

LOGAN DUMITRESCU

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EDUCATION

- Mar. 2011 **Ph.D. in Human Genetics, Vanderbilt University**
Dec. 2010 **M.S. in Applied Statistics, Vanderbilt University**
May 2004 **B.S. in Biological Sciences, Vanderbilt University**
- *Summa cum laude*

RESEARCH & WORK EXPERIENCE

- 2016-present **Neuroimaging Genetics Staff Scientist, Vanderbilt Memory & Alzheimer's Center, Vanderbilt University Medical Center, Nashville, TN**
- Leverage advanced computational approaches from genomics, proteomics, and neuroscience to identify novel markers of Alzheimer's disease risk and resilience
- 2013-2016 **Regulatory Writer, Synchrogenix Information Strategies Inc, Nashville, TN**
- For our biopharmaceutical clients, assisted with and led the writing, editing, and formatting of clinical regulatory documents, including clinical study reports, protocols, Investigator Brochures, patient narratives, and agency regulatory responses
 - Led clinical trial disclosure activities, including lay summaries of clinical trials and posting of clinical trial results to public databases
 - Performed quality control reviews of regulatory documents
- 2011-2013 **Research Fellow, Center for Human Genetics, Vanderbilt University, Nashville, TN**
- Advisor: Dr. Dana C. Crawford
Research focus: Identification of common genetic variants that contribute to common, complex diseases, including resistant hypertension, cancer, and type 2 diabetes
- 2006-2011 **Graduate Student, Center for Human Genetics, Vanderbilt University, Nashville, TN**
- Advisor: Dr. Dana C. Crawford
Research focus: Identification and characterization of common genetic variants that influence lipid and lipoprotein distributions
- 2005-2006 **Laboratory Assistant, University of Alabama, Tuscaloosa, AL**
- Advisor: Dr. Janis M. O'Donnell
 - Research focus: The dopamine synthesis pathway in *Drosophila melanogaster*
- Summer 2003 **Research Technician, Vanderbilt University, Nashville, TN**
- Advisor: Dr. Daniel J. Funk
Research focus: The speciation and ecological specialization of herbivorous insects

TEACHING EXPERIENCE

Spring 2012	Teaching Assistant for Human Genetics 330: Special Topics in Human Genetics, Vanderbilt University
Fall 2011	Teaching Assistant for Epidemiology 333: Analytical Techniques in Genetic Epidemiology, Vanderbilt University
2009-2010	Teaching Fellow for the Interdisciplinary Graduate Program, Vanderbilt University

INSTITUTIONAL COMMITTEES

2010-2013	Standardization of Student Evaluations Committee, Graduate School Student Representative, Vanderbilt University
2009-2010	Human Genetics Student Association, President, Vanderbilt University
2009-2010	Program in Human Genetics Oversight Committee, Student Representative, Vanderbilt University

INVITED TALKS

1. "Genetic determinants of non-fasting lipid levels in children." Genetics Interest Group, Vanderbilt University, Nashville, TN, April 2008
2. "GWAS-identified genetic determinants of lipid levels." Genetics Interest Group, Vanderbilt University, Nashville, TN, February 2009
3. "Assessing the accuracy of reported ancestry in a biorepository linked to electronic medical records." Graduate Student Research Symposium, Vanderbilt University, Nashville, TN, March 2010
4. "Revisiting Eugenics in a Genomics Era." Ph.D. Program in Human Genetics Retreat, QHR Conference Center, Brentwood, TN, March 2010
5. "Exploring the paradox: Genetics of lipoprotein(a) levels and myocardial infarction in non-Hispanic blacks." Genetics Interest Group, Vanderbilt University, Nashville, TN, April 2010
6. "Epidemiologic Architecture for Genes Linked to Environment: serum vitamins A and E modify HDL-C, LDL-C, and triglyceride GWAS-identified associations in the National Health and Nutrition Examination Surveys." International Congress of Human Genetics, Montreal, Canada, October 2011
7. "PAGE-wide lipids analysis." PAGE Steering Committee Meeting, UNC Chapel Hill, NC, March 6, 2012

PUBLICATIONS

1. **Dumitrescu L**, Ritchie MD, Brown-Gentry K, Pulley JM, Basford M, Denny JC, Oksenberg JR, Roden DM, Haines JL, and Crawford DC. Assessing the accuracy of observer-reported ancestry in a biorepository linked to electronic medical records. *Genetics in Medicine* 2010; 12(10):648-650.
2. **Dumitrescu L**, Glenn K, Brown-Gentry K, Shephard C, Wong M, Rieder MJ, Smith JD, Nickerson DA, and Crawford DC. Variation in *LPA* is robustly associated with Lp(a) levels in the Third National Health and Nutrition Examination Survey. *PLoS One* 2011; 6(1):e16604.
3. Miller EK, **Dumitrescu L**, Cupp C, Dorris S, Taylor S, Sparks R, Fawkes D, Frontiero V, Rezendes AM, Marchant C, Edwards KM, and Crawford DC. Atopy history and the genomics

- of wheezing and lack of vaccine efficacy after influenza vaccination in children 6-59 months of age. *Vaccine* 2011; 29(18):3431-3437.
4. Lingappa J*, **Dumitrescu L***, Zimmer SM, Lynfield R, McNicholl J, Messonnier NE, Whitney CG, and Crawford DC. Identifying Host Genetic Risk Factors in the Context of Public Health Surveillance for Invasive Pneumococcal Disease. *PLoS One* 2011; 6(8):e23413.
 5. **Dumitrescu L**, Brown-Gentry K, Glenn K, Young W, Kornegay N, Cai J, Relling MV, and Crawford DC. Evidence for age as a modifier of genetic associations for lipid levels. *Annals of Human Genetics* 2011; 75(5):589-597. ***This manuscript is featured on the cover of the journal's issue***
 6. **Dumitrescu L**, Carty CL, Taylor K, Schumacher FR, Hindorff LA, Ambite JL, Anderson G, Best LG, Brown-Gentry K, Bůžková P, Carlson CS, Cochran B, Cole SA, Devereux RB, Duggan D, Eaton CB, Fornage M, Franceschini N, Haessler J, Howard BV, Johnson KC, Laston S, Kolonel LN, Lee ET, MacCluer JW, Manolio TA, Pendergrass SA, Quibrera M, Shohet RV, Wilkens LR, Haiman CA, Le Marchand L, Buyske S, Kooperberg C, North KE, and Crawford DC. Genetic determinants of lipid traits in diverse populations from the Population Architecture using Genomics and Epidemiology (PAGE) Study. *PLoS Genetics* 2011; 7(6):e1002138. ***Voted "Top 10 Paper" in the Vanderbilt Epidemiology Center for 2011***
 7. Mitchell S, Welch-Burke T, **Dumitrescu L**, Lomenick JP, Murdock D, Crawford DC, and Summar M. Peptide tyrosine tyrosine levels are increased in patients with urea cycle disorders. *Molecular Genetics and Metabolism* 2012; 106(1):39-42.
 8. Buyske S, Wu Y, Carty CL, Cheng I, Assimes TL, **Dumitrescu L**, Hindorff L, Mitchell S, Ambite JL, Boerwinkle E, Bůžková P, Carlson CS, Cochran B, Duggan D, Eaton CB, Fesinmeyer MD, Franceschini N, Haessler J, Jenny N, Kang HM, Kooperberg C, Lin Y, Le Marchand L, Matisse T, Robinson JG, Rodriguez C, Schumacher FR, Voight BF, Young A, Manolio T, Mohlke KL, Haiman CA, Peters U, Crawford DC, and North KE. Evaluation of the MetaboChip Genotyping Array in African Americans and Implications for Fine Mapping of GWAS-Identified Loci: The PAGE Study. *PLoS One* 2012; 7(4):e35651.
 9. **Dumitrescu L**, Goodloe R, Brown-Gentry K, Mayo P, Allen M, Jin H, Gillani NB, Schentz-Boutaud N, Dilks HH, and Crawford DC. Serum vitamins A and E as modifiers of lipid trait genetics in the National Health and Nutrition Examination Surveys. *Human Genetics* 2012; 131(11):1699-1708. ***This article was selected for an oral presentation at the 2011 International Congress of Human Genetics meeting in the session titled "Statistical Genetics II: Expanding Genome-Wide Association Studies"***
 10. Bush WS*, Boston J*, Pendergrass SA, **Dumitrescu L**, Goodloe R, Brown-Gentry K, Wilson S, McClellan B, Torstenson E, Basford MA, Spencer KL, Ritchie MD, and Crawford DC. Enabling high throughput genotype-phenotype associations in the Epidemiology Architecture for Genes Linked to Environment (EAGLE) project as part of the Population Architecture using Genomics and Epidemiology (PAGE) study. *Pacific Symposium on Biocomputing* 2013; 18:385-396.
 11. Taylor KC, Carty CL, **Dumitrescu L**, Bůžková P, Cole SA, Hindorff LA, Schumacher FR, Wilkens LR, Shohet RV, Quibrera M, Johnson KC, Henderson BE, Haessler J, Franceschini N, Eaton CB, Duggan D, Cochran B, Cheng I, Carlson CS, Brown-Gentry K, Anderson G, Ambite JL, Haiman C, Le Marchand L, Kooperberg C, Crawford DC, Buyske S, North KE, and Fornage M. Discovery and replication of gene-by-sex interactions for lipid traits in diverse populations from the Population Architecture using Genomics and Epidemiology (PAGE) Study. *BMC Genetics* 2013; 14:33.
 12. Wu Y, Waite LL, Jackson AU, Sheu WH-H, Buyske S, Absher D, Arnett DK, Boerwinkle E, Bonnycastle LL, Carty CL, Cheng I, Cochran B, Croteau-Chonka DC, **Dumitrescu L**, Eaton CB, Franceschini N, Guo X, Henderson BE, Hindorff LA, Kim E, Kinnunen L, Komulainen P,

- Lee W-J, Le Marchand L, Lin Y, Lindström J, Lingaas-Holmen O, Mitchell SL, Narisu N, Robinson JG, Schumacher F, Stančáková A, Sundvall J, Sung Y-J, Swift AJ, Wang W-C, Wilkens L, Wilsgaard T, Young AM, Adair LS, Ballantyne C, Bůžková P, Chakravarti A, Collins FS, Duggan D, Feranil AB, Ho L-T, Hung Y-J, Hunt SC, Hveem K, Juang J-MJ, Kesäniemi AY, Kuusisto, Laakso M, Lakka TA, Lee I-T, Leppert MF, Matisse TC, Moilanen L, Njølstad I, Peters U, Quertermous T, Rauramaa R, Rotter JI, Saramies J, Tuomilehto J, Uusitupa M, Tzung-Dau Wang T-D, Boehnke B*, Haiman C*, Chen Y-DI*, Kooperberg K*, Assimes TL*, Crawford DC*, Hsiung CA*, North KE*, Mohlke KL*. Trans-Ethnic Fine-Mapping of Lipid Loci Identifies Population-Specific Signals and Allelic Heterogeneity that Increases the Trait Variance Explained. *PLoS Genetics* 2013; 9(3):e1003379.
13. Carlson CS, Matisse TC, North KE, Haiman CA, Fesinmeyer MD, Buyske S, Schumacher F, Peters U, Franceschini N, Ritchie MD, Duggan DJ, Spencer KL, **Dumitrescu L**, Eaton CB, Thomas F, Young A, Carty C, Manolio TA, Heiss G, Le Marchand L, Crawford DC, Hindorff LA, Kooperberg C, and for the PAGE Study. Generalization and attenuation of association results from European GWAS in populations of non-European ancestry: the PAGE study. *PLoS Biology* 2013; 11(9):e1001661.
 14. **Dumitrescu L**, Carty CL, Franceschini N, Hindorff LA, Cole SA, Buzkova P, Schumacher FR, Eaton CB, Goodloe RJ, Duggan DJ, Haessler J, Cochran B, Henderson BE, Cheng I, Johnson KC, Carlson CS, Love S-A, Brown-Gentry K, Quibrera M, Anderson G, Shohet R, Ambite JL, Wilkens LR, Le Marchand L, Haiman CA, Buyske S, Kooperberg C, North KE, Fornage M, and Crawford DC. Post genome-wide association study challenges for lipid traits: describing age as a modifier of gene-lipid associations in the Population Architecture using Genomics and Epidemiology (PAGE) study. *Annals of Human Genetics* 77(5) 2013; 416-425.
 15. **Dumitrescu L**, Carty CL, Franceschini N, Hindorff LA, Cole SA, Buzkova P, Schumacher FR, Eaton CB, Goodloe RJ, Duggan DJ, Haessler J, Cochran B, Henderson BE, Cheng I, Johnson KC, Carlson CS, Love S-A, Brown-Gentry K, Nato AQ, Quibrera M, Shohet R, Ambite JL, Wilkens LR, Le Marchand L, Haiman CA, Buyske S, Kooperberg C, North KE, Fornage M, and Crawford DC. No evidence of interaction between known lipid-associated genetic variants and smoking in the multi-ethnic PAGE population. *Human Genetics* 2013; 132(12):1427-31.
 16. Cheng I*, Kocarnik JM*, **Dumitrescu L**, Lindor N, Chang-Claude J, Avery C, Caberto C, Love SA, Slattery ML, Chan AT, Baron J, Hindorff LA, Park SL, Schumacher FR, Hoffmeister M, Kraft P, Butler A, Junkins HA, Duggan D, Hou L, Carlson CS, Monroe K, Lin Y, Carty CL, Mann S, Ma J, Giovannucci E, Fuchs C, Newcomb P, Jenkins M, Hopper J, Haile R, Conti DV, Campbell PT, Potter J, Caan B, Schoen RE, Hayes R, Chanock S, Berndt S, Kury S, Bezieau S, Ambite JL, Kumaraguruparan G, Richardson D, Goodloe RJ, Dilks HH, Baker P, Zanke B, Lemire M, Gallinger S, Hsu L, Jiao S, Harrison T, Seminara D, Haiman CA, Kooperberg C, Wilkens LR, Hutter LR, White E, Bush WS, Heiss G, Hudson TJ, Crawford DC, Brenner H, Casey G, Le Marchand L*, Peters U*. Pleiotropic effects of genetic risk variants for other cancers on colorectal cancer risk: PAGE, GECCO, and CCFR Consortia. *Gut* 2014; 63(5):800-807.
 17. Park, Fesinmeyer MD, Timofeeva M, Caberto C, Kocarnik JM, Han Y, Love SA, Young A, **Dumitrescu L**, Lin Y, Wilkens LR, Matisse TC, Hindorff LA, Fowke J, Carty C, Buyske S, Schumacher FR, Butler A, Biggs ML, Deelman E, Giovino G, Cote M, Rafnar T, Christiani DC, Field JK, Bickeboller H, Risch A, Heinrich J, Brennan P, Houlston, Thun M, Albanes D, Caporaso N, Peters U, North K, Heiss G, Crawford DC, Bush WS, Haiman CA, Landi MT, Hung RJ, Kooperberg C, Amos CI, for the TRICL Research Team, Le Marchand L, Cheng I. Pleiotropic associations of risk variants identified for other cancers with lung cancer risk: The PAGE and TRICL consortia. *J Natl Cancer Inst* 2014; 106(4).

18. Kocarnik JM, Park SL, Han J, **Dumitrescu L**, Cheng I, Wilkens LR, Schumacher FR, Kolonel L, Carlson CS, Crawford DC, Goodloe RJ, Dilks H, Baker P, Richardson D, Ambite JL, Song F, Quresh AA, Zhang M, Duggan D, Hutter C, Hindorff LA, Bush WS, Kooperberg C, LeMarchand L, and Peters U. Replication of associations between GWAS SNPs and melanoma risk in the Population Architecture using Genomics and Epidemiology (PAGE) study *Journal Invest Dermatol* 2014; 134(7):2049-2052.
19. Hall JB, **Dumitrescu L**, Dilks HH, Crawford DC, Bush WS. Accuracy of observer-reported ancestry for diverse populations in an electronic medical record-linked biobank. *PLoS One* 2014; 9(6):e99161.
20. Park SL, Caberto C, Lin Y, Goodloe R, **Dumitrescu L**, Love S-A, Matise T, Hindorff LA, Fowke J, Schumacher FR, Beebe-Dimmer J, Chen C, Hou L, Thomas F, Deelman E, Han Y, Peters U, North KE, Heiss G, Crawford DC, Haiman CA, Wilkens LR, Bush WS, Kooperberg C, Cheng I, Le Marchand L. Associate of cancer susceptibility variants with risk of multiple primary cancers: The Population Architecture using Genomics and Epidemiology Study. *Cancer Epidemiol Biomarkers Prev* 2014; 23(11):2568-2578.
21. Crawford DC, **Dumitrescu L**, Goodloe R, Brown-Gentry K, Boston J, McClellan B, Sutcliffe C, Wiseman R, Baker P, Pericak-Vance MA, Scott WK, Allen M, Mayo P, Schnetz-Boutaud N, Dilks HH, Haines JL, Pollin TI. Rare variant APOC3 R19X is associated with cardio-protective profiles in a diverse population-based survey as part of the Epidemiologic Architecture for Genes Linked to Environment (EAGLE) study. *Circulation: Cardiovascular Genetics* 2014; 7(6):848-853.
22. Kocarnik JM, Park SL, Han J, **Dumitrescu L**, Cheng I, Wilkens LR, Schumacher FR, Kolonel L, Carlson CS, Crawford DC, Goodloe RJ, Dilks HH, Baker P, Richardson D, Matise TC, Ambite JL, Song F, Qureshi AA, Zhang M, Duggan D, Hutter C, Hindorff L, Bush WS, Kooperberg C, Le Marchand L, Peters U. Pleiotropic and sex-specific effects of cancer GWAS SNPs on melanoma risk in the Population Architecture using Genomics and Epidemiology (PAGE) study. *PLoS One* 2015; 10(3):e0120491.
23. **Dumitrescu L**, Goodloe R, Farber-Eger E, Boston J, Crawford DC. The effects of electronic medical record phenotyping details on genetic association studies: HDL-C as a case study *BioData Min.* 2015; 8:15.
24. **Dumitrescu L**, Diggins KE, Goodloe R, Crawford DC. Testing population-specific quantitative trait associations for clinical outcome relevance in a biorepository linked to electronic health records: LPA and myocardial infarction in African Americans. *Pac Symp Biocomput.* 2016; 21:96-107.
25. Zubair N, Graff M, Luis Ambite J, Bush WS, Kichaev G, Lu Y, Manichaikul A, Sheu WH, Absher D, Assimes TL, Bielinski SJ, Bottinger EP, Buzkova P, Chuang LM, Chung RH, Cochran B, **Dumitrescu L**, Gottesman O, Haessler JW, Haiman C, Heiss G, Hsiung CA, Hung YJ, Hwu CM, Juang JJ, Le Marchand L, Lee IT, Lee WJ, Lin LA, Lin D, Lin SY, Mackey RH, Martin LW, Pasaniuc B, Peters U, Predazzi I, Quertermous T, Reiner AP, Robinson J, Rotter JJ, Ryckman KK, Schreiner PJ, Stahl E, Tao R, Tsai MY, Waite LL, Wang TD, Buyske S, Ida Chen YD, Cheng I, Crawford DC, Loos RJ, Rich SS, Fornage M, North KE, Kooperberg C, Carty CL. Fine-mapping of lipid regions in global populations discovers ethnic-specific signals and refines previously identified lipid loci. *Hum Mol Genet* 2016; 25(24):5500-5512.
26. **Dumitrescu L**, Ritchie MD, Denny JC, El Rouby NM, McDonough CW, Bradford Y, Ramirez AH, Bielinski SJ, Basford MA, Chai HS, Peissig P, Carrell D, Pathak J, Rasmussen LV, Wang X, Pacheco JA, Kho AN, Hayes MG, Matsumoto M, Smith ME, Li R, Cooper-DeHoff RM, Kullo IJ, Chute CG, Chisholm RL, Jarvik GP, Larson EB, Carey D, McCarty CA, Williams MS, Roden DM, Bottinger E, Johnson JA, de Andrade M, Crawford DC. Genome-wide study of resistant hypertension identified from electronic health records. *PLoS One* 2017; 12(2):e0171745.

27. Hohman TJ, **Dumitrescu L**, Cox NJ, Jefferson AL; Alzheimer's Neuroimaging Initiative. Genetic resilience to amyloid related cognitive decline. *Brain Imaging Behav* 2017; 11(2):401-409.
28. Hohman TJ, **Dumitrescu L**, Oksol A, Wagener M, Gifford KA, Jefferson AL; Alzheimer's Disease Neuroimaging Initiative. APOE allele frequencies in suspected non-amyloid pathophysiology (SNAP) and the prodromal stages of Alzheimer's Disease. *PLoS One* 2017; 12(11):e0188501.
29. Hohman TJ, **Dumitrescu L**, Barnes LL, Thambisetty M, Beecham G, Kunkle B, Gifford K, Bush WS, Chibnik LB, Mukherjee S, De Jager PL, Kukull W, Crane PK, Resnick SM, Keene CD, Montine TJ, Schellenberg GD, Haines JL, Zetterberg H, Blennow K, Larson EB, Johnson SC, Albert M, Bennett DA, Schneider JA, Jefferson AL for the Alzheimer's for the Alzheimer's Disease Genetics Consortium and the Alzheimer's Disease Neuroimaging Initiative. Sex-specific effects of Apolipoprotein E on cerebrospinal fluid levels of tau. *JAMA Neurology* 2018. 10.1001/jamaneurol.2018.0821.
30. Deming Y*, **Dumitrescu L***, Barnes LL, Thambisetty M, Kunkle B, Gifford KA, Bush WS, Chibnik LB, Mukherjee S, De Jager PL, Kukull W, Huentelman M, Crane PK, Resnick SM, Keene CD, Montine TJ, Schellenberg GD, Haines JL, Zetterberg H, Blennow K, Larson EB, Johnson SC, Albert M, Moghekar A, del Aguila JL, Fernandez MV, Budde J, Hassenstab J, Fagan AM, Riemenschneider M, Petersen RC, Minthon L, Chao MJ, Van Deerlin VM, Lee VM, Shaw LM, Trojanowski JQ, Peskind ER, Li G, Davis LK, Sealock JM, Cox NJ, Goate AM, Bennett DA, Schneider JA, Jefferson AL, Cruchaga C, Hohman TJ. Sex-specific genetic predictors of Alzheimer's disease biomarkers. (in review at *Acta Neuropathologica*)
31. Jansen IE, Savage JE, Watanabe K, Bryois J, Williams DM, Steinberg S, Sealock J, Karlsson IK, Hägg S, Athanasiu L, Voyle N, Proitsi P, Witoelar A, Stringer S, Aarsland D, Almdahl IS, Andersen F, Bergh S, Bettella F, Bjornsson S, Brækhus A, Bråthen G, de Leeuw C, Desikan RS, Djurovic S, **Dumitrescu L**, Fladby T, Homan TJ, Jonsson PV, Kiddle SJ, Rongve KA, Saltvedt I, Sando SB, Selbæk G, Skene N, Snaedal J, Stordal E, Ulstein ID, Wang Y, White LR, Hjerling-Leffler J, Sullivan PF, van der Flier WM, Dobson R, Davis LK, Stefansson H, Stefansson K, Pedersen NL, Ripke S*, Andreassen OA*, Posthuma D*. Genetic meta-analysis identifies 9 novel loci and functional pathways for Alzheimer's disease risk. (in review at *Nature Genetics*)
32. Osborn K, Alverio J, **Dumitrescu L**, Pechman K, Gifford KA, Hohman TJ, and Jefferson AL. Adverse vascular risk relates to cerebrospinal fluid biomarker evidence of axonal injury in the presence of Alzheimer's disease pathology. (in review at *Journal of Neuroscience*)