

Cassandra N. Spracklen, Ph.D.

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APPOINTMENTS

Assistant Professor, University of Massachusetts, Amherst, MA 2019-
Department of Biostatistics and Epidemiology

EDUCATION AND TRAINING

Postdoctoral Research Fellow, University of North Carolina, Chapel Hill, NC 2014-2019
Department of Genetics, Advisor Karen Mohlke

Ph.D. in Epidemiology, University of Iowa, Iowa City, IA 2011-2014
Department of Epidemiology, Advisors Audrey Saftlas and Kelli Ryckman

Certificate in Graduate Teaching, University of Iowa, Iowa City, IA 2012-2014

M.S. in Epidemiology, University of Iowa, Iowa City, IA 2009-2011
Department of Epidemiology, Advisor Elizabeth Chrischilles

B.A. in Biology, Anderson University, Anderson, IN 2005-2009

HONORS AND AWARDS

American Society for Human Genetics Reviewer's Choice Abstract 2019
• Awarded to top scoring (~10%) poster abstracts

Anderson University Distinguished Young Alumni Award 2019

Quantitative Genetics and Genomics Gordon Research Conference, Travel Award 2019

Postdoctoral Award for Research Excellence, University of North Carolina at Chapel Hill 2018
• Awarded in recognition of the research promise demonstrated by a postdoc

American Society for Human Genetics Charles J. Epstein Trainee Award for Excellence in Human Genetics Research, Finalist 2018
• Highly competitive abstract submitted and presented at annual meeting by a pre- or post-doctoral trainee

Royal College of Obstetrics and Gynaecologists David Liu Prize Paper 2018
• Best obstetrics or prenatal diagnosis paper in BJOG 2016/2017

American Society for Human Genetics Trainee Spotlight Paper 2017
• Outstanding paper written by ASHG trainee member; 2 awarded/quarter

American Society for Human Genetics Reviewer's Choice Abstract 2017
• Awarded to top scoring (~10%) poster abstracts

Executive Council of Graduate and Professional Students Travel Grant, University of Iowa 2014

Outstanding Teaching Assistant of the Year 2014
• Awarded to teaching assistants who demonstrated outstanding ability as teachers at the University of Iowa

Milford E. Barnes Award for Academic Excellence in Epidemiology 2014
• Awarded to top graduate from University of Iowa Department of Epidemiology each year for outstanding work in their area of study

Dean's List, Anderson University 2005-2009

PUBLICATIONS/BIBLIOGRAPHY**PUBLISHED (* indicates co-first and/or co-last authors)**

1. **Spracklen CN**, Iyengar A, Vadlamudi S, Raulerson CK, Jackson AU, Brotman SM, Wu Y, Cannon ME, Davis JP, Crain AT, Currin K, Perrin HJ, Narisu N, Stringham HM, Fuchsburger C, Locke AE, Welch R, Kuusisto JK, Pajukanta P, Scott LJ, Li Y, Collins FS, Boehnke M, Laakso M, Mohlke KL. GWAS loci harboring extensive allelic heterogeneity exhibit distinct molecular consequences. *PLoS Genet* 2020 Sep;16(9):e1009019.
2. Yaghoobkar H*, Zhang Y*, **Spracklen CN**, Karaderi T, Huang LO, Bradfield J, Schurmann C, Fine RS, Preuss MH, Kutalik Z, Wittemans LBL, Lu Y, Metz S, Willems SM, Li-Gao R, Grarup N, Wang S, Molnos S, Sandoval-Zarate AA, Nalls MA, Lange LA, Haessler J, Guo X, Lyytikainen LP, Feitosa MF, Sitlani CM, Venturini C, Mahajan A, Kacprowski T, Wang CA, Chasman DI, Amin N, Broer L, Robertson N, Young KL, Allison M, Auer PL, Bluher M, Borja JB, Bork-Jensen J, Carrasquilla GD, Christofidou P, Demirkan A, Doege CA, Garcia ME, Graff M, Guo Kaiying, Hong J, Chen YDI, Jackson R, Jakupovic H, Jousilahti P, Justice AE, Kahonen M, Kizer JR, Kriebel J, LeDuc CA, Li J, Lind L, Luan J, Mackey D, Mangino M, Mannisto S, Martin Carli JF, Medina-Gomez C, Mook-Kanamori DO, Morris AP, de Mutsert R, Nauck M, Nedeljkovic I, Pennell CE, Pradham AD, Psaty BM, Raitakari OT, Scott RA, Skaaby T, Strauch K, Taylor KD, Teumer A, Uitterlinden AG, Wu Y, Yao J, Walker M, North KE, Kovacs P, Ikram MA, van Duijn CM, Ridker PM, Lye S, Homuth G, Ingelsson E, Spector TD, McKnight B, Province MA, Lehtimaki T, Adair LS, Rotter JI, Reiner AP, Wilson JG, Harris TB, Ripatti S, Grallert H, Meigs JB, Salomaa V, Hansen T, van Dijk KW, Wareham NJ, Grant SFA, Langenberg C, Frayling TM, Lindgren CM, Mohlke KL, Leibel RL, Loos RJF*, Kilpelainen TO*. Genetic studies of leptin concentrations implicate leptin in the regulation of early adiposity. *Diabetes* 2020;69(12):2806-2818.
3. Chen MH*, Raffield LM*, Mousas A*, Sakaue S, Huffman JE, Jiang T, Akbari P, Vuckovic D, Bao EL, Moscati A, Zhong X, Manansala R, Laplante V, Chen M, Lo KS, Qian H, Lareau CA, Beaudoin M, Akiyama M, Bartz TM, Ben-Shlomo Y, Beswick A, Bork-Jensen J, Bottinger EP, Brody JA, van Rooij FJA, Chitrala K, Cho K, Choquet H, Correa A, Danesh J, Di Angelantonio E, Dimou N, Ding J, Elliott P, Esko T, Evans MK, Floyd JS, Broer L, Grarup N, Guo MH, Greinacher A, Haessler J, Hansen T, Howson JMM, Huang W, Jorgenson E, Kacprowski T, Kahonen M, Kamatani Y, Kanai M, Karthikeyan S, Koskeridis F, Lange LA, Lehtimaki T, Lerch MM, Linneberg A, Liu Y, Lyytikainen LP, Manichaikul A, Matsuda K, Mohlke KL, Mononen N, Murakami Y, Nadkarni GN, Nauck M, Nikus K, Ouweland WH, Pankratz N, Pedersen O, Preuss M, Psaty BM, Raitakari OT, Roberts DJ, Rich SS, Rodriguez BAT, Rosen JD, Rotter JI, Schubert P, **Spracklen CN**, Surendran P, Tang H, Tardif JC, Ghanbari M, Volker U, Volzke H, Watkins NA, Zonderman AB, VA Million Veterans Program, Wilson PWF, Li Y, Butterworth AS, Gauchat JF, Chiang CWK, Li B, Loos RJF, Astle WJ, Evangelou E, Sankaran VG, Okada Y, Soranzo N, Johnson AD*, Reiner AP*, Auer PL*, Lettre G*. Trans-ethnic and ancestry-specific blood-cell genetics in 746,667 individuals from 5 global populations. *Cell* 2020;182(5):1198-1213.
4. Vuckovic D, Bao EL, Akbari P, Lareau CA, Mousas A, Jiang T, Chen MH, Raffield LM, Tardaguila M, Huffman JE, Ritchie SC, Megy K, Ponstingl H, Penkett CJ, Albers PK, Wigdor EM, Sakaue S, Moscati A, Manansala R, Lo KS, Qian H, Akiyama M, Bartz TM, Ben-Shlomo Y, Beswick A, Bork-Jensen J, Bottinger EP, Brody JA, van Rooij FJA, Chitrala KN, Cho K, Choquet H, Correa A, Danesh J, Di Angelantonio E, Dimou N, Ding J, Elliott P, Esko T, Evans MK, Felix SB, Floyd JS, Broer L, Grarup N, Guo MH, Greinacher MK, Haessler J, Hansen T, Howson JMM, Huang W, Jorgenson E, Kacprowski T, Kahonen M, Kamatani Y, Kanai M, Karthikeyan S, Koskeridis F, Lange LA, Lehtimaki T, Linneberg A, Liu Y, Lyytikainen LP, Manichaikul A,

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5. **Spracklen CN***, Horikoshi M*, Kim YJ*, Lin K*, Bragg F, Moon S, Suzuki K, Tam CHT, Tabara Y, Kwak SH, Takeuchi F, Long J, Lim VJY, Chai JF, Chen CH, Nakatochi M, Yao J, Choi HS, Iyengar AK, Brontman SM, Perrin HJ, van de Bunt M, Gloy AL, Below JE, Boehnke M, Bowden DW, Chambers JC, Mahajan A, McCarthy MI, Ng MCY, Petty LE, Zhang W, Morris AP, Adair L, Bian Z, Chan JCN, Chang LC, Chee ML, Chen YDI, Chen YT, Chen Z, Chuang LM, Du S, Gordon-Larsen P, Gross M, Guo X, Guo Y, Han S, Howard AG, Huang W, Hung YJ, Hwang MY, Hwu CM, Ichihara S, Isono M, Jang HM, Jiang G, Jonas J, Kamatani Y, Katsuya T, Kawaguchi T, Khor CC, Kohara K, Lee MS, Lee N, Li L, Liu J, Luk AO, Lv J, Okada Y, Pereira MA, Sabanayagam C, Shi J, Shin DM, So WY, Takahashi A, Tomlinson B, Tsai FJ, van Dam RM, Xiang Y, Yamamoto K, Yamauchi T, Yoon K, Yu C, Yuan JM, Zhang L, Zheng W, Igase M, Cho YS, Rotter JI, Wang YX, Sheu WHH, Yokota M, Wu JY, Cheng CY, Wong TY, Shu XO, Kato N, Park KS, Tai ES, Matsuda F, Koh WP, Ma RCW, Maeda S, Millwood IY, Lee J, Kadowaki T*, Walters RG*, Kim BJ*, Mohlke KL*, Sim X*. Identification of type 2 diabetes loci in 433,540 East Asian individuals. *Nature* 2020;582(7811):240-245.
6. Zhong W*, Dong L*, Poston TB, **Spracklen CN**, Wu D, Darville T, Mohlke KL, Li Y, Li Q*, and Zheng X*. Inferring causal networks from mixed observational data using directed acyclic graphs. *Frontiers in Genetics* 2020;11(8):1-10
7. Raffield L, Iyengar AK, Wang B, Gaynor S, **Spracklen CN**, Kowalski MH, Benjamin EJ, Bis JC, Bowler R, Cade BE, Comellas AP, Correa A, Durda P, Kral B, Lange L, Larson MG, Lee J, Lewis JP, Mitchell B, Pankratz N, Polfus L, Rich SS, Rotter JI, Ryan K, Salimi S, Tracy R, Yanek L, Zhao LP, Lin X, Li Y, Dupuis J, Reiner A, Mohlke KL, Auer PWL. Allelic heterogeneity at *CRP* locus identified by whole-genome sequencing in multi-ancestry cohorts. *Am J Human Genet* 2020;106(1):112-120.
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SUBMITTED

1. Saftlas AF, Riegerink E, Rubenstein LM, Triche EW, **Spracklen CN**. Smoking patterns in pregnancy effect risks for preeclampsia and gestational hypertension. Submitted to *J Reprod Immunol* (November 6, 2020).
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3. Polfus LM*, Darst B*, Highland H, Ng MCY, Below J, Petty L, Bien S, Sim X, **Spracklen CN**, Wang W, Fontanillas P, Patel Y, the 23andMe Research Team, Preuss M, Schurmann C, Du Z, Lu YN, Rhie S, Moreno-Macias H, Huerta-Chagoya A, Aguilar-Salinas X, Tusie-Luna T, Nadkarni GN, Graff M, Tao R, Pankow JS, Daviglus M, Qi Q, Boerwinkle E, Liu S, Phillips L, Peters U, Carlson C, Wilkens LR, Le Marchand L, North KE, Buyske S Kooperberg C, Loos RJJ, Stram DO, Haiman CA. Genetic discovery and risk characterization in type 2 diabetes across diverse populations. Under review at *Human Genetics and Genomics Advances* (September 2020).

IN PREPARATION

1. **Spracklen CN** and Sim X. Progress in defining the genetic contribution to type 2 diabetes in individuals of East Asian ancestry. Manuscript in preparation.
2. Monahan B, Farland LV, Shadyab AH, Manson JE, **Spracklen CN**. Birthweight and subsequent risk of autoimmune and thyroid conditions. Manuscript in preparation.
3. Ziogas C, Saftlas AF, **Spracklen CN**. Validation of maternal recall, birth certificate, and medical record indications of labor and delivery records. Manuscript in preparation.
4. Wagner K, ..., **Spracklen CN**. Associations of combined genetic and lifestyle risks with incident diabetes in the Women's Health Initiative. Manuscript in preparation.
5. **Spracklen CN**, Perrin H..., Mohlke KL. Genome-wide association studies in Europeans and East Asians identify new loci for adiponectin levels. Manuscript in preparation.
6. **Spracklen CN***, Jackson K*, Wu Y, Shi J, Huang W, Yuan W, Wang Y, Luo J, Popkin BM, Du S, Gordon-Larsen P, Mohlke KL. Genome-wide and conditional analyses reveal novel lipid signals and novel interactions with waist circumference and sex. Manuscript in preparation.

LETTER TO THE EDITOR

1. **Spracklen CN**, Harland KK, Stegmann BJ, Saftlas AF. Response to Letter to the Editor Re: Cervical surgery for cervical intraepithelial neoplasia and prolonged time to conception of a live birth: a case-control study. *Br J Obstet Gynaecol*, 2013;120(13):1697-8.

COLLABORATIVE MANUSCRIPTS

1. Kessler MD, Loesch DP, Perry JA, Heard-Costa NL, Taliun D, Cade BE, Wang H, Daya M, Ziniti J, Datta S, Celedon JC, Soto-Quiros ME, Avila L, Weiss ST, Barnes K, Redline SS, Vasam RS, Johnson AD, Mathias RA, Hernandez R, Wilson JG, Nickerson DA, Abecasis G, Browning SR, Zollner S, O'Connell JR, Mitchell BD, **National Heart, Lung, and Blood Institute Trans-Omics for Precision Medicine (TOPMed) Consortium**, TOPMed Population Genetics Working Group, O'Conner TD. De novo mutations across 1,465 diverse genomes reveal mutational insights and reductions in the Amish founder population. *Proc Natl Acad Sci USA* 2020 Feb 4;117(5):2560-2569.
2. Yengo L, Sidorenko J, Kemper KE, Zheng Z, Wood AR, Weedon MN, Frayling TM, Hirschhorn J, Yang J, Visscher PM, and the **GIANT Consortium**. Meta-analysis of genome-wide association studies for height and body mass index in ~700,000 individuals of European ancestry. bioRxiv 274654; 2018.

- Sobrin L, Chong YH, Fan Q, Gan A, Stanwyck LK, Kaidonis G, Craig JE, Kim J, Liao WL, Huang YC, Lee WJ, Hung YJ, Guo X, Hai Y, Ipp E, Pollack S, Hancock H, Price A, Penman A, Mitchell P, Liew G, Smith AV, Gudnason V, Tan G, Klein BEK, Kuo J, Li X, Chirstiansen MW, Psaty BM, Sandow K, **Asian Genetic Epidemiology Network Consortium**, Jensen RA, Klein R, Cotch MF, Wang JJ, Jia Y, Chen CJ, Chen YI, Tsai FJ, Hanis CL, Burdon KP, Wong TY, Cheng CY. Genetically determined plasma lipid levels and risk of diabetic retinopathy: a mendelian randomization study. *Diabetes* 2017 Dec;66(12):3130-3141.

RESEARCH GRANTS AND FELLOWSHIPS

CURRENT

DK118011-01A1 (Michael Stitzel, PI, Jackson Labs). 12/03/2020-11/30/2024
 NIH/NIDDK R01 Research Project Grant Role: Co-Inv
Genetic Programming on Human Islet Metabolic and Endoplasmic Reticulum (ER) Stress Responses in Diabetes

The major goal of this proposal is to dissect the genetic regulation of human islet metabolic and ER stress responses and to determine how genetic variants associated with type 2 diabetes modulate the responses to contribute to islet dysfunction and type 2 diabetes pathogenesis. Direct costs: \$2,614,367 (total); \$232,850 (UMass)
 Impact score: 24 (8%)

CVAJ6328 (Cassandra N. Spracklen, PI) 07/01/2020-06/30/2022
 NIH/NIDDK Loan Repayment Program (LRP)

Single- and trans-ethnic genetic architecture of obesity and glycemic traits

The major research goals during the LRP period are: 1) to use single- and trans-ethnic approaches to identify comprehensive sets of plausible candidate variants at established and novel loci for glycemic traits and obesity. From the list of candidate variants, 2) identify potentially causal metabolic disease variants and elements that exhibit functional regulatory elements.

Direct costs: \$59,332.58 total; \$0 (UMass)

PENDING

R13HG011541-01 (Cassandra N. Spracklen, PI) Submitted March 2020
 NIH/NHGRI R13 Scientific Meeting Grant Role: PI

2021 Quantitative Genetics and Genomics Gordon Research Conference and Seminar

The major goal of this proposal is to seek partial support for the Gordon Research Conference and Gordon Research Seminar on Quantitative Genetics and Genomics: Leveraging High-Throughput Phenotyping Techniques to Study Complex Traits to be held in Ventura, California on February 13-19, 2021 (now postponed until 2023).

Direct costs: \$10,000 (total); \$0 (UMass)

Impact score: 29 (no % provided)

MOET2EP3-02-2020 (Xueling Sim, PI, National Univ. Singapore) Submitted September 2020
 Ministry of Education Academic Research Fund Tier 2, Singapore Role: Collaborator

Gene expression in visceral adipose tissues and functional validation of T2D loci

The major goal of this project is to generate visceral adipose eQTLs in East Asian individuals to identify target genes for downstream candidate gene regulation in the relevant cell type for T2D pathogenesis.

Direct costs: SGD \$1,000,000 (total); \$0 (UMass)

R35HG011962-01 (Cassandra N. Spracklen, PI) Submitted October 2020
 NIH/NHRI R35 Genomic Innovator Award Role: PI

Analysis, interpretation, and fine-mapping of genetic and genomic data from single- and trans-ancestry populations

The major goal of this project is to establish the most feasible and robust analytical pipelines for performing genetic analyses in ancestrally diverse populations through rigorous simulations, benchmarking, and methods optimization.

Direct costs: \$1,489,218 (total; UMass)

F30DK## (Redwan Bhuiyan, PI)

Submitted December 2020

NIH/NIDDK Predoctoral Fellowship for MD/PhD

Role: Collaborator

Dissecting the Roles of Type 2 Diabetes-associated SNPs and Effector Genes in Islet Endoplasmic Reticulum Stress Respose

The major goal of this proposal is to identify type 2 diabetes-associated variants that alter pancreatic islet and/or beta-cell stress-responsive *cis*-regulatory element activity and to assess the effects of the stress responsive effector genes on islet function and resilience.

Direct costs: \$ (total); \$0 (UMass)

PREVIOUS FUNDING

17POST33650016 (Cassandra N. Spracklen, PI)

07/01/2017-06/30/2019

American Heart Association Postdoctoral Fellowship

Role: PI

Trans-ancestry Mapping and Molecular Mechanisms at Cardiovascular Disease Loci

The major goal of this postdoctoral fellowship is to use trans-ancestry genotype and phenotype data from large consortia to identify and fine-map loci associated with cardiometabolic traits and guide laboratory assays to identify allelic effects on gene expression at prioritized loci.

Direct Costs: \$106,532 (total; UNC)

15POST24470131 (Cassandra N. Spracklen, PI)

07/01/2015-06/30/2017

American Heart Association Postdoctoral Fellowship

Role: PI

Trans-ancestry Genetic Architecture of Circulating Lipid and C-reactive Protein Levels

The major goal of this postdoctoral fellowship is to combine genetic data from several existing cohorts of different ancestries to perform trans-ancestry fine-mapping of DNA variants that function to influence lipid and C-reactive protein levels.

Direct Costs: \$86,000 (total; UNC)

UNFUNDED

F32HL131224-01 (Cassandra N. Spracklen PI)

Submitted March 2015

NIH/NHLBI Postdoctoral Fellowship

Role: PI

Trans-ancestry Genetic Architecture of Circulating Lipid and C-reactive Protein Levels

The major goal of this postdoctoral fellowship is to combine genetic data from several existing cohorts of different ancestries to perform trans-ancestry fine-mapping of DNA variants that function to influence lipid and C-reactive protein levels.

Impact Score: 46 (48%)

RESEARCH PRESENTATIONS

INVITED ORAL PRESENTATIONS

1. Jackson Laboratories for Genomic Medicine Seminar Series, March 11, 2020
2. University of Massachusetts Medical School, Endocrine Grand Rounds, November 2019
3. University of Delaware, Department of Epidemiology Seminar, January 2019
4. University of Colorado-Denver, Division of Bioinformatics and Personalized Medicine Seminar, December 2018
5. University of Massachusetts-Amherst, Department of Biostatistics and Epidemiology Seminar, November 2018
6. University of Michigan, Institute for Social Research Seminar, May 2018

7. University of North Carolina, Department of Epidemiology Cardiovascular Epidemiology Seminar, September 2017
8. University of North Carolina, Department of Genetics Research Colloquium, May 2017
9. University of Iowa, Department of Epidemiology Seminar, March 2017
10. University of Iowa, Department of Epidemiology Seminar, May 2014
11. Case Western Reserve University, Department of Epidemiology and Biostatistics Seminar, April 2014

ABSTRACT ORAL PRESENTATIONS

1. **Spracklen CN**, Horikoshi M, Kim YJ, Iyengar A, Lim VJY, AGEN consortium, DIAMANTE consortium, Mohlke KL, Sim X. Genetic architecture of type 2 diabetes in non-European populations: genome-wide meta-analysis in 283,422 East Asians identifies 32 new loci associated with type 2 diabetes. *Quantitative Genetics and Genomics Gordon Research Seminar*, Lucca, Italy, February 2019. [**Travel award winner**]
2. **Spracklen CN**, Sim X, Kim YJ, Horikoshi M, on behalf of the AGEN and DIAMANTE consortia. Meta-analysis in 283,579 East Asians identifies 28 new loci associated with type 2 diabetes. *American Society for Human Genetics Annual Meeting*, San Diego, CA, October 2018. [**ASHG Charles J. Epstein Trainee Award for Excellence in Human Genetics Award, Finalist**]
3. **Spracklen CN**, Jackson AU, Stringham HM, Wu Y, Civelek M, Fuchsburger C, Locke AE, Welch R, Chines PS, Narisu N, Lusi AJ, Kuusisto JK, Collins FS, Boehnke M, Laakso M, Mohlke KL. Fine-mapping GWAS loci containing extensive allelic heterogeneity reveals complex patterns of association. *American Society for Human Genetics Annual Meeting*, Baltimore, MD, 2015.
4. **Spracklen CN**, Harland KK, Stegmann BJ, Saftlas AF. Cervical surgery for cervical intraepithelial neoplasia and prolonged time to conception of a live birth: a case-control study. *Society for Epidemiological Research Annual Meeting*, Boston, MA, 2013.

POSTER PRESENTATIONS

1. **Spracklen CN**, Horikoshi M, Kim YJ, Lin K, on behalf of the AGEN and DIAMANTE consortia. Meta-analysis in 433,530 East Asians identifies 49 new loci associated with type 2 diabetes. *American Society for Human Genetics Annual Meeting*, Houston, TX, October 2019. [**Reviewer's Choice Abstract**].
2. **Spracklen CN**, Horikoshi M, Kim YJ, Iyengar A, Lim VJY, AGEN consortium, DIAMANTE consortium, Mohlke KL, Sim X. Genetic architecture of type 2 diabetes in non-European populations: genome-wide meta-analysis in 283,422 East Asians identifies 32 new loci associated with type 2 diabetes. *Quantitative Genetics and Genomics Gordon Research Conference*, Lucca, Italy, February 2019.
3. **Spracklen CN**, Jackson AU, Iyengar A, Vadlamudi S, Stringham HM, Raulerson CK, Cannon ME, Currin K, Wu Y, Fuchsburger C, Welch R, Chines PS, Narisu N, Kuusisto JK, Pajukanta P, Collins FS, Boehnke M, Laakso M, Mohlke KL. Fine-mapping and characterization of adiponectin GWAS loci harboring extensive allelic heterogeneity. *American Heart Association Epi/Lifestyle Annual Meeting*, New Orleans, LA, March 2018 [**Moderated Poster Session**].
4. **Spracklen CN**, Jackson AU, Iyengar A, Vadlamudi S, Stringham HM, Wu Y, Cannon ME, Civelek M, Currin K, Fuchsburger C, Locke AE, Welch R, Chines PS, Narisu N, Lusi AJ, Kuusisto JK, Collins FS, Boehnke M, Laakso M, Mohlke KL. Fine-mapping and characterization of GWAS loci harboring extensive allelic heterogeneity. *American Society for Human Genetics Annual Meeting*, Orlando, FL, October 2017 [**Reviewer's Choice Abstract**].

5. **Spracklen CN**, Sim X, Chen P, Kim YJ, Wang X, Cai H, Li S, Long J, Wu Y, Wang YX, Takeuchi F, Wu JY, Jung KJ, Akiyama K, Zhang Y, Hou X, Hiu C, Moon S, Johnson TA, Li H, Dorajoo R, He M, Mohlke KL, AGEN Consortium. Association analyses of up to 72,043 East Asian individuals and trans-ancestry analyses with up to 186,265 European individuals reveal new loci associated with cholesterol and triglyceride levels. *American Society for Human Genetics Annual Meeting*, Vancouver, BC, October 2016.
6. **Spracklen CN**, Ryckman KK, Harland KK, Saftlas AF. Effects of smoking and preeclampsia on birth weight for gestational age. *Society for Pediatric and Perinatal Epidemiologic Research Annual Meeting*, Seattle, WA, June 2014.
7. **Spracklen CN**, Sealy-Jefferson S, Wallace RB, Robinson JG, Freudenheim JL, Wellons MF, Saftlas AF, Snetselaar LG, Manson JE, Hou L, Qi L, Chlebowski RT, Ryckman KK. Birth weight and subsequent risk of cancer in postmenopausal women. *University of Iowa Holden Comprehensive Cancer Center Scientific Retreat*, Coralville, IA, June 2014.
8. **Spracklen CN**, Sealy-Jefferson S, Wallace RB, Robinson JG, Freudenheim JL, Wellons MF, Saftlas AF, Snetselaar LG, Manson JE, Hou L, Qi L, Chlebowski RT, Ryckman KK. Birth weight and subsequent risk of cancer. *University of Iowa Epidemiology Departmental Poster Session*, Iowa City, IA, May 2014.
9. **Spracklen CN**, Sealy-Jefferson S, Wallace RB, Robinson JG, Freudenheim JL, Wellons MF, Saftlas AF, Snetselaar LG, Manson JE, Hou L, Qi L, Chlebowski RT, Ryckman KK. Birth weight and subsequent risk of cancer. *Pediatric Academic Societies Annual Research Meeting*, Vancouver, BC, May 2014.
10. **Spracklen CN**, Ryckman KK, Wallace RB, Garcia L, Tylavsky FA, Howard BV, Liu S, Song Y, Rillamas-Sun E, LeBlanc ES, White MV, Parikh NI, Robinson JG. Birth weight and the risk of type 2 diabetes mellitus in postmenopausal women. *University of Iowa Health Sciences Research Week*, Iowa City, IA, April 2014.
11. **Spracklen CN**, Ryckman KK, Wallace RB, Garcia L, Tylavsky FA, Howard BV, Liu S, Song Y, Rillamas-Sun E, LeBlanc ES, White MV, Parikh NI, , Robinson JG. Birth weight and the risk of type 2 diabetes mellitus in postmenopausal women. *University of Iowa International Cardiovascular Research Center Symposium*, Iowa City, IA, October 2013.
12. **Spracklen CN**, Gryzlak BM, Rubenstein LM, Chrischilles EA. Computer and Health IT Use Among Older Iowa Adults. *University of Iowa Epidemiology Departmental Poster Session*, May 2011.

ABSTRACTS (selected from ongoing consortia work)

1. Wittemans LBL, Lu Y, Yaghoobkar H, Preuss MH, Erzurumluoglu AM, Hemerich D, Ji Y, Karaderi T, Schurmann C, **Spracklen CN**, Huang LO, Day FR, Zilickens MC, Frayling T, Kutalik Z, Kilpelainen TO, Langenberg C, Mohlke KL, Lindgren CM, Loos RJJ, on the **Genetics of Body Composition Consortium**. Integration of body fat and lean mass loci reveals genetic clusters with distinct cardiometabolic effects. *American Society for Human Genetics Annual Meeting*, Houston, TX, October 2019.
2. Li Z, Li X, Zhou H, Brody J, Graff M, Lange L, North K, Lin X, on behalf of the **TOPMed Anthropometry-Adiposity Working Group**. Whole genome sequence association analysis of body mass index in 45,159 individuals of the TOPMed program. *American Society for Human Genetics Annual Meeting*, Houston, TX, October 2019.
3. Raffield LM, Vuckovic D, Bao EL, Lareau CA, Jiang T, Chen MH, Akbari P, Mousas A, Reiner A, Johnson AD, Auer P, Lettre G, Sankaran VG, Soranzo N, on behalf of the **BCX consortium**. Large scale GWAS identifies clinically relevant rare variation for blood cell traits. *American Society for Human Genetics Annual Meeting*, Houston, TX, October 2019.

4. Chen J. on behalf of the **MAGIC consortium**. Leveraging ancestry differences for glycaemic trait locus discovery and fine-mapping. *EASD Study Group on the Genetics of Diabetes*, May 2019.
5. Tai ES, **Spracklen CN**, Horikoshi M, Kim YJ, Sim X, on behalf of the **AGEN and DIAMANTE consortia**. Ethnically determined diabetes variants (Asian Diabetes). Keystone Symposium, March 2019.
6. Vedantam S, Locke AE, Marouli E, Berndt S, Yengo L, Wood AR, Ferreira T, Graham S, on behalf of the **GIANT consortium**. Large scale meta-analysis of genome-wide association studies for height in multiple ancestries. *American Society for Human Genetics Annual Meeting*, San Diego, CA, October 2018.
7. Locke AE, Vedantam S, Marouli E, Berndt S, Yengo L, Wood AR, Ferreira T, Graham S, on behalf of the **GIANT consortium**. Global, multi-ethnic genome-wide association meta-analysis of body mass index. *American Society for Human Genetics Annual Meeting*, San Diego, CA, October 2018.
8. Chen J, on behalf of the **MAGIC Consortium Investigators**. Large trans-ethnic discovery identifies distinct genomic and expression signatures in glycemic traits. *American Society for Human Genetics Annual Meeting*, San Diego, CA, October 2018.
9. Mahajan A, Kitajima H, Sim X, Ng MCY, Zhang W, Below JE, Payne A, Gaulton KJ, and Morris AP on behalf of the **DIAMANTE Consortium**. Discovery and fine-mapping of type 2 diabetes susceptibility loci in diverse populations using more than a million individuals. *American Diabetes Association Annual Meeting*, Orlando, FL, June 2018.
10. Mahajan A on behalf of the **DIAMANTE Consortium**. Expanding the spectrum of type 2 diabetes predisposing alleles through genome-wide association study imputed up to Haplotype Reference Consortium reference panel. *European Society for Human Genetics Annual Meeting*, Milan, Italy, June 2018.
11. Morris AP on behalf of the **DIAMANTE Consortium**. Discovery and fine-mapping of type 2 diabetes susceptibility loci in diverse populations. *CHARGE Annual Meeting 2018*.
12. Marenne G on behalf of the **MAGIC Investigators**. Trans-ethnic analyses using densely imputed genetic data: novel loci discovered for glycemic traits. *French Conference of Human and Medical Genetics Meeting*, Nantes, France, January 2018.
13. Langenberg C on behalf of the **MAGIC Investigators**. Trans-ethnic discovery analyses of the genetic architecture of glycaemic control. *American Society for Human Genetics Annual Meeting*, Orlando, FL, October 2017. [**Reviewer's Choice Abstract**]
14. Mahajan A, Kitajima H, Sim X, Ng M, Zhang W, Below JE, Taliun D, Gaulton KJ, Morris AP, **DIAMANTE Consortium**. Discovery and fine-mapping of type 2 diabetes susceptibility loci across ethnically diverse populations. *American Society for Human Genetics Annual Meeting*, Orlando, FL, October 2017.
15. Sim X, Horikoshi M, **Spracklen CN**, Kim YJ, **AGEN DIAMANTE Consortium**. Meta-analysis in 93,701 East Asians identifies new loci associated with type 2 diabetes. *American Society for Human Genetics Annual Meeting*, Orlando, FL, October 2017. [**Reviewer's Choice Abstract**]
16. Chen J. on behalf of the **MAGIC Investigators**. Exploring the use of Fuzzy clustering approaches to classify HbA1c associated signals into glycaemic and/or erythrocyte pathways. *International Genetic Epidemiology Society Annual Meeting*, Cambridge, UK, September 2017.
17. Below, JE on behalf of the **DIAMANTE Consortium**. Discovery and fine mapping of type 2 diabetes susceptibility loci across diverse populations. *International Genetic Epidemiology Society Annual Meeting*, Cambridge, UK, September 2017.

18. Morris A, on behalf of the **DIAMANTE Consortium**. Discovery and fine-mapping of type 2 diabetes susceptibility loci in diverse populations. *Genomics of Complex Diseases Annual Meeting*, Cambridge, UK, September 2017.
19. Locke AE on behalf of **GIANT Consortium**. Global GWAS meta-analysis of anthropometric traits in >1 million individuals. *Genomics of Complex Diseases Annual Meeting*, Cambridge, UK, September 2017.
20. Kitajima H, Mahajan A, Sim X, Ng M, Zhang W, Below JE, Taliun D, Gaulton KJ, Morris AP, **DIAMANTE Consortium**. Discovery and fine-mapping of type 2 diabetes susceptibility loci across diverse populations. *American Diabetes Association Annual Meeting*, San Diego, CA, June 2017.
21. Sim X, Horikoshi M, **AGEN Consortium**. Meta-analysis of 93,838 East Asians identifies new loci associated with type 2 diabetes. *American Diabetes Association Annual Meeting*, San Diego, CA, June 2017.

TEACHING AND MENTORING

TEACHING EXPERIENCE

- Instructor, Public Health HI224: Epidemiology/Public Health Honors Independent Study, Suzanne Wilson, Undergraduate Public Health Major, University of Massachusetts-Amherst, Fall 2020
- Instructor, Public Health 224 Section 1: Epidemiology in Public Health, Undergraduate Public Health Majors, University of Massachusetts-Amherst, Fall 2020
- Instructor, Public Health 224 Section 2: Epidemiology in Public Health, Undergraduate Public Health Majors, University of Massachusetts-Amherst, Fall 2020
- Instructor, Public Health HI224: Epidemiology/Public Health Honors Independent Study, Jacob Bear and Vera Rodic, Undergraduate Public Health Majors, University of Massachusetts-Amherst, Spring 2020
- Instructor, Epidemiology 896: Independent Study, Kathryn Wagner, Undergraduate Public Health Major, University of Massachusetts-Amherst, Spring 2020
- Instructor, Public Health 396: Independent Study, Chistina Ziogas, Undergraduate Public Health Major, University of Massachusetts-Amherst, Spring 2020
- Instructor, Public Health 224: Epidemiology in Public Health, Undergraduate Public Health Majors, University of Massachusetts-Amherst, Spring 2020
- Guest Lecturer, *Introduction to Genetic Epidemiology*, Epidemiology 639: Cancer Epidemiology, Graduate students, University of Massachusetts-Amherst, Fall 2019
- Instructor, Public Health 224 Section 2: Epidemiology in Public Health, Undergraduate Public Health Majors, University of Massachusetts-Amherst, Fall 2019
- Guest Lecturer, *Post-GWAS: Fine-mapping, annotation, and variant function*, Epidemiology 743: Genetic Epidemiology: Methods and Applications, Graduate students, University of North Carolina, Spring 2019
- Guest Lecturer, *Post-GWAS: Fine-mapping, annotation, and variant function*, Epidemiology 743: Genetic Epidemiology: Methods and Applications, Graduate students, University of North Carolina, Spring 2018
- Guest Lecturer, *Linkage Disequilibrium*, Genetics 647: Human Genetics and Genomics, Graduate students, University of North Carolina, Spring 2018

Guest Lecturer, *Linkage Disequilibrium*, Genetics 647: Human Genetics and Genomics, Graduate students, University of North Carolina, Spring 2017

Teaching Assistant, Epidemiology 6400: Epidemiology II: Advanced Methods, Graduate students, University of Iowa, Spring 2014

Facilitator, Epidemiology Departmental Journal Club, Fall 2014

Facilitator, Epidemiology Departmental Journal Club, Spring 2013

Teaching Assistant, Epidemiology 6400: Epidemiology II: Advanced Methods, Graduate students, University of Iowa, Spring 2013

Facilitator, Epidemiology Departmental Journal Club, Fall 2013

Teaching Assistant, Epidemiology 5241: Statistical Methods in Epidemiology, Graduate students, University of Iowa, Fall 2013

Guest Lecturer, *Ecological Studies*, Epidemiology 6400: Epidemiology II: Advanced Methods, Graduate students, University of Iowa, Spring 2013

Teaching Assistant, Biology 2210: Foundations of Modern Biology, Undergraduate students, Anderson University, Fall 2008

Teaching Assistant, Biology 4050: Genetics, Undergraduate students, Anderson University, Fall 2008

Teaching Assistant, Biology 1000: Principles of Modern Biology, Undergraduate students, Anderson University, Spring 2007

Teaching Assistant, Biology 2210: Foundations of Modern Biology, Undergraduate students, Anderson University, Fall 2007

Teaching Assistant, Biology 1000: Principles of Modern Biology, Undergraduate students, Anderson University, Spring 2006

Teaching Assistant, Biology 2210: Foundations of Modern Biology, Undergraduate students, Anderson University, Fall 2006

MENTORED STUDENTS AND TRAINEES

University of Massachusetts-Amherst – Thesis Chair

Brian Monahan, MS student, Epidemiology 2020-
Title: *Birthweight and subsequent risk of autoimmune and thyroid conditions*

University of Massachusetts-Amherst – Thesis Committee Member

Ashely Moineau, MS student, Epidemiology 2019-2020
Title: *The association between dengue virus infection and liver and kidney function among Cambodian children*

University of Massachusetts-Amherst – MPH Project Advisor

Nora Salo, MPH student, Epidemiology 2020-
Title: *Racial and ethnic disparities in the association between maternal depression and preterm birth risk among women in the US*

Isabella Gleckman, MPH student, Epidemiology 2019-2020
Title: *Patterns of smoking cessation and the risk of preterm birth*

University of Massachusetts-Amherst – Academic Advisor

Nora Salo, MPH student, Epidemiology 2020-
Brian Monahan, MS student, Epidemiology 2020-
Savannah Kangas, MPH student, Epidemiology 2020-
Caitlin Fields, MPH student, Epidemiology 2020-
Ramisa Rahman, MPH student, Epidemiology 2019-
Lucas Schilbach, MPH student, Epidemiology 2019-2020
Isabella Gleckman, MPH student, Epidemiology 2019-2020

Duke University

Apoorva Iyengar, Ph.D. student, Biostatistics and Bioinformatics 2019-

University of North Carolina-Chapel Hill

Victoria Parsons, Ph.D. student, Genetics and Molecular Biology 2019-
K. Alaine Broadway, Postdoctoral Research Associate 2018-2019
Apoorva Iyengar, Undergraduate and postbac 2017-2019
Chelsea K. Raulerson, Ph.D. student, Bioinformatics and Computational Biology 2014-2019
Maren E. Cannon, Ph.D. student, Genetics and Molecular Biology 2014-2017
Kayla Jackson, Undergraduate student, SOLAR program Summer 2015, 2016

University of Iowa

J. Caitlin Smith, Ph.D. student, Epidemiology 2013-2014

PROFESSIONAL SERVICE

SERVICE TO DISCIPLINE

Service to National Societies

American Society for Human Genetics, Abstract Reviewer, 2020
American Heart Association, Council on Genomic and Precision Medicine Membership and Communications Committee, Member, July 2020-June 2022
Gordon Research Conference, Quantitative Genetics and Genomics, Seminar Co-Chair, 2023
American Society for Human Genetics, The Michigan Imputation Server: Data Preparation, Genotype Imputation, and Data Analysis Workshop, Co-Leader, ASHG Annual Meeting, 2020
American Society for Human Genetics, The Michigan Imputation Server: Data Preparation, Genotype Imputation, and Data Analysis Workshop, Co-Leader, ASHG Annual Meeting, 2019
American Society for Human Genetics, Genetics of Cardiac and Vascular Disorders Session Moderator, ASHG Annual Meeting, 2019
American Society for Human Genetics, DNA Day Essay Contest judge, 2016-2020
Society for Epidemiologic Research, Abstract Reviewer, 2015-2019
Society for Pediatric and Perinatal Epidemiologic Research, Abstract Reviewer, 2014-2016

Reviewer, Grants

Ad hoc, Executive Council of Graduate and Professional Students, University of Iowa, 2011-2014
Ad hoc, Division of Tobacco Use, Prevention, and Control, Iowa Department of Public Health, 2010

Editorial Service, Journals

Academic Editor, Public Library of Science (PLoS) One, 2016-

Ad Hoc Reviewer, Journals

American Journal of Epidemiology, American Journal of Reproductive Immunology, Biomedical and Environmental Sciences, BMC Medical Genomics, BMC Pregnancy and Childbirth, British Medical Journal, Communications Biology, Diabetes, Diabetes Care, Diabetes/Metabolism Research and Review, Epidemiology, Environmental Health Perspectives, European Journal of Human Genetics, Human Molecular Genetics, International Journal of Epidemiology, International Journal of Obesity, Journal of Lipid Research, Journal of Women's Health, Medicine and Science in Sports and Exercise, Molecular Genetics and Genomic Medicine, Nutrition and Metabolism, Public Library of Science (PLoS) Genetics, Public Library Of Science (PLoS) One, Women's Health Issues

Ad Hoc Reviewer, Book

Senie, RT. *Epidemiology of Women's Health*. 1ed. Jones and Bartless Learning, Burlington, MA.

SERVICE TO UNIVERSITY

Member, Admissions Committee, Department of Biostatistics and Epidemiology, Universtiy of Massachusetts-Amherst, 2019-2021

Faculty Co-advorsor, Epidemiology Seminar Series, Department of Biostatistics and Epidemiology, Universtiy of Massachusetts-Amherst, 2019-2021

Coordinator, Time Management Workshop for Epidemiology Doctoral Students, Department of Biostatistics and Epidemiology, Universtiy of Massachusetts-Amherst, Spring 2020

Coordinator, Time Management Workshop for Epidemiology Masters Students, Department of Biostatistics and Epidemiology, Universtiy of Massachusetts-Amherst, Spring 2020

Coordinator, Epidemiology Masters Students "Speed Dating" for Thesis Advisors, Department of Biostatistics and Epidemiology, Universtiy of Massachusetts-Amherst, Spring 2020

Judge, Initiative for Maximizing Student Diversity Annual Research Symposium, University of North Carolina, 2016

Judge, Undergraduate Summer Research Symposium, University of North Carolina, 2015-2016

Ambassador, Ocracoke School, Ocracoke, NC, North Carolina DNA Day, 2015

Judge, Fall Undergraduate Research Festival, University of Iowa, 2013

Administrative Affairs/Communications Chair, College of Public Health Student Association, University of Iowa, 2010-2011

Treasurer, Epidemiology Student Association, University of Iowa, 2010-2011

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Society for Human Genetics	2015-
American Heart Association	2014-
Society for Pediatric and Perinatal Epidemiologic Research	2014-2017
Society for Epidemiological Research	2013-2017

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