

# DANA BOWLING HANCOCK, Ph.D.

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## Education

Ph.D., Genetics and Genomics 05/2008  
Duke University, Durham, NC  
Dissertation title: "Nitric oxide synthase genes, environmental factors,  
and complex interactions in families with Parkinson's disease"  
Mentor: William Scott, Ph.D.

B.S., Biochemistry 05/2004  
North Carolina State University, Raleigh, NC  
*Summa cum laude*, minor in Genetics  
Study abroad in Florence, Italy and Vienna, Austria

## Professional Experience

### Research

Postdoctoral Fellow 05/2008-present  
National Institutes of Health, National Institute of Environmental Health Sciences (NIH/NIEHS),  
Epidemiology Branch, Research Triangle Park, NC  
Genome-wide association studies and corresponding gene-environment interaction analyses  
in family-based and population-based case-control samples of respiratory diseases, including  
asthma and chronic obstructive pulmonary disease  
Mentor: Stephanie London, M.D., Dr.P.H.

Graduate Research Assistant 01/2005-05/2008  
Duke University, Department of Medicine, Durham, NC  
Association studies of genetic and environmental factors in families with Parkinson's disease  
and empirical comparison of analytic methods for modeling gene-gene and gene-  
environment interactions in family-based data  
Mentor: William Scott, Ph.D.

Rotating Graduate Research Assistant 11/2004-12/2004  
Duke University, Department of Medicine, Durham, NC  
Linkage analysis in families with Focal Segmental Glomerulosclerosis  
Mentor: William Scott, Ph.D.

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Rotating Graduate Research Assistant 08/2004-11/2004  
Duke University, Department of Pediatrics, Durham, NC  
Gene therapy using adenovirus in Acid Maltase Deficiency (or Pompe's disease)  
Mentor: Andrea Amalfitano, D.O., Ph.D.

Research and Development Intern 01/2004-05/2004  
King Pharmaceuticals Inc., Cary, NC  
Validation review of visual analog scales for clinical pain and symptom assessment  
Mentor: Robert Roller, Pharm.D.

Undergraduate Research Assistant 05/2002-12/2003  
North Carolina State University, Department of Genetics, Raleigh, NC  
Molecular genetic mechanisms of body pattern specification in *Drosophila melanogaster*  
Mentor: James Mahaffey, Ph.D.

### Teaching

Certificate in Teaching College Biology Recipient 05/2008  
Duke University, Durham, NC  
University of North Carolina at Greensboro, Department of Public Health Education  
Mentor: Beverly Rockhill-Levine, Ph.D.

Guest Lecturer, Honors Biology 04/2007  
Southern High School, Durham, NC

Teaching Assistant, Genetic Analysis of Human Disease 01/2006-05/2006  
Duke University, Clinical Research Training Program, Durham, NC

Guest Lecturer, Honors Biology 12/2005  
JF Webb High School, Oxford, NC

Teaching Assistant, Principles of Biochemistry 01/2003-05/2003  
North Carolina State University, Department of Biochemistry, Raleigh, NC

Teaching Assistant, Introduction to Engineering 08/2001-12/2001  
North Carolina State University, College of Engineering, Raleigh, NC

### **Publications**

#### Peer-Reviewed Articles

**Hancock DB**, Martin ER, Vance JM, Scott WK (2008). Nitric oxide synthase genes and their interactions with environmental factors in Parkinson's disease. *Neurogenetics*, in press.

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**Hancock DB**, Martin ER, Mayhew GM, Stajich JM, Jewett R, Stacy MA, Scott BL, Vance JM, Scott WK (2008). Pesticide exposure and risk of Parkinson's disease: a family-based case-control study. *BioMed Central Neurology* 8(6).

**Hancock DB**, Martin ER, Li YJ, Scott WK (2007). Methods for interaction analyses using family-based case-control data: conditional logistic regression versus generalized estimating equations. *Genetic Epidemiology* 31(8):883-893.

**Hancock DB**, Martin ER, Stajich JM, Jewett R, Stacy MA, Scott BL, Vance JM, Scott WK (2007). Smoking, caffeine, and nonsteroidal anti-inflammatory drugs as protective factors in families with Parkinson disease. *Archives of Neurology* 64(4):576-580.

**Hancock DB**, Martin ER, Fujiwara K, Stacy MA, Scott BL, Stajich JM, Jewett R, Li YJ, Hauser MA, Vance JM, Scott WK (2006). *NOS2A* and the modulating effect of cigarette smoking in Parkinson's disease. *Annals of Neurology* 60(3):366-373.

Robertson LK, **Bowling DB**, Mahaffey JP, Imiolczyk B, and Mahaffey JW (2004). An interactive network of zinc-finger proteins contributes to regionalization of the *Drosophila* embryo and establishes the domain of HOM-C protein function. *Development* 131(12):2781-2789.

#### Book Chapter

**Hancock DB** and Scott WK (2007). Population-based case-control association studies. *Current Protocols in Human Genetics*, Supplement 52. John Wiley & Sons, Inc.

#### Meeting Abstracts and Presentations

**Hancock DB**, Martin ER, Scott WK (2008). Potential interactions among NOS genes in Parkinson disease. 17<sup>th</sup> annual International Genetic Epidemiology Society meeting. St. Louis, MO. [Poster]

**Hancock DB**, Martin ER, Vance JM, Scott WK (2007). Interactions involving nitric oxide synthase genes and environmental risk factors in Parkinson's disease. 57<sup>th</sup> annual American Society of Human Genetics meeting. San Diego, CA. [Platform]  
Available from <http://www.ashg.org/genetics/ashg07s/index.shtml>

**Hancock DB**, Martin ER, Vance JM, Scott WK (2007). Nitric oxide synthase genes may influence risk of Parkinson's disease. 9<sup>th</sup> annual Morris K. Udall Centers of Excellence for Parkinson's Disease Research meeting. Pittsburgh, PA. [Poster]

**Hancock DB**, Martin ER, Li YJ, Scott WK (2006). Gene-gene interaction methods for family-based case-control data. 56<sup>th</sup> annual American Society of Human Genetics meeting. New Orleans, LA. [Platform]  
Available from <http://www.ashg.org/genetics/ashg06s/index.shtml>

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**Hancock DB**, Martin ER, Hauser MA, Li YJ, Vance JM, Scott WK (2006). Association of iNOS in Parkinson disease and the modulating effect of cigarette smoking. 1<sup>st</sup> World Parkinson Congress meeting. Washington DC. [Poster]  
Available from *Movement Disorders* 21(S13):S55.

Kang SJ, van der Walt JM, **Hancock DB**, Scott WK, Li YJ, Hauser MA, Martin ER, Vance JM (2005). Candidate gene analysis for Parkinson disease. 7<sup>th</sup> annual Morris K. Udall Centers of Excellence for Parkinson's Disease Research meeting. Boston, MA. [Poster]

**Hancock DB**, Wheeler BS, Tegnell E, Hauser MA, Martin ER, Vance JM, Scott WK. Association between iNOS and early-onset Parkinson disease (2005). 55<sup>th</sup> annual American Society of Human Genetics 55<sup>th</sup> meeting. Salt Lake City, UT. [Poster]  
Available from <http://www.ashg.org/genetics/ashg05s/index.shtml>

### Previous Research Support

1F31NS056632-01 (PI: **Hancock DB**) 08/2006–05/2008  
NIH/NINDS, Ruth L. Kirschstein National Service Research Award  
“Genetic and environmental modifiers of Parkinson disease”

### Honors and Awards

NIH Postdoctoral Intramural Research Training Award Fellowship	05/2008-present
University of Washington, Summer Institute in Statistical Genetics Scholarship	06/2007
World Parkinson Congress Junior Scholar Award	02/2005
North Carolina State University Valedictorian	05/2004
Stephanie C. Anderson Memorial Scholarship	08/2003-05/2004
Aubrey Lee Brooks Foundation Scholarship	08/2000–05/2004
NC State Chancellor's Leadership Award	08/2000–05/2002

### Professional Affiliations

Member, International Genetic Epidemiology Society	01/2006-present
Member, American Society of Human Genetics	01/2005-present

### Peer Reviewer for Journals

*American Journal of Epidemiology*  
*Neurodegenerative Diseases*