

# MARY K. WOJCZYNSKI, PH.D.

Work:  
Department of Biostatistics  
Section on Statistical Genetics  
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## QUALIFICATIONS SUMMARY

A highly motivated, detail-oriented public health professional with extensive experience in data collection, population and family based study design and analysis. Demonstrated team-player with leadership experience. Acknowledged for exceptional analytical, quantitative, and problem solving skills. Well organized with excellent interpersonal skills, written, and verbal communication. Accomplished scientific writer, including drafting and editing of grants and manuscripts. Expert user of SAS statistical analysis software, Microsoft Word, Excel, Outlook, and PowerPoint.

## EDUCATION

### Postdoctoral Fellow, Section on Statistical Genetics

*University of Alabama at Birmingham, Birmingham, AL*  
Department of Biostatistics  
September 2006 — present

### Doctor of Philosophy, Epidemiology

*University of North Carolina at Chapel Hill, School of Public Health, May 2006*  
Dissertation Title: Characteristics of the Co-Morbidity of Irritable Bowel Syndrome: A Secondary Analysis of Existing Twin Data from the Screening Across the Lifespan Twin (SALT) Study, part of the Swedish Twin Registry

### Master of Public Health, Epidemiology

*The Rollins School of Public Health, Emory University, Atlanta GA, May 1999*  
Master's Thesis: The Benefit of Non-Pharmacologic Treatments in Reducing the Rate of Thirty Day Readmission or Mortality for Congestive Heart Failure Among Medicare Beneficiaries

### Bachelor of Science

*University of Wisconsin at Stevens Point, Stevens Point WI, December 1995*  
Double major: Biology and Mathematics, Minor: Chemistry

## RESEARCH

### *Postdoctoral*

Advisor- Donna K. Arnett, PhD

The overarching theme of my post-doctoral fellowship is to identify genetic risk factors for cardiovascular disease related phenotypes using family data. This includes the extension of epidemiologic methods to genetic data, as well as more formal training in statistical genetic methodologies. Initiated and led collaboration with Golden Helix Inc. to perform genome-wide copy number variation analysis. Selected project experience includes:

- Candidate gene association studies using family data
- Haplotype creation using MERLIN and haplotype association study using family data
- Repeated measures analysis within families to assess dietary and drug response interventions
- Genome-wide association analysis of family data using SNPs
- Genome-wide association analysis of family data using copy number variants

### ***Doctoral***

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Advisors- Kari E. North, PhD and Patrick F. Sullivan, MD

Dissertation- Characteristics of the Co-Morbidity of Irritable Bowel Syndrome: A Secondary Analysis of Existing Twin Data

Obtained experience working with twin data in order to gain a better understanding of the evidence needed to perform genetic linkage and association studies. Examined the genetic contribution to the co-occurrence of two common disorders (irritable bowel syndrome and major depressive disorder) using the Screening Across the Lifespan Twin (SALT) Study and performing a co-twin control analysis. Learned to work and analyze twin data, link datasets, and work with very large studies. Analyses were performed using SAS. Presented results at Digestive Disease Week and published work in American Journal of Gastroenterology.

### ***Masters***

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Advisor- William B. McClellan, MD

Thesis- The Benefit of Non-Pharmacologic Treatments in Reducing the Rate of Thirty Day Readmission or Mortality for Congestive Heart Failure Among Medicare Beneficiaries

Analyzed clinical and epidemiological data to assess survival after hospital discharge for congestive heart failure. The project entailed an overall application of basic epidemiologic principles and statistical analyses, including logistic regression and survival analysis (Cox proportional hazards models). Analyses performed using SAS.

## **WORK EXPERIENCE**

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### **Postdoctoral Fellow, Section on Statistical Genetics, Department of Biostatistics**

**University of Alabama at Birmingham, Birmingham, AL**

September 2006 — present

- Merged, manipulated, and analyzed data from the Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) study, and the Hypertension Genetic Epidemiology Network (HyperGEN) study
- Performed candidate gene association and haplotype analyses examining gene by diet and gene by drug interactions
- Drafted and edited both grants and manuscripts (text, tables, and figures)
- Experienced in bioinformatic analyses to understand genome wide association results
- Established, maintained, and led collaboration with Golden Helix, Inc.

### **Division of Cardiovascular Disease Research Assistant, Department of Epidemiology**

**University of North Carolina at Chapel Hill, Chapel Hill NC**

August 2005 – May 2006

- Merged, manipulated, and analyzed data from the Atherosclerosis Risk in Communities (ARIC) study
- Performed candidate gene association analysis examining gene by gene interactions on fasting cholesterol levels

**North Carolina Melanoma Study Research Assistant  
Lineberger Comprehensive Cancer Center**

**University of North Carolina at Chapel Hill, Chapel Hill NC**

May 2002 – August 2003

- Recruited and interviewed melanoma study participants over the telephone
- Requested and processed participant tumor blocks through our lab and then to the coordinating center in New York; requested participant medical records as part of study protocol
- Completed diagnostic pathology reports on participants and non-participants

**ACTIVITIES & MEMBERSHIPS:**

***Society Memberships***

University of Alabama at Birmingham Postdoctoral Association

American Heart Association

***Journal/Discussion Groups***

Statistical Genetics Journal Club, UAB Department of Biostatistics Section on Statistical Genetics

Grant Writing Club, UAB Department of Biostatistics Section on Statistical Genetics

Copy Number Variation Journal Club, UAB Department of Biostatistics

***Academic Service***

2007                   Atherosclerosis Peer Reviewer

2008                   AHA Scientific Sessions Abstract Reviewer

2008                   BMC Medical Genetics Peer Reviewer

2008-present       SSG/CNRC Professional Development Seminar Series Co-organizer, Mentoring

**CONFERENCES AND WORKSHOPS**

American Heart Association 49<sup>th</sup> Cardiovascular Disease Epidemiology and Prevention Conference. March 11-14, 2009; Palm Harbor, FL.

NIH: Genome-Wide Association Analysis: Analyze This! August 4-5, 2008; Bethesda, MD.

University of Alabama Section on Statistical Genetics NSF-funded Short Course on Statistical Genetics and Statistical Genomics. July 21-25, 2008; Birmingham, AL.

University of Alabama Section on Statistical Genetics NHGRI Conference: Haplotype Analysis of Population and Pedigree Data in Association Studies. May 7-8, 2008; Birmingham, AL.

National Heart Lung and Blood Institute PROGNI (PROgram for GENetic Interaction) Network Analysis Workshop. May 5-6, 2008; New Orleans, LA.

American Heart Association 48<sup>th</sup> Cardiovascular Disease Epidemiology and Prevention Conference. March 12-15, 2008; Colorado Springs, CO.

National Heart Lung and Blood Institute PROGNI (PROgram for GENetic Interaction) Network Analysis Workshop. Dec. 4-5, 2007; Baltimore, MD.

American Heart Association Scientific Sessions 2007. Nov 4-7, 2007; Orlando, FL.

American Heart Association Pre-Conference Symposium: Functional Genomics and Translational Biology: Genome-Wide Association Studies—Translating Genome to Phenome. Nov 3, 2007; Orlando, FL.

American Heart Association 10-Day Seminar on Epidemiology and Prevention of Cardiovascular Disease. July 29- Aug 10, 2007; Tahoe City, CA.

Yale University Genome-Wide Association Studies: Design and Analysis. Oct 26-27, 2006; New Haven, CT.

## **PUBLICATIONS, PRESENTATIONS, AND ABSTRACTS**

### *Peer Reviewed Articles*

Wineinger N, Erickson S, **Wojczynski MK**, Bruder C, Kennedy R, Tiwari HK. Statistical issues in the analysis of DNA copy number variation data. *International Journal of Computational Biology and Drug Design* (accepted).

**Wojczynski M**, Tiwari HK. Definition of the Phenotype. In Genetic Dissection of Complex Traits. Rao et al. (Eds), *Advances in Genetics* 2008;60:75-105.

Franceschini N, **Wojczynski MK**, Goring HH, Peralta JM, Dyer TD, Li S, Li H, North KE. Comparison of strategies for identification of regulatory quantitative trait loci of transcript expression traits. *BMC Proc* 2007; 1 Suppl 1; S85.

**Wojczynski MK**, North KE, Pedersen NL, Sullivan PF. Irritable bowel syndrome: a cotwin-control analysis. *American Journal of Gastroenterology* 2007 Oct; 102(10):2220-9.

Muallem H, North KE, Kakoki M, **Wojczynski MK**, Li X, Grove M, Boerwinkle E, Wilhelmsen KC, Heiss G, Maeda N. Quantitative Effects of Common Genetic Variations in the 3'UTR of the Human LDL-Receptor Gene and their Associations with Plasma Lipid Levels in the ARIC Study. *Human Genetics* 2007; 121(3-4): 421-431.

Armstrong GL, Mast EE, **Wojczynski M**, Margolis HS. Childhood hepatitis B virus infections in the United States before hepatitis B immunization. *Pediatrics*, Nov 2001;108(5):1123-8.

Smith RF, Wiese BA, **Wojczynski MK**, et al. BCM Search Launcher—An integrated interface to molecular biology data base search and analysis services available on the world wide web. *Genome Research* 1996;6:454-462.

### *Invited Presentations*

**Wojczynski MK**, Hunt SC, Patki A, Vaughan LK, Rao DC, Broeckel U, Tiwari HK, Arnett DK. GWAS of Reactive Blood Pressure Phenotypes Involving Central Nervous System Stimulation: the HyperGEN Study. NHLBI Cardiovascular Epidemiology, Biostatistics and Behavioral Medicine Trainee Session at the AHA 49<sup>th</sup> Cardiovascular Disease Epidemiology and Prevention Annual Conference. Palm Harbor, FL, March 11-14, 2009.

**Wojczynski MK**, North KE, Murrelle EL, Cook SF, Sullivan PF. Prevalence of Rome II-based Irritable Bowel Syndrome (IBS) and Co-Morbidity with Major Depression. Digestive Disease Week 2004. New Orleans, LA, May 15-20, 2004.

**Wojczynski MK**, Yusuf H, Coleman PJ, Averhoff FM, Smith NM, Euler GL. The expected number of births to women with chronic hepatitis B virus (HBV) infections in the US: a meta-analysis. Annual Meeting of the State Hepatitis Coordinators. Tucson, AZ, May 1999.

### ***Abstracts/Posters***

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**Wojczynski MK**, Gao G, Borecki I, Hopkins P, Ordovas JM, Arnett DK. APOB genetic variants and HDL-C postprandial response: The Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Study. AHA 48th Cardiovascular Disease Epidemiology and Prevention Conference, Colorado Springs, CO, March 2008.

**Wojczynski MK**, Gao G, Borecki I, Hopkins P, Ordovas JM, Arnett DK. APOB genetic variants and Response to Fenofibrate: The Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Study. AHA 48th Cardiovascular Disease Epidemiology and Prevention Conference, Colorado Springs, CO, March 2008.

Franceschini N, Rose KM, **Wojczynski MK**, North KE. LDL Receptor Haplotypes and Coronary Heart Disease in African American participants of the ARIC Study. AHA 48th Cardiovascular Disease Epidemiology and Prevention Conference, Colorado Springs, CO, March 2008.

Franceschini N, **Wojczynski MK**, North KE, Rose K, Muallem H, Boerwinkle E, Volcik KA, Li X, Wilhelmsen KC, Maeda N. The Effect of LDL Receptor diplotypes and its interaction with apolipoprotein E polymorphisms on Carotid Artery Wall Thickness: The ARIC Study. AHA, Orlando, FL, Feb 2007.

Franceschini N, **Wojczynski M**, Goring HH, Peralta JM, Dyer TD, Li X, North KE. Identification of Regulatory Quantitative Trait Loci By Linkage Analysis of Transcript Expression Profiles. Genetic Analysis Workshop 15, Tampa, FL, Nov 2006.

**Wojczynski MK**, Yusuf H, Coleman PJ, Averhoff FM, Smith NM, Euler GL. The expected number of births to women with chronic hepatitis B virus (HBV) infections in the US: a meta-analysis. Pediatric Academic Societies Annual Meeting. San Francisco, CA, May 1999.

### ***Manuscripts in Progress***

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**Wojczynski MK**, Gao G, Borecki I, Hopkins P, Ordovas JM, Arnett DK. APOB genetic variants modify the Response to Fenofibrate: The Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Study. Submitted to *Journal of Lipid Research*.

**Wojczynski MK**, Glasser SP, Mohd M, Oberman A, Kabagambe E, Hopkins P, Tsai M, Ordovas J, Arnett DK. Assessment of postprandial lipemia on LDL, HDL, and VLDL particle subclasses and number: A Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Substudy.

Glasser SP, **Wojczynski MK**, Oberman A, Kabagambe E, Hopkins P, Tsai M, Ordovas J, Arnett DK. Assessment of fenofibrate on postprandial LDL, HDL, and VLDL particle subclasses and number: A Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Substudy.

**Wojczynski MK**, Gao G, Borecki I, Hopkins P, Ordovas JM, Arnett DK. APOB genetic variants and HDL-C postprandial response: The Genetics of Lipid Lowering Drugs and Diet Network (GOLDN) Study.

**Wojczynski MK**, Patki A, Tiwari HK, Arnett DK. GWAS of reactive blood pressure phenotypes involving central nervous system stimulation. (HyperGEN)

## FELLOWSHIPS

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University of Alabama at Birmingham Statistical Genetics Post-Doctoral Training Program T32HL072757. Sept 2006-Present.

UNC-GlaxoSmithKline (GSK) Center of Excellence in Pharmacoepidemiology and Public Health Fellowship Recipient, Aug. 2003-Aug. 2005.

*Summer Medical and Research Training (SMART) Program Participant.* Department of Molecular and Human Genetics, Baylor College of Medicine, Houston TX. June 1995- August 1995.

*Summer Program for Undergraduate Research (SPUR) Participant.* Biochemistry Department, Medical College of Wisconsin, Milwaukee WI. June 1994- August 1994.

*Howard Hughes Medical Institute (HHMI) Summer Research Fellow.* Physiology Department, Medical College of Wisconsin, Milwaukee WI. June 1993- August 1993.

## GRANTS

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### *Current Funding*

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University of Alabama at Birmingham Statistical Genetics Post-Doctoral Training Fellowship- Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants (T32). 2T32HL072757-06A1. PI- Dr. David B. Allison.

### *Applications*

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Wojczynski MK (principal investigator), Arnett DK (primary mentor), Tiwari HK (advisor). (2008) Characterization of the genetics of hypertension using gene-stress interactions and whole genome approaches. American Heart Association Greater Southeast Affiliate Post-Doctoral Grant. Total Amount: \$ 87,272 (not funded). Period: 2 years.

NIH Loan Repayment Program. Examining cardiovascular disease and its associated risk factors employing genetic epidemiology, statistical genetics, and pharmacogenetic methods in the GOLDN and GenHAT studies. PI: DK Arnett (Applicant not allowed to be PI). July 2007- present.