

Curriculum Vitae  
Grier P. Page, Ph.D.

Work address:

Department of Biostatistics  
University of Alabama at Birmingham  
Ryals Publics Health Building Room 327L  
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Mailing address:

RPHB 327  
1530 Third Avenue South  
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Home address:

433 O'Neal  
Hoover, AL 35226  
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Birth date: November 4, 1970

Birth Place: Cleveland, OH

Citizenship: USA

Education:

1993 B.S. Zoology, University of Texas - Austin

1993 B.S. Molecular Biology, University of Texas - Austin

1997 M.S. Biomedical Sciences, University of Texas - Health Science Center- Houston

Major area: Statistical Genetics

Mentor: Eric Boerwinkle Ph.D

Thesis title: The QLOD score: A sequential method for linkage and exclusion of quantitative traits in humans and the power of exclusion analysis

1998 Ph.D. Biomedical Sciences, University of Texas - Health Science Center - Houston

Major area: Statistical Genetics

Mentor: Christopher Amos Ph.D.

Dissertation title: Power and cost analysis of linkage disequilibrium methods for locating genes influencing quantitative traits in humans

1999 Post Doctoral Fellowship M.D. Anderson Cancer Center, Houston  
Statistical Genetics

Academic Appointments

3/1999-11/2001 Assistant Professor of Biometry and Epidemiology  
Medical University of South Carolina

3/1999-11/2001 Assistant Professor of Medicine  
Medical University of South Carolina

12/2001-9/2005 Assistant Professor of Biostatistics  
University of Alabama at Birmingham

10/2005-Present Associate Professor of Biostatistics  
University of Alabama at Birmingham

Honors and Awards:

1989: University of Texas Presidential Scholarship  
 1992: Howard Hughes Undergraduate Summer Research Fellow  
 1998: Anderson Associates Travel award  
 2002: Delta Omega annual award for innovative Public Health Curriculum  
 2002-2003: NMB (formerly IFCN-1) NIH/CSR Study Section (*Ad Hoc*) Oct 2002, Feb 2003, June 2003. Oct 2004, Feb 2004, June 2004, Oct 2004, Feb 2005, June 2005, Oct. 2005, Feb 2006, Oct 2006  
 2003-2006 MRI-B NSF Panel  
 2004 NIH/CSR BST-51 (Software) Feb 2004  
 2006 NSF DBI Fall panel Oct 2005  
Teaching Responsibilities

Fall 1999	Genetic Epidemiology (BTMY 789C)
Summer 2000	Genetic Analysis Workshop (BTMY 789C)
Fall 2001	Genetics in the first year curriculum
Fall 2002	SPH 600 MPH Core Curriculum
Spring 2003	SPH 601 MPH Core Curriculum
Summer 2003	PUH 690 MPH Integrated curriculum in Public Health
Fall 2003	PUH 600 MPH Core Curriculum
Spring 2004	PUH 601 MPH Core Curriculum
Spring 2005	BST 675 Introduction to Statistical Genetics
Summer 2005	PUH 690 MPH Integrated curriculum in Public Health

Guest Speaking

Fall 2002	IBS 700 Integrated Biomedical Sciences (2 Hours)
Spring 2003	BMG 744 Protein Mass Spectrometry (2 hours)
Spring 2003	C RTP K-90 (8 hours)
Spring 2003	3 <sup>rd</sup> Annual short course on Statistical Genetics (3 hours)
Spring 2004	C RTP K-90 (4 Hours)
Spring 2003	4th Annual short course on Statistical Genetics (3 hours)
Fall 2004	CS 620 Bioinformatics I (2hours)
Spring 2005	BMG 744 Protein Mass Spectrometry (4 hours)
Fall 2006	CS 620 Bioinformatics I (2hours)
Spring 2006	BMG 744 Protein Mass Spectrometry (4 hours)

Students:

Post-doctoral Fellow:

Jaap Brand (Co-mentor with David Allison) Instructor at Pennington  
 Jode Edwards (Co-mentor with David Allison) Asst. Professor Iowa State  
 Kyoungmi Kim (Co-mentor with Nengjun Yi) – Asst. Prof. UC David  
 Hairong Wei – At Operon  
 Stanislav Zakharkin – At Solae  
 Mahyar Sabripour – Current  
 Shiju Zhang - Current

Advisees:

Lang Chen (MS) Biostatistics Graduating Dec 2004 (current PhD)

Committee:

Vetria Byrd (PhD Student) CS Department Current  
Kerin McCormick (PhD Student) MCBP program Graduated May 2003  
David McLean (Ph.D student) MCBP program Graduated May 2003  
Christina Lara-Castro (PhD Student) Graduated August 2004 Nutrition  
Jessica Keplinger (MS) Industrial Hygiene Graduated May 2003  
Tapan Metah (MS) Electrical Engineering -May 2005  
Prashanth Yelesetti (MS) Electrical Engineering – August 2005

Research Hours:

Katie McGreevey (PhD student) DBESS  
Aaron Adelman (PhD student) DBESS

High School:

Daniel Lindquist Currently at Cal Tech.

Memberships:

American Association for the Advancement of Science  
American Society of Human Genetics  
American Society for Plant Biology  
International Genetic Epidemiology Society  
International Biometrics Society  
International Society for Computations Biology

Journals Reviewed for:

American Journal of Human Genetics 2000,2001,2002, 2003, 2004, 2006  
Applied Bioinformatics 2004  
Bioinformatics 2003, 2004, 2005  
Biostatistics 2006  
BMC Bioinformatics 2004, 2005, 2006  
BMC Genetics 2005, 2006  
BMC Neurobiology 2005  
Diabetes 2003, 2004, 2005  
European Journal of Human Genetics 2002, 2004, 2005  
Genetic Epidemiology 2001, 2004  
Human and Molecular Genetics 2005  
Journal of Clinical Endocrinology and Metabolism 2003, 2004  
Journal of Endocrinology 2004  
Journal of the National Cancer Institute 1999  
Human Heredity 2001  
Molecular Genetics and Metabolism 2005  
Molecular Psychiatry 2005  
Nucleic Acids Research 2004, 2005  
Plant Physiology 2004, 2005  
Physiological Genomics 2003, 2004  
Statistics in Medicine 2004, 2005  
Stroke 2000, 2004, 2005

Professional Activity:

University Service:

1999-2001                      Committee to form a Bioinformatics Program MUSC  
2000-2001                      First year curriculum committee

2001-2003 Bioinformatics Planning group UAB  
2004-2006 SPH awards Committee

Departmental Service:

1999-2001 Informatics committee  
1999-2001 Student recruitment committee  
1999-2001 Epidemiology curriculum committee  
1999-2001 Chair of library committee  
2000-2001 Bioinformatics faculty search committee  
2001- Committee to form Statistical Genetics Curriculum  
2002-2004 MPH Core Curriculum committee

Publications:

Surgochov AP, **Page GP**, Smith L, Patsch W, and Boerwinkle, E. (1996).  
'Association between variation in the APO CIII gene and hypertriglyceridemia and hypercholesterolemia' *Arterio. Throm. Vasc. Biol.* 16(8): 941-947.

**Page GP**; Amos CI, Boerwinkle E. (1998) 'The Quantitative LOD score: Test statistic and sample size for exclusion and linkage of quantitative traits in human sibships' *American Journal of Human Genetics* 62: 962-968.

**Page GP**, King TM, Barnholtz JS, de Andrade M, Peterson L, Amos CI '(1999) Genome scans for genetic predisposition to alcoholism by use of TDT analysis' *Genetic Epidemiology* 17(sup 1) S277-S282.

Peterson L, Barnholtz JS, **Page GP**, King TM, de Andrade M, Amos CI (1999) 'A genome-wide search for susceptibility genes linked to alcohol dependence' *Genetic Epidemiology* 17(sup 1) S295-300.

Barnholtz JS, de Andrade M, **Page GP**, King TM, Peterson LE, Amos CI (1999) 'Assessing linkage of quantitative traits in a genome-wide scan of 285 markers on 22 chromosomes using a univariate variance components approach' *Genetic Epidemiology* 17(sup1) S49-S54.

King TM, Barnholtz JS, **Page GP** (1999) 'Familial analysis of event related potentials' *Genetic Epidemiology* 17 (sup 1) S199-S204.

**Page GP**, Amos CI. (1999) 'Comparison of Linkage-Disequilibrium Methods for Localization of Genes Influencing Quantitative Traits in Humans' *American Journal of Human Genetics* 64(4)1194-1204.

**Page GP** Green JI, Lackland D ' (2000) Epidemiology of lung cancer with special reference to genetics, biomarkers, women, and developing countries' *Seminars in Respiratory and Critical Care Medicine* 21 (5) 365-373

JP Pandey, **GP Page**, RM Silver, EC LeRoy, CA Bona IgG and IgM (2001) response to fibrillin-1 in Systemic Sclerosis is GM and KM Allotype-Restricted. *Exp Clin Immunogenet.* 18(3):123-9.

**Grier P Page\***, Marsha A Wilcox\*, Jane Occhiuto\*, Sudeshna Adak, Donna Neuberg, Ruta Bajorunaite, Varghese George\* (2001) Comparison of the QTDT

analyses of IGE by different tests and between datasets  
*Genetic Epidemiology* 21 (supp 1) S312-S316

Joel Gelernter\*, Kathleen Bonvicini, **Grier Page**, Scott W. Woods, Andrew W. Goddard, Susan Kruger, David L. Pauls, Susan Goodson (2001). Linkage Genome Scan for Loci Predisposing to Panic Disorder or Agoraphobia *Am J Med Genet.* 2001 Aug 8;105(6):548-57

Douglas K. Mayfield, Angela M. Edmonson, **Grier P Page**, and George Argyropoulos (2001) A role for the agouti-related protein on human obesity *Biochem Biophys Res Commun.* 2001 Sep 21;287(2):568-73.

Kaplan DE, Gayán J, Ahn J, Won T.-W., Pauls T.-W., Olson V, DeFries J.C., Wood F., Pennington B., **Page G.P.**, Smith S.D., Gruen J.R. (2002) Evidence for linkage and association with reading disability on 6P21.3-22 *Am. J. Hum. Genet.* 70(5) 1287-1298

Holden KR, Collins JS, Greene JF, Hinkle S, Nave AF, Portillo JM, **Page GP**, Stevenson RE, and The Honduran NTD Project Team. (2002) Daily Dietary Intake and Blood Folate Levels In Honduran Women of Childbearing Age *J. Child. Neurol.* 17(5)341-346.

Oates JC, Levesque MC, Hobbs MR, Smith EG, Molano ID, **Page GP**, Hill BS, Weinberg JB, Cooper GS, Gilkeson, GG (2003) Nitric oxide synthase 2 promoter polymorphisms and systemic lupus erythematosus in African-Americans *J. Rheu.* 30(1)60-67.

Gelernter J, **Page GP**, Bonvicini K, Woods SE, Goddard AW, Kruger S, Goodson S, Pauls DL (2003) A locus for simple phobia on Chr 14p. *Molecular Psychiatry* 8(1) 71-82.

Gadbury, GL, Allison DB, **Page GP**, Heo M, Mountz J (2003)– Randomization tests for Small samples: an application for genetic expression data. *Journal of Royal Statistical Society –C* 52(3)365-376.

Beasley, TM, **Page GP**, Brand JP, Gadbury GL, Allison DB (2003) - Chebyshev's Inequality for Non-parametric Testing with Small  $N$  and  $\alpha$  in Microarray Research. *Journal of Royal Statistical Society –C* 53, Part 1, 95-108.

Douglas G, Reilly C, Dooley MA, Page GP, Cooper G, Gilkeson G (2004) Angiotensin- Patients with Systemic Lupus Erythematosus. *J Rheumatol.* Sep;31(9):1756-62.

Gaffney, PN, Ginos, MA, **Page, GP**, Michalowicz, BS, Volker, SE, Patel, K, Ondrey, FG, Gapany, M, Maisel M, Adam G, Pembuccian S. (2003) Gene Expression Profiling Identifies a Signature Associated with Recurrent Disease in Squamous Cell Carcinoma of the Head and Neck *Su. Cancer Research.* 64(1) 55-63.

**Page GP**, Edwards, JW, Barnes S, Weindurch R, Allison DB (2003) A Design and

Statistical Perspective on Microarray Gene Expression Studies in Nutrition: The Need for Playful Creativity and Scientific Hard-Mindedness *Nutrition* 19:997-1000.

**Page GP**, George V, Go RC, Page PZ, Allison DB (2003) "Are we there yet": Deciding when one has demonstrated specific genetic causation in complex diseases and quantitative traits. *American Journal of Human Genetics*. 73(4) 711-719.

Lappalainen J, Kranzler HR, Petrakis I, Somberg LK, **Page GP**, Krysta J, and Gelernter J. (2004) Fine mapping of the chromosome 1 alcohol dependence risk locus. *Mol Psychiatry*. 2004 Mar;9(3):312-9

Higami Y, Pugh TD, **Page GP**, Allison DB, Prolla TA, Weindruch R (2004) Adipose tissue energy metabolism: altered gene expression profile of mice subjected to long-term caloric restriction. *FASEB Journal* 18(2)415-417.

Venkatraman A, Lander A, Davis AJ, Ulasova E, **Page GP**, Murphy PM, Darley-Usmar V, Bailey SM (2004). Oxidative Modification of hepatic mitochondrial protein thiols: effect of chronic alcohol consumption. *American Journal of Physiology - Gastrointestinal and Liver Physiology* Am J Physiol Gastrointest Liver Physiol. 2004 Apr;286(4):G521-7. Epub 2003 Dec 11.

Yang D, Zakharkin SO, **Page GP**, Brand JPL, Edwards JW, Bartolucci A, Allison DB (2004) Applications of Bayesian Statistical Methods in Microarray Data Analysis. *Am. J. Pharmacogenomics*.4(1) 53-62.

Venkatraman A, Lander A, Davis AJ, Chamlee L, Sanderson T, Kim, H, **Page GP**, Pompillus M, Balinger S, Darley-Usmar V, Bailey SM (2004). Modification of the mitochondrial proteome in response to the stress of ethanol-dependent hepatotoxicity. *Journal of Biological Chemistry*. 279:22092-22101.

Zhang, H-G, Hyde, K, **Page GP**, Brand, JPL, Allison, DB, and Mountz, JD (2004) NF- $\kappa$ B Regulated Genes in RASF. *Arthritis and Rheumatism* 50(2).420-431.

Kim H, **Page GP**, Barnes S (2004) Proteomics and mass spectrometry in nutrition Research. *Nutrition* 21(1)155-165.

Gadbury GL, **Page GP**, Edwards JW, Kayo T, Prolla TA, Weindruch R, Permana PA, Mountz J, Allison DB (2004) Power analysis and sample size estimation in the age of high dimensional biology: a parametric bootstrap approach illustrated via microarray Research. *Statistical Methods in Medical Research* 13 (4): 325-338 2004.

Gelernter J, Liu X, Hesselbrock V, **Page GP**, Goddard A, Zhang H. (2004) Results of a genome wide scan: support for chromosome 9 and 11 loci increasing the risk for cigarette smoking. *American Journal of Medical Genetics* 128B: 94-101.

Volk, AL, Rivera AA, **Page GP**, Salazaar-Gonzales JF, Nettelbeck DM, and Curiel DM (2004) Employment of microarray analysis to characterize biologic differences associated with tropism-modified adenoviral vectors: utilization of non-native cellular entry pathways. *Cancer Gene Ther*. 2004 Sep 17 [Epub ahead of print]

- Edwards JW, **Page GP**, Gadbury G, Heo M, Kayo T, Weindruch R, Allison DB (2004) Empirical Bayes estimation of gene-specific effects in micro-array research. *Funct Integr Genomics*. 2004 Sep 29 [Epub ahead of print]
- Siruglio G, Odunsi K, Ashenbrenner J, Morakinyo O, **Page GP** (2004) No evidence of association between the genetic predisposition for dizygotic twinning and schizophrenia in West Africa. *Schizophr Res*. 2004 Oct 1;70(2-3):343-4.
- McLean D, Shriver DM, **Page GP**, Spruill IM, Argyropoulou G, & Garvey WT (2004) Mitochondrial DNA (mtDNA) Haplotypes Reveal Maternal Population Genetic Affinities of Sea Island Gullah-speaking African Americans. *Am J Phys Anthropol* 127(4):427-38.
- Gelernter J\*, **Page GP**, Kathleen Bonvicini, David L. Pauls, and Susan Goodson. (2004) Genome Scan for loci predisposing to social phobia. *American Journal of Psychiatry*.161(1)59-66.
- Qin H, Edberg JC, Gibson AW, **Page GP**, Teng L, and Kimberly RP (2004)Differential Gene expression Modulated by the Cytoplasmic Domain of FcγRIa (CD64) α-Chain. *The Journal of Immunology* 173:6211-6219.
- Churchill GA, . . . **Page GP**, . . . (103 Authors) (2004) The Collaborative Cross: A Community Resource for the Genetic Analysis of Complex Traits. *Nature Genetics*.36(11)1133-7.
- Sadlonova A, Novak Z, Johnson MR, bowe DB, Gault SR, **Page GP**, Thottassery JV, Welch DR, and Frost AR (2005). Primary breast fibroblasts modulate epithelial cell proliferation in three-dimensional *in vitro* co-culture. *Breast Cancer Research* 7:R46-R59.
- Klein RL, McHenry MB, Lok KH,. Hunter SJ, Le N-A, Jenkins AJ, Zheng D, Semler A, **Page GP**, Brown WV,. Lyons TJ, Garvey WT (2005) Apolipoprotein C-III Protein Concentrations and Gene Polymorphisms in Type 1 Diabetes: Associations with Microvascular Disease Complications in the DCCT/EDIC Cohort. *Journal of Diabetes and its Complications* 2005 Jan-Feb;19(1):18-25.
- Trivedi P, **Page GP** Edwards JW, Wang J, Gadbury GL, Srinivasasainagendra V, Kim K, Mehta T, Zakharkin SO, Brand JPL, Patki A, , Allison DB (2005) HDBStat! : A platform-independent software suite for statistical analysis of high dimensional biology data. **BMC Bioinformatics** 2005 Apr 6;6(1):86.
- Sharp AM, Messiaen LM, **Page GP**, Antignac C, Gubler M-C, Onuchic LF, Somlo S,. Germino GG, and Guay-Woodford LM (2005) Comprehensive Genomic Analysis for *PKHD1* Mutations in ARPKD Cohorts *J. Med. Genet*. 2005 Apr;42(4):336-49.
- Persson S, Wei H, Milne J, **Page GP**, Somerville C (2005) Identification of genes required for cellulose synthesis by regression analysis of public microarray data sets. *Proc. Natl. Acad. Sci. USA*. 102(24):8633-8.

- Garge N, Sprague, A, **Page GP**, Allison DB (2005) Stability of non-hierarchical cluster analysis techniques, whither?. *BMC Bioinformatics*. 6 Suppl 2 S10.
- Meng H, Hager K, Held M, **Page GP**, Olson RK, Pennington BF, DeFries JC, Smith SS and Gruen JR (2005) Linkage, Association, and Mutation Analysis of EKN1 and Dyslexia in a Colorado Twin Cohort. *Human Genetics*. 118(1) 87-90.
- Bhandari V, MJ Bizzarro, A Shetty, RA Ehrenkranz, LM Ernst, BR Vohr, N Desai, HS Bada, N Hussain, H Zhang, I Gross, **Page GP**, LR Ment, MD JR Gruen. Familial and Genetic Susceptibility to Major Neonatal Morbidities in Preterm Twins. *Pediatrics*. 2006 Jun;117(6):1901-6.
- Allison DB, **Page GP**, Beasley TM, Edward JE eds. (2005) DNA Microarrays and Related Genomics Techniques. CRC Press.
- Lee Y-H, Nair S, Rousseau E, Allison DB, **Page GP**, Tataranni PA, Bogardus C, Permana PA (2005) Microarray profiling of isolated abdominal subcutaneous adipocytes from obese vs. non-obese Pima Indians: increased expression of inflammation-related genes. *Diabetologia* 2005 July 30 Epub.
- Zakharkin SO, Kim K, Mehta T, Chen L, Barnes S, Scheirer KE, Parrish RS, Allison DB, Page GP Quantification of Sources of Variation in Microarray Experiments. *BMC Bioinformatics* 2005 Aug 29;6(1):214.
- Meng H, Smith SD, Hager K, Helda M, Liu J, Olson RK, Pennington BF, DeFries JC, Gelernter J, O'Reilly-Pol T, Somlo S, Skudlarski P, Shaywitz SE, Shaywitz BA, Marchione K, Wang Y, Paramasivam M, LoTurco JJ, **Page GP**, and Gruen JR (2005) DCDC2 is associated with reading disability and modulates neuronal development in the brain. *Proc Natl Acad Sci U S A*. 2005 102 (47) 17053-17058.
- Kim, K, **Page GP**, Beasley, TM, Barnes SB, Allison DB. A proposed metric for assessing the measurement quality of individuals microarrays. *BMC Bioinformatics*. 2006 Jan 23;7:35.
- Wiener, HW, Go, RCP, Tiwari H, George V, **Page GP** (2005) COGA phenotypes and linkages on chromosome 2. *BMC Genetics* 2005, 6(Suppl 1):S125.
- Page GP**, Edward JE, Wang J, Yelisetti P, Trivedi P Allison DB (2006) The PowerAtlas: a power and sample size atlas for microarray experimental design and research. *BMC Bioinformatics*. 2006 Feb 22;7:84.
- Allison, DB Cui, XQ, **Page GP**, Sabripour M, (2006). Microarray Data Analysis: From *Dis*-array to Consolidation & Consensus. *Nature Reviews Genetics*. 7(1) 55-65.
- Higami Y, Barger JL, **Page GP**, Allison DB, Smith SR, Prolla TA, Weindruch R (2006) Energy restriction lowers the expression of gene linked to inflammation, the cytoskeleton, the Extracellular Matrix, and Angiogenesis in mouse adipose tissue. *J. Nutr.* 136(2) 343-352.
- Kaabi B, Gelernter J, Woods S, **Page GP**, Goddard A, and Elston RC Genome Scan for

- Loci Predisposing to Anxiety Disorders Using a Novel Multivariate Approach: Strong Evidence for a Chromosome 4 Risk Locus (2006). *Am J Hum Genet.* 2006 Apr;78(4):543-53.
- Mukherjee S, Frolova N, Sadlonova A, Novak Z, Steg A, **Page GP**, Welch DR, Lobo-Ruppert SM, Ruppert JM, Johnson MR, Frost SR Hedgehog Signaling and Response to Cyclopamine Differs in Epithelial and Stromal Cells in Benign Breast and Breast Cancer. *Cancer Biol Ther.* 2006 Jun;5(6):674-83
- Bailey SM Robinson G, Pinner A, Chamlee L, Ulasova E, Ji S, Pompilius M, **Page GP**, Chhieng D, Jhala N, Landar A, Ballinger S, Darley-Usmar V, and Bailey SM S-Adenosylmethionine prevents chronic alcohol-induced mitochondrial dysfunction in rat liver. *Am J Physiol Gastrointest Liver Physiol.* 2006 Jul 6.
- Page PZ.; **Page GP**; Emmanuel Ecosse, Bruce R. Korf ; Alain Leplege; Pierre Wolkenstein. Impact of Neurofibromatosis 1 on Quality of Life: A cross-sectional study of 176 American cases. In press *Amer. J. Med. Genet.*
- Hickman-Davis, Judy, Wang Z, Perez GAF, Chess PR, **Page GP**, Matalon S, Notter RH Surfactant Dysfunction in SP-A (-/-) and iNOS (-/-) Mice with Mycoplasma Infection. In press *American Journal of Respiratory Cell and Molecular Biology.*
- Brand JPL, Beasley TM, **Page GP**, Bartolucci AA, Kim K, Barnes S, Allison DB. An adaptive weighted p-value algorithm for more powerful multiplicity control in high dimensional biology: an application to inferential testing in microarray data analysis In revisions for *BMC Bioinformatics.*
- Brand JPL, Gadbury GL, Beasley TM, **Page GP**, Edwards JW, & Allison DB. Non-Parametric Alternatives for Inferential Testing in Microarray Research In revisions for *BMC Bioinformatics.*
- Zakharkin SO, Kim K, **Page GP**, Allison DB Optimal design for microarray and proteomics measurement evaluation. In press *Genomics, Proteomics and Bioinformatics.*
- DelParigi A, **Page GP**, Allison DB, Beach T, Stephan D, Reiman EM, Tataranni PA Neuroimaging for the study of human obesity. Submitted *Diabetes.*
- Sadlonova A , Gault SR, Bowe DB, Dumas NA, Van Tine BA, Mukherjee S, **Page GP**, Welch DR, Novak L, Frost AR. Human Breast Fibroblasts Inhibit Growth of the MCF10AT Xenograft Model of Proliferative Breast Disease. Submitted *American Journal of Pathology*

**Page GP**, Edwards JW, Yelisetti P, & Allison DB Assessing Quality of Microarrays Using Studentized Deleted Residuals using normative data from 4358 arrays from a public database. In preparation

**Page GP**, Chen L, Garge, N Assessing the Power and Type I error of MAS 5.0, RMA, GCRMA, PDNN and Dchip, results of a spike in experiment. In preparation.

**Page GP**, Loraine A, Gadbury GL, Osier M, & Allison DB Class Level Analysis of Microarray Data: Conceptual Clarification and Statistical Issues. In preparation

Mehta T, **Page GP**, Tanik M, Allison DB. Stability of taxonomic coefficients in cluster analysis of microarray data. In preparation for BMC Bioinformatics.

Chen L, Allison DB. **Page GP** Model building in microarray experimentation. In preparation

#### Book Chapters

Amos CI, **Page GP** (2001) Methods for linkage disequilibrium mapping' In *Genetic Dissection of Complex Traits: Challenges for the Next Millennium* D.C. Rao MA Province Ed. Wiley and Sons p213-222

Zhang Z, **Page GP**, Zhang H. (2002) Applying classification separability analysis To microarray data. *Methods of Microarray Data Analysis: Papers from CAMDA '00* Eds. Lin and Johnson p125-136.

Zhang Z, **Page GP**, Zhang H. Fishing Expedition - a Supervised Approach to Extract Patterns from a Compendium of Expression Profiles (2003). *Methods of Microarray Data Analysis II: Papers from CAMDA '01* eds. Lin and Johnson p 139-150.

St-Onge, M., **Page, G. P.**, DeLuca, M., Zhang, K., Kim, K., Heymsfield, S. B., & Allison, D. B. (2004) Design & Analysis of Microarray Studies for Obesity Research. In N. Moustaid Moussa (Ed.). *Genomics of Obesity*.

**Page GP** Ruden DM Combining high dimensional biological data to study complex diseases and quantitative traits. (2005) In *DNA Microarrays and Related Genomics Techniques*. Eds Allison, Beasley, Edwards, and Page.

**Page, GP**, Zakharkin S; Kim K, Elamin S, Chen L, Mehta T, Zhang K. (2005) Basic statistical analysis of microarray data. In *Methods in Molecular Biology: Elementary Biostatistics*. Walter Ambrosius (Ed). Humana Press.

Gadbury GL, Xiang Q, Edwards J, **Page GP**, Allison DB (2005) The role of sample size on measures of uncertainty and power. In *DNA Microarrays and Related Genomics Techniques*. Eds Allison, Beasley, Edwards, and Page.

Barnes S, Allison DB, **Page GP**, Carpenter M, Gadbury GL, Meleth S, Horn-Ross P, Kim H, Lamartiniere CA, Grubbs CJ.(2005) Genistein and polyphenols in the study of cancer prevention: chemistry, biology, statistics, and experimental design. In *Discovering the Path to Personalized Nutrition*. Eds Kaput, J and Rodrigues R..

### Books

Allison DB, Page GP, Beasley TM, Edwards JE., (2005) *DNA Microarrays and Related Genomics Techniques*. CRC Press.

### Published Abstracts (incomplete):

**Page GP**, Amos CI, Boerwinkle E. (1997) 'The QLOD score, a sequential method for linkage and exclusion of quantitative traits in humans: sample size considerations for exclusion' *American Journal of Human Genetics* 61(Supp) Abstract 1690.

**Page GP**, Amos CI (1998)'Cost comparison of linkage methods for locating genes influencing quantitative traits in humans' *American Journal of Human Genetics* 63(Supp) Abstract 1757.

Green JL, **Page GP**, Reed CE, Sherman C, Rocha Lima C, Silvestri G, Roest J, Shealy K, Griffin B, Green MR (2000)' High Risk Lung Cancer Registry Experience at MUSC' 2000 ASCO meeting abstract 1990.

JP Pandey, **GP Page**, RM Silver, EC LeRoy, CA Bona (2000) IgG and IgM response to fibrillin-1 in Systemic Sclerosis is GM and KM Allotype-Restricted. AIA 2000 meeting

Gelernter J, Bonvicini K, **Page G**, Woods S, Goddard A, Kruger S, Pauls DL, and Goodson . Progress in a genome scan for anxiety disorders. American Society of Human Genetics 2000 Meeting

DE Kaplan, TW Won, J Ahn, D Pauls, R Olson, J DeFries, F Wood, **G Page**, SD Smith, JR Gruen Linkage Disequilibrium Studies of Reading Disability on 6p22 American Society of Human Genetics 2000 Meeting.

**Grier P Page**<sup>1</sup>, Mitchell Martin<sup>2</sup>, Lydia Mainous<sup>1</sup>, James Rosinski<sup>2</sup>, Brian Rheese<sup>2</sup>, Venus So<sup>2</sup>, W Timothy Garvey Microarray analysis of the Ras transcriptional activation complex. Submitted Am. Soc. Hum. Genetics Meeting 2001

David C. McLean, Jr., **Grier P. Page**, and W. Timothy Garvey. Mitochondrial DNA and Y-chromosome haplotypes of Gullah-speaking African Americans show closer genetic distance to Sierra Leoneans and lower Caucasian admixture than other New World African populations. Am. Soc. Hum. Genetics meeting 2001

Douglas K. Mayfield, Angela M. Edmonson, **Grier P Page**, and George Argyropoulos "A role for the agouti-related protein on human obesity" American diabetes Association Abstract 1564-P

DelParigi, A; Beach, TG; Page, GP; Allison, DB; Tataranni, A. 2003. Differential gene

expression in the hypothalamus of obese and lean humans: a preliminary report.  
DIABETOLOGIA46: A227-A228, Suppl. 2

McCormack, KA, McLean DC, Zheng D, Klein R, Jenkins AJ, Lyons TJ, **Page GP**, Garvey WT (2002) Hepatic lipase gene polymorphism is a major determinant of HDL levels and HDL size in men with type 1 diabetes in the DCCT/EDIC cohort . American diabetes Association Abstract 1564-P

**Page GP**, Edwards JW, Allison DB (2003) Meta Analysis of Microarray Data. ENAR 2003.

Page GP, Cope MB, Chen L, Allison DB, Kesterson RA, Jamison W, Ercil

EN.Olanzapine-induced changes in gene expression in the hypothalamus associated with weight gain: a cDNA microarray analysis study. To be presented at the NAASO 2003 Annual Scientific Meeting.

Volk AL, Rivera AA, Nettelbeck DM, Page GP, Curiel DTC omparison of gene expression profiles in human melanoma cells infected with wild type or tropism modified fiber adenoviral vectors. MOLECULAR THERAPY

Zhang HG, Hyde K, Page GP, Brand JPL, Hsu HC, Allison DB, Mountz JDAIkb-DN specifically blocks a TNF-alpha-induced anti-apoptosis signaling resulting in significant downregulation of 350 genes that normally enhance adhesion or inflammation in RASF. MOLECULAR THERAPY

Brand JPL (Jan 2004) , Grier P. Page , Gary Gadbury , Jode Edwards , Kyoungmi Kim , T. Mark. Beasley, Stephen Barnes, David B. Allison. 2004. Alpha Spending Algorithm for more powerful multiplicity control in high dimensional biology. Plant and Animal Genome XII Conference January 10 - 14, 2004, San Diego, CA.

Kim, K., Page, G. P., Beasley, T. M., Barnes, S., & Allison, D. B. (May, 2004). A Proposed Metric for Assessing the Measurement Quality of Individual Microarrays. Poster presented at the International Conference on Analysis of Genomic Data. Boston, MA.

Zakharkin SO, Page GP, Allison DB, Fuller CM, Gillespie GY, Reddy AT, Mapstone, TB, Benos DJ. Gene expression profiling in pediatric brain tumors using microarray analysis. ASPM Meeting

Zakharkin S.O., Page G.P., Allison D.B., Fuller C.M., Gillespie G.Y., Reddy A.T., Mapstone, T.B., Benos D.J. Gene Expression Profiling in Pediatric Brain Tumors Using Microarray Analysis. ASBMB Annual Meeting & 8th IUBME Conference. Boston MA, June 12 - 16, 2004. Poster B434

Brand JP, Beasley TM, Page GP, Bartolucci AA, Gadbury G, Kim K, Barnes S, Allison DB. An adaptive weighted p-value algorithm for more powerful multiplicity control in finding differentially expressed genes in microarray data.

Bioinformatics Symposium, University of Louisiana, Lafayette, [See:  
<http://www.cacs.louisiana.edu/bioinformatics/program.html>.]

Meng HY, Held M, Hager K, Page GP, Gruen JR (2004) Candidates for the 6p21.3-22 reading disability (DYX2) gene PEDIATRIC RESEARCH 55 (4): 580A-580A 3292 Part 2 Suppl. S

DelParigi A, Beach TG, Page GP, Allison DB, Tataranni A Differential gene expression in the hypothalamus of obese and lean humans: a preliminary report DIABETOLOGIA 46: A227-A228 657 Suppl. 2

Zakharkin S, Page G, Allison G, Fuller C, Reddy A, Mapstone T, Benos D Gene expression profiling in pediatric brain tumors using microarray analysis FASEB JOURNAL 18 (8): C101-C102 Suppl. S,

Mrug M, Page G, Churchill GA, Guay-Woodford LM (2003) Gene expression profiling in mouse cpk kidneys identifies positional candidate genes JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY 14: 106A-107A Suppl. S

Venkatraman A, Landar A, Davis A, Bailey S, Page G, Kim H, Darley-Usmar V (2003) Effect of chronic alcohol consumption on mitochondrial proteome FREE RADICAL BIOLOGY AND MEDICINE 35: S113-S113 358 Suppl. 1.

Page G, Cope M, Chen L, Allison D, Kesterson R, Jamison W, Ercil E (2003) Olanzapine-induced changes in gene expression in the hypothalamus associated with weight gain: A cDNA microarray analysis study OBESITY RESEARCH 11: A47-A47 Suppl. S.

#### Invited Talks

Feb 26, 2000 Overview of Statistical Genetics. Semi-Annual meeting of the South Carolina Chapter of the American Statistical Association

Sept 22, 2000 Genome scan for predisposition to alcoholism. Yale University Department of Psychiatry Grand Rounds.

Sept 10, 2001 Cost and Power issues in the analysis of quantitative traits. University of Alabama at Birmingham

Sept 12, 2001 Gene expression analysis of insulin response in skeletal muscle. MUSC grand rounds

Sept 14, 2001 Cost and Power issues in the analysis of quantitative traits. Merck Blue Bell, PA

Oct 12, 2001 Genome wide significant linkage for simple phobia, rejoice or software error. Wake Forest, NC

April 30, 2002 The UAB microarray research co-ordination network and microarray data analysis clearinghouse. Affymetrix Users group meeting, Chicago, Ill.

- June 8, 2002 Issues in the power, design, and analysis of microarray studies. 2002 Neurofibromatosis meeting Aspen, CO.
- Sept 11, 2002 Microarray studies Power and Sample size Matter. Cambridge Health Tech Microarray data analysis, Washington, DC
- Sept 17, 2002 Meta analysis of Microarray data. Microarray research co-ordination network, New Paltz, NY
- Nov 5, 2002 Design and analysis of DNA microarray experiments. University of Minnesota –Twin Cities Cancer Center Grand Rounds
- Dec 2, 2002 Combining QTL and microarray gene expression data in a joint analysis. Statistical integration of genetic information across domains. IMS Sponsored mini-conference. Birmingham, AL.
- January 28, 2003 Combined microarray QTL studies. Human Molecular Genetics Grand Rounds, University of Texas-Health Science Center Houston.
- Feb 8, 2003 Statistical Analysis of microarray. 3<sup>rd</sup> annual Short Course on Statistical Genetics. Birmingham, AL
- March 30, 2003 Meta analysis of Microarray data. ENAR 2003. Tampa, FL.
- April 4, 2003 Design and analysis of Microarray experiments. Joslin Diabetes Center. Cambridge, MA.
- July 22, 2003 How to write a successful large scale biological grant in an EPSCOR State. EPSCOR CDI meeting. Alexandria, VA.
- Sept 17, 2003 Analysis of microarray data under the null hypothesis. 3<sup>rd</sup> annual microarray research co-ordination network meeting.
- Sept 29, 2003 Design and Analysis of DNA microarray experiments. Arkansas Cancer Center Seminar Series. Little Rock, AR.
- Sept 29, 2003 Combined microarray QTL studies. Bioinformatics seminar Series. University of Arkansas – Little Rock, AR
- Nov 17, 2003 Design and analysis of microarray experiments. Department of Forestry and Biochemistry seminar series Mississippi State University. Starkville, AL.
- Dec 2, 2003 A Design and Statistical Perspective on Microarray Gene Expression Studies: The Need for Playful Creativity and Scientific Hard-Mindedness. The Bioinformatics Core of the Tuskegee University. Tuskegee, AL.
- Dec 3, 2003 Design and analysis of microarray experiments as exemplified by a head and neck cancer example. UAB Cancer Center Biostatistics Unit Seminar Series. Birmingham, AL.

- March 31, 2004 Power analysis when many hypotheses are planned. ENAR 2004. Pittsburg PA.
- June 4, 2004 Analysis of differentially expressed genes in skeletal muscle in response to insulin, ADA meeting Orlando, FL
- Sept 23, 2004 Microarray image analysis under the null. 4<sup>th</sup> Annual Microarray research co-ordination network. New Paltz, NY
- Dec 7, 2004 Statistical Analysis of Microarray data. Children's Hospital of Cincinnati. Cincinnati, OH.
- Dec 18, 2004 Adjusting for multiple testing in microarray studies. 4<sup>th</sup> Annual plant long-oligo microarray course. Tucson, AZ.
- Jan 19, 2005 The power Atlas, Plant and Animal Genome Meeting, San Diego, CA
- Jan 19, 2005 Cluster Stability, Plant and Animal Genome Meeting, San Diego, CA.
- Feb 24, 2005 Design and Analysis of Microarray Experiments. 1<sup>st</sup> NIAMS Short Course on Statistical genetics, New Orleans, LA.
- April 12, 2005 Omega Analysis, Emory University Department of Genetics. Atlanta, GA
- June 6, 2005 Co-expression epistatic analysis of microarray data. NF1 microarray consortium meeting, Aspen, CO.
- June 23, 2005 What is a Microarray and Quantitative Methodological Research. HHMI Summer Scholars. University of Alabama. Tuscaloosa, AL
- August 8, 2005. Power and Sample size calculations in microarray Research. Joint Statistical Meetings. Minneapolis, MN.
- Sept 22, 2005 Integromics. 5<sup>th</sup> Annual microarray research coordination meeting. New Paltz, NY.
- Nov. 28. 2005. Recent advances in the analysis of microarray data. CNGI seminar Series. University of Alabama at Birmingham.
- December 7, 2005. Recent advances in the analysis of microarray data using Omega analysis. Iowa State University Department of Statistics Bioinformatics Seminar Series. Ames, IA.
- January 11, 2006. Microarray experimental Design. International microarray short course. Tucson, AZ.
- January 11, 2006. Adjusting for multiple testing. International microarray short course. Tucson, AZ.
- March 7, 2006. Interpretation of microarray data. 2<sup>nd</sup> annual NIAMS short course in statistical genetics. Atlanta, GA.

April 30, 2006. Analysis of High Dimensional Biological Data. New Zealand Conference on Nutrigenomics and Gut Health. Auckland, NZ.

Aug 2, 2006. Microarray Quality Control. 2nd annual microarray plant microarray short course. Boston, MA

Sept 7, 2006 Microarray experimental design. 16<sup>th</sup> annual chips to hit conference. Boston, MA.

Nov 10, 2006. Fine mapping a reading disability genes to the 6p22 locus. American Society of Human Genetics Meeting New Orleans, LA

Past Funded Research Projects

**Other support;  
 Current:**

NSF (Allison)	4/01/01-3/31/06	5%
NSF \$95,000 (Annual Direct costs) Development, Evaluation, & Dissemination of Methods for the Analysis of Gene Expression by Microarrays A Research Coordination Network to develop an interacting network of scientists working on microarray gene expression data analysis.		
NIH/NCI (P50 AT00477) (Barnes)	6/1/03-5/31/08	32.8%
NIH/NCI Center for nutrient gene interactions Role: Co-investigator Funded		
NIH (P50 DA01-15369) (Kalivas)	6/1/03-5/31/08	Consultant
NIH/NIDA Neurobiology of addiction research center (NARC) Role: Consultant for the analysis of microarray data		
NSF 0217651 (Allison)	8/1/2002-8/31/2006	33%
NSF "Design and Analysis of Microarray Gene Expression studies in plants: Role: Co-PI to develop and disseminate methods for the analysis of microarray data		
NIH (Gruen/Page)	12/1/03-11/30/08	10%
NIH/NICHHS Search for a reading disorders gene on 6p22 Role: Sub contract PI for Linkage analysis		
DOD (Ratner/Page)	1/1/05-12/21/07	15%
Therapeutic Targets for Neurofibromas: Identification by Cross-Species Gene Expression Analysis \$180,000 Role: Sub-contract PI The proposed studies will assess the effect of fibroblast-epithelial cell interactions on the growth of epithelial cells of varying degrees of transformation and tumorigenicity and the role of Hedgehog signaling in these interactions.		
NSF(Page)	9/1/03 – 8/31/05	7.5%
NSF 0306596 \$50,000 per year SEGR: The power Atlas Role: PI		

This grant is to develop a web based tool for helping investigators plan and design microarray experiments and to calculate sample sizes.

NIH(Frost)	9/30/03 - 8/31/05	5%
NIH/NCI 5R03CA105950-02		\$175,000
<i>Regulatory Effect of Fibroblasts on Breast Cancer</i>		
Role: Analysis of microarray data		
NIH (Bailey)	9/15/04-8/31/09	5%
NIH/NIAAA 1R01AA015172-01		
Redox Modification of Thiols in Alcohol Hepatotoxicity		
Role: Co-investigator		
NIH/ NIEHS (Ruden)	9/24/04-8/31/2009	4%
NIH 1R01ES012933-01		
QTL AND MICROARRAY MAPPING LEAD SENSITIVITY GENES		
Role: Combined microarray QTL linkage analysis		
NSF (Luthe/ Page)	9/1/05-8/31/08	10%
NSF 0501890	\$152,000	
FUNCTIONAL GENOMICS OF FLOWERING IN THE WOODY PERENNIAL <i>POPULUS</i>		
Role: Co-PI, Subcontract PI, Analysis of microarray and proteomic data		
NIH (Page)	9/1/05-8/31/06	None
CNGI Pilot	\$50,000	
Are the mechanisms of action of estrogens and phytoestrogens the same?		
Role: PI		
NIH/NCI (P50 AT00477) (Barnes)	6/1/03-5/31/08	10%
NIH/NCI	\$148,000 per year	
Center for nutrient gene interactions		
Role: Director CNGI core D March 1, 2006		

**Pending:**

NIH /R01	4/1/2006-3/30/2011	40%
Omega analysis: Using real data in methodological research		
Role: PI		
NIH (Allison, Amos, Arnett)	04/01/07 - 03/31/12	35%
NHGRI	2,724,639 (1st yr direct costs)	17,340,814
(total costs)		
Center for Integrative Genomic Science		
The Center for Integrative Genomic Science (CIGS) will develop, evaluate, and disseminate methods for each step in the integrative omic process: acquisition of data, its storage and manipulation, its analysis within and across domains, and its visualization and presentation.		

**Past:**

SC (Argraves)	4/1/2000-3/31/2001	5%
South Carolina Commission on higher education	\$170,000	
DNA microarray analysis of double outlet right ventricle		
To purchase a DNA microarray read for MUSC		
DE-FC02-98CH10902	10/1/1999-9/30/2001	
DOE (Mohr)		

“Environmental Biosciences Program: Project 3: Role of trichloroethylene and the host genetic factors to susceptibility to autoimmune diseases”

The major goals of this project are to identify genetic and environmental factors that predispose to the development of scleroderma.

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DOD #N00014-96-1-1298 3/1/2000-10/31/2001

DOD (Greenberg)

“Coastal Carolina Cancer Control Program: Phase II: Thoracic Oncology/Telemedicine Initiative. Project 6: High Risk Registry for Thoracic Cancer “

The major goals of this project are to identify and collect families with lung cancer with a high probability of the lung cancer being caused by heritable genetic variation.

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DOD 10/1/2000-11/30/2001

DOD (Greenberg)

“Coastal Carolina Cancer Control Program: Phase IV: Thoracic Oncology. Project 2: Cancer registry “

The major goals of this project were to identify and collect samples from familial thoracic cancers.

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NIH/NCI (Argraves)	6/1/02-5/31/04	15%
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NIH/NCI	\$170,000 (year 1 direct cost)	
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Hollings Cancer Center Microarray Bioinformatics Facility

The major goal is to development methods to analyze DNA microarray data at MUSC

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NIH (1P50AA012870-01) (Krystal)	8/4/2001-7/31/2006	5%
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NIH	\$140,000 (year 1 direct)	
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Center for translational neurosciences

The major goal for Dr. Page is to analyze TDT alcoholism data.

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HSF-GEF (Allison)	2/1/02 – 1/31/04	As needed
UAB Intramural Grant	\$189,531(1st yr direct)	\$319,000

(Total Direct Costs)

Microarray Data Analysis Clearinghouse

To help UAB investigators generate preliminary data for grant applications and to conduct research of interest in its own right utilizing microarray methods and to provide such service with factory-like efficiency.

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NIH (Ruden)	6/1/02-5/31/04	4%
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NIH/NIEHS	\$100,000 (year 1 direct)	\$287,000
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(total)

Toxicogenomics of Lead, Mercury, and Cadmium NIH

The major goal is the analyze DNA microarrays to study the effect of heavy metal on development.

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