

**Curriculum Vitae**  
**Mariaelisa Graff**  
**July 2017**

**PERSONAL**

**Business Address:** Department of Epidemiology  
University of North Carolina at Chapel Hill  
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**EDUCATION**

- 2006                    **Doctor of Philosophy Degree**  
Nutritional Epidemiology  
Emory University  
Dissertation: The role of childhood nutrition, pre-pregnant nutrition status and education on fertility in Ladino Guatemalan women.  
Advisor: Dr. Aryeh Stein and Dr.Reynaldo Martorell.
- 2000                    **Masters of Science Degree**  
Nutrition Science  
University of Utah  
Thesis: Calcium absorption and Vitamin D receptor genotype in rachitic and nonrachitic Nigerian children.  
Advisor: Dr. Diane Stadler
- 2000                    **Dietetic Degree**  
Nutrition & Dietetics  
University of Utah  
Dietetic Internship: VA hospital, Salt Lake City, UT;  
Jos University Teaching Hospital, Jos, Nigeria  
Registered Dietician Certification taken 2003 for 2003-2008;  
Renewals: 2008-2013, 2013-2018.  
State certification: Texas 2006-2010; NC 2008-2015.
- 1996                    **Bachelor of Science Degree**  
Molecular Biology/Nutrition  
Brigham Young University  
Laborator Research: Mitochondrial Genes and Obesity in Pima Indians  
Advisor: Dr. Mark Rowe

**PROFESSIONAL EXPERIENCE**

**Post-doctoral Fellow**

2011-present

Obesity and Cardiovascular Disease Genetic Epidemiology  
Department of Epidemiology  
University of North Carolina at Chapel Hill  
137 E. Franklin Street, Suite 305  
Chapel Hill, North Carolina 27514  
(919) 966-2148 / (512) 589-1712  
Mentor: Dr. Kari North

**Post-doctoral Fellow**

2009-2011

Interdisciplinary Obesity Training Program  
Department of Nutrition/Carolina Population Center  
University of North Carolina at Chapel Hill  
123 W. Franklin Street, Suite 408B  
Chapel Hill, North Carolina 27516  
(919) 843-9966 / (919) 966-2148  
Mentors: Dr. Penny Gordon-Larsen and Dr. Kari North

**Project Manager**

2007 - 2008

North Carolina Agromedicine Institute  
East Carolina University  
Greenville, NC  
(252)744-1045  
[tutorr@ecu.edu](mailto:tutorr@ecu.edu)

**Registered Dietician**

2007

Hill Country Family Specialists  
Leander, TX  
(512)259-2222

**Research Consultant**

2006-2007

Ultra-Scan Corp.  
Fingerprint analysis for biological research  
Amhurst, NY  
(716)832-6269  
[support@ultra-scan.com](mailto:support@ultra-scan.com)

**Pre-doctoral Research Assistant**

2001- 2006

Department of Global Health  
Emory University  
1514 Clifton Road  
Decatur, GA  
(494)727-4255  
[aryeh.stein@emory.edu](mailto:aryeh.stein@emory.edu)

**Research Associate**

1997-1999

Myriad Genetics

Obesity/Asthma Section  
Salt Lake City, UT 84105  
(801) 584-3600  
<https://www.myriad.com>

**Medical Assistant/Intern**

1997

Neuro-radiology Clinic  
The University of Homburg/Saar Hospital  
Homburg, Germany  
[Neurochirurgie.Ambulanz @uks.eu](mailto:Neurochirurgie.Ambulanz@uks.eu)  
(06841)-16-16000

**Summer Fellow**

1994

National Institutes of Health/NIDDK  
Diabetes Molecular Genetics Section,  
Phoenix Epidemiology and Clinical Research Branch  
Pima Indian Hospital, Genetics Lab  
Phoenix, AZ  
(602)200-5200

**Research Assistant/  
Lab Manager**

1992-1996

Brigham Young University  
Genetics and Nutrition lab  
Provo, Utah  
(801) 422-3042

**HONORS**

2014

CHARGE Consortium (Cohorts for Heart and Aging Research in Genomic) Tiger New Investigator Award

2014

New Investigator Travel Award, American Heart Association Epidemiology/Nutrition, Physical Activity and Metabolism Conference

2012-2013

University of North Carolina CVD Epidemiology Fellowship

2009-2013

Carolina Population Center Postdoctoral Fellowship

2009-2011

Interdisciplinary Obesity Postdoctoral Training Fellowship

2000

Finalist, Graduate Student Research Award, Society for International Nutrition Research

1999-2000

Graduate Student Fellowship Award, University of Utah

1999

Dietetic Intern, Veterans Army Hospital, Salt Lake City, UT

|      |                                                                            |
|------|----------------------------------------------------------------------------|
| 1998 | Dietetic Intern, Jos University Teaching Hospital, Jos, Nigeria            |
| 1997 | Medical Assistant Intern, University of Homburg Hospital, Homburg, Germany |
| 1994 | NIH/NIDDK Summer Research Intern, Pima Indian Hospital, Phoenix, AZ        |
| 1993 | Summer Intern, US Mission to NATO, Brussels, Belgium                       |

## MEMBERSHIPS

The American Society of Human Genetics  
The American Heart Association  
The Obesity Society

## PUBLICATIONS

### Published Peer Reviewed Articles

#### 2017

52. Giri, A, Hartmann, KE, Aldrich, MC, Ward, RM, Wu, JM, Park, AJ, **Graff, M**, Qi, L, Nassir, R, Wallace, RB *et al.* **Admixture mapping of pelvic organ prolapse in African Americans from the Women's Health Initiative Hormone Therapy trial.** *PLoS ONE* 2017; 12 (6): e0178839. PubMed PMID:28582460 PubMed Central PMC5459562.

51. Shungin, D, Deng, WQ, Varga, TV, Luan, J, Mihailov, E, Metspalu, A, GIANT Consortium, Morris, AP, Forouhi, NG, Lindgren, C *et al.* **Ranking and characterization of established BMI and lipid associated loci as candidates for gene-environment interactions.** *PLoS Genet.* 2017; 13 (6): e1006812. PubMed PMID:28614350 PubMed Central PMC5489225

50. S Bien, JS. Pankow, J Haessler, K Lu, N Pankratz, A Tamuno, R Rohde, C Carlson, FR Schumacher, P Bůžková, M Daviglus, U Lim, R Li, M Fornage, L Fernandez-Rhodes, JL Ambite, L Aviles-Santa, Steven Buyske, N Franceschini, M Gross, **M Graff**, C Isasi, LH Kuller, J Manson, Tara Matise, R Prentice, L Wilkens, S Yoneyama, CA Haiman, LA Hindorff, LL Marchand, KE North, R Loos, U Peters, C Kooperberg. Population Architecture using Genomics and Epidemiology (PAGE): Transethnic insight on the genetics of glycemic traits. Accepted in *Diabetologica* 2017.

49. Howson JMM, Zhao W, Barnes DR, Ho WK, Young R, ... Young K, **Graff M**, North KE, ... Danesh J, Buetterweorth AS, Saleheen D. Fifteen new risk loci for coronary artery disease highlight arterial wall-specific mechanisms. *Nat. Genet.* 2017; 49 (7): 1113-1119. PubMed PMID:28530674.

48. Ng MCY\*, **Graff M\***, Lu Y, Justice AE, Mudgal P, Liu C, Young K, Yanek LR, Feitosa MF, Wojczynski MK, Rand K, Brody JA, Cade BE, Dimitrov L, Duan Q, Guo X, Lange LA, Nalls M, Okut H, et al. Discovery and Fine-Mapping of Adiposity Loci Using High Density Imputation of Genome-Wide Association Studies in Individuals of African

Ancestry: African Ancestry Anthropometry Genetics Consortiu. PLoS Genet. 2017; 13 (4): e1006719. PubMed PMID:28430825 PubMed Central PMC5419579.

47. Fernández-Rhodes L, Gong J, Haessler J, Franceschini N, **Graff M**, Nishimura KK, Wang Y, Highland HM, Yoneyama S, Bush WS, Goodloe R, Ritchie MD, Crawford D, Gross M, Fornage M, Buzkova P, Tao R, Isasi C, et al. Trans-ethnic fine-mapping of genetic loci for body mass index in the diverse ancestral populations of the Population Architecture using Genomics and Epidemiology (PAGE) Study reveals evidence for multiple signals at established loci. Hum Genet. 2017 Apr 8. doi: 10.1007/s00439-017-1787-6. [Epub ahead of print] PubMed PMID: 28391526.

46. **M Graff\***, RA Scott\*, AE Justice\*, KL Young\*, TW Winkler, L Xue, A Mahajan, D Hadley, TS Ahluwalia, F Renström, T Workalemahu, M den Hoed, A Chu, N Heard-Costa, J Czajkowski, J Ngwa, Q Qi, K Monda, ..KE North, IB Borecki, LA Cupples, RJF Loos, TO Kilpeläinen. *Genome-wide physical activity interactions in adiposity – A meta-analysis of 200,452 adults*. Plos Genetics 13(4):e1006528 <https://doi.org/10.1371/journal.pgen.1006528> April 2017.

45. AE Justice\*, TW Winkler\*, **M Graff\***, KL Young\*, L Xue, A Mahajan, D Hadley, TS Ahluwalia, F Renström, T Workalemahu, M den Hoed, A Chu, N Heard-Costa, J Czajkowski, J Ngwa, Q Qi, K Monda, ..RJF Loos, TO Kilpeläinen, IB Borecki, KE North, LA Cupples. *Genome-Wide Meta-Analysis of 241,258 Adults Accounting for Smoking Behavior Identifies Novel Loci for Obesity Traits*. Nature Communications April 2017.

44. E Marouli\*, **M Graff\***, C Medina-Gomez\*, K Sin Lo\*, A Wood,..Z Kutalik, JN Hirschhorn, R JF Loos, TM Frayling, Fernando Rivadeneira, P Deloukas, G Lettre, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia. Exploring the role of rare and low-frequency coding variants in adult height using an ExomeChip. *Nature* 542 (7640), 186–190 (01 February 2017) doi:10.1038/nature21039. PMID:28146470 PMCID: PMC5302847 \*Shared junior first authorship.

43. **Graff M**, North KE, Richardson AS, Young KL, Mazul AL, Highland HM, Mohlke KL, Lange LA, Lange EM, Mullan Harris K, Gordon-Larsen P. BMI loci and longitudinal BMI from adolescence to young adulthood in an ethnically diverse cohort. Int J Obes (Lond). 2017 Jan 17. doi: 10.1038/ijo.2016.233. [Epub ahead of print] PubMed PMID: 28025578.

42. Sofer T, Heller R, Bogomolov M, Avery CL, **Graff M**, North KE, Reiner AP, Thornton TA, Rice K, Benjamini Y, Laurie CC, Kerr KF. A powerful statistical framework for generalization testing in GWAS, with application to the HCHS/SOL. Genet Epidemiol. 2017 Apr;41(3):251-258. doi: 10.1002/gepi.22029. Epub 2017 Jan 15. PubMed PMID: 28090672; PubMed Central PMCID: PMC5340573.

## 2016

41. Bien SA, Wojcik GL, Zubair N, Gignoux CR, Martin AR, Kocarnik JM, Martin LW, Buyske S, Haessler J, Walker RW, Cheng I, **Graff M**, Xia L, Franceschini N, Matise T, James R, Hindorff L, Le Marchand L, North KE, Haiman CA, Peters U, Loos RJ, Kooperberg CL, Bustamante CD, Kenny EE, Carlson CS; PAGE Study.. Strategies for Enriching Variant Coverage in Candidate Disease Loci on a Multiethnic Genotyping Array. PLoS One. 2016 Dec 14;11(12):e0167758. doi: 10.1371/journal.pone.0167758. eCollection 2016. PubMed PMID: 27973554; PubMed Central PMCID: PMC5156387.

40. Ried JS, Jeff M J, Ried JS, Jeff M J, Chu AY, ... **Graff M**, Grallert H, Grarup N, Gräßler J, Grewal J, ..., North KE,

O'Connell JR, Schlessinger D, Thorsteinsdottir U, Strachan DP, Frayling T, Hirschhorn JN, Müller-Nurasyid M, Loos RJ. A principal component meta-analysis on multiple anthropometric traits identifies novel loci for body shape. *Nat Commun*. 2016 Nov 23;7:13357. doi: 10.1038/ncomms13357. PMID:27876822 PMCID: PMC5114527

39. Yoneyama S, Yao J, Guo X, Fernandez-Rhodes L, Lim U, Boston J, Buzková P, Carlson CS, Cheng I, Cochran B, Cooper R, Ehret G, Fornage M, Gong J, Gross M, Gu CC, Haessler J, Haiman CA, Henderson B, Hindorff LA, Houston D, Irvin MR, Jackson R, Kuller L, Leppert M, Lewis CE, Li R, Le Marchand L, Matise TC, Nguyen KD, Chakravarti A, Pankow JS, Pankratz N, Pooler L, Ritchie MD, Bien SA, Wassel CL, Chen YD, Taylor KD, Allison M, Rotter JI, Schreiner PJ, Schumacher F, Wilkens L, Boerwinkle E, Kooperberg C, Peters U, Buyske S, **Graff M\***, North KE\* Generalization and fine mapping of previously identified waist related trait loci to African populations: The PAGE Study. *Int J Obes (Lond)*. 2016 Nov 21. doi: 10.1038/ijo.2016.207. [Epub ahead of print] PMID:27867202. PMCID: PMC5296276. \*Shared senior last authorship.

38. Zubair N\*, **Graff M\***, JL Ambite, WS Bush, G Kichaev, Y Lu, A Manichaikul, Kooperberg C, Carty C Fine-mapping of lipid regions in global populations discovers racial/ethnic-specific signals and refines previously identified lipid loci. *Hum Mol Genet*. 2016 Dec 15;25(24):5500-5512. doi: 10.1093/hmg/ddw358. PMID:28426890. \*Shared junior first authorship.

37. **Graff M**, Richardson AS, North KE, Young KL, Liu, A, Mohlke KL, Lange LA, Lange EM, Harris KM Gordon-Larsen P. The interaction between physical activity and obesity gene variants in association with BMI: Does the obesogenic environment matter? *Health Place*. 2016 Nov;42:159-165. doi: 10.1016/j.healthplace.2016.09.003. PMID:27771443. PMCID: PMC5116401

36. MR Robinson, A Kleinman, **M Graff**, AAE Vinkhuyzen, D Couper, MB Miller, WJ Peyrot, A Abdellaoui, B Zietsch, IM Nolte, JV van Liet-Ostaptchouk, H Snieder, The LifeLines Cohort, GiANT consortium, S Medland, NG Martin, PKE Magnusson, WG Oacono, M McGue, KE North, J Yian, PM Visscher. Genetic evidence of mating for height and body mass index in humans. Accepted in *Nature Human Behavior* September 2016.

35. Justice AE, Howard AG, Chittoor G, Fernandez-Rhodes L, **Graff M**, Voruganti VS, Diao G, Love SM, Franceschini N, O'Connell J, Avery C, Young KL, North KE. Genome-Wide Association of SEM-Informed Latent Class Growth Modeling of Systolic Blood Pressure Change. *BMC Proc*. 2016 Oct 18;10(Suppl 7):321-327. eCollection 2016. PMID:27980656 PMCID: PMC5133524

34. Fernandez-Rhodes L, Hodonsky CJ, **Graff M**, Love SM, Howard AG, Seyerle AA, Avery CL, Chittoor G, Franceschini N, Voruganti VS, Young KL, O'Connell J, North KE, Justice AE. Comparison of Gene-Environment Methods using Simulated GAW19 Family-Based Data. *BMC Proc*. 2016 Oct 18;10(Suppl 7):371-377. eCollection 2016. PMID:27980664 PMCID: PMC5133512

33. Sofer T, Shaffer JR, **Graff M**, Qi Q, Stilp AM, Gogarten SM, North KE, Isasi CR, Laurie CC, Szpiro AA. Meta-Analysis of Genome-Wide Association Studies with Correlated Individuals: Application to the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *Genet Epidemiol*. 2016 Sep;40(6):492-501. PMID: 27256683; PMCID: PMC4981554.

32. Lange LA, **Graff M**, Lange EM, Young KL, Richardson AS, Mohlke KL, North KE, Harris KM, Gordon-Larsen P. Evidence for Association between SH2B1 Gene Variants and Glycated Hemoglobin in Nondiabetic European

American Young Adults: The Add Health Study. *Ann Hum Genet.* 2016 Sep;80(5):294-305. PMID:27530450; PMCID in progress.

31. S. Lessard, A. Manning, C. Low-Kam, P.L. Auer, A. Giri, **M. Graff**, C. Schurmann, H. Yaghootkar, J. Luan, T. Esko, T. Karaderi, C. Carlson, R. Jackson, C. Kooperberg, B. McKnight, U. Peters, A.P. Reiner, N. Sotoodehnia, J.N. Hirschhorn, R. Scott, P. Munroe, T. Frayling, R. Loos, K. North, T. Edwards, J. Tardif, C. Lindgren, G. Lettre. Testing the Role of Predicted Gene Knockouts in Human Anthropometric Trait Variation. *Hum Mol Genet.* 2016 Feb 21. pii: ddw055. [Epub ahead of print] PMID: 26908616; PMCID: PMC5062577.

## 2015

30. MP Conomos, CA Laurie, AM Stilp, SM Gorgarten, CP McHugh, SC Nelson, T Sofer, L Fernandez-Rhodes, AE Justice, **M Graff**, KL Young, AA Seyerle, CL Avery, KD Taylor, JI Rotter, GA Talavera, ML Daviglus, S Wassertheil-Smoller, N Schneiderman, G Heiss, RC Kaplan, N Franceschini, AP Reiner, JR Shaffer, RG Barr, KF Kerr, SR Browning, BL Browning, BS Weir, ML Aviles-Santa, GJ Papanicolaou, T Lumley, AA Szpiro, KE North, K Rice, TA Thornton, CC Laurie. (2016) Genetic Diversity and Association Studies in US Hispanic/Latino Populations: Applications in the Hispanic Community Health Study/Study of Latinos. *Am J Hum Genet.* Jan 7;98(1):165-84. PMID: 26748518.PMCID:PMC4716704

29. Giri A, Wu JM, Ward RM, Hartmann KE, Park AJ, North KE, **Graff M**, Wallace RB, Bareh G, Qi L, O'Sullivan MJ, Reiner AP, Edwards TL, Velez Edwards DR. Genetic Determinants of Pelvic Organ Prolapse among African American and Hispanic Women in the Women's Health Initiative. *PLoS One.* 2015 10(11):e0141647. doi: 10.1371/journal.pone.0141647. PMCID: PMC4636147

28. Young KM, **Graff M**, North KE, Richardson AS, Bradfield JP, Grant SFA, Lange LA, Lange EM, Harris KM, Gordon-Larsen P. Interaction of smoking and obesity susceptibility loci on adolescent BMI: The National Longitudinal Study of Adolescent to Adult Health. *BMC Genetics.* BMC Genet. 2015 Nov 4;16(1):131. doi: 10.1186/s12863-015-0289-6. PMID:26537541, PMCID:PMC4634717

27. Winkler TW\*, Justice AE\*, **Graff M\***, Barata L, ...North KE, Heid I, Borecki IB, Z Kutalik, Loos RJF on behalf of the GIANT Consortium. Sex and Age differences in anthropometric loci among adult men and women. *PLoS Genet* 2015 11(10): e1005378. doi:10.1371/journal.pgen.1005378. PMID: 26426971. PMCID: PMC4591371 (\*contributed equally to the paper)

26. Fretts AM, Folis JL, Nettleton JA, Lemaitre RN, Ngwa JS, Wojczynski MK, Kalafati IP, Varga TV, Frazier-Wood AC, Houston DK, North KE, **Graff M**, Kähönen M, Mukamal K, Johansson I, Ordovas JM, Liu Y, Männistö S, Uitterlinden AG, Deloukas P, Seppälä I, Psaty BM, Cupples LA, Borecki IB, Franks PW, Arnett DK, Nalls MA, Eriksson JG, Orto-Melander M, Franco OH, Lehtimäki T, Dedoussis JV, Meigs JB, Siscovick DS. The consumption of meat is associated with higher fasting glucose and insulin concentrations regardless of glucose & insulin genetic risk scores: a meta-analysis of 50,345 Caucasians. *Am J Clin Nutr.* 2015 102(5):1266-78. doi: 10.3945/ajcn.114.101238. Epub 2015 Sep 9. PMCID: PMC4625584

25. Joshi PK, Esko T, Mattsson H, Eklund N, Gandin I, Nutile T, Jackson AU, Schurmann C, Smith AV, Zhang W, Okada Y, Stančáková A, Faul JD, Zhao W, Bartz TM, Concas MP, Franceschini N, Enroth S, Vitart V, Trompet S, Guo X, Chasman DI, O'Connell JR, Corre T, Nongmaithem SS, Chen Y, Mangino M, Ruggiero D, Traglia M, Farmaki AE, Kacprowski T, Bjornes A, van der Spek A, Wu Y, Giri AK, Yanek LR, Wang L...**Graff M**... Mohlke KL, Boehnke M,

van Duijn CM, Sanghera DK, Teumer A, Zeggini E, Metspalu A, Gasparini P, Ulivi S, Ober C, Toniolo D, Rudan I, Porteous DJ, Ciullo M, Spector TD, Hayward C, Dupuis J, Loos RJ, Wright AF, Chandak GR, Vollenweider P, Shuldiner AR, Ridker PM, Rotter JI, Sattar N, Gyllenstein U, North KE, Pirastu M, Psaty BM, Weir DR, Laakso M, Gudnason V, Takahashi A, Chambers JC, Kooner JS, Strachan DP, Campbell H, Hirschhorn JN, Perola M, Polašek O, Wilson JF, for ROHgen. Directional dominance on stature and cognition in diverse human populations. *Nature* 2015 523(7561):459-62. doi: 10.1038/nature14618. Epub 2015 Jul 1. PMCID: PMC4516141

24. Young KM, **Graff M**, North KE, Richardson AS, Bradfield JP, Grant SFA, Lange LA, Lange EM, Harris KM, Gordon-Larsen P. Influence of SNP\*SNP interaction on BMI in European American Adolescents: Findings from the National Longitudinal Study of Adolescent Health. *Pediatr Obes*. 2015 Apr 20. doi: 10.1111/ijpo.12026. [Epub ahead of print]. PMCID: PMC4615264

#### 2014

23. Lin DY, Tao R, Kalsbeek WD, Zeng D, Gonzalez F 2nd, Fernández-Rhodes L, **Graff M**, Koch GG, North KE, Heiss G. Genetic Association Analysis under Complex Survey Sampling: The Hispanic Community Health Study/Study of Latinos. *Am J Hum Genet*. 2014 Dec 4;95(6):675-88. doi: 10.1016/j.ajhg.2014.11.005. PMID: 25480034; PMCID: PMC4259979

22. Winkler TW, Day FR, Croteau-Chonka DC, Wood AR, Locke AE, Mägi R, Ferreira T, Fall T, **Graff M**, Justice AE, Luan J, Gustafsson S, Randall JC, Vedantam S, Workalemahu T, Kilpeläinen TO, Scherag A, Esko T, Kutalik Z, Heid IM, Loos RJ; Genetic Investigation of Anthropometric Traits (GIANT) Consortium. Quality control and conduct of genome-wide association meta-analyses. *Nat Protoc*. 2014 May;9(5):1192-212. doi: 10.1038/nprot.2014.071. Epub 2014 Apr 24. PMCID: PMC4083217

#### 2013

21. **Graff M**, North KE, Richardson AS, Young KM, Mohlke KL, Lange LA, Lange EM, Harris KM, Gordon-Larsen P. Screen time behaviors may interact with obesity genes, independent of physical activity, to influence adolescent BMI in an ethnically diverse cohort. *Pediatric Obes*. 2013 Dec;8(6):e74-9. doi: 10.1111/j.2047-6310.2013.00195.x. Epub 2013 Aug 30. PMID:24039247. PMCID:PMC3838440

20. **Graff M**, Fernandez-Rhodes L, Simin Liu, Carlson C, Wassertheil-Smoller S, Neuhaus M, Reiner A, Kooperberg C, Rampersaud E, Manson J, Kuller L, Howard B, Ochs-Balcom H, Johnson K, Vitolins M, Sucheston L, Monda K, North K. Generalization of adiposity-related common genetic variants among U.S. Hispanic women in WHI-SHARE. *Nutr Diabetes*. 2013 Aug 26;3:e85. doi:10.1038/nutd.2013.26. PMCID: PMC3759132

19. **Graff M**, Ngwa JS, Workalemahu T, Homuth G, Schipf S, Teumer A, Völzke H, Wallaschofski H, Abecasis GR, Edward L, Francesco C, Sanna S, Scheet P, Schlessinger D, Sidore C, Xiao X, Wang Z, Chanock SJ, Jacobs KB, Hayes RB, Hu F, Van Dam RM; The GIANT Consortium, Crout RJ, Marazita ML, Shaffer JR, Atwood LD, Fox CS, Heard-Costa NL, White C, Choh AC, Czerwinski SA, Demerath EW, Dyer TD, Towne B, Amin N, Oostra BA, Vanduijn CM, Zillikens MC, Esko T, Nelis M, Nikopensius T, Metspalu A, Strachan DP, Monda K, Qi L, North KE, Cupples LA, Gordon-Larsen P, Berndt SI. Genome-wide Analysis of BMI in Adolescents and Young Adults Reveals Additional Insight into the Effects of Genetic Loci over the Life Course. *Hum Mol Genet*. 2013 May 12. [Epub ahead of print] PubMed PMID: 23669352. PMCID:PMC3736869



18. Fesinmeyer MD, North KE, Lim U, Bůžková P, Crawford DC, Haessler J, Gross MD, Fowke JH, Goodloe R, Love SA, **Graff M**, Carlson CS, Kuller LH, Matise TC, Hong CP, Henderson BE, Allen M, Rohde RR, Mayo P, Schnetz-Boutaud N, Monroe KR, Ritchie MD, Prentice RL, Kolonel LN, Manson JE, Pankow J, Hindorff LA, Franceschini N, Wilkens LR, Haiman CA, Le Marchand L, Peters U. Effects of smoking on the genetic risk of obesity: the population architecture using genomics and epidemiology study. *BMC Med Genet*. 2013 Jan 11;14:6. doi: 10.1186/1471-2350-14-6. PubMed PMID:23311614; PubMed Central PMCID: PMC3564691.
17. Feitosa MF, Reiner AP, Wojczynski MK, **Graff M**, North KE, Carr JJ, Borecki IB. Sex-influenced association of nonalcoholic fatty liver disease with coronary heart disease. *Atherosclerosis*. 2013 Apr;227(2):420-4. doi: 10.1016/j.atherosclerosis.2013.01.013. PubMed PMID: 23390892;PubMed Central PMCID: PMC3602396.
16. **Graff M**, Gordon-Larsen P, Lim U, Fowke JH, Love SA, Fesinmeyer M, Wilkens, Vertilus S, Ritchie MD, Prentice RL, Pankow J, Monroe K, Manson JE, Le Marchand L, Kuller LH, Kolonel LN, Hong C, Henderson, Haessler B, Gross M, Goodloe R, Franceschini N, Carlson C, Buyske S, Buzková P, Hindorff LA, Matise T, Crawford D, Haiman C, Peters U, North KE. The Influence of Obesity related single nucleotide polymorphisms on BMI across the Life Course: the PAGE Study. *Diabetes*. 2013 May; 62(5):1763-7. doi: 10.2337/db12-0863. Epub 2013 Jan 8. PubMed PMID: 23300277; PubMed Central PMCID: PMC3636619.
15. Gong, J., Schumacher, F.R., Lim, U., Hindorff, L.A., Haessler, J., Buyske, S., Carlson, C.S., Rosse, S., Bůžková, P., Fornage, M...., **Graff, M et al.** MetaboChip analysis of over 29,000 African Americans fine-maps several known BMI loci and identifies two novel BMI loci: results from the Population Architecture using Genomics and Epidemiology (PAGE) Study. *Am J Hum Genet*. 2013 Oct 3;93(4):661-71. doi: 10.1016/j.ajhg.2013.08.012. PMID: 24094743 PMCID:PMC3791273
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### **Oral and poster presentations**

56 **M Graff**, AE Justice, C Schurmann, Ran Tao, KK Nishimura, R Walker, M Preuss, J Kocarnik, A Vishnu, S Yoneyama, KL Young, L Fernandez-Rhodes, A Shadyab, S Liu, T Assimes, D Garcia, E Kenny, S Buyske, U Peters, KE North, RJF Loos A Search for Multiethnic Genetic Markers of Anthropometric traits among Ethnically Diverse US Populations in Population Architecture using Genomics and Epidemiology (PAGE) Consortium. The Obesity Society Meetings. New Orleans, November 2016 (Poster Presentation)

55 **M Graff**, V Turcot, Yingchang Lu, Claudia Schurmann, HM Highland, A. Justice, KL Young, M Feitosa, J Wang, E Marouli, A Wood, LACupples, P Deloukas, TM Frayling, JN Hirschhorn, G Lettre, CM Lindgren, KE North, Ingrid B. Borecki, RJF Loos, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia. Novel protein altering rare and low-frequency variants associated with body mass index. The Obesity Society Meetings. New Orleans, November 2016 (Poster Presentation)

54 RJF Loos, V Turcot, Y Lu, HM Highland, C Schurmann, **M Graff**, AE Justice, RS Fine, KL Young, M. Feitosa, E Marouli, A Wood, LA Cupples, IB Borecki, JA Pospisilik, deCODE genetics, TM Frayling, G Lettre, CM Lindgren, KE North, JN Hirschhorn, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia Exome-wide association meta-analysis for body mass index identifies protein-altering variants revealing new insight in the

biology underpinning obesity. American Society of Human Genetics conference. Vancouver, Canada, October 2016.

53 E. Marouli, **M. Graff**, C. Medina-Gomez, K. Sin lo, A. Wood, T.R. Kjaer, R.S. Fine, C. Schurmann, C. Oxvig, Z. Kutalik, F. Rivadeneira, R.J.F. Loos, T.M. Fraylin<sup>6</sup>, J.N. Hirschhorn<sup>8</sup>, G. Lettre, P. Deloukas For deCODE Genetics, the BBMRI-NL, the GOT2D, the CHARGE, and the GIANT Consortia. 83 rare and low-frequency coding variants implicate specific genes affecting human height variation. American Society of Human Genetics conference. Vancouver, Canada, October 2016.

52 Rüeger, S., Wood, A. R., Marouli, E., **Graff, M.**, Medina-Gomez, C., Sin Lo, K., & Kutalik, Z., on behalf of the GIANT consortium. Summary statistic imputation method enables conditional analysis across meta-analysis studies: Application to GIANT height associations from exome-chip & HapMap. Presented at the European Society of Human Genetics Meetings, Barcelona, Spain, May 2016.

51 V Turcot, Y Lu, HM Highland, C Schurmann, AE Justice, KL Young, J. Wang, P. Lenzini, **M Graff**, AL Cupples, TM Frayling, JN Hirschhorn, G Lettre, CM Lindgren, KE North, IB Borecki, RJF Loos, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia ExomeChip meta-analysis of 525,508 individuals identifies novel protein altering variants associated with body mass index (BMI); International Congress on Obesity, Vancouver, Canada, May 2016 (Oral Presentation)

50 G Lettre, E Marouli, **M Graff**, C Medina-Gomez, K Sin Lo, A Wood, Z Kutalik, JN Hirschhorn, R JF Loos, TM Frayling, P Deloukas, Fernando Rivadeneira, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia. Exploring the role of rare and low-frequency coding variants in adult height using an ExomeChip. International Human Genetics Conference, Kyoto, Japan, April 2016 (Oral Presentation).

49 AJ Park, **M Graff**, A Giri, BV Howard, JM Wu, RM Ward, DR Velez Edwards, TL Edwards, N Shara, CL Avery, KE North. Genetic determinants of pelvic organ prolapse in women of European American descent: the Women's Health Initiative. Meetings of the Society for Gynecological Research, Palm Springs, CA, April 2016.

48 Young, KL, Justice, AE, Karaderi, T, Highland, HM, Graff, M, Turcot, V, Auer, P, Heard-Costa, NLSchurmann, C, Lu, Y, Pasko, D, Southam, L, Cupples, LA, Liu, C-T, Fox, CS, Winkler, TW, Grarup, N, Scott, RA, McCarthy, M, Mohlke, K, Loos, R. J. F., Borecki, I, Lindgren, CM, North, KE, on behalf of the BBMRI, GOT2D, CHARGE, and GIANT Consortia. Trans-ethnic meta-analysis of exome chip data reveals novel low-frequency variants contributing to central adiposity. American Heart Association Epidemiology and Prevention | Lifestyle and Cardiometabolic Health. Phoenix, AZ, March 2016.

47 MCY Ng, **M Graff**, A Justice, K Lu, P Mudgal, K Rand, Y Li, BE Cade, J Brody, MK Wojczynski, LR Yanek, J Smith, MA Nalls, L Lange, S Vedantam, X Guo, D Siscovick, SR Patel, BM Psaty, IB Borecki, DM Becker, LF Bielak, Y Liu, JG Wilson, J Hirschhorn, JI Rotter, CA Haiman, RFJ Loos, KE North, for the African Ancestry Anthropometry Genetic Consortium. Genome-wide association of African ancestry imputed to the 1000 Genomes reference panel and anthropometric traits. CHARGE Bi-Annual Meetings, Washington, DC, January 2016 (Oral Presentation).

46 **M Graff**, L Fernandez-Rhodes, HM Highland, C Schurmann, Y Feng, M Cruz, A Valladares-Salgado, J Rangarajan, C Rojo, X Guo, J Rotter, M Allison, RP Igo, A Pereira, E John, T Tusie-Luna, CA Aguilar Salinas, C Gonzalez, C Gignoux, S Iyengar, C Hanis, JE Below, F Hartwig, AE Justice, KL Young, CR Isasi, Q Qi, CC Laurie, AM Stilp, SM Gogarten, VS Voruganti, G Chittoor, R Duggirala, S Puppala, T Dyer, SS Albrecht, L Raffel, D

Conti , E Ziv , E Parra , E Kenny , RJF Loos , C Haiman , KE North. Exploring genetic variants for anthropometric traits in Hispanic/Latino populations. ASHG Conference Baltimore, MA, October 2015 (Poster Presentation).

45 **M Graff**, K Sin Lo, E Marouli, C Medina-Gomez, J N. Hirschhorn, R J.F. Loos, T M. Frayling, P Deloukas, Fernando Rivadeneira, G Lettre, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia. Exploring the role of rare and low-frequency coding variants in adult height using an ExomeChip. CHARGE Bi-Annual Meetings, Jackson, MS, July 2015 (Oral and Poster Presentation).

44 AE Justice, K Young, SM Gogarten, **M Graff**, KE North, CA Laurie, C Isassi, CC Laurie Identifying genetic associations with central adiposity in Hispanic subgroups: the HCHS/SOL Study AAPA conference St Louis, MO March 2015 (Poster Presentation)

43 CM Lindgren, AE Justice, HM Highland, KL Young, **M Graff**, T Karaderi, NL Heard-Costa, D Pasko, V Turcot, Y Lu, L Southam, L A Cupples, CT Liu, CS Fox, TW Winkler, N Grarup, RA Scott, MM McCarthy, K Mohlke, RJF Loos, IB Borecki, KE North, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia Exome chip meta-analysis identifies novel loci and low-frequency variants contributing to body fat distribution American Diabetic Association; Boston, MA June 2015 (Poster Presentation)

42 N Zubair, **M Graff**, D Lin, A Manichaikul, I Chen, E Stahl, K Lu, C Haiman, D Crawford, L Dumitrescu, P Buzkova, S Buyske, M Fornage, KE North, C Kooperberg, C Carty Fine-mapping of MetaboChip lipid regions in African American, Hispanic American, Asian, and Native American populations The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2015, Baltimore, MA (Oral Presentation)

41 **M Graff**, TW Winkler, Z Kutalik, A Justice, L Barata, M Feitosa, S Chu, R Mägi, J Czajkowski, T Fall, Y Lu, TO Kilpeläinen, IM Heid, I Borecki, KE North, Z Kutalik, RJ Loos on behalf of the GIANT (Genetic Investigation of ANthropometric Traits) Consortium *Genome-wide interrogation for sex- and age -specific anthropometric trait loci in over 310,000 individuals* CHARGE Bi-Annual Meetings, Washington, DC, November 2014 (Oral Presentation).

40 AE Justice, HM Highland, KL Young, **M Graff**, T Karaderi, NL Heard-Costa, D Pasko, V Turcot, Y Lu<sup>9</sup>, L Southam<sup>10</sup>, L A Cupples: CT Liu, CS Fox, TW Winkler, N Grarup, RA Scott, MM McCarthy, K Mohlke, RJF Loos, IB Borecki, KE North, and CM Lindgren, For the BBMRI, the GOT2D, the CHARGE, and the GIANT Consortia Exome chip meta-analysis identifies novel loci and low-frequency variants contributing to body fat distribution American Society of Human Genetics, October 2014, San Diego, CA (Poster Presentation)

39 MCY Ng, **M Graff**, A Justice, K Lu, P Mudgal, K Rand, Y Li, BE Cade, J Brody, MK Wojczynski, LR Yanek, J Smith, MA Nalls, L Lange, S Vedantam, X Guo, D Siscovick, SR Patel, BM Psaty, IB Borecki, DM Becker, LF Bielak, Y Liu, JG Wilson, J Hirschhorn, JI Rotter, CA Haiman, RFJ Loos, KE North, for the African Ancestry Anthropometry Genetic Consortium Genome-wide association of 44,714 subjects of African ancestry imputed to the 1000 Genomes reference panel identify two novel loci influencing body mass index American Society of Human Genetics, October 2014, San Diego, CA (Poster Presentation)

38 VA Fisher, AE Justice, TW Winkler, NL Heard-Costa, KL Young, J Czajkowski, **M Graff**, L Barata, Q Qi, L Qi, A Mahajan, D Hadley, TS Ahluwalia, F Renström, T Workalemahu, M den Hoed, A Chu, N Heard-Costa, J Czajkowski, J Ngwa, K Young, Q Qi, K Monda, KE North, IB Borecki, RJF Loos, LA Cupples Smoking-dependent

genetic effects on obesity traits: the GIANT (Genetic Investigation of Anthropomorphic Traits) Consortium American Society of Human Genetics, October 2014, San Diego, CA (Poster Presentation)

37 TO Kilpeläinen, **M Graff**, RA Scott, AE Justice, TW Winkler, L Xue, A Mahajan, D Hadley, TS Ahluwalia, F Renström, T Workalemahu, M den Hoed, A Chu, N Heard-Costa, J Czajkowski, J Ngwa, K Young, Q Qi, K Monda, KE North, IB Borecki, RJF Loos, LA Cupples Genome-wide gene-physical activity interaction study of BMI and waist-hip-ratio in 180,395 individuals American Society of Human Genetics, October 2014, San Diego, CA (Poster Presentation)

36 **M Graff**, K Lo, K Stirrups, C Medina-Gomez, T Esko, NL Heard-Costa, AE Justice, TW Winkler, L Southam, J Czajkowski, C Schurmann, Yingchang Lu, Todd L Edwards, Ayush Giri, C Lindgren, KE North, I Borecki, Joel N Hirschhorn, Mark McCarthy, P Deloukas, F Rivadeneira, TM Frayling, RJF Loos, G Lettre, on behalf of the UK ExomeChip, the BBMRI, the GOT2D, the CHARGE, and GIANT Consortia Exploring the role of rare and low-frequency coding variants in adult height using an ExomeChip array American Society of Human Genetics, October 2014, San Diego, CA (Oral Presentation)

35 L Fernández-Rhodes, Y Li, **M Graff**, W Guan, ML Grove, Q Duan, G Zhang, M Fornage, J Pankow, EW Demerath Centralized adiposity in 2,083 African Americans in the ARIC study International Genetics Epidemiology Society, August 2014, Vienne, Austria (Poster presentation)

34 A Justice, TW Winkler, N Heard-Costa, K Young, J Czajkowski, **M Graff**, X Deng, V Fisher, TO Kilpeläinen, L Adrienne Cupples Genome-wide meta-analysis of smoking-dependent genetic effects on obesity traits: the GIANT (Genetic Investigation of ANthropometric Traits) Consortium International Genetics Epidemiology Society, August 2014, Vienne, Austria (Poster presentation)

33 LA Lange, **M Graff**, EM Lange, KM Young, KM Harris, AS Richardson, KL Mohlke, KE North, P Gordon-Larsen Evidence for association between *SH2B1* gene variants and glycated hemoglobin in non-diabetic European American young adults: The Add Health study The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2014, San Francisco, CA (Poster Presentation)

32 **M Graff**, F Xue, TO Kilpeläinen, A Justice, T Winkler, K Younger Scott Qi, D Hadley, A Mahajan, S Ahluwalia, A Chu, J Czajkowski, L Qi, J Ngwa, K Monda, NL Heard-Costa, J Ngwa, MC Zillikens, M Grove, T Haller, P Franks, I Borecki, R Loos, KE North, LA Cupples and the GIANT Consortium A Genome-wide meta-analysis of the combined influence of physical activity and genetic variants on body fat distribution in over 94,000 individuals of European descent The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2014, San Francisco, CA (Oral Presentation)

31 A Justice, T Winkler, J Ngwa, J Czajkowski, K Young, D Hadley, NL Heard-Costa, **M Graff**, D Chasman, Q Qi, R Scott, A Mahajan, TS Ahluwalia, A Chu, MC Zillikens, T Haller, I Borecki, R Loos, KE North, TO Kilpeläinen, LA Cupples and the GIANT Consortium Genome-wide analysis of gene by smoking interaction on obesity phenotypes: the GIANT (Genetic Investigation of ANthropometric Traits) Consortium The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2014, San Francisco, CA (Oral Presentation)

30 K Young, D Hadley, A Justice, T Winkler, J Ngwa, J Czajkowski, NL Heard-Costa, **M Graff**, D Chasman, Q Qi, R

Scott, A Mahajan, TS Ahluwalia, A Chu, MC Zilkins, T Haller, I Borecki, R Loos, KE North, TO Kilpeläinen, LA Cupples and the GIANT Consortium Influence of gene-by-smoking interaction on body fat distribution: the GIANT (Genetic Investigation of ANthropometric Traits) Consortium The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2014, San Francisco, CA (Oral Presentation)

29 S Yoneyama, **M Graff**, U Lim, J Gong, J Haessler, M Fornage, L Fernandez-Rhodes, C Isasi, L Aviles-Santa, P Buzkova, M Daviglus, Chris Haiman, Loic Le Marchand, F Schumacher, L Wilkens, C Kooperberg, S Buyske, TC Matise, R Li, L Hindorff, R Prentice, L Kuller, J Mason, K Mohlke, P Sethupathy, R MacKey, D Houston, CC Gu, G Ehret, KH Nguyen, R Cooper, CE Lewis, M Leppert, MR Irvin, PAGE Consortium, U Peters, KE North Fine mapping of body fat distribution loci in African American populations: The Population Architecture using Genomics and Epidemiology (PAGE) Study The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2014, San Francisco, CA (Poster Presentation)

28 **M Graff**, TW Winkler, Z Kutalik, A Justice, L Barata, M Feitosa, S Chu, R Mägi, J Czajkowski, T Fall, Y Lu, TO Kilpeläinen, IM Heid, I Borecki, KE North, Z Kutalik, RJ Loos on behalf of the GIANT (Genetic Investigation of ANthropometric Traits) Consortium *Genome-wide interrogation for sex- and age -specific anthropometric trait loci in over 310,000 individuals* The Obesity Society October 2013 Atlanta, GA (Oral Presentation)

27 TO Kilpeläinen, RA Scott, A Mahajan, F Xue, F Renström, **M Graff**, D Hadley, T Workalemahu, M den Hoed, TW Winkler, A Chu, L Qi, PW Franks, K Monda, DI Chasman, KE North, LA Cupples, RJF Loos Interaction between genome-wide data and physical activity on body mass index – a meta-analysis of 109,924 individuals The American Society of Human Genetics October 2013 Boston, MA (Oral Presentation)

26 A Justice, TW Winkler, J Ngwa, K Young, D Hadley, **M Graff**, J Vink, L Xue, T Singh Ahluwalia, L Terho, RJ Strawbridge, MC Zillikens, MF Feitosa, NL Heard-Costa, JH Zhao, N Direk, H Tiemeier, H Jörgen Grabe, TB Harris, TO Kilpeläinen, IB Borecki, RJF Loos, KE North, LA Cupples, on behalf of the **GIANT Consortium** *Genome-wide joint meta-analysis for interaction between genetic variants and smoking on waist circumference* The American Society of Human Genetics, October 2013 Boston, MA (Oral Presentation)

25 **M Graff**, AS Richardson, KL Young, KL Mohlke, LA Lange, EM Lange, KM Harris, KE North, P Gordon-Larsen *Obesity Susceptibility Loci and Longitudinal BMI from Adolescence to Young Adulthood in an Ethnically Diverse Cohort* The American Heart Association EPI/PNAM, March 2013, New Orleans, LA (Poster presentation)

24 **M Graff**, AS Richardson, KL Young, KL Mohlke, LA Lange, EM Lange, KM Harris, KE North, P Gordon-Larsen *Sedentary behavior may interact with some obesity genes, independent of physical activity, to influence BMI: Findings from a US ethnically-diverse adolescent cohort* The Obesity Society October 2012 San Antonio, TX (Oral Presentation)

23 AS Richardson, KE North, **M Graff**, KL Young, LA Lange, EM Lange, KM Harris, P Gordon-Larsen *The Joint role of moderate to vigorous physical activity and established obesity genetic variants with body mass index in a large and ethnically diverse cohort of US adolescents* The Obesity Society October 2012 San Antonio, TX (Oral Presentation)

22 Young, KL, **M Graff**, KE North, AS Richardson, J Bradfield, S Grant, LA Lange, EM Lange, KM Harris, P Gordon-Larsen *Influence of SNPxSNP interaction on BMI in European American adolescents: Findings from the National Longitudinal Study of Adolescent Health* The of American Society of

Human Genetics November 2012 San Francisco, CA (Poster Presentation)

21 Gordon-Larsen, P, AS Richardson, **M Graff**, KL Young, KL Mohlke, EM Lange, LA Lange, KM Harris, KE North Established obesity loci and incident severe obesity risk: Findings from the National Longitudinal Study of Adolescent Health The Obesity Society October 2012 San Antonio, TX (Poster Presentation)

20 Young, KL, **M Graff**, KE North, A Richardson, KL Mohlke, LA Lange, EM Lange, KM Harris, P Gordon-Larsen Interaction of smoking and genotype on adolescent BMI: Findings from the National Longitudinal Study of Adolescent Health The Obesity Society October 2012 San Antonio, TX (Poster Presentation)

19 **M Graff**, KE North, KL Mohlke, LA Lange, EM Lange, CS Fox, LA Cupples, KM Harris, P Gordon-Larsen *Effect Sizes of Established BMI Genetic Variants during Adolescence, a Vulnerable Period of Weight Gain* The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2012, San Diego, CA (Oral and Poster presentations)

18 L Fernández-Rhodes, **M Graff**, S Liu, C Carlson, S Wassertheil-Smoller, M Neuhaus, A Reiner, C Kooperberg, E Rasmussen, JE Manson, L Kuller, BV Howard, HM Ochs-Balcom, KC Johnson, MZ Vitolins, L Sucheston, K Monda, KE North, *Generalization of adiposity-related common genetic variants among US Hispanic women in WHI-SHARe* The American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2012, San Diego, CA, (Poster presentations)

17 S Yoneyama, A Justice, K Monda, KE North, S Wassertheil-Smoller, M Neuhaus, E Rasmussen, S Liu, BV Howard, JE Manson, LH Kuller, C Kooperberg, A Reiner, C Carlson, and **M Graff** Genome Wide Association Study of Weight Change Among Post-Menopausal African Americans: The Women's Health Initiative Study American Heart Association Cardiovascular Disease Epidemiology and Prevention Scientific Conference, March 2012, San Diego, CA, (Poster presentations)

16 **M Graff**, KE North, KL Mohlke, LA Lange, EM Lange, CS Fox, LA Cupples, KM Harris, P Gordon-Larsen *Association between BMI variants previously identified in adult populations in association with adolescent BMI in an ethnically-diverse cohort* The American Society and International Conference for Human Genetics, October 2011, Montreal, QC, Canada (Poster presentation)

15 **M Graff**, P Gordon-Larsen, J Ngwa, T Workalemahu, L Qi, T Esko, A Metspalu, N Amin, D Schlessinger, CS Fox, LA Cupples, S Berndt S, D Strachan, Teumer A, Voelzke H, Scheet H, C Schurmann C, RM Van Dam, KE North, JR Schaffer, ML Marazita, RJ Crout, CC White, CM Van Duijn *A meta-analysis of genetic loci for BMI in adolescence* The Obesity Society October 2011 Orlando, FL (Oral presentation)

14 **M Graff**, P Gordon-Larsen, CC White, J Ngwa, T Workalemahu, L Qi, T Esko, A Metspalu, N Amin, D Schlessinger, CS Fox, LA Cupples, S Berndt S, D Strachan, Teumer A, Voelzke H, Scheet H, C Schurmann C, RM Van Dam, KE North, JR Schaffer, ML Marazita, RJ Crout, CC White, CM Van Duijn *The association between 32 common genetic BMI loci and longitudinal BMI across the transition from adolescence to young adulthood: a meta-analysis* The Obesity Society October 2011 Orlando, FL (Poster presentation)

13 **M Graff**, P Gordon-Larsen, CC White, J Ngwa, T Workalemahu, T Esko, et al *Genetic Epidemiology of BMI and BMI Change in the Transition from Adolescence to Young Adulthood* Poster presentations for two conferences: (1) American Society for Human Genetics, Nov 2010, Washington, DC; and (2) International Society for Genetic



Epidemiology, Oct 2010, Boston, MA

12 **M Graff**, KE North, N Franceschini, AP Reiner, M Feitosa, JJ Carr, P Gordon-Larsen, MKWojczynski, and I Borecki *The interaction of PNPLA3 genotype and visceral adipose tissue with liver attenuation in European American participants of the NHLBI Family Heart Study* The Obesity Society, Oct 2010, San Diego, CA

11 KE North, **M Graff**, N Franceschini, AP Reiner, M Feitosa, JJ Carr, P Gordon-Larsen, MKWojczynski, and I Borecki *Sex and race differences in the prevalence of CT measured liver attenuation in European American and African American participants of the NHLBI Family Heart Study* The Obesity Society, Oct 2010, San Diego, CA

10 KS Borre, L Ertle, **M Graff** *Dietary Adaptations, Food Security and Obesity among North Carolina Latino Farmworker Families* Poster presentation, The American Anthropology Association, Nov 2008, San Francisco, CA

9 **M Graff**, U Ramakrishnan *Beliefs about nutrition during pregnancy and lactation in rural Guatemalan women* Oral presentation, The American Anthropology Association, Nov 2008, San Francisco, CA

8 **M Graff**, K Borre *Variation in predictors of overweight in elementary school children in Eastern North Carolina* Jean Mills Conference on Rural Health, Feb 2008, Greenville, NC

7 HS Kahn, **M Graff**, P Zybert, AD Stein, LH Lumey *A fingerprint marker from early gestation associated with diabetes in middle age: The Dutch Hunger Winter Families Study* Poster presentation, Int Society for Dev Origins of Health and Disease (DOHaD), Nov 2005, Toronto, Canada

6 **M Graff**, HS Kahn, AD Stein, PA Zybert, LH Lumey *Prenatal exposure to the Dutch Famine of 1944-1945 and fingerprint ridge-count gradients* Poster presentation, Exp Biology, April 2005, San Diego, CA

5 **M Graff**, KM Yount, and AD Stein *2004 Childbearing and fertility ideals and practices in rural Guatemalan women* Oral presentation, CDC Maternal and Child Reproductive Health Conference, Dec 2004, Atlanta, GA

4 **M Graff**, AJ Conlisk-Sharma, R Martorell, and AD Stein *Early childhood nutrition and serum lipid levels in young Guatemalan adults* Poster presentation, Exp Biology, April 2004, Washington, DC

3 **M Graff**, AJ Conlisk-Sharma, AD Stein, and R Martorell *Maternal nutrition status, birth size and lipid levels in young Guatemalan adults* Poster presentation, Exp Biology, April 2003, San Diego, CA

2 **M Graff**, E Kuklina, U Ramakrishnan, and R Martorell *Birth size as a predictor of time that until an infant can sit without support in rural Guatemala* Poster presentation, Exp Biology, April 2002, New Orleans, LA

1 **M Graff**, TD Thacher, PR Fischer, D Stadler, SD Pam, JM Pettifor, CO Isichei, and SA Abrams *Calcium absorption in rachitic and non-rachitic Nigerian children* Poster presentation, Exp Biology, April 2000, San Diego, CA

### **Papers under review**

**Graff M**, North KE, Richardson AS, Young KL, Liu, A, Mohlke KL, Lange LA, Lange EM, Harris KM Gordon-Larsen P *BMI Loci and Longitudinal BMI from Adolescence to Young Adulthood in an Ethnically Diverse Cohort*. Submitted

to IJO Feb 2016.

AJ Park\*, **M Graff\***, A Giri, BV Howard, JM Wu, RM Ward, DR Velez Edwards, TL Edwards, N Shara, CL Avery, KE North. *Genetic determinants of pelvic organ prolapse in women of European American descent: the Women's Health Initiative*. Under review at American Journal of Gynecology. \*Shared junior authorship.

Giri A, Hartmann KE, Aldrich MC, Ward RM, Wu JM, Park AJ, **Graff M**, Qi L, Nassir RB, Wallace RB, O'Sullivan MJ, North KE, Velez Edwards DR, Edwards TL. Admixture mapping of pelvic organ prolapse in African Americans from the Women's Health Initiative. Submitted to American Journal of Gynecology May 2016.

**M Graff**, L Fernandez-Rhodes, HM Highland, C Schurmann, Y Feng, M Cruz, A Valladares-Salgado, J Rangarajan, C Rojo, X Guo, J Rotter, M Allison, RP Igo, A Pereira, E John, T Tusie-Luna, CA Aguilar Salinas, C Gonzalez, C Gignoux, S Iyengar, C Hanis, JE Below, F Hartwig, AE Justice, KL Young, CR Isasi, Q Qi, CC Laurie, AM Stilp, SM Gogarten, VS Voruganti, G Chittoor, R Duggirala, S Puppala, T Dyer, SS Albrecht, L Raffel, D Conti, E Ziv, E Parra, E Kenny, RJF Loos, C Haiman, KE North. *Exploring genetic variants for anthropometric traits in Hispanic/Latino populations*.

MCY Ng, **M Graff**, A Justice, K Lu, P Mudgal, K Rand, Y Li, BE Cade, J Brody, MK Wojczynski, LR Yanek, J Smith, MA Nalls, L Lange, S Vedantam, X Guo, D Siscovick, SR Patel, BM Psaty, IB Borecki, DM Becker, LF Bielak, Y Liu, JG Wilson, J Hirschhorn, JI Rotter, CA Haiman, RFJ Loos, KE North, for the African Ancestry Anthropometry Genetic Consortium. Genome-wide association of African ancestry imputed to the 1000 Genomes reference panel and anthropometric traits. Submitted to Plos Genetics

S Bien, JS. Pankow, J Haessler, K Lu, N Pankratz, A Tamuno, R Rohde, C Carlson, FR Schumacher, P Bůžková, M Daviglus, U Lim, R Li, M Fornage, L Fernandez-Rhodes, JL Ambite, L Aviles-Santa, Steven Buyske, N Franceschini, M Gross, **M Graff**, C Isasi, LH Kuller, J Manson, Tara Matise, R Prentice, L Wilkens, S Yoneyama, CA Haiman, LA Hindorff, LL Marchand, KE North, R Loos, U Peters, C Kooperberg. *Population Architecture using Genomics and Epidemiology (PAGE): Transethnic insight on the genetics of glycemetic traits*.

M Graff\*, L Emery\*, AE Justice, C Laurie, T Sofer, KE North. *Genome-wide association study of lipid traits in Hispanics/Latinos from the HCHS/SOL*. Submitted to Journal of Lipid Research.

#### **Other paper in progress**

V Turcot, **M Graff**, KE North, G Lettre. *ADiposity EXomechip variants association analysis in Interaction with dietary Fatty Acid intake (ADEXINFA)*.

A Chu, H Dashti, M Graff, AE Justice, J Merino, S Li, C Papoutsakis, RA Scott, C Smith, T Tanaka. *Meta-analysis of macronutrient intake in over 70,000 individuals*.

Yu-Chi L. M Ghanbari, **M Graff**, C Smith, K Richardson. *Functional GWAS and GWIS-microRNA*.

T Huang, T Wang, Y Zheng, **M Graff**, Y Wang, KE North, L Qi. *BIRTH-GENE (BIG) Study: Type 2 Diabetes, Hypertension, and Cardiovascular Diseases. Gene-Environment Interaction and Mendelian Randomization Analyses*.

T Huang, M Ding, AY Chu, R Lemaitre, S Love, **M Graff**, MC Zillikens, T Voortman, M Wojczynski, U Ericson, M Helminen, M Wojczynski, A Cupples, L Wood, Tosh Tanaka, F Renstrom, C Wang, TO Kilpeläinen, C Sandholt, C Ellervik, F. Fumeron, M Dolores, C Piquer, KE North, Gerardo Heiss, CE Smith, D Houston, M Cornelis. *Dairy Consumption and Blood Pressure: Mendelian Randomization and Gene-diet Interaction Analyses*

T Huang, M Ding, AY Chu, R Lemaitre, S Love, **M Graff**, MC Zillikens, T Voortman, M Wojczynski, U Ericson, M Helminen, M Wojczynski, A Cupples, L Wood, Tosh Tanaka, F Renstrom, C Wang, TO Kilpeläinen, C Sandholt, C Ellervik, F. Fumeron, M Dolores, C Piquer, KE North, Gerardo Heiss, CE Smith, D Houston, M Cornelis  
*Dairy Consumption and Body Mass Index (BMI): Mendelian Randomization and Gene-diet Interaction Analyses*

Projects I've ran analyses for (No author list yet)

Led by C Smith. *Genetic predictors of Metabolic Responses to Dairy Foods.*

Led by P Mandaviya. *Dietary exposures of interest: Vitamin B2, Vitamin B6, Vitamin B12, Folate, Methionine, Choline.*

Led by A Hruby, TO Kilpeläinen, F Renstrom. *GWIS x whole grains, Mg, Zn for fasting glucose and insulin.*

Led by Kris Richardson. *GxE interactions for anthropometric outcomes: GCTA.*

Led by Ching-Ti. *Exome sequence analysis of anthropometric traits.*

## STUDENTS

Anna Reussner Master's Thesis: Physical education models and undergraduate student exercise motivation in the United States and Germany. (On committee- Global Health, defended April 19, 2016)

Natalia Petruski-Ivleva Dissertaion Thesis: The association of habitual milk intake with the rate of cognitive declined, and risk of mild cognitive impairment and dementia. (On committee- PhD, defended March 31, 2017)

Shelly Anne Love. Dissertaion Thesis: The Relationship of Central Adiposity and Cognitive Decline: The Atherosclerosis Neurocognitive Study." The attached proposal aims to examine associations of duration of adiposity, severity of adiposity, and combined severity and duration of adiposity with 20-year cognitive decline in adults from mid-to-late life. (On committee- PhD Candidate Epidemiology)

Sachi Yoneyama. Dissertaion Thesis: Utility of insulin resistance and central adiposity measures and genetic etiologies of central adiposity among multi-ethnic populations. (On committee- PhD Candidate Epidemiology)

Ann Von Holle Dissertaion Thesis: Infant growth trajectories and dyslipidemia in adolescence. (On committee- PhD Candidate Epidemiology)

## LECTURES

Young, K, & **Graff M** **EPID889, session 2.** Web-based bioinformatics resources for genetic epidemiology findings. 1 month course; Fall 2016

**Graff M**, Bioinformatics resources for genetic epidemiology findings. Prepared for EPID 743: Genetic Epidemiology 2016

**Graff M**, & S Yoneyama Population Functional annotation of genetic variants. Prepared for EPID 743: Genetic Epidemiology 2015

Young, K, & **Graff M** Population Genetic Heterogeneity: Impact on Genetic Studies Presented at the CPC Interdisciplinary Workshop 2012

**Graff M**, Young, K, & Justice AE Hardy-Weinberg Equilibrium Prepared for EPID 743: Genetic Epidemiology 2012

**Graff M** Hardy-Weinberg Equilibrium Prepared for EPID 743: Genetic Epidemiology 2011

**Graff M** Modeling Gene by Environment Interactions Prepared for Nutr818: Nutritional Epidemiology Fall 2013, Fall 2011

**Graff M** Gene by Environment Interactions across the life course. CPC Interdisciplinary Research Seminar 2010

## **GRANT SUPPORT**

### **Ongoing Research Support**

(Projects I'm involved in)

A15-0641 Women's Health Initiative Extension 2010-2015

U01 HG007416 (North)

09/01/13-05/31/17

NIH, \$832,755

Population Architecture Using Genomics and Epidemiology (PAGE) Phase II – Study Investigators CALiCo II

The goal is to explore the associations of genetic variation with a broad range of phenotypes, including conditions that disproportionately burdens US ethnic and racial minorities

(Multiple PIs: North, Loos, Haiman)

03/01/14-06/30/17

NIH/NIDDK, \$2,100,000.00

*Leveraging ancestral diversity to map adiposity loci in Hispanics*

To perform GWAS of body mass index in populations of Hispanic-descent; and second, to investigate how common genetic variants interact with physical activity to influence adiposity risk in these populations

R01 HD057194 (Gordon-Larsen)

07/1/14-06/30/19

NICHHD, \$3,100,069.00

Gene-Environment Interactions and Weight Gain

This project will examine gene-by-environment interactions on trajectories of weight gain from adolescence to young adulthood

### **Complete Research Support**

1U01HG004803 (North)

07/17/08-05/31/14

NIH/NHGRI, \$1,777,429

Genetic Epidemiology of Casual Variants Across the Life Course

The goal is for a consortium of population based studies to investigate mature genetic variants associated with complex diseases. The overall goal is to genotype well-replicated putative casual variants in well characterized population-based studies to examine their prevalence, associations, modifiers and potential impact in population groups most relevant to the US

2007-2009

Borre (PI)

Be Active North Carolina, Inc

Students lead the way after school physical education program aimed to increase physical activity in elementary and middle school children

Role: Co-PI

### **PROFESSIONAL SERVICE**

#### **Invited Session Co-Chairman**

**2013**

The Obesity Society Annual Conference  
Session on Gene-Environment Interaction

**2015**

American Society of Human Genetics Conference  
Session on Gene-Environment Interaction

**2016**

The Obesity Society Annual Conference  
Genes are only one piece of the puzzle: From universal to precision  
treatment for weight management

#### **Invited Manuscript Review**

##### **Journals**

*Biomed Central Genetics*

*Diabetes Metabolism Research and Reviews*

*International Journal of Obesity*

*European Journal of Obesity  
Reproduction  
Obesity  
Plos One  
Scientifed Reports  
Pedicatric Obesity*

**Studies**

PAGE Study

**PROFESSIONAL DEVELOPMENT**

**Postdoctoral Courses**

|              |                                                                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Fall 2012    | Advanced Genetic Epidemiology- High Throughput Data Analysis (EPID889)<br>Dept of Epidemiology, UNC, Chapel Hill, NC                               |
| October 2012 | Introduction to R<br>Odum Institute, Chapel Hill, NC                                                                                               |
| March 2012   | The Genetics Of the Peoples Of African<br>And the Transatlantic African Diaspora Conference<br>Friday Education Center, Chapel Hill, NC            |
| Feb 2012     | Minority Health Conference<br>Friday Education Center, Chapel Hill, NC                                                                             |
| Spring 2010  | Genetic Epidemiology (EPID 229; now EPID 743)<br>Dept of Epidemiology, UNC, Chapel Hill, NC                                                        |
| July 2010    | Ethics Workshop<br>Fedex Global Education Center, Chapel Hill, NC                                                                                  |
| Fall 2009    | Advanced Genetic Epidemiology (EPID 690)<br>Dept of Epidemiology, UNC, Chapel Hill, NC                                                             |
| July 2009    | Structural Equation Modeling Workshop,<br>Odum Institute, Chapel Hill, NC                                                                          |
| April 2009   | Introduction to STATA,<br>Odum Institute, Chapel Hill, NC                                                                                          |
| October 2008 | Jean Mills Health Symposium: empowering individuals to take responsibility for<br>their own health<br>Greenville Convention Center, Greenville, NC |