteer

- 2000-2003 Pen Lucy Youth Partnership, Tutor/Coach
Johns Hopkins Resident Curriculum Committee, Member
- 1995-1999 Homeless Van Outreach Program, Volunteer
Texas Medical Association, Vice-President Southwestern Chapter
- 1990-1994 Rice Student Volunteer Program, Vice-President
Rice University Student Government, Senator
Rice Thresher, Columnist