The Faculty of Medicine of Harvard University

Curriculum Vitae

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Name: Tariq Faquih

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Education:

08/2007 - 07/2011	BSc	Human Genetics	University of Leeds Leeds, UK
01/2012 - 06/2013	MSc	Bioinformatics	Georgetown University Washington DC, USA
08/2018 - 03/2023	PhD	Clinical Epidemiology	Leiden University Medical Center Leiden, Netherlands

Postdoctoral Training:

01/2023 - Present	Postdoctoral Research Fellow at Brigham and Women's Hospital (BWH) in the Department of Medicine, Division of Sleep and Circadian Disorders.	Sleep Epidemiology Prof. Susan Redline; Dr. Heming Wang; Dr. Tamar Sofer	Brigham and Women's Hospital and Harvard Medical School Boston, USA

- Currently researching the genetic epidemiology of sleep traits, disorders, and measurements under the mentorship of Dr. Heming Wang and Dr. Susan Redline.

- Co-mentored by Dr. Tamar Sofer (Beth Israel Deaconess Medical Center Beth Israel) for performing research on metabolomic analysis methodologies.

- Main research projects focus on the metabolic, genetic, and proteomic profiles of excessive daytime sleepiness, the genetic factors of actigraphy-based rest-activity rhythm metrics, and environmental-gene associations with sleep-related outcomes.

- These projects involve multi-omics data and sleep measures in large-scale cohorts, including:
  - Hispanic Community Health Study / Study of Latinos (HCHS/SOL)
  - UK Biobank
  - All of Us study
  - Multi-Ethnic Study of Atherosclerosis study (MESA)
  - Trans-Omics for Precision Medicine (TOPMed)
  - Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium
  - The Netherlands Epidemiology of Obesity Study (NEO)

- The Netherlands Study of Depression and Anxiety (NESDA)

Appointments at Hospitals/Affiliated Institutions:

2023 - Present	Postdoctoral Research Fellow	Saxena Lab	Broad Institute
2023 - Present	Postdoctoral Research Fellow	Program in Sleep Medicine Epidemiology	Brigham and Women's Hospital
2023 - Present	Postdoctoral Research Fellow	Tamar Sofer Lab	Beth Israel Deaconess Medical Center

Other Professional Positions:

2013 - 2018	Bioinformatician	King Faisal Specialist Hospital & Research Center

Professional Societies

2018 - Present	Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium
2023 - Present	American Society of Human Genetics
2023 - Present	Sleep Research Society

Editorial Activities:

- **Ad hoc Reviewer**

BMC
BMC Artificial Intelligence
BMC Gastroenterology
BMC Oral Health
BMC Public Health
Diabetologia
Discover Oncology
European Journal of Medical Research
Exposure and Health
Journal of Gerontology: Medical Sciences
Journal of Thrombosis and Thrombolysis
Metabolites
Nature Scientific Reports
PLOS One
npj Science of Food

Honors and Prizes:

2007 - 2013	Saudi Arabia King Abdullah Scholarship Program
2018 - 2022	Saudi Arabia King Abdullah Scholarship Program

Report of Funded and Unfunded Projects

Projects Submitted for Funding

Under Review	The Role of Sleep in the Obesity Epidemic: A Longitudinal and Genetic Causal Inference Study The Dubai Harvard Foundation for Medical Research (DHFMR) Foundation grant Primary PI Investigate the associations of the changes in sleep, using objective actigraphy devices, at two visits with the development of obesity.

Unfunded Current Projects

2023 - Present	Proteomic Profile of Sleep and Circadian Metrices, and the Role of Environmental Noise Pollution Primary PI Identify the plasma protein profile associated with objectively measured sleep and circadian metrics assessed by actigraphy data and identify the effect of noise pollution on protein expression mediated by objective sleep measures.
2024 - Present	Assessing the Associations between sleep and Metabolic-Associated Fatty Liver Disease using Machine Learning Primary PI To harness machine learning methodologies to develop risk prediction models for SLD using both cross-sectional and longitudinal data, with a particular focus on evaluating the added effect of sleep traits in risk prediction

Report of Local Teaching and Training

Teaching of Students in Courses:

2019	Mendelian Randomization practicum/workshop 3rd Undergraduate medical students	Leiden University Medical Center, Leiden One 3-hr working group
2019 - 2020	Academic and Scientific Training	Leiden University Medical Center, Leiden

	2nd year medical students	Two 4-hr sessions per year
2019 - 2021	Clinical Research in Practice 4th year medical students	Leiden University Medical Center, Leiden Two 2-hr sessions per year
2020	Critical Appraisal of a Topic Project 3rd year medical student	Leiden University Medical Center, Leiden 1-hr direct supervision session per month for 5 months
2020	Design and Analysis of Biomedical Studies 2nd year medical students	Leiden University Medical Center, Leiden One 2-hr working group session

Research Supervisory and Training Responsibilities:

2024 - Present	Supervision PhD Student	Leiden University, Leiden, Netherlands

Formally Mentored Harvard Students (Medical, Dental, Graduate, and Undergraduate):

10/2024 - 01/2025	Zhirou Li Mentored and provided guidance to perform extensive mendelian randomization analyses for the project: Genome-Wide Association Study Of Rest–activity Rhythm in the UKBiobank

Report of Regional, National and International Invited Teaching and Presentations

☒ *No presentations below were sponsored by 3rd parties/outside entities*

☐ *Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

International

10/2024	Genome-Wide Association Study of Rest–Activity Rhythm In The UK Biobank / Invited Presentation Leiden University Medical Center, Leiden, Netherlands

Report of Scholarship

* denotes equal authorship contribution

** denotes mentored trainee.

Research Investigations

1. Saudi Mendeliome Group. . *Genome Biol*. 2015 Jun 26;16(1):134. doi: 10.1186/s13059-015-0693-2. Erratum in: *Genome Biol*. 2015 Oct 13;16:226. doi: 10.1186/s13059-015-0798-7. PMID: 26112015; PMCID: PMC4499193.

2. Al-Hamed MH, Kurdi W, Alsahan N, Alabdullah Z, Abudraz R, Tulbah M, Alnemer M, Khan R, Al-Jurayb H, Alahmed A, Tahir AI, Khalil D, Edwards N, Al Abdulaziz B, Binhumaid FS, Majid S, **Faquih T**, El-Kalioby M, Abouelhoda M, Altassan N, Monies D, Meyer B, Sayer JA, Albaqumi M. Genetic spectrum of Saudi Arabian patients with antenatal cystic kidney disease and ciliopathy phenotypes using a targeted renal gene panel. *J Med Genet*. 2016 May;53(5):338-47. doi: 10.1136/jmedgenet-2015-103469. Epub 2016 Feb 9. PMID: 26862157; PMCID: PMC4853542.

3. Al-Mousa H, Abouelhoda M, Monies DM, Al-Tassan N, Al-Ghonaium A, Al-Saud B, Al-Dhekri H, Arnaout R, Al-Muhsen S, Ades N, Elshorbagi S, Al Gazlan S, Sheikh F, Dasouki M, El-Baik L, Elamin T, Jaber A, Kheir O, El-Kalioby M, Subhani S, Al Idrissi E, Al-Zahrani M, Alhelale M, Alnader N, Al-Otaibi A, Kattan R, Al Abdelrahman K, Al Breacan MM, Bin Humaid FS, Wakil SM, Alzayer F, Al-Dusery H, **Faquih T**, Al-Hissi S, Meyer BF, Hawwari A. Unbiased targeted next-generation sequencing molecular approach for primary immunodeficiency diseases. *J Allergy Clin Immunol*. 2016 Jun;137(6):1780-1787. doi: 10.1016/j.jaci.2015.12.1310. Epub 2016 Feb 23. PMID: 26915675.

4. Bohlega SA, Al-Mubarak BR, Alyemni EA, Abouelhoda M, Monies D, Mustafa AE, Khalil DS, Al Haibi S, Abou Al-Shaar H, **Faquih T**, El-Kalioby M, Tahir AI, Al Tassan NA. Clinical heterogeneity of PLA2G6-related Parkinsonism: analysis of two Saudi families. *BMC Res Notes*. 2016 Jun 7;9:295. doi: 10.1186/s13104-016-2102-7. PMID: 27268037; PMCID: PMC4897907.

5. Monies D, Alhindi HN, Almuhaizea MA, Abouelhoda M, Alazami AM, Goljan E, Alyounes B, Jaroudi D, AlIssa A, Alabdulrahman K, Subhani S, El-Kalioby M, **Faquih T**, Wakil SM, Altassan NA, Meyer BF, Bohlega S. A first-line diagnostic assay for limb-girdle muscular dystrophy and other myopathies. *Hum Genomics*. 2016 Sep 27;10(1):32. doi: 10.1186/s40246-016-0089-8. PMID: 27671536; PMCID: PMC5037890.

6. Abouelhoda M, **Faquih T**, El-Kalioby M, Alkuraya FS. Revisiting the morbid genome of Mendelian disorders. *Genome Biol*. 2016 Nov 24;17(1):235. doi: 10.1186/s13059-016-1102-1. PMID: 27884173; PMCID: PMC5123336.

7. Shaheen R, Szymanska K, Basu B, Patel N, Ewida N, Faqeih E, Al Hashem A, Derar N, Alsharif H, Aldahmesh MA, Alazami AM, Hashem M, Ibrahim N, Abdulwahab FM, Sonbul R, Alkuraya H, Alnemer M, Al Tala S, Al-Husain M, Morsy H, Seidahmed MZ, Meriki N, Al-Owain M, AlShahwan S, Tabarki B, Salih MA; Ciliopathy WorkingGroup; **Faquih T**, El-Kalioby M, Ueffing M, Boldt K, Logan CV, Parry DA, Al Tassan N, Monies D, Megarbane A, Abouelhoda M, Halees A, Johnson CA, Alkuraya FS. Characterizing the morbid genome of ciliopathies. *Genome Biol*. 2016 Nov 28;17(1):242. doi: 10.1186/s13059-016-1099-5. PMID: 27894351; PMCID: PMC5126998.

8. Monies D, Abouelhoda M, AlSayed M, Alhassnan Z, Alotaibi M, Kayyali H, Al-Owain M, Shah A, Rahbeeni Z, Al-Muhaizea MA, Alzaidan HI, Cupler E, Bohlega S, Faqeih E, Faden M, Alyounes B, Jaroudi D, Goljan E, Elbardisy H, Akilan A, Albar R, Aldhalaan H, Gulab S, Chedrawi A, Al Saud BK, Kurdi W, Makhseed N, Alqasim T, El Khashab HY, Al-Mousa H, Alhashem A, Kanaan I, Algoufi T, Alsaleem K, Basha TA, Al-Murshedi F, Khan S, Al-Kindy A, Alnemer M, Al-Hajjar S, Alyamani S, Aldhekri H, Al-Mehaidib A, Arnaout R, Dabbagh O, Shagrani M, Broering D, Tulbah M, Alqassmi A, Almugbel M, AlQuaiz M, Alsaman A, Al-Thihli K, Sulaiman RA, Al-Dekhail W, Alsaegh A, Bashiri FA, Qari A, Alhomadi S, Alkuraya H, Alsebayel M, Hamad MH, Szonyi L, Abaalkhail F, Al-Mayouf SM, Almojalli H, Alqadi KS, Elsiesy H, Shuaib TM, Seidahmed MZ, Abosoudah I, Akleh H, AlGhonaium A, Alkharfy TM, Al Mutairi F, Eyaid W, Alshanbary A, Sheikh FR, Alsohaibani FI, Alsonbul A, Al Tala S, Balkhy S, Bassiouni R, Alenizi AS, Hussein MH, Hassan S, Khalil M, Tabarki B, Alshahwan S, Oshi A, Sabr Y, Alsaadoun S, Salih MA, Mohamed S, Sultana H, Tamim A, El-Haj M,

Alshahrani S, Bubshait DK, Alfadhel M, **Faquih T**, El-Kalioby M, Subhani S, Shah Z, Moghrabi N, Meyer BF, Alkuraya FS. The landscape of genetic diseases in Saudi Arabia based on the first 1000 diagnostic panels and exomes. *Hum Genet*. 2017 Aug;136(8):921-939. doi: 10.1007/s00439-017-1821-8. Epub 2017 Jun 9. PMID: 28600779; PMCID: PMC5502059.

9. Mustafa AE, **Faquih T**, Baz B, Kattan R, Al-Issa A, Tahir AI, Imtiaz F, Ramzan K, Al-Sayed M, Alowain M, Al-Hassnan Z, Al-Zaidan H, Abouelhoda M, Al-Mubarak BR, Al Tassan NA. Validation of Ion Torrent™ Inherited Disease Panel with the PGM™ Sequencing Platform for Rapid and Comprehensive Mutation Detection. *Genes (Basel)*. 2018 May 22;9(5):267. doi: 10.3390/genes9050267. PMID: 29789446; PMCID: PMC5977207.
10. Yemni EA, Monies D, Alkhairallah T, Bohlega S, Abouelhoda M, Magrashi A, Mustafa A, AlAbdulaziz B, Alhamed M, Baz B, Goljan E, Albar R, Jabaan A, **Faquih T**, Subhani S, Ali W, Shinwari J, Al-Mubarak B, Al-Tassan N. Integrated Analysis of Whole Exome Sequencing and Copy Number Evaluation in Parkinson's Disease. *Sci Rep*. 2019 Mar 4;9(1):3344. doi: 10.1038/s41598-019-40102-x. PMID: 30833663; PMCID: PMC6399448.
11. Bedene A, van Dorp ELA, **Faquih T**, Cannegieter SC, Mook-Kanamori DO, Niesters M, van Velzen M, Gademan MGJ, Rosendaal FR, Bouvy ML, Dahan A, Lijfering WM. Causes and consequences of the opioid epidemic in the Netherlands: a population-based cohort study. *Sci Rep*. 2020 Sep 17;10(1):15309. doi: 10.1038/s41598-020-72084-6. PMID: 32943678; PMCID: PMC7499208.
12. **Faquih T**, van Smeden M, Luo J, le Cessie S, Kastenmüller G, Krumsiek J, Noordam R, van Heemst D, Rosendaal FR, van Hylckama Vlieg A, Willems van Dijk K, Mook-Kanamori DO. A Workflow for Missing Values Imputation of Untargeted Metabolomics Data. *Metabolites*. 2020 Nov 26;10(12):486. doi: 10.3390/metabo10120486. PMID: 33256233; PMCID: PMC7761057.
13. Loef M*, **Faquih TO***, von Hegedus JH, Ghorasaini M, Ioan-Facsinay A, Kroon FPB, Giera M, Kloppenburg M. The lipid profile for the prediction of prednisolone treatment response in patients with inflammatory hand osteoarthritis: The HOPE study. *Osteoarthr Cartil Open*. 2021 Apr 22;3(4):100167. doi: 10.1016/j.ocarto.2021.100167. PMID: 36474761; PMCID: PMC9718086.
14. **Faquih T**, Mook-Kanamori DO, Rosendaal FR, Baglin T, Willems van Dijk K, van Hylckama Vlieg A. Agreement of aptamer proteomics with standard methods for measuring venous thrombosis biomarkers. *Res Pract Thromb Haemost*. 2021 May 4;5(4):e12526. doi: 10.1002/rth2.12526. PMID: 34013156; PMCID: PMC8110437.
15. DiCorpo D, LeClair J, Cole JB, Sarnowski C, Ahmadizar F, Bielak LF, Blokstra A, Bottinger EP, Chaker L, Chen YI, Chen Y, de Vries PS, **Faquih T**, Ghanbari M, Gudmundsdottir V, Guo X, Hasbani NR, Ibi D, Ikram MA, Kavousi M, Leonard HL, Leong A, Mercader JM, Morrison AC, Nadkarni GN, Nalls MA, Noordam R, Preuss M, Smith JA, Trompet S, Vissink P, Yao J, Zhao W, Boerwinkle E, Goodarzi MO, Gudnason V, Jukema JW, Kardia SLR, Loos RJF, Liu CT, Manning AK, Mook-Kanamori D, Pankow JS, Picavet HSJ, Sattar N, Simonsick EM, Verschuren WMM, Willems van Dijk K, Florez JC, Rotter JI, Meigs JB, Dupuis J, Udler MS. Type 2 Diabetes Partitioned Polygenic Scores Associate With Disease Outcomes in 454,193 Individuals Across 13 Cohorts. *Diabetes Care*. 2022 Mar 1;45(3):674-683. doi: 10.2337/dc21-1395. PMID: 35085396; PMCID: PMC8918228.
16. Shrine N, Izquierdo AG, Chen J, Packer R, Hall RJ, Guyatt AL, Batini C, Thompson RJ, Pavuluri C, Malik V, Hobbs BD, Moll M, Kim W, Tal-Singer R, Bakke P, Fawcett KA, John C, Coley K, Piga NN, Pozarickij A, Lin K, Millwood IY, Chen Z, Li L; China Kadoorie Biobank Collaborative Group; Wijnant SRA, Lahousse L, Brusselle G, Uitterlinden AG, Manichaikul A, Oelsner EC, Rich SS, Barr RG, Kerr SM, Vitart V, Brown MR, Wielscher M, Imboden M, Jeong

A, Bartz TM, Gharib SA, Flexeder C, Karrasch S, Gieger C, Peters A, Stubbe B, Hu X, Ortega VE, Meyers DA, Bleecker ER, Gabriel SB, Gupta N, Smith AV, Luan J, Zhao JH, Hansen AF, Langhammer A, Willer C, Bhatta L, Porteous D, Smith BH, Campbell A, Sofer T, Lee J, Daviglus ML, Yu B, Lim E, Xu H, O'Connor GT, Thareja G, Albagha OME; Qatar Genome Program Research (QGPR) Consortium; Suhre K, Granell R, **Faquih TO**, Hiemstra PS, Slats AM, Mullin BH, Hui J, James A, Beilby J, Patasova K, Hysi P, Koskela JT, Wyss AB, Jin J, Sikdar S, Lee M, May-Wilson S, Pirastu N, Kentistou KA, Joshi PK, Timmers PRHJ, Williams AT, Free RC, Wang X, Morrison JL, Gilliland FD, Chen Z, Wang CA, Foong RE, Harris SE, Taylor A, Redmond P, Cook JP, Mahajan A, Lind L, Palviainen T, Lehtimäki T, Raitakari OT, Kaprio J, Rantanen T, Pietiläinen KH, Cox SR, Pennell CE, Hall GL, Gauderman WJ, Brightling C, Wilson JF, Vasankari T, Laitinen T, Salomaa V, Mook-Kanamori DO, Timpson NJ, Zeggini E, Dupuis J, Hayward C, Brumpton B, Langenberg C, Weiss S, Homuth G, Schmidt CO, Probst-Hensch N, Jarvelin MR, Morrison AC, Polasek O, Rudan I, Lee JH, Sayers I, Rawlins EL, Dudbridge F, Silverman EK, Strachan DP, Walters RG, Morris AP, London SJ, Cho MH, Wain LV, Hall IP, Tobin MD. Multi-ancestry genome-wide association analyses improve resolution of genes and pathways influencing lung function and chronic obstructive pulmonary disease risk. *Nat Genet*. 2023 Mar;55(3):410-422. doi: 10.1038/s41588-023-01314-0. Epub 2023 Mar 13. Erratum in: *Nat Genet*. 2023 Oct;55(10):1778-1779. doi: 10.1038/s41588-023-01531-7. PMID: 36914875; PMCID: PMC10011137.

17. **Faquih TO**, Aziz NA, Gardiner SL, Li-Gao R, de Mutsert R, Milaneschi Y, Trompet S, Jukema JW, Rosendaal FR, van Hylckama Vlieg A, van Dijk KW, Mook-Kanamori DO. Normal range CAG repeat size variations in the HTT gene are associated with an adverse lipoprotein profile partially mediated by body mass index. *Hum Mol Genet*. 2023 May 5;32(10):1741-1752. doi: 10.1093/hmg/ddad020. PMID: 36715614; PMCID: PMC10448954.

18. **Faquih, T.O.***, Landstra, E.N.*, van Hylckama Vlieg, A. *et al.* Per- and Polyfluoroalkyl Substances Concentrations are Associated with an Unfavorable Cardio-Metabolic Risk Profile: Findings from Two Population-Based Cohort Studies. *Expo Health***16**, 1251–1262 (2024). https://doi.org/10.1007/s12403-023-00622-4

19. **Faquih TO**, van Klinken JB, Li-Gao R, Noordam R, van Heemst D, Boone S, Sheridan PA, Michelotti G, Lamb H, de Mutsert R, Rosendaal FR, van Hylckama Vlieg A, van Dijk KW, Mook-Kanamori DO. Hepatic triglyceride content is intricately associated with numerous metabolites and biochemical pathways. *Liver Int*. 2023 Jul;43(7):1458-1472. doi: 10.1111/liv.15575. Epub 2023 Apr 5. PMID: 37017544.

20. **Faquih T**. *Multi-omics in research: epidemiology, methodology, and advanced data analysis*. Doctoral dissertation, Faculty of Medicine, Leiden University Medical Center (LUMC), Leiden University; 2023.

22. Nagarajan P, Winkler TW, Bentley AR, Miller CL, Kraja AT, Schwander K, Lee S, Wang W, Brown MR, Morrison JL, Giri A, O'Connell JR, Bartz TM, de las Fuentes L, Gudmundsdottir V, Guo X, Harris SE, Huang Z, Kals M, Kho M, Lefevre C, Luan J, Lyytikäinen LP, Mangino M, Milaneschi Y, Palmer ND, Rao V, Rauramaa R, Shen B, Stadler S, Sun Q, Tang J, Thériault S, van der Graaf A, van der Most PJ, Wang Y, Weiss S, Westerman KE, Yang Q, Yasuharu T, Zhao W, Zhu W, Altschul D, Ansari MAY, Anugu P, Argoty-Pantoja AD, Arzt M, Aschard H, Attia JR, Bazzanno L, Breyer MA, Brody JA, Cade BE, Chen HH, Ida Chen YD, Chen Z, de Vries PS, Dimitrov LM, Do A, Du J, Dupont CT, Edwards TL, Evans MK, **Faquih T**, Felix SB, Fisher-Hoch SP, Floyd JS, Graff M, Gu C, Gu D, Hairston KG, Hanley AJ, Heid IM, Heikkinen S, Highland HM, Hood MM, Kähönen M, Karvonen-Gutierrez CA, Kawaguchi T, Kazuya S, Kelly TN, Komulainen P, Levy D, Lin HJ, Liu PY, Marques-Vidal P, McCormick JB, Mei H, Meigs JB, Menni C, Nam K, Nolte IM, Pacheco NL, Petty LE, Polikowsky HG, Province MA, Psaty

BM, Raffield LM, Raitakari OT, Rich SS, Riha RL, Risch L, Risch M, Ruiz-Narvaez EA, Scott RJ, Sitlani CM, Smith JA, Sofer T, Teder-Laving M, Völker U, Vollenweider P, Wang G, van Dijk KW, Wilson OD, Xia R, Yao J, Young KL, Zhang R, Zhu X, Below JE, Böger CA, Conen D, Cox SR, Dörr M, Feitosa MF, Fox ER, Franceschini N, Gharib SA, Gudnason V, Harlow SD, He J, Holliday EG, Kutalik Z, Lakka TA, Lawlor DA, Lee S, Lehtimäki T, Li C, Liu CT, Mägi R, Matsuda F, Morrison AC, Penninx BW, Peyser PA, Rotter JI, Snieder H, Spector TD, Wagenknecht LE, Wareham NJ, Zonderman AB, North KE, Fornage M; Million Veteran Program; Hung AM, Manning AK, Gauderman J, Chen H, Munroe PB, Rao DC, van Heemst D, Redline S, Noordam R, Wang H. A Large-Scale Genome-Wide Study of Gene-Sleep Duration Interactions for Blood Pressure in 811,405 Individuals from Diverse Populations. *medRxiv* [Preprint]. 2024 Mar 8:2024.03.07.24303870. doi: 10.1101/2024.03.07.24303870. PMID: 38496537; PMCID: PMC10942520.

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Other peer-reviewed scholarship

1. Faquih T. *Multi-omics in research: epidemiology, methodology, and advanced data analysis*. Doctoral dissertation, Faculty of Medicine, Leiden University Medical Center (LUMC), Leiden University; 2023.

Thesis:

1. Faquih T. *Multi-omics in research: epidemiology, methodology, and advanced data analysis*. Doctoral dissertation, Faculty of Medicine, Leiden University Medical Center (LUMC), Leiden University; 2023; 2023.

Abstracts, Poster Presentations, and Exhibits Presented at Professional Meetings:

1. *EMBO|EMBL Symposium: Multiomics to Mechanisms*: Poster Presentation handling missing values in untargeted metabolomics
2. *Dutch Epidemiological Society WEON* 2022 Congress in Nijmegen, NL: Oral Presentation: Hepatic triglyceride content is intricately associated with numerous metabolites and biochemical pathways
3. *22nd Annual Sleep and Health Benefit* in Boston, MA: Poster Presentation: The Metabolomic Profile of Excessive Daytime Sleepiness
4. *Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) 2023* in Boston, MA: Poster Presentation: The Metabolomic Profile of Excessive Daytime Sleepiness
5. *American Society of Human Genetics* 2023 in Washington DC: **Platform Oral Presentation:** Meta-Analysis of Genome-wide Association Study of Missing Metabolites: Results from NEO and Rhineland Study
6. *American Society of Human Genetics* 2024 in Denver, CO Poster presentation: Metabolomic Profile of Excessive Daytime Sleepiness in the Hispanic Community Health Study/Study of Latinos
7. *American Society of Human Genetics* 2024 in Denver, CO Poster presentation: Genome Wide Association Study Of Rest–Activity Rhythm In The UK Biobank

8. SLEEP 2024 in Houston, TX : Oral Presentation Metabolomic Profile Of Excessive Daytime Sleepiness
9. SLEEP 2024 in Houston TX: Poster Presentation Metabolomic Profile Of Excessive Daytime Sleepiness
10. CHARGE 2024 in Rotterdam, NL: Oral Presentation: GENOME WIDE ASSOCIATION STUDY OF REST–ACTIVITY RHYTHM IN THE UK BIOBANK
11. CHARGE 2024 in Rotterdam, NL: Poster Presentation: Repeat Variations in the HTT, CACNA1A, and ATXN3 genes and their Implications on Sleep Traits
12. *International Society on Thrombosis and Haemostasis* in Bangkok: Poster Presentation: Associations between sleep duration and hemostatic factors in two population-based cohort studies

Narrative Report

My research journey is driven by a passion for understanding the intricate connections between our genes, metabolism, and overall health. I use powerful 'Omics' technologies to unravel the biological complexities behind various diseases, always aiming to translate complex data into practical health improvements. My academic foundation, built on a Bachelor's in Human Genetics and a Master's in Bioinformatics, equipped me with the essential skills for analyzing large-scale genomic data. This expertise was honed during my time as a Bioinformatician with the Saudi Human Genome Project, where I contributed to understanding genetic diseases prevalent in that region. Seeking to deepen my understanding of disease mechanisms, I pursued a PhD in Clinical Epidemiology at Leiden University Medical Center. My doctoral work focused on the methodological application of multi-omics data – looking at everything from genes to small molecules – to address critical epidemiological questions.
As a Research Fellow at Brigham and Women's Hospital/Harvard Medical School, I'm investigating the biological factors behind sleep disorders like Excessive Daytime Sleepiness (EDS) and Obstructive Sleep Apnea (OSA). I've identified key metabolic pathways that play a role in these conditions, including steroid hormone biosynthesis and dietary-related metabolites. My goal is to contribute to developing targeted treatments that improve sleep quality. Beyond sleep, I'm also exploring how genetic variations impact cardiometabolic health. I've shown that even subtle changes in specific genes can lead to unfavorable metabolic profiles, potentially indicating an increased risk of heart problems. Additionally, I've researched the adverse effects of Per- and Polyfluoroalkyl Substances (PFAS), demonstrating that even low-level exposure can significantly affect heart health. This research gained public attention and was featured by outlets such as eurekalert.org. My work also extends to Non-Alcoholic Fatty Liver Disease (NAFLD), where I'm using metabolomics to pinpoint the metabolic pathways associated with fat accumulation in the liver. These findings contribute to a better understanding of NAFLD and may lead to new diagnostic and therapeutic approaches.

Sharing my research is a priority. I published my findings in leading scientific journals, such as Nature Genetics, Diabetes Care, Liver International, and Metabolites, and presented at international conferences. I also maintain an academic website where I share information about my research interests, ongoing projects, and publications, including my PhD dissertation. **Through this work, I have become well-versed in utilizing complex OMICs within the world's largest datasets to study cardiometabolic health from diverse perspectives.**