

Nicholas M. Pajewski

Section on Statistical Genetics
University of Alabama at Birmingham
1530 3rd Ave S, RPHB 327
Birmingham, AL 35294
<http://www.soph.uab.edu/ssg/people/pajewski>
Updated: 3/24/2010

Phone: 205.975.9223
npajewski@ms.soph.uab.edu
Fax: 205.975.2540

Education/Training

- **University of Alabama-Birmingham** Birmingham, AL
Postdoctoral Fellow, Section on Statistical Genetics August 2008 - Present
 - Mentors: David B. Allison, Ph.D. and Brett A. McKinney, Ph.D.*
*Now at the University of Tulsa
 - Supported by NIH T32 HL072757
- **Medical College of Wisconsin** Milwaukee, WI
Ph.D., Biostatistics 2003 - 2008
 - Dissertation: Bayesian Semiparametric Hierarchical Models for Genetic Association Studies in the Presence of Population Structure and Multiplicity
 - Advisor: Purushottam W. Laud, Ph.D.
- **Loyola University-Chicago** Chicago, IL
B.S., Statistics 1999-2002
 - Graduated *Magna Cum Laude*

Work Experience

- **Medical College of Wisconsin** Milwaukee, WI
Research Associate, General Clinical Research Center Jan. 2005 - July 2008
- **Medical College of Wisconsin** Milwaukee, WI
Consultant, NIH K30 Clinical Research Scholars Program Sept. 2005 - July 2008
- **Marquette University** Milwaukee, WI
Adjunct Faculty, School of Dentistry Sept. 2007 - Dec. 2007

Publications

1. NJ Wandersee, RC Punzalan, MP Rettig, MD Kennedy, NM Pajewski, RL Sabina, JP Scott, PS Low, and CA Hillery. Erythrocyte adhesion is modified by alterations in cellular tonicity and volume. *British Journal of Haematology*, 131:366-377, 2005.

2. AZ Hoch, JW Jurva, MA Staton, R Thielke, RG Hoffmann, **NM Pajewski**, and DD Gutterman. Athletic amenorrhea and endothelial dysfunction. *Wisconsin Medical Journal*, 101(6):301-306, 2007.
3. SB Koukouritaki, MT Poch, MC Henderson, LK Siddens, SK Krueger, JE VanDyke, DE Williams, **NM Pajewski**, T Wang, and RN Hines. Identification and Functional Analysis of Common Human Flavin-Containing Monooxygenase 3 Genetic Variants. *Journal of Pharmacology and Experimental Therapeutics*, 320(1):266-273, 2007.
4. RQ Migrino, X Zhu, **NM Pajewski**, T Brahmhatt, R Hoffmann, and M Zhao. Assessment of segmental myocardial viability using regional 2-dimensional strain echocardiography. *Journal of the American Society of Echocardiography*, 20(4):342-351, 2007.
5. C Okunseri, E McGinley, **NM Pajewski**, and RG Hoffmann. Racial/ethnic disparities in self-reported pediatric orthodontic visits in the United States. *Journal of Public Health Dentistry*, 67 (4):217-223, 2007.
6. JA Panepinto, **NM Pajewski**, L Foerster, and RG Hoffmann. The performance of the Pediatric Quality of Life Inventory (PedsQL) in children with sickle cell disease. *Journal of Pediatric Hematology Oncology*, 30(9):666-73, 2008.
7. TA Samuels, E Handler, ML Syring, **NM Pajewski**, JL Blumin, JE Kershner, and N Johnston. Mucin gene expression in human laryngeal epithelium: effect of laryngeal reflux. *Annals of Otolaryngology, Rhinology, and Laryngology*, 117(9):688-95, 2008.
8. J Whitesides, **NM Pajewski**, TG Bradley, AM Iacopino, and C Okunseri. Socio-demographics of Adult Orthodontic Visits in the United States. *American Journal of Orthodontics and Dentofacial Orthopedics*, 133(4):489.e9-14, 2008.
9. C Okunseri, **NM Pajewski**, D Brousseau, S Tomany-Korman, A Synder, and G Flores. Racial and ethnic disparities in nontraumatic dental-condition visits to emergency departments and physician offices: a study of the Wisconsin Medicaid program. *Journal of the American Dental Association*, 139(12):1657-66, 2008.
10. JA Panepinto, **NM Pajewski**, LM Foerster, S Sabnis, and RG Hoffmann. Impact of poverty and sickle cell disease on the health-related quality of life of children. *Quality of Life Research*, 18(1):5-13, 2009.
11. AZ Hoch, K Goosen, **NM Pajewski**, AQ Syed, AY Syed, JE Schimke, and DD Gutterman. Possible relationship of folic acid supplementation and improved flow-mediated dilation in premenopausal, eumenorrhic athletic women. *Journal of Sports Science and Medicine*, 8:123-129, 2009.
12. JA Panepinto, RG Hoffmann, and **NM Pajewski**. A Psychometric Evaluation of the PedsQL Family Impact Module in Parents of Children with Sickle Cell Disease. *Health and Quality of Life Outcomes*, 7:32, 2009.
13. C Okunseri, A Szabo, S Jackson, **NM Pajewski**, and RI Garcia. Increased children's access to fluoride varnish treatment by involving medical care providers: Effect of a Medicaid policy change. *Health Services Research*, 44(4):1144-56, 2009.

14. RQ Migrino, KW Ahn, T Brahmabhatt, L Harmann, J Jurva, and **NM Pajewski**. Usefulness of Two-Dimensional Strain Echocardiography to Predict Segmental Viability Following Myocardial Infarction and Optimization using Bayesian Logistic Spatial Modeling. *American Journal of Cardiology*, 104(8):1023-9, 2009.
15. AZ Hoch, **NM Pajewski**, L Moraski, GF Carrera, CR Wilson, RG Hoffmann, JE Schimke, and DD Gutterman. Prevalence of the female athlete triad in high school athletes and sedentary students. *Clinical Journal of Sport Medicine.*, 19(5):421-8, 2009.
16. LT Johnson, TW Radmer, TS Wirtz, **NM Pajewski**, DE Cadle, J Brozek, and DD Blinka. Quantification of the Individual Characteristics of the Human Dentition. *Journal of Forensic Identification*, 56(9):609-25, 2009.
17. M Noyce, A Szabo, **NM Pajewski**, S Jackson, TG Bradley, and C Okunseri. The effect of parental language spoken at home on children's dental service utilization. *Journal of Public Health Dentistry*, 69(4):276-83, 2009.
18. AM Brandow, D Brousseau, **NM Pajewski**, and JA Panepinto. The impact of Vaso-occlusive painful events on the Health-Related Quality of Life in children with Sickle Cell Disease. *Pediatric Blood & Cancer*, 54(1):92-7, 2010.
19. RJ Reynolds, DK Childers, and **NM Pajewski**. The Distribution and Hypothesis Testing of Eigenvalues from the Canonical Analysis of the Gamma Matrix of Quadratic and Correlational Selection Gradients. *Evolution*, In Press, 2010.
20. S Shrestha, MD Irvin, KD Taylor, HW Wiener, **NM Pajewski**, T Haritunians, JAC Delaney, M Schambelan, JF Polak, DK Arnett, YDI Chen, and C Grunfeld. A Genome-wide Association Study of Carotid Atherosclerosis in HIV-infected Men. *AIDS*, 24(4):583-92, 2010.
21. C Okunseri, A Szabo, S Jackson, RI Garcia, and **NM Pajewski**. Access and Utilization of Fluoride Varnish for Wisconsin Medicaid-enrolled Children: Variation by Race/Ethnicity and Levels of Urban Influence. *Journal of Public Health Dentistry*, In Press, 2010.

Manuscripts in Submission/Revision

1. **NM Pajewski**, SD Parker, IG Ovsyannikova, W Song, K Zhang, BA McKinney, VS Pankratz, JC Edberg, RP Kimberly, GA Poland, J Tang, and RA Kaslow. The Role of HLA DR-DQ Haplotypes in Variable Antibody Response to Anthrax Vaccine Adsorbed. *Submitted to the Journal of Immunology*.
2. N Davis, JE Crowe Jr, **NM Pajewski**, and BA McKinney. Surfing a Genetic Association Interaction Network to Identify Modulators of Smallpox Vaccine Immunogenicity. *Submitted to Genes and Immunity*.
3. N Wineinger, **NM Pajewski**, R Kennedy, M Wojczynski, S Hunt, C Gu, U Broeckel, DC Rao, DK Arnett, and HK Tiwari. Genome-wide characterization of copy number variation for African-Americans using the Affymetrix 6.0 Array: the HyperGEN study. *Submitted to European Journal of Human Genetics*.

4. JS Bajaj, K Saeian, **NM Pajewski**, AJ Sanyal, DM Heuman, and SD Pinkerton. Cost-effectiveness of Screening and Treatment of Minimal Hepatic Encephalopathy to Prevent Motor Vehicle Accidents.
5. JA Panepinto, RG Hoffmann, and **NM Pajewski**. Proxy Reports of Health-Related Quality of Life in Children with Sickle Cell Disease: Effect of Parental Well-Being. *Revision submitted to Pediatric Blood & Cancer*.
6. SW Keith, KR Fontaine, **NM Pajewski**, T Mehta, and DB Allison. Influence of self-reported height and weight on the body mass index-mortality association. *Submitted to International Journal of Obesity*.
7. C Okunseri, **NM Pajewski**, S Jackson, and A Szabo. Frequent Users of Emergency Departments and Physician Offices for Non-Traumatic Dental Conditions in Wisconsin. *Revision submitted to the Journal of the American Dental Association*.
8. TL Farmer, **NM Pajewski**, A Piotrowski, SM Sell, AR Frost, JP Dumanski, and TV Strong. Genomic alterations in African-American and European Early-Onset Breast Cancer. *Submitted to Clinical Cancer Research*.
9. G Kang, G Gao, S Shete, DT Redden, BL Chang, TR Rebbeck, JS Barnholtz-Sloan, **NM Pajewski**, and DB Allison. Capitalizing on admixture in genome-wide association studies: A two-stage testing procedure and application to height in African-Americans.

Manuscripts in Preparation

*All titles and author lists are preliminary and may be subject to change.

1. **NM Pajewski***, HW Wiener*, S Shrestha, B Assaini, BA McKinney, SD Parker, GR Cutter, J Tang, K Zhang, JC Edberg, J Wang, V Srinivasasainagendra, GA Poland, VS Pankratz, RP Kimberly, and RA Kaslow. Genome-wide Association Study of Immune Response to Anthrax Vaccine. **indicates co-first authorship*
2. **NM Pajewski** and PW Laud. Simultaneous Bayesian Multiple Shrinkage Inference for Genetic Association Studies accounting for Mode of Inheritance Uncertainty.
3. EE Brown, SA Chung, **NM Pajewski**, M Alarcon-Riquelme, L Criswell, JC Edberg, B Freedman, PM Gaffney, RR Graham, JB Harley, CO Jacob, RP Kimberly, K Moser, BP Tsao, P Ramos, TY Vyse, J Ziegler, and CD Langefeld. Lupus Nephritis Susceptibility Markers Identified from a Genome-Wide Association Study of Women with Systemic Lupus Erythematosus.
4. T Mehta, **NM Pajewski**, SW Keith, K Fontaine, and DB Allison. Plausible Nuisance Contributors to the Decreasing Deleterious Association of Overweight and Obese on the Mortality Rate over Calendar Time.
5. EE Brown, **NM Pajewski**, M Alarcon-Riquelme, L Criswell, JC Edberg, PM Gaffney, JB Harley, RP Kimberly, CD Langefeld, K Moser, BP Tsao, TY Vyse, and CO Jacob. The Blys-BAFFR axis and Susceptibility to Systemic Lupus Erythematosus.

6. JC Edberg, **NM Pajewski**, P Ramos, M Alarcon-Riquelme, L Criswell, PM Gaffney, JB Harley, CD Langefeld, K Moser, BP Tsao, TY Vyse, CO Jacob, and RP Kimberly. Epistasis in the Opsonin pathway and susceptibility to Systemic Lupus Erythematosus.
7. KR Fontaine, **NM Pajewski**, TW Mehta, R McCubrey, SS Bangalore, SW Keith, CJ Crespo, and DB Allison. Body Mass Index and Mortality among Hispanics: Results from Multiple Epidemiologic Datasets.

Books, Chapters, Reviews

1. PW Laud and **NM Pajewski**. Dirichlet Process, Simulation of. In F Ruggeri, R Kenett, and F Faltin, editors, Encyclopedia of Statistics in Quality and Reliability. John Wiley & Sons, 2007.

Teaching Experience

- Medical College of Wisconsin
General Clinical Research Center Seminar Series in Clinical Trials, Spring 2006
- Marquette University, School of Dentistry
Biostatistics I, Fall 2007
- University of Alabama at Birmingham, Department of Biostatistics
 - (1) Guest lectured section on SNP genotyping technology and quality control in BST 676: Genomic Data Analysis (Prof. Xianqin Cui)
 - (2) Guest lectured section on Genome-wide Association Studies in Interdisciplinary Genetics Graduate Program
Quantitative Genetics Module (Prof. Sadeep Shrestha)

Continuing Education

- Advanced Gene Mapping Course, The Rockefeller University, Dec. 8-12, 2008
- Affymetrix GWAS Data Analysis Workshop, Chicago, IL, May 18-19, 2009
- FOCIS Advanced Course in Basic and Clinical Immunology, Scottsdale, AZ, February 20-24, 2010

Professional Activities

- Peer reviewer for

Bioinformatics (2008, 2009)
Human Heredity (2008-2010)
Obesity (2008, 2009)
PLoS Medicine (2008)
Behavior Genetics (2009)
PLoS Genetics (2008, 2009)
Obesity Facts (The European Journal of Obesity) (2009)
Computational Statistics and Data Analysis (2009)
Vaccine (2010)

- Memberships

American Statistical Association, 2004-
International Biometric Society, 2006-
Institute of Mathematical Statistics, 2004-
American Society of Human Genetics, 2007-
International Society for Bayesian Analysis, 2006-
American Association for the Advancement of Science, 2008-
International Genetic Epidemiology Society, 2009-

Awards

Travel Award, Conference on Bayesian Biostatistics
MD Anderson Cancer Center, Houston TX

January 2008

Skills

Languages: C, \LaTeX , Bash, some experience with Perl and Python.

Operating Systems: Linux, UNIX, Windows

Statistical Software: Extensive experience with SAS and R. Also proficient with STATA, SPSS, and WinBUGS.

Genetic Software: PHASE, STRUCTURE/STRAT, EIGENSTRAT, Haploview, AdmixMap, and Wellcome Trust Tools (SNPTEST, HAPGEN, IMPUTE, etc.), PLINK, and PennCNV.

Invited Presentations

- **NM Pajewski** and PW Laud. A Flexible Bayesian Nonparametric Model for Genetic Association Studies of Quantitative Traits in the Presence of Population Structure. *Colloquium*. Section on Statistical Genetics. University of Alabama at Birmingham. March 2008.

- **NM Pajewski** and PW Laud. A Flexible Bayesian Nonparametric Model for Genetic Association Studies of Quantitative Traits in the Presence of Population Structure. *Colloquium*. Section of Genetic Medicine. University of Chicago. April 2008.
- **NM Pajewski**. Statistical Challenges in Vaccinomics: Host Genetic Factors and Immune Response to Anthrax Vaccine. *Colloquium*. Department of Biostatistics. Medical College of Georgia. November 2009.
- **NM Pajewski**. Characterizing Host Genetic Correlates of the Immune Response to Anthrax Vaccine: Bayesian Approaches and the Role of HLA. *Colloquium*. The Research Institute at Nationwide Children's Hospital. March 2010.

Other Presentations

- Laud PW, **Pajewski NM**, Müller P., What Can BNP do for a Subgroup Analysis? *Presentation in the Program on Multiplicity and Reproducibility*, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC. July 2006.
- Laud PW, **Pajewski NM**, Müller P. Subgroup Analysis Using Bayesian Nonparametric Techniques. *Joint Statistical Meetings and International Conference on Statistics, Probability and Related Areas*. Kochi, India. January 2007.
- Laud PW, **Pajewski NM**. Genetic Association Studies in the Presence of Population Structure and Admixture. *Isaac Newton Institute Workshop on Construction and Properties of Bayesian Nonparametric Regression Models*, Cambridge University, Cambridge, England. August 2007.
- **NM Pajewski**, LT Johnson, T Radmer, and PW Laud. Characteristics of the Anterior Dental Arch in Adult Males: Application to Forensic Odontology. Poster presented at *Case Studies in Bayesian Analysis 9*, Pittsburgh, PA October 2007
- **NM Pajewski**, JA Panepinto, and PW Laud. A Bayesian nonparametric model for health related-quality of life outcomes. Poster presented at *Conference on Bayesian Biostatistics* (MD Anderson). Houston, TX January 2008.
- **NM Pajewski** and PW Laud. A Bayesian semiparametric framework for genetic association studies in the presence of population structure. *ENAR Spring Meeting*, Arlington, VA March 2008.
- **NM Pajewski**. Observational Associations: The p-value versus the Bayes Factor. *Section on Statistical Genetics Journal Club*. University of Alabama at Birmingham. October 2008.
- **NM Pajewski**. Bayesian Approaches to high-dimensional model building. *Department of Biostatistics Journal Club*. University of Alabama at Birmingham. December 2008.
- **NM Pajewski**. Bayesian Simultaneous Multiple Shrinkage Inference for Genetic Association Studies. *UAB Postdoctoral Research Day*. University of Alabama at Birmingham. February 2009. * **Winner of 1st place prize in research session.**

- **NM Pajewski** and PW Laud. Bayesian Simultaneous Multiple Shrinkage Inference for Genetic Association Studies. *ENAR Spring Meeting*. San Antonio, TX. March 2009.
- **NM Pajewski**, RI Garcia, A Szabo, S Jackson, and C Okunseri. Improved access to fluoride varnish treatment for Medicaid enrolled children in Wisconsin through the involvement of medical care providers. Poster presented at *UAB Public Health Research Day*. Birmingham, AL. April 2009. * **Winner of 1st place prize in post-doctoral research category.**
- RJ Reynolds and **NM Pajewski**. The distribution of eigenvalues from canonical analysis of selection gradients comprising the gamma matrix. *Evolution 2009*, Moscow, ID. June 2009.
- PW Laud and **NM Pajewski**. Bayesian Nonparametric Techniques in Genome-wide Association Studies. *Joint Statistical Meetings*. Washington, DC. August 2009.
- **NM Pajewski**, V Srinivasasainagendra, and BA McKinney. Modifications to the ReliefF GWAS filter for detecting gene-gene interactions: Inclusion of covariate and pathway information. *Annual Meeting of the International Genetic Epidemiology Society*. Kahuku, HI. October 2009.
- **NM Pajewski**, V Srinivasasainagendra, SD Parker, RA Kaslow, and BA McKinney. ReliefF Methods for Gene-Gene Interactions Including Covariate Information: Application to Antibody Response/Adverse Events Following Anthrax Vaccine Adsorbed Vaccination. *University of Alabama at Birmingham Comprehensive Cancer Center Retreat*. Birmingham, AL. October 2009. ***Winner of Seng-jaw Soong award for Excellence in Biostatistics and Bioinformatics research.**
- **NM Pajewski**. Bayesian Hierarchical Modeling of Host Genetic Correlates of Immune Response to Anthrax Vaccine. *ENAR Spring Meeting*. New Orleans, LA. Upcoming March 2010.

References

Purushottam W. Laud, Ph.D.
Professor of Biostatistics
Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, WI 53226
Phone: (414)456-8781
Fax: (414)456-6513
e-mail: laud@mcw.edu

Hemant Tiwari, Ph.D.
Associate Professor of Biostatistics
Section on Statistical Genetics
University of Alabama at Birmingham
1665 University Boulevard
Ryals Public Health Building 420D
Birmingham, AL 35294
Phone: (205) 975-4907
Fax: (205) 975-2540
e-mail: htiwari@ms.soph.uab.edu

Brett A. McKinney, Ph.D.
Warren Chair in Bioinformatics
Department of Mathematics and
Computer Science
University of Tulsa
800 S. Tucker Drive
Tulsa, OK 74104
Phone: (918) 631-2228
Fax: (918) 631-3077
e-mail: brett.mckinney@gmail.com

Julie A. Panepinto, M.D.
Associate Professor of Pediatrics
Division of Hematology, Oncology,
and Transplantation
Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, WI 53226
Phone: (414)456-4170
Fax: (414)456-6543
e-mail: jpanepin@mcw.edu

David B. Allison, Ph.D.
Professor of Biostatistics
Section on Statistical Genetics
Director, Clinical Nutrition Research Center
University of Alabama at Birmingham
1665 University Boulevard
Ryals Public Health Building 420C
Birmingham, AL 35294
Phone: (205) 975-9169
Fax: (205) 975-2540
e-mail: dallison@uab.edu

Robert P. Kimberly, M.D.
Senior Associate Dean for Research
Professor of Medicine
University of Alabama at Birmingham
Shelby Building, Room 172D
1825 University Boulevard
Birmingham, AL 35294
Phone: (205) 934-0245
e-mail: Robert.Kimberly@ccc.uab.edu

Richard A. Kaslow, M.D., M.P.H.
Professor of Epidemiology, Medicine,
Microbiology, and Genetics
University of Alabama at Birmingham
220 Ryals Public Health Building
1665 University Blvd.
Birmingham, AL 35294
Phone: (205) 975-8698
e-mail: rkaslow@uab.edu