ROBBEE WEDOW

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ACADEMIC APPOINTMENTS

2022- Present

Purdue University

- Assistant Professor of Sociology and Data Science
- Assistant Professor by Courtesy, Statistics
- Faculty Associate, Center on Aging and the Life Course

Indiana University School of Medicine

➤ Adjunct Assistant Professor of Medical and Molecular Genetics

AnalytXIN

> Research Fellow

Broad Institute of MIT and Harvard

Visiting Scientist

2018-2022

Postdoctoral Research Fellow

- ➤ Broad Institute of MIT and Harvard
- Department of Sociology, Harvard University
- Department of Epidemiology, Harvard T.H. Chan School of Public Health
- Analytic and Translational Genetics Unit, Massachusetts General Hospital

EDUCATION

2018 *Doctor of Philosophy*, Sociology & Computational Genetics University of Colorado Boulder

Graduate certificates: (1) statistical and behavioral genetics; (2) demography; (3) quantitative and data science methods for behavioral sciences

2011 Bachelor of Science, Biochemistry and Molecular Biology Bachelor of Arts, Sociology University of Notre Dame, summa cum laude

PUBLICATIONS

[*asterisk denotes equal contribution, i.e. joint first-authorship] [†obelisk denotes corresponding author]

Peer Reviewed

Mignogna, Gianmarco*, Caitlin Carey*, Robbee Wedow*†, Nikolas Baya, Mattia Cordioli, Nicola Pirastu, Rino Bellocco, Kathryn Malerbi, Michel Nivard, Benjamin Neale, Raymond Walters, and Andrea Ganna. *Forthcoming June 2023*. "Patterns of item nonresponse behavior to survey questionnaires are systematic and have a genetic basis." *Nature Human Behavior*.

Atteberry, Allison*, Robbee Wedow*, Nathan J. Cook, and Andrew McEachin. 2022. "A Replication of a Quasi-Experimental Approach to Estimating Middle School Structural Transition Effects on Student Learning Trajectories." *Educational Policy*. *36*(7), 1612-1651. DOI: 10.1177/0895904820987797.

Kim, Rockli, Adam M. Lippert, Robbee Wedow, Marcia P. Jimenez, and S. V. Subramanian. 2020. "The Relative Contributions of Socioeconomic and Genetic Factors to Variations in Body Mass Index Among Young Adults." *American Journal of Epidemiology*. 189(11), 1333-1341. DOI: 10.1093/aje/kwaa058.

Ganna, Andrea, Karin J. H. Verweij, Michel G. Nivard, Robert Maier, Robbee Wedow, ..., John R. B. Perry, Benjamin M. Neale, and Brendan P. Zietsch. 2019. "Large-Scale GWAS Reveals Insights into the Genetic Architecture of Same-Sex Sexual Behavior." *Science*. 365(6456), eaat7693. DOI: 10.1126/science.aat7693.

- Covered in the *New York Times* and in my 2019 *New York Times op-ed*
- ➤ Published responses: Ganna, Andrea, Karin J. H. Verweij, Michel G. Nivard, Robert Maier, Robbee Wedow, ..., John R. B. Perry, Benjamin M. Neale, and Brendan P. Zietsch. 2021. "Response to Comment on 'Large-Scale GWAS Reveals Insights into the Genetic Architecture of Same-Sex Sexual Behavior." Science 371(6536).
- ➤ Ganna, Andrea, Karin J. H. Verweij, Michel G. Nivard, Robert Maier, Robbee Wedow, ..., John R. B. Perry, Benjamin M. Neale, and Brendan P. Zietsch. 2019. "Genome Studies Must Account for History-Response." *Science* 366(6472).

Liu, Mengzhen*, Yu Jiang*, Robbee Wedow*, Yue Li*, ..., Goncalo Abecasis, Dajiang Liu, and Scott Vrieze. 2019. "Association Studies of up to 1.2 Million Individuals Yield New Insights into the Genetic Etiology of Tobacco and Alcohol Use." *Nature Genetics*. 51(2), 237-244. DOI: 10.1038/s41588-018-0307-5.

Karlsson Linnér, Richard*, Pietro Biroli*, Edward Kong*, S. Fleur W. Meddens*, Robbee Wedow*, ..., Daniel J. Benjamin, Philipp D. Koellinger, and Jonathan P. Beauchamp. 2019. "Genome-Wide Association Analyses of Risk Tolerance and

Risky Behaviors in over 1 Million Individuals Identify Hundreds of Loci and Shared Genetic Influences." *Nature Genetics* 51(2). *51*(2), 245-257. DOI: 10.1038/s41588-018-0309-3.

Wedow, Robbee, Meghan Zacher, Brooke M. Huibregtse, Kathleen Mullan Harris, Benjamin W. Domingue, and Jason D. Boardman. 2018. "Education, Smoking, and Cohort Change: Forwarding a Multidimensional Theory of the Environmental Moderation of Genetic Effects." *American Sociological Review*. 83(4), 802-832. DOI: 10.1177/0003122418785368.

- ➤ 2019 National Institutes of Health Matilda White Riley Behavioral and Social Sciences Honors Early-Stage Investigator Paper Competition Award.
- ➤ 2018 Student Paper Award. Evolution, Biology, and Society Section, American Sociological Association

Belsky, Daniel W., Benjamin W. Domingue, Robbee Wedow, Louise Arseneault, Jason D. Boardman, Avshalom Caspi, Dalton Conley, Jason M. Fletcher, Jeremy Freese, Pamela Herd, Terrie E. Moffitt, Richie Poulton, Kamil Sicinski, Jasmin Wertz, and Kathleen Mullan Harris. 2018. "Genetic Analysis of Social-Class Mobility in Five Longitudinal Studies." *Proceedings of the National Academy of Sciences*. 115(31), E7275-E7284. DOI: 10.1073/pnas.1801238115.

Lee, James J.*, Robbee Wedow*, Aysu Okbay*, ..., Patrick Turley, Peter M. Visscher, Daniel J. Benjamin, and David Cesarini. 2018. "Gene Discovery and Polygenic Prediction from a Genome-Wide Association Study of Educational Attainment in 1.1 Million Individuals." *Nature Genetics*. 50(8), 1112-1121. DOI: 10.1038/s41588-018-0147-3.

- Covered in the *New York Times* and *The Atlantic*
- My 2022 *Scientific American op-ed* about the misuse of this study in the Buffalo, NY supermarket shooting

Turley, Patrick, Raymond K. Walters, Omeed Maghzian, Aysu Okbay, James J. Lee, Mark Alan Fontana, Tuan Anh Nguyen-Viet, Robbee Wedow, Meghan Zacher, ..., Peter Visscher, David Laibson, David Cesarini, Benjamin M. Neale, and Daniel J. Benjamin. 2018. "Multi-Trait Analysis of Genome-Wide Association Summary Statistics Using MTAG." *Nature Genetics*. 50(2), 229-237. DOI: 10.1038/s41588-017-0009-4.

Wedow, Robbee, Ryan K. Masters, Stefanie Mollborn, Landon Schnabel, and Jason D. Boardman. 2018. "Body Size Reference Norms and Subjective Weight Status: A Gender and Life Course Approach." *Social Forces*. 96(3), 1377-1409. DOI: 10.1093/sf/sox073.

Wedow, Robbee, Landon Schnabel, Lindsey K. D. Wedow, and Mary Ellen Konieczny. 2017. "I'm Gay and I'm Catholic': Negotiating Two Complex Identities at a Catholic University." *Sociology of Religion: A Quarterly Review*. 78(3), 289-317. DOI: 10.1093/socrel/srx028.

Wedow, Robbee, Daniel A. Briley, Susan E. Short, and Jason D. Boardman. 2016. "Gender and Genetic Contributions to Weight Identity among Adolescents and Young Adults in the U.S." *Social Science and Medicine*. *165*, 99-107. DOI: 10.1016/j.socscimed.2016.07.044.

Domingue, Benjamin W., Robbee Wedow, Dalton Conley, Matt McQueen, Thomas J. Hoffmann, and Jason D. Boardman. 2016. "Genome-Wide Estimates of Heritability for Social Demographic Outcomes." *Biodemography and Social Biology*, 62(1), 1-18. DOI: 10.1080/19485565.2015.1068106.

Herzog, Patricia Snell and Robert Wedow. 2012. "Youth Group Cliques: How Religious Goals Can Disguise Discriminatory Group Dynamics." *Review of Religious Research*. 54, 217-238. DOI: 10.1007/s13644-012-0050-9.

Minor Contributions

Johnson, Emma, ..., Robbee Wedow, ..., and Arpana Agrawal. 2020. "A large-scale genome-wide association study meta-analysis of cannabis use disorder." *The Lancet Psychiatry*. 7(12), 1032-1045. DOI: 10.1016/S2215-0366(20)30339-4.

Walters, Raymond, ..., Robbee Wedow, ..., and Arpana Agrawal. 2018. "Transancestral GWAS of alcohol dependence reveals common genetic underpinnings with psychiatric disorders." *Nature neuroscience*, *21*(12), 1656-1669. DOI: 10.1038/s41593-018-0275-1.

Other

Wedow, Robbee, Daniel A. Briley, Susan E. Short, and Jason Boardman. 2018. "Weight Identity Among Older Adults in the United States: Genetic and Environmental Influences." in *The Oxford Handbook of Integrative Health Science*.

Under Review

Carey, Caitlin*, Rebecca Shafee*, Robbee Wedow*, ..., Benjamin Neale, Raymond Walters, and Elise Robinson. *Under 2nd review following primary revision*. "Principled distillation of multidimensional UK Biobank data reveals insights into the correlated human phenome." *Nature Human Behavior*.

Wedow, Robbee, Benjamin Neale, Michel Nivard, and Sarah Medland. *Commissioned [conditionally accepted] and in progress.* "The future of sociogenomics and behavioral genetics." *Nature Human Behavior.*

Lippert, Adam, Rockli Kim, Robbee Wedow, Jinho Kim, Beza Taddess, and S. V. Subramanian. *Under review*. "Polygenic and socioeconomic contributions to

cardiometabolic health among urban adults reaching mid-life." *Journal of Urban Health*.

Projects/papers in progress

Alzheimer's Disease and Alzheimer's Disease Related Dementias (ADRD) etiology across the life course, with Andrew Grotzinger

Can biology reduce beliefs in essentialism?, with Brian Donovan

Reconciling gene-by-environment interactions in human genetics research, with Andrea Ganna, Michel Nivard, and the 23andMe Research Team

EXTERNAL GRANTS/FELLOWSHIPS

2023	National Institutes of Health, National Institute on Aging R01 Grant with Andrew Grotzinger Unpacking the Emergence of Dementia Etiology Across the Life Course Submitted, estimated \$2 million over 4 years
2021	National Science Foundation DRK-12 Grant with Brian Donov

2021 National Science Foundation DRK-12 Grant with Brian Donovan and Ravit Duncan

Collaborative Research: Reducing Racial Prejudice by Fostering an Ontologically and Epistemologically Complex Understanding of Human Genetics Research

Awarded, \$3.5 million over 5 years

2020 National Institutes of Health National Institute on Aging Health Disparities Loan Repayment Grant Sociodemographic Stratification and Health Disparities in Genetics of Aging Research Awarded, \$56,455.31over 2 years

National Science Foundation Graduate Research Fellowship Program (DGE 1144083) Evaluating Doctrine Disparity: How Christian Teachings and Personal Beliefs Differ on Issues of Homosexuality Awarded, \$138,000 over 5 years

HONORS AND AWARDS

2019	National Institutes of Health Matilda White Riley Behavioral and Social Sciences Honors Early-Stage Investigator Paper Competition Award
2018	Student Paper Award. Evolution, Biology, and Society Section, American Sociological Association

TALKS

Invited Talks

2023

- Why sociology matters for modern genetics. Biology of Genomes annual conference keynote panel, Cold Spring Harbor Laboratory.
- Sociogenomic insights into the human phenome. Institute for Genomic Biology seminar series, University of Illinois, Urbana-Champaign, IL.

2022

- Intro to sociogenomics & insights into the human phenome from a biobank-scale factor analysis. Purdue University Department of Statistics seminar series, West Lafayette, IN.
- Insights into the human phenome from a biobank-scale factor analysis. Indiana University School of Medicine Medical and Molecular Genetics CME Seminar series, Indianapolis, IN.
- Introduction to sociogenomics. Purdue University College of Liberal Arts, West Lafayette, IN.
- Large-scale health data for sociology: A big data approach to fundamental causes and gene-environment interactions. Purdue University Department of Sociology, West Lafayette, IN.

2021

- Sociogenomics. Sohini Ramachandran invited lab speaker, Brown University, Providence, RI.
- A history of eugenics. Broad Institute of MIT and Harvard Program on Medical and Population Genetics (MPG) Primer Series, Cambridge, MA.

2020

- The complex genetics of human behaviors. Advancement of Neuroscience Brain Awareness Week keynote speaker. University of Tennessee, Knoxville, TN.
- The complex genetics of human social and behavioral outcomes. Nicholas Christakis Human Nature lab invited lab speaker, Yale University, New Haven, CT.
- The genetics of same-sex sexual behavior. Felix Tropf invited lab speaker, Social Science Genetics Paris, ENSAE/CREST, Paris, France.

2019

• The genetics of social science outcomes. Friday Luncheon Seminar Series, Harvard Center for Population and Development Studies, Cambridge, MA.

- The ethical implications of sexuality GWAS studies. Bioethics@Broad bioethics working group, Broad Institute of MIT and Harvard, Cambridge, MA
- How large-scale genetic data is helping us understand health, human behaviors, and our social world. Departmental Colloquium, University of Cincinnati Department of Sociology, Cincinnati, OH
- The genetics of complex human behaviors: How (large-scale) genetic data can help us understand our social world. Division of Social Science, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates.
- The new genetics of sexual orientation: How large-scale genetic data can help us understand our social world. Social Demography Seminar, Harvard Center for Population and Development Studies, Cambridge, MA.
- Education, smoking, and cohort change: Forwarding a multidimensional theory of the environmental moderation of genetic effects. Presented as the recipient of a 2019 National Institutes of Health Matilda White Riley Behavioral and Social Sciences Honors Early-Stage Investigator Paper Competition Award, NIH Matilda White Riley Behavioral and Social Sciences Honors Ceremony, NIH Campus, Bethesda, MD.
- The new genetics of sexual orientation: How large-scale genetic data can help us understand our social world. Demography Colloquium, Brown Population Studies and Training Center, Providence, RI.
- The genetics of complex human behaviors: How large-scale genetic data can help us understand our social world. The Maternal and Child Health Center of Excellence (MCH) Seminar, Harvard T.H. Chan School of Public Health, Cambridge, MA.
- The genetics of sexual orientation and substance use: How large-scale genetic data can help us understand health, human behaviors, and our social world. University sponsored lecture, Novo Nordisk Foundation Center for Basic Metabolic Research, University of Copenhagen, Copenhagen, Denmark.

- Insights from current, large-scale genome-wide association studies. The Stanley Center for Psychiatric Research at the Broad Institute of MIT and Harvard, Cambridge, MA.
- Current, large-scale studies in sociogenomics. Sociology Department, University of Oxford, UK.

2014

• Doing interdisciplinary research: The graduate student perspective. Presented as part of a 3-series panel on doing interdisciplinary research at the CU Institute of Behavioral Science.

Professional Conference and Invited Panelist Presentations

• Misuses of genomic data: Case studies and paths forward for genomic scientists. Invited Panelist for Biology of Genomes annual meeting, Cold Spring Harbors Laboratory, Cold Spring Harbor, NY.

2022

- Upsetting the set up: LGBTQIA+ community engagement with genomic studies on same-sex sexual behavior. Invited Panelist for American Society of Human Genetics annual meeting, Los Angeles, CA.
- Patterns of item nonresponse to questionnaires are systematic and have a genetic basis. Integrating Genetics and the Social Sciences annual meeting, Boulder, CO.
- New directions in sociogenomics: Empirics and ethics. Sociology of Evolution, Biology, and Society Section panel session, American Sociological Association annual meeting, Los Angeles, CA.
- Reducing racial prejudice through genetics education and curriculum, Panel session on education, Behavior Genetics Association annual meeting, Los Angeles, CA.
- Insights into the human phenome from a biobank-scale factor analysis. Panel session on GWAS, European Social Science Genetics Network annual meeting, Bologna, Italy.
- What we've learned from Add Health genetic data. Panel session on genetic data, Add Health Users Conference, Chapel Hill, NC.

2021

• Let's take down determinism! Invited Panelist for American Society for Bioethics and Humanities annual meeting, Virtual Conference.

2019

- Large-scale GWAS reveals insights into the genetic architecture of samesex sexual behavior. Integrating Genetics and the Social Sciences annual meeting, Boulder, CO.
- Add Health genetic data and genome-wide association studies. Population Association of American workshop on the Add Health dataset, Austin, TX.

2018

- New GWAS of smoking and alcohol. Conference on Polygenic Prediction and its Application in the Social Sciences, Los Angeles, CA.
- Genetic association of 565 variants with alcohol and tobacco use. Panel session on integrating genetics into population health research, Interdisciplinary Association for Population Health Science annual meeting, Headquarters of the National Academy of Sciences, Washington, D.C.

- Add Health genetic data and genome-wide association studies, Invited Panelist for Add Health Users Conference methodology session, NIH Campus, Bethesda, MD.
- Gene discovery and polygenic prediction from a 1.1-million-person GWAS of educational attainment. Panel session on genetic contributions to wellbeing, Add Health Users Conference, NIH Campus, Bethesda, MD.
- Results from the largest genetic study of sexual orientation. Panel session on personality/politics/sexual orientation, Behavior Genetics Association annual meeting, Boston, MA.
- Large-scale association studies yield new insights in the genetic etiology of tobacco and alcohol use. Panel session on incorporating biology into social research, Population Association of America annual meeting, Denver, CO.
- The genetics of sexual behavior and orientation, The Biomarker Network annual meeting, Denver, CO.

- GWAS of educational attainment. Panel session on genes, education, and health, Integrating Genetics and the Social Sciences annual meeting, Boulder, CO.
- GSCAN GWAS of smoking and drinking phenotypes. Panel session on population health & genetics, Interdisciplinary Association for Population Health Science annual meeting, Austin, TX.
- Body size reference norms and subjective weight status: A gender and life course approach. Regular panel session on life course insecurities: Individuals and cohorts in transition, American Sociological Association annual meeting, Montreal, Canada.
- GWAS of educational attainment, phase 3: Prediction. Panel session on educational attainment, Behavior Genetics Association annual meeting, Oslo, Norway.
- GWAS of 155,439 individuals identifies 3 loci associated with risk tolerance, The Biomarker Network annual meeting, Chicago, IL.
- Smoking, education, and historical time: The importance of genetic correlation by environment interactions for population health research. Panel session on social genomics and aging, Population Association of America annual meeting, Chicago, IL.
- GWAS of educational attainment and polygenic prediction. Conference on Polygenic Prediction and its Application in the Social Sciences, Los Angeles, CA.

2016

- Body size reference norms during adolescence shape subjective weight status across the life course. Poster session, Interdisciplinary Association for Population Health Science annual meeting, State College, PA.
- Gender and genetic contributions to weight identity among adolescents and young adults in the U.S. Sociology of Evolution, Biology, and Society

- regular panel session on biosociology/biosocial interaction, American Sociological Association annual meeting, Seattle, WA.
- Defining the genetic correlation by environment (rGxE) interaction model. Sociology of Evolution, Biology, and Society Section panel session on rethinking evolution, biology, and society, American Sociological Association annual meeting, Seattle, WA.
- The role of the retirement environment in shaping the genetics of cognitive decline. Panel session on biosocial and genetic mechanisms in aging, Population Association of America annual meeting, Washington, D.C.
- Variation in adolescents' physical weight perceptions: The gendered and aged context of state level body size reference norms. Poster session, Population Association of America annual meeting, Washington, D.C.

- Wedow R and Boardman J. Do state level body size norms affect individuals' perceptions of their physical weight? Sociology of Population Section panel session on spatial stratification, American Sociological Association annual meeting, Chicago, IL.
- The changing influence of education and genetics on the choice to continue smoking in the United States. Panel session on addictions, Behavior Genetics Association annual meeting, San Diego, CA.
- Genetic contributions to weight identity. Panel session on genetic risk and family, environment and the life course, Population Association of America annual meeting, San Diego, CA.

2014

• Wedow R and Konieczny ME. Compromising complex identities: Understanding the negotiation between religious and homosexual identity on a catholic campus. Sociology of Religion panel session on religion and intersecting identities, American Sociological Association annual meeting, San Francisco, CA.

TEACHING EXPERIENCE

Instructor of Record

Fall 2022

- Instructor, SOC 310, Race & Ethnicity, Purdue University, Fall 2022
- Instructor, SCLA 102 Transformative Texts: "The Philosophy and Science of What Makes us Human", Purdue University, Fall 2022

Workshops and Teach Assistant Experience

2020, 2018

- Instructor, Leibniz Institute for the Social Sciences workshop on Behavioral Genetics in Social Science Research
- With colleague Felix Tropf, designed and taught a week-long lecture- and data-based methodology workshop on behavioral genetics models and genome-wide analyses for social scientists

- Instructor, Population Association of America workshop: "Social science genetics and genodemography", Austin, TX
- With colleague Felix Tropf, designed and taught a day-long methodology workshop on genome-wide methods and analysis for demographers, focusing especially on the construction and effective use of polygenic scores
- Lecturer and co-organizer, Population Association of America workshop: "Add Health: Design, data, access, and effective use", Austin, TX
- Helped design a short workshop for interested users on the National Longitudinal Study of Adolescent to Adult Health (Add Health) dataset; lectured specifically on the Add Health genetic data and polygenic scores

Summer 2017

- Teaching Assistant, Russell Sage Foundation Summer 2017 Institute in Social-Science Genomics, Santa Barbara, CA
- Activities included: planning 2-week intensive workshop; designing
 workshop website; writing derivational problem sets and problem set
 solutions; designing and helping implement a Linux server for datadriven computational analysis problems; designing, writing, and
 implementing data-driven computational analysis problem sets and
 problem set solutions; teaching computational lectures (3 formal);
 holding office hours and assisting students with questions throughout
 the workshop

Spring 2014

• Introduction to Sociology Teaching Assistant, 3 recitation sections, University of Colorado Department of Sociology

MENTORING

Doctoral Students

- Callie Zaborenko, Sociology, dissertation committee member
- Boyu Jiang, Interdisciplinary Life Science (PULSe), Spring lab rotation supervisor

Undergraduate Students

• Kathryn Malerbi, Public Health

SERVICE

• Advisory board member, Center of Ethical, Legal and Social Implications (ELSI) Resources and Analysis (CERA)

Past

- Advisor to United National Independent Expert on Sexual Orientation and Gender Identity. Attendance at and participation in the 2019 Expert Meeting on Conversion Therapies.
- Panel organizer, Population health & genetics, Interdisciplinary Association for Population Health Science annual meeting, Austin, TX
- Co-founder, coordinator, and mentor, National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Workshop for Graduate Students in the Social Sciences at CU Boulder
- Session Chair, Panel session on environmental influences on health, Population Association of America annual meeting, Washington, D.C.
- Elected representative, CU Sociology Department prospective student open house committee
- Graduate student assistant, Integrating Genetics and the Social Sciences (IGSS) conference
- Graduate student coordinator, Institute of Behavioral Science Population
 & Health Workshop
- Elected student representative, CU Sociology Department faculty meetings

AD-HOC REVIEWER

Advances in Life Course Research; Alcoholism: Clinical and Experimental Research; American Sociological Review; American Journal of Sociology; Behavior Genetics; Developmental Psychology; Demography; Economics and Human Biology; Field Methods; Genes, Brain and Behavior; Journal of Health and Social Behavior; Journal of Racial and Ethnic Health Disparities; Nature Communications; Nature Communications Biology; Nature Human Behavior; Nature Genetics; PLOS One; Proceedings of the National Academy of Sciences; Science; Science Advances; Social Forces; Social Science & Medicine; Social Problems; The Lancet Psychiatry

PROFESSIONAL MEMBERSHIPS

- American Society for Bioethics and Humanities
- American Sociological Association (Sections: Sociology of Population; Medical Sociology; Evolution, Biology, and Society; Sociology of Religion)
- Population Association of America
- Interdisciplinary Association for Population Health Science
- International Society of Psychiatric Genetics
- American Society of Human Genetics

• Behavior Genetics Association