Brooke Nichole Wolford

PhD, Bioinformatics | MA, Statistics | BS, Quantitative Biology

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EDUCATION

01/08/21 **Doctor of Philosophy in Bioinformatics**, **University of Michigan, Ann Arbor, MI, USA**
Program in Biomedical Sciences, Department of Computational Medicine & Bioinformatics
Dissertation: Genetic Discovery and Precision Medicine in Cardiovascular Diseases Using Electronic Health Record-linked Biobanks
Co-Chairs Cristen J. Willer and Michael Boehnke; Dissertation Committee: Stephen C.J. Parker, Hyun Min Kang, Seunggeun Lee; Cumulative GPA: 3.86

01/08/21 **Master of Arts in Statistics**, **University of Michigan, Ann Arbor, MI, USA**

12/05/13 **Bachelor of Science in Quantitative Biology**, **University of North Carolina, Chapel Hill, NC, USA**
Honors Thesis: "Evolutionary Development of Gain-of-Function Stripes in Z. indianus."
Highest Honors and Highest Distinction, Cumulative GPA: 3.89

06/06/09 **High School Diploma**, **North Carolina School of Science and Mathematics, Durham, NC, USA**
Public residential high school of UNC system, #1 public high school in the US by Niche.com for 2025

RESEARCH EXPERIENCE

30/06/24 - Present *Visiting Researcher, Institute of Molecular Medicine Finland (FIMM), Helsinki, Finland*
Supervisor: **Samuli Ripatti, PhD**
Secondment as part of MSCA-PF Proteomics for Heart Disease Prediction (ProtectHearts).

01/01/24 - Present *Marie Skłodowska-Curie Postdoctoral Fellow, Norwegian University of Science and Technology, Trondheim, Norway*
Department of Public Health and Nursing, HUNT Center for Molecular and Clinical Epidemiology
Supervisor: **Kristian Hveem, MD, PhD**
Developing protein-based risk scores for better prediction and treatment of cardiovascular disease using European biobanks with MSCA grant agreement 101110878

01/10/21 - 31/12/23 *Postdoctoral fellow, Norwegian University of Science and Technology, Trondheim, Norway*
Department of Public Health and Nursing, K.G. Jebsen Center for Genetic Epidemiology
Supervisor: **Kristian Hveem, MD, PhD**
Evaluating precision medicine approaches for complex diseases as an INTERVENE Fellow funded by European Union's Horizon 2020 grant agreement 101016775 led by Professor Samuli Ripatti and Dr. Andrea Ganna of the Finnish Institute for Molecular Medicine (FIMM).

01/09/15 - 30/09/21 *Graduate Research Fellow*, *University of Michigan*, *Ann Arbor, MI, USA*
Department of Computational Medicine and Bioinformatics, Center for Statistical Genetics
Supervisors: **Cristen J. Willer, PhD** and **Michael Boehnke, PhD**
Implementing statistical methods to improve genetic discovery and precision medicine approaches with the use of family history information in population biobanks.

15/08/13 - 30/07/15 *Post-baccalaureate Intramural Training Award Program Trainee, National Institutes of Health*, *Bethesda, MD, USA*
National Human Genome Research Institute, Medical Genomics and Metabolic Genetics Branch
Supervisor: **Francis S. Collins, MD, PhD**
Performing integrative analyses to understand genetic, epigenetic, and regulatory variation in Type 2 Diabetes as part of the FUSION project. Estimating allelic bias in high-throughput sequencing data of biologically relevant tissues.

01/09/09 - 01/05/13 *Undergraduate Research Assistant, University of North Carolina, Chapel Hill, NC, USA*
Department of Biology
Supervisor: **Corbin D. Jones**, PhD
Studying the molecular and genetic basis of adaptive evolution in Drosophila and related species with behavioral assays, phenotypic studies, and molecular analysis.

PUBLICATIONS (PEER REVIEWED)

* contributed equally; † corresponding author

1. Monti R, [4 authors], **Wolford BN**, [15 authors], Lippert C. Evaluation of polygenic scoring methods in five biobanks reveals greater variability between biobanks than between methods and highlights benefits of ensemble learning *American Journal of Human Genetics*. PMID: 38908374 (20/06/2024)

2. Jermy B*, Läll K*, **Wolford BN*,** [23 authors] Ripatti S, Ganna A. A unified framework for estimating country-specific cumulative incidence for 19 diseases stratified by polygenic risk. *Nature Communications.* PMID: 38866767 (06/12/2024)
3. Mosknes M, Hansen A, **Wolford BN**, [19 authors] Hveem K, Brumpton B. New insights into the genetic etiology of 57 essential and non-essential trace elements in humans. *Communications Biology*. PMID: 38594418 (09/04/2024)
4. Øvretveit K, [5 authors], **Wolford BN**, [5 authors], Hveem K. Polygenic risk scores predict blood pressure traits across the lifespan. *European Heart Journal.* PMID: 38007706 (26/11/2023)
5. Roychowdhury T, [23 authors], **Wolford BN**, [69 authors], Willer CJ, Damrauer SM. Multi-ancestry GWAS deciphers genetic architecture of abdominal aortic aneurysm and highlights PCSK9 as a therapeutic target. *Nature Genetics.* PMID: 37845353 (16/10/2023)
6. Surakka I, Wu HK, Hornsby W, **Wolford BN**, [18 authors], Willer CJ. Multi-ancestry meta-analysis identifies 2 novel loci associated with ischemic stroke and reveals heterogeneity of effects between sexes and ancestries. *Cell Genomics.* PMID: 37601974 (09/08/2023).
7. Wang Y, [20 authors], **Wolford BN**, [6 authors], Martin AR, Hirbo J. Global biobank analyses provide lessons for computing polygenic risk scores across diverse cohorts. *Cell Genomics.* (04/01/2023)
8. Surakka I, **Wolford BN**, [7 authors], Hveem K, Willer CJ. Sex-specific survival bias and interaction modeling in coronary artery disease risk prediction. *Circulation Genomics and Precision Medicine*. PMID: 36580301 (29/12/2022)
9. Aragam K*, Jiang T*, Goel A*, Kanoi S*, **Wolford BN*,** Atri DS, [87 authors], Willer CJ, Eloukas P, Kathiresan S, Butterworth A, The CARDIoGRAMplusC4D Consortium. Discovery and systematic characterization of risk variants for coronary artery disease in over a million participants. *Nature Genetics.* PMID: 36474045 (06/12/2022)
10. Brumpton BM, [6 authors], **Wolford BN**, [21 authors], Hveem K, Willer CJ. The HUNT Study: a population-based cohort for genetic research. *Cell Genomics.* (13/10/2022)
11. Zhou W, [11 authors], **Wolford BN,** [117 authors], Willer CJ, Daly M, Neale BM. Global Biobank Meta-analysis Initiative: Powering genetic discovery across human diseases. *Cell Genomics*. (13/10/2022)
12. Thibord F, [16 authors], **Wolford BN**, [71 authors], Smith NL. Cross-Ancestry Investigation of Venous Thromboembolism Genomic Predictors. *Circulation*. PMID: 36154123. (26/09/2022)
13. Zhuang Y, **Wolford BN**, Nam K, Bi W, Zhou W, Willer CJ, Mukherjee B, Lee S. Incorporating family disease history and controlling case-control imbalance for population-based genetic association studies. *Bioinformatics*. PMID: 35876838. (25/07/2022)
14. Duda M*, Sovacool, KL*, [14 authors], Lapp Z*†, **Wolford BN*†.** Teaching Python for Data Science: Collaborative development of a modular and interactive curriculum. *Journal of Open Source Education*, 4(46), 138. PMID: 35187422. (17/12/2021)
15. Fan Y*, **Wolford BN*,** Lu H*, [20 authors], Willer CJ, Chen YE. Type 2 diabetes sex-specific effects associated with E167K coding variant in *TM6SF2*. *iScience*. PMID: 34746691. (19/11/2021)
16. Roychowdhury T, Lu H, [9 authors], **Wolford BN**, [36 authors], Garcia-Barrio MT, Willer CJ. Regulatory variants in *TCF7L2* are associated with thoracic aortic aneurysm. *AJHG*. PMID: 24265237. (14/07/2021)
17. COVID-19 Host Genetics Initiative (banner authorship). Mapping the human genetic architecture of COVID-19 by worldwide meta-analysis. *Nature*. PMID: 34237774. (08/07/2021)
18. Moksnes M, [5 authors], **Wolford BN**, [17 authors], Willer CJ, Brumpton BM, Omland T. Using human genetics to understand the role of cardiac troponin I in the general population. *Human Molecular Genetics*. PMID: 33961016. (01/11/2021)
19. Natarajan P, [9 authors], **Wolford BN**, [40 authors], Peloso G. Chromosome Xq23 is associated with lower atherogenic lipid concentrations and favorable cardiometabolic indices. *Nature Communications* 12(1):2182. PMID: 33846329. (12/04/2021)
20. Beil A, Hornsby WE, Uhlman WR, Aatre R, Arscott P, **Wolford BN**, Eagle K, Yang B, McNamara J, Willer CJ, Roberts JS. Disclosure of clinically actionable genetic variants to thoracic aortic dissection biobank participants. *BMC Medical Genomics*. PMID: 33648514 (01/03/2021)
21. Klarin D, [3 authors], **Wolford BN**, [48 authors], Tsao PS on behalf of the VA Million Veteran Program. Genetic Architecture of Abdominal Aortic Aneurysm in the Million Veteran Program. *Circulation*. PMID: 32981348. (28/09/2020)
22. Surakka I, [7 authors], **Wolford BN**, [10 authors], Hveem K, Willer CJ. Loss-of-function mutation in the MEPE gene decreases lifetime bone mineral density and increases fracture risk. *Nature Communications* 11, 4093. PMID: 33097703. (23/10/2020)
23. Norton E*, Hornsby WE*, Wu X, **Wolford BN**, Graham S, Willer CJ, Yang B. Aortic Progression and Reintervention in Patients with Pathogenic Variants Following a Thoracic Aortic Dissection. *Journal of Thoracic and Cardiovascular Surgery*. PMID: 32199657. (20/02/2020)

24. Børte S, [8 authors], **Wolford BN**, [6 authors], Willer CJ, Winsvold B. Mitochondrial genome-wide association study of migraine—the HUNT Study. *Cephalgia* 40(6):625-634. PMID: 32056457. (14/02/20202)
25. **Wolford BN***, Hornsby WE*, [19 authors], Milewicz DM, Willer CJ, Yang B. Clinical implications of identifying pathogenic variants in individuals with thoracic aortic dissection. *Circulation Genomic and Precision Medicine* 12(6): 273-280. PMID: 31211624. (18/06/2019)
26. Nielsen JB, [17 authors], **Wolford BN**, [27 authors], Abecasis GR, Hveem K, Willer CJ. Biobank-driven genomic discovery yields new insight into atrial fibrillation biology. *Nature Genetics* 50:1234–39. PMID: 30061737. (30/07/2018)
27. Zhou W, Nielsen JB, Fritsche LG, Dey R, Gabrielsen ME, **Wolford BN**, [10 authors], Abecasis GR, Willer CJ, Lee S. Efficiently controlling for case-control imbalance and sample relatedness in large-scale genetic association studies. *Nature Genetics* 50(9):1335–41. PMID: 30104761. (13/08/2018)
28. Taylor DL, Knowles DA, Scott LJ, Ramirez AH, Casale FP, **Wolford BN**, [16 authors], Boehnke M, Birney E, Collins FS. Interactions between genetic variation and cellular environment in skeletal muscle gene expression. *PLoS ONE* 13(4): e0195788. PMID: 29659628. (16/04/2018)
29. Kycia I, **Wolford BN**, [16 authors], Collins FS, Parker SCJ, Stitzel ML. A common type 2 diabetes risk variant potentiates activity of an evolutionarily conserved islet stretch enhancer and increases C2CD4A and C2CD4B expression. *American Journal of Human Genetics* 102(4):620-635. PMID: 29625024. (05/04/2018)
30. Nielsen JB, [8 authors], **Wolford BN**, [32 authors], Abecasis GR, Hveem K, Willer CJ. Genome-wide study of atrial fibrillation identifies seven risk loci and highlights biological pathways and regulatory elements involved in development. *AJHG*, 102(1):103-115. PMID: 29290336. (04/01/2018)
31. Roman TS, Cannon ME, Vadlamudi S, Buchokovich ML, **Wolford BN**, [13 authors], Collins FS, Parker SCJ, Stitzel ML, Mohlke K. A type 2 diabetes-associated functional regulatory variant in a pancreatic islet enhancer at the ADCY5 locus. *Diabetes* 66(9):2521-2530. PMID: 28684635. (06/07/2017)
32. Varshney A, [7 authors], **Wolford BN**, [12 authors], Collins FS, Parker SCJ, Stitzel ML. Genetic regulatory signatures underlying islet gene expression and type 2 diabetes. *Proceedings of the National Academy of Sciences* 114(9):2301-2306. PMID: 28193859. (13/02/2017)
33. Scott LJ, Erdos MR, Huyghe JR, Welch RP, Beck AT, **Wolford BN**, [23 authors], Boehnke M, Collins FS, Parker SCJ. The genetic regulatory signature of type 2 diabetes in human skeletal muscle. *Nature Communications* 7, 11764. PMID: 27353450. (29/06/2016)

PUBLICATIONS SUBMITTED, UNDER REVIEW, REVISION, OR IN PRESS

* contributed equally

34. **Wolford BN*,** Yakun Zhao*, [21 authors], Shavit J, Willer CJ. Multi-ancestry GWAS for venous thromboembolism identifies novel loci followed by experimental validation in zebrafish. *Blood Advances. Under revision*. medRxiv.
35. Wu KH, Douville NJ, Konerman MC, Mathis, MR, Hummel SL, **Wolford BN**, [12 authors], Willer CJ. Polygenic risk score from a multi-ancestry GWAS uncovers susceptibility of heart failure. *Cell Genomics*. *Under revision*. medRxiv.
36. **Wolford BN**, [14 authors], Willer CJ. Utility of family history in disease prediction in the era of polygenic scores. *AJHG. Under revision.* bioRxiv.
37. Wu KH, **Wolford BN**, Douville NJ, Yu X, Mathis M, [5 authors], Willer CJ, Shi X. Integrating large scale genetic and clinical information to predict cases of heart failure. *Communications Medicine*. *Accepted.* medRxiv.
38. Gualdo NP, Džigurski J, Rukins V, Pajuste FD, **Wolford BN**, [10 authors], Laisk T. A cross-trait atlas of genetic and phenotypic associations across 42 female reproductive health diagnoses. *Nature Medicine. Accepted*
39. Kelsey P, [4 authors], **Wolford BN***, Skjellegrind HK*. *Helicobacter pylori* and Alzheimer's disease risk: the HUNT Study. *J Alz Dis. Submitted*.
40. Nordestgaard LT, **Wolford BN**, [10 authors]. Multiomics and machine learning/artificial intelligence in atherosclerotic cardiovascular disease diagnostics and treatment. *Atherosclerosis. Submitted*.
41. [2 authors], **Wolford BN**, [10 authors]. Challenges and Opportunities in Multi-Omics Data Analysis and Integration for Atherosclerotic Cardiovascular Disease. *Briefings in Bioinformatics. Submitted*.

REVIEWS AND EDITORIALS

* contributed equally; † corresponding author

42. **Wolford BN†**, Åsvold BO. Bi-directional Mendelian Randomization to elucidate the relationship between healthy sleep, brains, and hearts. *Journal of the American Heart Association*. PMID: 39258560 (11/09/2024)
43. 13 authors alphabetical. Molecular Mechanisms of Vascular Health: Insights from Vascular Aging and Calcification. *ATVB.* PMID: 36412195 (22/11/2022)
44. **Wolford BN**, Willer CJ, and Surakka I. Electronic health records: the next wave of complex disease genetics. Human Molecular Genetics, 27:R14-R21. PMID: 29547983. (01/05/2018)

REFEREED PRESENTATIONS

Cumulative incidence estimates across polygenic score strata in global populations

1. American Society of Human Genetics | poster presentation | Denver, Colorado | November 5-9, 2024

Genomics and Proteomics of Heart Disease Risk Prediction in the Trøndelag Health Study
2. Joint Nordic Conference on Future Health | **plenary presentation** | Trondheim, Norway | September 10-12, 2024
Estimating polygenic score effects in non-European populations for improved lifetime disease risk estimation
3. European Society of Human Genetics Conference | poster presentation | Berlin, Germany | June 2024
Sex and age-specific effects of polygenic risk on cumulative incidence of coronary heart disease
4. Female Heart Workshop | **oral presentation** | Bergen Norway | May 2024
Differential gene expression and regulation at single nuclei resolution in muscle of statin users
5. AtheroNet 3rd Working Group Meeting | poster presentation | Valencia, Spain | February 2024
6. American Society of Human Genetics Annual Meeting | poster presentation | Washington, D.C. | November 2023
Variability in lifetime risk of complex diseases across European countries & polygenic score strata in >1 million individuals
7. Biomarkers of the Future Virtual Conference | **oral presentation** | Virtual | November 2022
8. American Society of Human Genetics Annual Meeting | **platform presentation** | LA, CA | October 2022
Effect of sex and age on disease prediction with polygenic scores in INTERVENE
9. 55th European Human Genetics Conference | **platform presentation** | Vienna, Austria | June 2022
Multi-ancestry GWAS for venous thromboembolism identifies novel loci followed by experimental validation
10. American Society of Human Genetics Annual Meeting | **platform presentation** | Virtual | October 2021
Comprehensive benchmarking of integrated polygenic and conventional risk factor models for cardiovascular traits in the Nord-Trøndelag Health Study
11. American Society of Human Genetics Annual Meeting | **platform presentation** | Virtual | October 2020
Utility of family history informed genetic risk scores for prediction of common complex diseases
12. American Society of Human Genetics Annual Meeting | poster presentation | Houston, TX | October 2019
13. Leena Peltonen School of Human Genomics | **oral presentation** | Les Diablerets, Switzerland | August 2019
Clinical implications of identifying pathogenic variants in individuals with thoracic aortic dissection
14. American Society of Human Genetics Annual Meeting | poster presentation | San Diego, CA | October 2018
15. 6th Human Genetics in NYC | poster presentation | New York, NY | October 2018
Using genotyped relatives of ungenotyped type 2 diabetes cases as proxy-cases in a cohort based GWAS
16. James V. Neel Lectureship Symposium | poster presentation | Ann Arbor, MI | May 2018
17. Gilbert S. Omenn Lectureship Symposium | poster presentation | Ann Arbor, MI | March 2018
18. American Society of Human Genetics 67th Annual Meeting | **platform presentation** | Orlando, FL | October 2017
19. Biomedical Statistical Modeling | poster presentation | Ann Arbor, MI | June 2017
20. CSHL Conference on The Biology of Genomes | poster presentation | Cold Spring Harbor, NY | May 2017
21. James V. Neel Lectureship Symposium | poster presentation | Ann Arbor, MI | May 2017
22. NHGRI Research Training & Career Development Annual Meeting | poster presentation | St. Louis, MO | April 2017
Allelic transcriptome signatures identify disease-relevant regulatory architecture in diabetes relevant cell-types
23. James V. Neel Lectureship Symposium | poster presentation | Ann Arbor, MI | May 2016
Integrated 3-D epigenomic and transcriptomic analysis of the EndoC-BH1 human pancreatic islet beta cell model
24. CSHL Conference on The Biology of Genomes | poster presentation | Cold Spring Harbor, NY | May 2015

INVITED SPEAKING ENGAGEMENTS

02/12/24	NTNU Health and Life Sciences Seminar
16/09/24	ThermoFisher Predictive Genomics team meeting
29/09/23	3rd meeting of the AtheroNET (Network for implementing multiomics approaches in atherosclerotic cardiovascular disease prevention and research) EU COST Action
19/05/23	University of Utah Rising Stars in Genetics and Genomics Symposium
24/04/23	NTNU Working Group on Statistical Science
27/10/22	Meet the Expert Inspiration Lounge Session at 70th ASHG Annual Meeting
10/05/22	Institute of Molecular Medicine in Finland (FIMM) Human Genetics Analysis Seminar
2021-22	Girls Who Code at UM DCMB Journey Lecture (2020-2021, 2021-2022, and 2022-2023 GWC Clubs, 2021 and 2022 Summer Experience)
13/12/21	Clinical Genome (ClinGen) Complex Disease Working Group *Utility of family history in disease prediction in the era of polygenic scores*
13/11/21	American Heart Association Scientific Sessions 2021 *Novel Strategies to Promote Healthy Vascular Aging Session. Polygenic Risk Scores for Coronary Artery Disease: Are we Ready for Personalized Medicine?*
27/02/21	California Undergraduate Bioinformatics Conference Graduate Student Panelist
04/10/20	inteGIRLS Detroit Women In STEM Panelist

12/03/20 Michigan Theater Independent Thinker Film Series Panelist, *"Code: Debugging the Gender Gap"*
13/09/18 Norwegian University of Science & Technology, Department of Public Health & Nursing Invited Seminar, "*Using EHR-linked biobanks to study the genetics of cardiometabolic diseases*"

HONORS & AWARDS

01/06/24 **Best Poster Candidate** at the European Society of Human Genetics 2024 Conference
01/03/24 **Top Poster Award** for the Young Researcher and Innovator Poster Session of the 4th AtheroNET Meeting
24/10/23 K.G. Jebsen Academy of Young Medical Researchers **Best Dissemination Award**
16/11/22 Biomarkers of the Future Virtual Conference, Young Researcher Competition **4th place** of 14 entries
26/09/22 K.G. Jebsen Academy of Young Medical Researchers **Best Dissemination Award**
16/08/22 Trainee Research Excellence Award (formerly Charles J. Epstein Trainee Research Awards) Postdoctoral **Finalist** for the 72nd meeting of the American Society of Human Genetics
16/08/21 Trainee Research Excellence Award (formerly Charles J. Epstein Trainee Research Awards) Postdoctoral **Semi-Finalist** for the 71st meeting of the American Society of Human Genetics
01/01/20 Rackham Predoctoral Fellowship Bioinformatics Graduate Program **Departmental Nominee**
23/09/19 Univ. of Michigan Program in Biomedical Sciences 20th Anniversary **Graduate Student Award for Excellence in Research, Teaching, Service, and Promotion of Diversity, Equity, and Inclusion**
01/07/19 Univ. of Michigan Endowment for Basic Sciences Excellence in Basic Science Award ($5,000 USD)
20/12/18 Department of Computational Medicine & Bioinformatics Annual **Student Service Award**
01/07/18 Univ. of Michigan OGPS Excellence in Service Award Bioinformatics Graduate Program **Nominee**
01/09/15 Univ. of Michigan Benard L. Maas **Fellowship Award**
01/04/15 National Science Foundation Graduate Research Fellowship Program **Honorable Mention**
01/12/14 NHGRI Symposium **Best Traditional Scientific Poster Award**
01/05/14 NIH Post-baccalaureate Poster Day **Outstanding Poster Award**
21/11/12 Phi Beta Kappa National Honor Society (less than 1% of all US Bachelor's students qualify)

GRANTS & FUNDING

13/12/24 ELIXIR Travel Grant (2,100 EUR)
06/12/24 Digital Life Norway Research School Support for 2025 *Health AI in R* short-course (39,800 NOK)
02/12/24 PI of ProtectHearts, St Olav's Hospital and NTNU Faculty of Medicine and Health Joint Research Committee (1,500,000 NOK)
02/12/24 PI of HUNT-AI, The Central Norway Regional Health Authority Cooperative Body (3,900,000 NOK)
12/07/24 UK Biobank Research Analysis Platform Early Career Researcher Credits (1,000 GBP)
30/06/24 AtheroNET EU Cost Action Short Term Scientific Mission (2,500 EUR)
08/05/24 NTNU Health and Life Science in 2024 (150,000 NOK, ~12,800 EUR)
28/03/24 European Society of Human Genetics Early Career Investigator Conference Fellowship (700 EUR)
13/02/23 Marie Skłodowska-Curie Postdoctoral Fellowship (MSCA-EF) ProtectHearts (263,000 EUR, 101110878)
01/01/23 PI of Work Package 4, InDemHUNT, The Central Norway Regional Health Authority Cooperative Body, (PhD position for 3 years and 2,960,000 NOK for project funds)
02/10/22 Activity Support Grant from DION, Doctoral Interest Organization at NTNU (2000 NOK, ~2000 EUR)
2017-19 Rackham Conference Travel Grant ($800 USD x 3)
01/04/18 Rackham Professional Development Grant ($400 USD)
01/04/18 Univ. of Washington Summer Inst. in Stat. Genetics Registration/Travel Scholarship ($1,400 USD)
01/04/16 NSF Graduate Research Fellowship Program (3 years of support, $138,000 USD, DGE 1256260)
01/03/18 Genome Sciences Training Program Fellow (1 year of support, NIH/NHGRI 5T32HG000040-22)
01/10/17 Benard L. Maas Professional Development Award ($500 USD)
01/07/14 NIH Intramural Sequencing Center Pilot Project ($10,000 USD)
01/05/13 Tom and Elizabeth Long Research Award ($500 USD)
01/06/12 UNC Office of Undergraduate Research Summer Undergrad. Research Fellowship ($3,000 USD)

SUPERVISION AND MENTORING EXPERIENCE

01/04/24 - Present Fikria Karinanur, NTNU, Master's in Clinical Science – Obesity and Health (Main supervisor)
01/01/24 - Present Pieta Kelsey, NTNU, PhD Candidate (Co-supervisor)
01/04/23 - Present Elisa Moreno, NTNU, PhD Candidate (Co-supervisor)
01/01/23 - Present Nora Grøtting, NTNU, Medical Research Track Student (Co-supervisor)
01/04/23 - 19/06/24 Karianne Skjærstein, NTNU, Master's in Global Health Candidate (Main supervisor)
01/01/19 - 31/12/20 Will Zehr Overton, University of Michigan Graduate Student Research Assistant (informal mentor)

01/01/19 - 31/12/20 Bioinformatics Graduate Program Peer Mentor
01/10/20 - 31/10/20 NSF GRFP Peer Mentor at University of Michigan
01/09/12 - 01/05/13 Summer Undergraduate Research Fellowship Peer Advisor, UNC Office of Undergrad Research

TEACHING EXPERIENCE

13/12/24 2nd Student Conference on Biological Sciences, University of Tirana, Albania (virtual), "Using Statistics and Computation to Better Understand our Genes" Workshop Speaker
18/09/22 Palestine-Norway Partnership to Enhance Population Genomics Education, Research, and Outreach to the Professional-Community (PaNomics) Summer School Lecturer
2019-2022 Genetic Epidemiology (SMED 8020, Norwegian University of Science & Technology) Lecturer
17/06/21 University of Colorado Boulder International Statistical Genetics Workshop Tutor
01/04/18 - 30/04/21 Genomics in Epidemiology (EPID 516, University of Michigan) Guest Lecturer
23/04/20 Reproducible Data Analysis with R Workshop Instructor's Assistant
01/06/19 - 31/07/19 Big Data Summer Institute (Summer Institute in Biostatistics program) Graduate Student Instructor
01/09/17 - 30/05/20 Girls Who Code at UM DCMB Club Facilitator
15/07/19 - 19/07/19 Girls Who Code at UM DCMB's Data Science Summer Experience in Detroit Facilitator
01/07/18 - 30/07/19 Summer Bridge Scholars Program, Genetics and Genomics Campus Connection Instructor
21/03/19 Graduate Society of Black Scientists and Engineers Intro to Python Workshop Instructor
01/03/19 Python Software Carpentry Workshop Instructor's Assistant
01/09/18 - 20/12/18 Tutor for Molecular Genetics (HUMGEN 541, University of Michigan)

ORGANIZATION OF MEETINGS AND SEMINARS

01/01/23 - Present ASHG Program Committee (3-year term)
01/12/24 – Present AtheroNET 4th Meeting Young Researcher and Innovator (YRI) Poster Committee
28/10/24-13/12/24 2nd Student Conference on Biological Sciences, University of Tirana, Albania, Scientific Committee
01/01/22 - Present HUNT Center for Molecular and Clinical Epidemiology Monthly Seminar Series Organizer

SERVICE TO THE SCIENTIFIC COMMUNITY, INSTITUTION, AND PROFESSIONAL SOCIEITES

01/01/25 – Present K.G. Jebsen Academy for Young Medical Researchers Deputy Leader
18/11/24 AtheroNET Journal Club Chats "Paths in academia" panelist
30/06/24 - Present AtheroNET EU Cost Action Work Package 5 Dissemination and Communication Co-Leader
01/07/21 - Present Peer reviewer for *Diabetologia, PLoS Genetics, Scientific Reports, eLife, Journal of the American Heart Association, HGG Advances*
01/11/21 - 01/11/23 NTNU Statistical Genetics Journal Club Coordinator
18/10/19 ASHG Platform Session Moderator
01/02/19 - 31/10/19 UM Undergraduate Research Opportunity Program (UROP) Panelist (February & October)
01/03/17 - 30/03/18 ASHG DNA Day Essay Judge 2017 & 2018
01/01/17 - 31/12/18 ASHG Trainee Newsletter 'The Nascent Transcript' Contributor
01/03/14 - 01/07/15 Member of Genome Trainee Advisory Committee (GTAC) for NHGRI/NIH

DISSEMINATION AND OUTREACH ACTIVITIES

15/02/23 NCSSM Alumni Panel for Research
28/09/22 - 29/09/23 EU Researcher's Night 2022 & 2023 Organizer and 2022 Facilitator
01/07/20 - 31/12/21 COVID-19 Host Genetics Initiative Science Communication Team Co-lead
01/04/18 - 01/04/21 Michigan DNA Day Ambassador
01/04/19 - 30/04/21 Skype A Scientist Speaker (2019 & 2021)
09/05/20 Bucyrus, Ohio Public Library Ask A Scientist Virtual Guest
01/11/16 - 30/05/20 Girls Who Code at UM DCMB Co-founder & Executive Committee Co-chair
23/11/16 - 16/03/19 Females Excelling More in Math, Engineering & the Sciences Semester Capstone Activity Leader
19/12/18 South Asheboro Middle School's Biotech Careers Guest Scientist
01/04/16 - 20/12/18 MiSciWriters Contributor
01/03/16 - 30/05/18 Activities Facilitator & Scouts Assistant at Ann Arbor Hands on Museum
10/03/18 - 11/03/18 Forsythe Middle School Young Scientists' Expo Judge and Demonstration Event Leader
15/05/18 New Hope Elementary School's 2nd grade Guest Scientist and Genetics Lesson Instructor
12/05/18 Association of Multicultural Scientists Science Career Day Coding & Robotics Instructor
10/04/18 St. Thomas the Apostle Catholic School Science Olympiad Team Field Trip Instructor
01/06/17 - 31/07/18 Michigan Heath Science Pre-College Exposure Academy Graduate Student Instructor
03/03/17 Liberty Elementary School's 5th grade Guest Scientist and Genetics Lesson Instructor

01/04/17 - 30/06/17	St. Thomas the Apostle Catholic School Science Olympiad ("Gene-ius" event) Assistant Instructor
19/08/15	Girl Scout Troop 40004's STEM badge Guest Speaker
01/07/25 - 31/07/15	Research Group Host for NIH High School Scientific Training and Enrichment Program (HiSTEP)
01/08/14 - 31/07/15	Contributor for NHGRI Communication & Science Policy Group's Genome Advance of the Month
24/04/14	Volunteer for NHGRI 'Fun With DNA' during NIH Take Your Child To Work Day
01/04/14 - 31/07/14	Volunteer for Smithsonian National Museum of Natural History Genome Zone

MEDIA COVERAGE

03/04/24	We're Doomed We're Saved Podcast Guest "Polygenic risk scores – The Truth in our Genes"
11/01/23	Michigan Daily "International research study finds new genetic links to heart disease"
15/02/21	Perspective 2020 Podcast Guest, *"Interpreting a Data Driven World"*

PROFESSIONAL ORGANIZATIONS AND NETWORKS

K.G. Jebsen Academy for Young Medical Researchers | American Society of Human Genetics | Norwegian School of heart research (NORHEART) | Network for implementing multiomics approaches in ASCVD prevention and research (AtheroNET EU COST Action) | The Norwegian Centre on Healthy Aging Network (NO-Age)

COMPETENCIES

Programming experience in Perl, Python, R, Bash, C/C++, Snakemake; Processing of RNA-seq, ChIP-seq, ATAC-seq, proteomics assays, exome sequencing, genotyping, electronic health record, and survey data; **Statistical competencies** in advanced probability theory, non-parametric statistical inference, generalized linear models, survival analysis, linear mixed models, optimization algorithms**; Extensive use of high performance compute cluster** and parallel programming to create and execute analysis pipelines; **Leadership skills** including project management, supervising students, consensus building, and facilitating collaborative meetings; **Commitment to open science practices** including open source sharing of my code on GitHub and authorship of Data Management Plans; **Molecular biology protocols** for DNA extraction, PCR, RT-PCR, restriction digest, Illumina library preparation, bacteriophage display; **Laboratory experience** with fruit fly husbandry and behavioral assays, EMS mutagenesis, Scanning Electron Microscopy.

CONTINUING EDUCATION

20/11/23	NTNU Faculty of Medicine and Health PhD Supervising Course
01/08/21	Lifeology University SciComm Program: Empathetic Communicator Certificate
23/07/18 - 27/07/18	University of Washington Department of Biostatistics 23rd Summer Institutes in Statistical Genetics Modules: Adv. Quantitative Genetics, Statistical & Quantitative Genetics of Disease
01/09/14 - 31/12/14	Genetic Counseling Professional Topics Seminar, Foundation for Advanced Education in the Sciences (3 credits)
01/09/14 - 31/05/15	NIH Academy Certificate Program, National Institutes of Health (Certificate of Completion)
01/02/14 – 31/05/14	Current Topics in Genome Analysis, National Human Genome Research Institute
01/03/14	Writing and Publishing a Scientific Paper, National Institutes of Health Office of Intramural Training and Education (Certificate of Training)
01/10/13	Computing for Data Analysis, Coursera partnership with JHU Bloomberg School of Public Health (Statement of Accomplishment)

LEADERSHIP & COMMUNITY INVOLVEMENT

01/09/21 - Present	parkrun Volunteer & Run Director	Archdale, NC & Trondheim, Norway
01/0516 - 01/07/18	UNC General Alumni Association's Ann Arbor Carolina Club Chair	Ann Arbor, MI
01/05/16 - 01/11/19	Wesley Foundation at the University of Michigan Community Coordinator (May – Sept. 2016) Loud Lecture Committee Member (April 2016 – November 2019)	Ann Arbor, MI
01/06/14 - 01/07/15	Montgomery Hospice Respite and Companionship Visitor	Rockville, MD
2010 - 2013	Quaker Lake Camp Health and Safety Director (2010, 2011, 2013) Seeds Environmental Education Program Coordinator (2012, 2013)	Climax, NC
01/06/11 - 01/05/13	Orange & Chatham County Judicial System Guardian ad Litem	Chapel Hill, NC

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