

BIOGRAPHICAL SKETCH

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NAME Kathleen C. Barnes, PhD	POSITION TITLE Associate Professor		
eRA COMMONS USER NAME			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Medical College of Virginia, Richmond, VA	B.S.N.	1984	Nursing
University of Florida, Gainesville, FL	Ph.D.	1992	Anthropology
Johns Hopkins University	Post-	1995	Clinical Immunology

Professional Positions:

1993-1994 Postdoctoral Fellow, School of Medicine, Johns Hopkins University, Baltimore, MD
 1995-1997 Instructor, Faculty of Medicine, Johns Hopkins University, Baltimore, MD
 1997-2002 Assistant Professor of Medicine, Johns Hopkins University, Baltimore, MD
 2000-present Appointment in Epidemiology, Johns Hopkins School of Hygiene & Public Health, Baltimore, MD
 2002-present Associate Professor of Medicine, Johns Hopkins University, Baltimore, MD
 2004-present Mary Beryl Patch Turnbull Scholar
 2004-present Director, Johns Hopkins Bayview Genetic Research Facility
 2004-present Director, Johns Hopkins Bayview Medical Center Genomics Core

Awards and Other Professional Activities:

1998, 1999 Asthma and Allergy Foundation of America – Investigator Award Grant
 1999-present AAAAI Genetics, Molecular Biology & Epidemiology Committee (Vice Chair 1999-2001, Chair 2001-2004)
 2005 AAAAI Basic and Clinical Immunology Interest Section Secretary
 1996-2005 The Johns Hopkins University Department of Medicine Task Force on Women's Academic Careers
 2002-present Department of Medicine's Appointments and Promotions Committee

Professional Societies

American Association for the Advancement of Science, American Thoracic Society, American Academy of Allergy, Asthma and Immunology (AAAAI), American Society of Human Genetics, American Anthropological Association, Society for Applied Anthropology, Phi Kappa Phi Honorary Society

Relevant Publications (Partial Listing)

- Barnes, KC**, Neely, JD, Duffy, DL, Freidhoff, LR, Breazeale, DR, Schou, C, Naidu, RP, Levett, PN, Renault, B, Kucheralapati, R, Iozzino, S, Ehrlich, E, Beaty, TH, Marsh, DG 1996. Linkage of Asthma and Total Serum IgE Concentration to Markers on Chromosome 12q: Evidence from Afro-Caribbean and Caucasian Populations. *Genomics* 37:41-50.
- CSGA** (Collaborative Studies on the Genetics of Asthma). 1997. A genome-wide search for asthma susceptibility loci in ethnically diverse populations. *Nat Genet* 15:389-392.
- Nickel, R, U Wahn, N Hizawa, N Maestri, DL Duffy, **KC Barnes**, K Beyer, J Forster, R Bergmann, F Zepp, V Wahn, & DG Marsh. 1997. Evidence for linkage of chromosome 12q15-q24.1 markers and high total serum IgE concentrations in children of the German Multicenter Study (MAS '90). *Genomics*. 46:159-162.
- Hizawa, N, G Collins, T Rafnar, S-K Huang, DL Duffy, JL Weber, LR Freidhoff, E Ehrlich, DG Marsh, TH Beaty, **KC Barnes**, and the CSGA. 1998. Linkage analysis of *Dermatophagoides pteronyssinus* (Der p)-specific IgE responsiveness with polymorphic markers on chromosome 6p21 (HLA-D region) in Caucasian families by Transmission/Disequilibrium Test (TDT). *J Allergy Clin Immunol* 102(3):443-448.
- Barnes, KC**, Freidhoff, LR, Chiu, Y-F, Juo, S-H, Duffy, DL, Hizawa, H, Naidu, RP, Nickel, R, Ehrlich, E, Schou, C, Beaty, TH, and Marsh, DG 1999. Dense mapping of chromosome 12q14.3-q24.1 and linkage to

asthma and atopy. *J Allergy Clin Immunol.* 104(1, Pt. 2): 485-491.

6. Nickel, R, Willadsen, SA, Freidhoff, LR, Huang, SK, Raana, NP, Caraballo, L, Ehrlich, E, Ober, C, Beaty, T, and **Barnes, KC** 1999. Determination of Duffy-phenotypes in three populations of African descent using PCR and sequence specific oligonucleotides. *Human Immunol* 60:738-742.

7. Nickel, R, Casolaro, V, Wahn, U, Beyer, K, **Barnes, KC**, Plunkett, B, Freidhoff, LR, Sengler, C, Plitt, J, Schleimer, RP, Caraballo, L, Naidu, RN, Beaty, T, Huang, S-K 2000. Atopic dermatitis is associated with a functional mutation in the promoter of the CC chemokine RANTES. *J Immunol* Feb 1;164(3):1612-1616.

8. Lonjou, C, **Barnes, K**, Chen, H, Cookson, WO, Deichmann, KA, Hall, IP, Holloway, JW, Laitinen, T, Palmer, LJ, Wjst, M, Morton, NE 2000. A first trial of retrospective collaboration for positional cloning in complex inheritance: assay of the cytokine region on chromosome 5 by the consortium on asthma genetics. *Proc Natl Acad Sci USA* 97(20):10942-7.

9. **Barnes, K.C.**, Mathias, RA, Nickel, R, Freidhoff, LR, Stockton, ML, Xue, X, Naidu, RP., Levett, PN, Casolaro, V, Beaty, TH 2001. Testing for gene-gene interaction controlling total IgE in families from Barbados: Evidence of sensitivity regarding linkage heterogeneity among families. *Genomics.* 71(2):246-251.

10. Liang, K-Y, F-C Hsu, TH Beaty, **KC Barnes**. 2001. A multipoint linkage disequilibrium mapping approach based on the case-parent trio design. *Am. J. Hum. Genet.* 68:937-950.

11. F.C. Hsu, K.Y. Liang, T.H. Beaty, and **K.C. Barnes**. 2002. Unified sampling approach for multipoint linkage disequilibrium mapping of qualitative and quantitative traits. *Genetic Epidemiology.* 22(4):298-312.

12. Manolio TA, **KC Barnes**, RP Naidu, PN Levett, TH Beaty, AF Wilson. 2003. Correlates of sensitization to *Blomia tropicalis* and *Dermatophagoides pteronyssinus* in asthma in Barbados. *Int Arch Allergy Immunol.* 131:119-126.

13. **Barnes KC**, Caraballo L, Munoz M, Zambelli-Weiner A, Ehrlich E, Burki M, Jimenez S, Mathias RA, Stockton ML, Deindl P, Hershey GK, Nickel R, Wills-Karp M. A novel promoter polymorphism in the gene encoding complement component 5 receptor 1 (C5R1) on chromosome 19q13.3 is not associated with asthma and atopy in three independent populations. *Clin Exp Allergy.* 2004; 34: 736-44.

14. Garcia JGN, Nonas S, Kawkitinarong K, **Barnes KC**. SNPs, chips and functional genomics in acute lung injury. *Am. J. Resp Cell Mol Biol.* 2004; 31(2): S18-22.

15. Becker KG, **Barnes KC**, Bright TJ, Wang SA. The Genetic Association Database. *Nat Genet.* 2004; 36(5): 431-32.

16. Pillai SG, Cousens DJ, Barnes AA, Buckley PT, Chiano MN, Hosking LK, Cameron L-A, Fling ME, Foley JJ, Green A, Sarau HM, Schmidt DB, Sprankle CS, Blumenthal MN, Vestbo J, Kennedy-Wilson K, Wisted WE, Wagner MJ, Anderson WH, **investigators of the GAIN Network**, Ignar DM. A coding polymorphism in the CYSLT2 receptor with reduced affinity to LTD₄ is associated with asthma. *Pharmacogenetics.* 2004;14:627-33.

17. Ye SQ, Simon BA, Maloney JP, Zambelli-Weiner A, Gao L, Grant A, Easley RB, McVerry BJ, Tudor RM, Standiford T, Brower RG, **Barnes KC**, Garcia JGN. Pre-B-cell colony-enhancing factor as a potential novel biomarker in acute lung injury. *Am. J. Resp. Crit. Care Med.* 2005; 171: 361-370.

18. Huang JL, Gao PS, Mathias RA, Yao TC, Chen LC, Kuo ML, Hsu SC, Plunkett B, Togias A, **Barnes KC**, Stellato C, Beaty TH, Huang SK. Sequence variants of the gene encoding chemoattractant receptor expressed on Th2 cells (CRTH2) are associated with asthma and differentially influence mRNA stability. *Hum Mol Genet.* 2004; 13(21): 2691-97.

19. Zambelli-Weiner A, Ehrlich E, Stockton ML, Grant AV, Zhang S, Levett PN, Beaty TH, **Barnes KC**. Evaluation of the CD14/-260 polymorphism and house dust endotoxin exposure in the Barbados asthma genetics study. *J. Allergy Clin. Immunol.* 2005; 115: 1203-9.

20. Gao PS, Mathias RA, Plunkett B, Togias A, **Barnes KC**, Beaty TH, Huang SK. Genetic variants of the T-cell immunoglobulin mucin 1 (TIM-1), but not TIM-3, genes are associated with asthma in an African American population. *J. Allergy Clin. Immunol.* 2005; 115: 982-8.

21. Mathias RA, Beaty TH, Bailey-Wilson JE, Bickel C, Stockton ML, **Barnes KC**. Inheritance of total serum IgE in the isolated Tangier Island population from Virginia: complexities associated with genealogical depth of pedigrees in segregation analyses. *Human Heredity.* 2005; 59: 228-38.

22. **Barnes KC**. Genetic determinants and ethnic disparities in sepsis-associated acute lung injury. *Proc. Am. Thoracic Soc.* 2005; 2: 195-201.

23. **Barnes KC**, Grant AV, Baltadzhieva D, Zhang S, Berg T, Shao L, Zambelli-Weiner A, Anderson W, Nelsen A, Pillai S, Yarnall DP, Dienger K, Ingersoll RG, Scott AF, Fallin MD, Mathias RA, Beaty TH, Garcia JGN, Wills-Karp M. Variants in the gene encoding C3 are associated with asthma and related phenotypes among African Caribbean families. *Genes and Immunity.* 2006; 7: 27-35.

Research Support:

Active

1 R01 AI50024-02A2 (Barnes) 12/1/02 – 11/30/07
NIH
Genetic Studies of Immune Responsiveness in Cockroach

This proposal will investigate the immunogenetics of a distinct and well-defined phenotype. We will also examine the interactive effect of current cockroach allergen exposure and susceptibility loci associated with asthma severity.

U01 HL72455 (Rand) 9/30/02 – 9/29/07
NIH
Howard/Hopkins Center for Reducing Asthma Disparities

This application presents four research projects designed to collaboratively investigate factors associated with the disproportionate burden of asthma experienced by inner-city, African-American children and adults.

R01 HL 67905 (Ford) 9/1/02 – 8/31/07
NIH
Baltimore Asthma Severity Study (BASS)

The objective of this study is to provide a knowledge base of polymorphisms in candidate asthma genes and of asthma-related phenotypes including allergen-specific T cell response phenotypes in African Americans.

P50 HL073994-01 (Brower) 09/30/03 – 06/30/08
NIH
Molecular Approaches to Ventilator Associated Lung Injury

Barnes Project 3 09/30/03 – 06/30/08
Genetic Modifier in VALI

Barnes CORE E 09/30/03 – 06/30/08
Genomics and Genotyping

This project is focused on understanding the complex interplay between mechanical ventilation & increased morbidity & mortality associated with acute lung injury. The program will examine the genetic basis of the development of ventilator-associated lung injury, evaluate new therapies & identify new molecular targets for ventilator-associated lung injury.

R18 AI44840 (Togias) RENEWAL 07/01/04 – 06/30/09
NIH
Airway Disease and Cockroach Exposure in Public Housing

This study will test the effectiveness of an education/behavioral modification program, combined with precision-targeted early mitigation, against no intervention, in avoiding cockroach infestation of new homes.

HHSN266200400029C (Beck) 04/01/04 – 03/31/09
Atopic Dermatitis and Vaccinia Network-Clinical Studies Consortium

The overall objective is to develop & implement a research plan to reduce the risk of eczema vaccinatum, a potentially life-threatening complication of smallpox (vaccinia virus) vaccine immunization that occurs almost exclusively in patients with atopic dermatitis (AD).

P01 R-826724 (Eggleston) 11/01/03 – 10/31/08
NIH
Center for Childhood Asthma in the Urban Environment

The long term goals of this Center are to examine how exposures to environmental pollutants and allergens may relate to airway inflammation and respiratory morbidity in children with asthma living in the inner city of Baltimore, and to search for new ways to reduce asthma morbidity by reducing exposure to these agents.

Pending

RFA-AR-05-004 (Rosen/Stone) 03/01/06 – 02/28/11
NIH/NIAMS: Core Center
Rheumatic Disease Research Core Center

The specific aims are to promote interdisciplinary translational research on the rheumatic diseases.

RFA-HL-05-007 (Hassoun) 12/1/06 – 11/30/11
NIH
Molecular Determinants of Scleroderma-Associated Pulmonary Arterial Hypertension

Barnes Project 1 12/1/06 – 11/30/11
Scleroderma-Associated PAH

Barnes Core D 12/1/06 – 11/30/11
Genomics/Genotyping

Not yet available

R01 (Barnes) 12/1/06 – 11/30/10
NIH
Candidate Genes of Innate Immunity in Asthmatics of African Descen”

Not yet available