Eirini Marouli BSc MSc PhD PGCAP FHEA

Associate Professor in Computational Biology

Director -Dep MSc Genomic Medicine

Lead Post Graduate Taught Courses WHRI

Lead -Dep Equality Diversity Inclusion (EDI) WHRI

Fellow Digital Environment Research Institute (DERI)

William Harvey Research Institute |Faculty of Medicine and Dentistry|

Queen Mary University London| Charterhouse Square, London, EC1M 6BQ

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Linkedin - Researchgate - Google Scholar - ORCID ID: 0000-0001-6179-1609

Qualifications

Mar 2022	**Mental health First Aider (MHFA)**
Aug 2020	**Fellow of the Higher Education Academy – FHEA -** Advance Higher Education
Sep 2018 – June 2020	**PGCAP** - Postgraduate Certificate in Academic Practice - **Distinction -** Queen Mary University of London, UK
Sep 2019 – June 2020	Attendance of Modules of the MSc "**Artificial Intelligence**" Data mining - Machine Learning - Introduction to Computer Vision - Natural Language Processing - School of Electronic Engineering and Computer Science
May 2012 – Dec 2015	**PhD**: Psychiatric diseases and Type 2 Diabetes. Investigation of common genetic basis. **Distinction-** National and Kapodistrian University of Athens (Greece)
Oct 2006 – Feb 2009	**MSc** Clinical Biochemistry and Molecular Diagnostics (Department of Biochemistry and Molecular Biology, Faculty of Biology) – **Distinction** National and Kapodistrian University of Athens (Greece) & B.S.R.C. Fleming (Athens, Greece)
Sep 2002 – June 2006	**BSc**, Department of **Biology** Undergraduate Thesis: Regulation of APP metabolism by BRI2 and its mutations. The impact of BRI2 on BACE enzyme activity. National and Kapodistrian University of Athens (Greece)

Present Appointments

August 2023-present	**Associate Professor/ Reader in Computational Biology** - Faculty of Medicine and Dentistry Queen Mary University of London, UK
February 2022-present	**Lead Post-Graduate Taught Courses (PGT)** - William Harvey Heart Centre - Faculty of Medicine and Dentistry, Queen Mary University of London, UK
January 2022-present	**Lead- Dep Equality Diversity and Inclusion - EDI** - William Harvey Heart Centre - Faculty of Medicine and Dentistry, Queen Mary University of London, UK
Oct 2021 - present	**Athena SWAN** Committee, QMUL
Aug 2021 - present	**Senior Lecturer in Computational Biology** - Faculty of Medicine and Dentistry Queen Mary University of London, UK
August 2021-present	**Fellow - Digital Environment Research Institute (DERI)**, Queen Mary University of London, UK
March 2021 - present	**Honorary Senior Lecturer Barts NHS Trust**, UK

Feb 2021- present	**Lead- Dep MSc Genomic Medicine** - William Harvey Heart Centre - Faculty of Medicine and Dentistry, Queen Mary University of London, UK
Oct 2020 - present	Editorial Board – Communications Biology - Springer Nature Group

Previous Appointments

March 2023- Oct 2023	**MBBS Deputy Head of Electives -** Faculty of Medicine and Dentistry, Queen Mary University of London, UK
Sep 2021 – Aug 2023	Assistant Professor/ Senior Lecturer in Computational Biology- Barts and The London School of Medicine and Dentistry - Queen Mary University of London, UK
April 2019 – Aug 2021	Lecturer in Computational Biology- Barts and The London School of Medicine and Dentistry - Queen Mary University of London, UK
Feb 2016 – March 2019	Postdoctoral Research Associate- William Harvey Heart Centre - Barts and The London School of Medicine and Dentistry- Queen Mary University of London, UK
Sep 2017 – Oct 2017	Visiting Research Scientist- Boston Children's Hospital - Broad Institute of Harvard and MIT Boston, MA, USA
Jan 2015 – Dec 2015	Research Trainee - William Harvey Heart Centre - Barts and The London School of Medicine and Dentistry - Queen Mary University of London, UK
July 2014 – Dec 2014	Greek State Scholarships Foundation Fellow (IKY) - William Harvey Heart Centre - Barts and The London School of Medicine and Dentistry - Queen Mary University of London, UK
Oct 2008 – Jun 2014	*High School Science Teacher-Ministry of Education, General Secretariat of Lifelong Learning - Athens, Greece*
Sep 2007 – Oct 2009	MSc Thesis's project Researcher -"The role of lysophosphatidic Acid (LPA) in neuronal cells and Alzheimer's Disease." B.S.R.C. Fleming (Athens, Greece)
Sep 2006 – Oct 2006	Internship - Laboratory of Immunology - Institute Pasteur Hellenique (Athens, Greece)

Education and Student Experience

	Level	*Year*	*Details*
Post Graduate Taught Courses Lead WHRI	PG	2022-present	PGT Lead
MSc: "Genomic Medicine"	PG	2021- present	Tutor
MSc: "Genomic Medicine"	PG	2021- present	Lead Dep
MSc: "Genomic Medicine"	PG	2016- present	Lecturer
MSc: "Genomic Medicine"	PG	2017- present	Dissertation supervisor
MSc: "Genomic Medicine"	PG	2018- present	Dissertation marker
MSc Bioinformatics (SBCS)	PG	2020-present	Dissertation Supervisor
MSc Bioinformatics (SBCS)	PG	2020-present	Dissertation marker
BIO324 – Advanced Human Genetics Disorders	UG	2023	Lecturer
PBL- MBBS Y2 BRAIN & BEHAVIOUR	UG	2023	Tutor
PBL MBBS Y2 BRAIN & BEHAVIOUR	UG	2023	Marker
BIO324 – Advanced Human Genetics Disorders	UG	2022	Lecturer
PBL - MBBS Y2 METABOLISM PBL	UG	2021	Tutor
PBL - MBBS Y2 METABOLISM PBL	UG	2021	Marker
MSc Genomics Medicine - Genomics of Common and Rare Diseases (WHR7203)	PG	2021-present	Lecturer
SSC2	UG	2021 Jan	Marker
SSC2	UG	2021 Feb	Marker
MSc Bioinformatics (SBCS)	PG	2021	Dissertation Oral presentation marker

BIO324 – Advanced Human Genetics Disorders	UG	2021	Lecturer
MSc Genomics Medicine - Introduction to Human Genomics (WHR7201)	PG	2020	Assisting workshop
PBL- GEP YEAR 1 BRAIN & BEHAVIOUR	UG	2020	Tutor
PBL GEP YEAR 1 BRAIN & BEHAVIOUR	UG	2020	Marker
MSc Genomics Medicine - Introduction to Human Genomics (WHR7201)	PG	2020-present	Lecturer
BIO324 – Advanced Human Genetics Disorders	UG	2020	Lecturer
MSc Genomics Medicine	PG	2020	Setting exam questions and assessments
MSc Genomics Medicine	PG	2020	Marker (all modules)
Advanced Human Genetic Disorders (BIO324)	UG	2020	Setting exam questions and assessments Marker
MSc Bioinformatics BIO702P	PG	2020	Marker Presentations
PBL- MBBS Y2 METABOLISM PBL	UG	2020	Tutor
PBL- MBBS Y2 METABOLISM PBL	UG	2020	Marker
MSc Genomic Medicine	PG	2016-present	Marker

Research Supervision

Individual	***Start Date***	***Completion Date***	***Qualification***
Amy Evans	January 2023	-present	PhD student
Oladapo Babajide	May 2021	-present	Post-Doctoral Researcher/Data Scientist
Didintle Kgaugelo Tsitsi	March 2023	-present	MSc Genomic Medicine
Hussain Mohammed S Alsharari	March 2023	-present	MSc Genomic Medicine
Rakin Rownak Choudhury	March 2023	-present	MSc Genomic Medicine
Mahima Rajubhai Modi	March 2023	-present	MSc Genomic Medicine
Fang-Tzu Wu	March 2023	-present	MSc Genomic Medicine
A. Papadopoulou	Jan 2020	-present	PhD student
Ryan Reavette	Jan 2022	Nov 2023	Post-Doctoral Researcher/Digital Fellow CAP-AI grant
Aia Rahim	June 2022	Dec 2022	MSc Genomic Medicine
Hibaq Yusuf	June 2022	Dec 2022	MSc Genomic Medicine
Corinne Roppel	June 2022	Dec 2022	MSc Genomic Medicine
Jack William Gordon Coutts	March 2022	Sep 2022	MSc Bioinformatics
William Timothy Dee	March 2022	Sep 2022	MSc Bioinformatics
Ervin Rexhepi	March 2022	Sep 2022	MSc Bioinformatics
Anvy Mary Abraham	Sep 2021	June 2022	MSc Genomic Medicine
Basmah Basim A Khoja	March 2021	April 2022	MSc Genomic Medicine
Fariba Kaveh Baghbahadorani	March 2021	Jan 2022	MSc Genomic Medicine
Srijoni Chakraborty	July 2021	Jan 2022	MSc Genomic Medicine
David Anthony Crosby	March 2021	Sep 2021	MSc Genomic Medicine
Dijle Gunes	March 2021	Sep 2021	MSc Genomic Medicine
Mathura Sivaganesan	July 2021	Sep 2021	Rod Flower and Ian Hart Vacation Scholarships
Rafat Omar	March 2021	Sept 2021	MSc Bioinformatics
Benjamin Holmes	March 2021	Sept 2021	MSc Bioinformatics
Robert Field	March 2021	Sept 2021	MSc Bioinformatics
Mathura Sivaganesan	January 2021	May 2021	MSc/iBSc Global Public Health
Nikos Koulos	March 2021	June 2021	Erasmus visiting student
Zowda Ali	Sept 2020	April 2021	Intercalated BSc in Pharmacology & Innovative Therapeutics

Jack Leonard Steadman	February 2020	March 2022	QMUL Researcher Mentoring scheme Centre for Psychiatry in Wolfson Institute
Hanan Mohamed Abdirahman Musa	July 2020	Dec 2020	MSc Genomic Medicine
Lina Yusuf	Feb 2020	Sept 2020	MSc Bioinformatics
Weichen Deng	Feb 2020	Sept 2020	MSc Bioinformatics
Mahdee Al Mishkath	Feb 2020	Sept 2020	MSc Bioinformatics
Egi Krasniqi	March 2020	July 2020	MSc Genomic Medicine
Pooja Abhijit Phadiya	March 2019	Sept 2019	MSc Genomic Medicine
Kyriaki Katsiki	March 2019	Sept 2019	MSc Genomic Medicine
Michelle Agyapong	March 2018	Sept 2018	MSc Genomic Medicine
Joel Baidoo	March 2018	Sept 2018	MSc Genomic Medicine
Sam Smith	March 2018	Sept 2018	MSc Genomic Medicine
Arben Osmani	March 2018	Sept 2018	MSc Genomic Medicine
Renata Rapnikaite	March 2017	March 2018	MSc Genomic Medicine

Research

(i) Publications

- *in bold underlined are co-authored members of my team- MSc students-PhD student, post-doc*

- R. Sterenborg*, I. Steinbrenner*, Y. Li*, M.N. Bujnis*, T. Naito*, **E. Marouli*** (**co-First author**) et al., Multi-trait analysis characterizes the genetics of thyroid function and identifies causal associations with clinical implications. **Nature communications** 15 (2024) 888. (2 members of my team co-authored)
- **A. Papadopoulou**, D. Harding, G. Slabaugh, **E. Marouli***, and P. Deloukas* (**co-Senior author**), Prediction of atrial fibrillation and stroke using machine learning models in UK Biobank. Heliyon (2024)
- **O. Babajide**, A.D. Kjaergaard, W. Deng, A. Kuś, R. Sterenborg, B.O. Åsvold, S. Burgess, A. Teumer, M. Medici, C. Ellervik, B. Nick, P. Deloukas, and **E. Marouli**, The role of thyroid function in borderline personality disorder and schizophrenia: a Mendelian Randomisation study. Borderline personality disorder and emotion dysregulation (2024)
- G. Slabaugh, L. Beltran, H. Rizvi, P. Deloukas, and **E. Marouli**, Applications of machine and deep learning to thyroid cytology and histopathology: a review. Frontiers in oncology (2023)
- **A. Papadopoulou**, B.O. Åsvold, S. Burgess, A. Kuś, M. Medici, R. Sterenborg, A. Teumer, P. Deloukas, and **E. Marouli**, Height, Autoimmune Thyroid Disease, and Thyroid Cancer: A Mendelian Randomization Study. Thyroid: official journal of the American Thyroid Association (2023).
- Yengo L*, Vedantam S*, **Marouli E***, et al. A saturated map of common genetic variants associated with human height. **Nature**. 2022;610(7933):704-12.
- **Dee W**, Ibrahim RA, **Marouli E.** Histopathological Domain Adaptation with Generative Adversarial Networks Bridging the Domain Gap Between Thyroid Cancer Histopathology Datasets. 2023:2023.2005.2022.541691.
- M. Kafyra, I.P. Kalafati, M. Dimitriou, E. Grigoriou, A. Kokkinos, L. Rallidis, G. Kolovou, G. Trovas, **E. Marouli**, P. Deloukas, P. Moulos, and G.V. Dedoussis, Robust Bioinformatics Approaches Result in the First Polygenic Risk Score for BMI in Greek Adults. Journal of personalized medicine 13 (2023).
- G. Hawkes, L. Yengo, S. Vedantam, **E. Marouli**, R.N. Beaumont, J. Tyrrell, M.N. Weedon, J. Hirschhorn, T.M. Frayling, and A.R. Wood, Identification and analysis of individuals who deviate from their genetically-predicted phenotype. PLoS genetics 19 (2023) e1010934.
- E. Bartell, K. Lin, K. Tsuo, W. Gan, S. Vedantam, J.B. Cole, J.M. Baronas, L. Yengo, **E. Marouli,** T. Amariuta, Z. Chen, L. Li, N.E. Renthal, C.M. Jacobsen, R.M. Salem, R.G. Walters, and J.N. Hirschhorn, Genetics of skeletal proportions in two different populations. bioRxiv : the preprint server for biology (2023).
- J.M. Baronas, E. Bartell, A. Eliasen, J.G. Doench, L. Yengo, S. Vedantam, **E. Marouli,** H.M. Kronenberg, J.N. Hirschhorn, and N.E. Renthal, Genome-wide CRISPR screening of

chondrocyte maturation newly implicates genes in skeletal growth and height-associated GWAS loci. Cell genomics 3 (2023) 100299.

- A second update on mapping the human genetic architecture of COVID-19. Nature 621 (2023) E7-e26.
- Lammi V, Nakanishi T, Jones SE, …, **Marouli E**., … et al. Genome-wide Association Study of Long COVID. 2023:2023.2006.2029.23292056.
- **Papadopoulou A**, Harding D, Slabaugh G, **Marouli E*,** Deloukas P*. Prediction of atrial fibrillation and stroke using machine learning models in UK Biobank. 2022:2022.2010.2028.22281669
- **Papadopoulou A**, **Musa H**, **Sivaganesan M**, McCoy D, Deloukas P, **Marouli E**. COVID-19 susceptibility variants associate with blood clots, thrombophlebitis and circulatory diseases. PloS one. 2021;16(9):e0256988.
- **Marouli E**, **Yusuf L**, Kjaergaard AD, **Omar R**, Kuś A, **Babajide O**, et al. Thyroid Function and the Risk of Alzheimer's Disease: A Mendelian Randomization Study. Thyroid: official journal of the American Thyroid Association. 2021;31(12):1794-9.
- Kjaergaard AD, **Marouli E**, **Papadopoulou A**, Deloukas P, Kuś A, Sterenborg R, et al. Thyroid function, sex hormones and sexual function: a Mendelian randomization study. European journal of epidemiology. 2021;36(3):335-44.
- Kafyra, M., …, **Marouli E**, Deloukas P, Moulos P, Dedoussis GV *Robust Bioinformatics Approaches Result in the First Polygenic Risk Score for BMI in Greek Adults.* J Pers Med, 2023. **13**(2).
- Hawkes, G., Yengo L, Vedantam S, **Marouli E**, et al., *Identification and analysis of individuals who deviate from their genetically-predicted phenotype.* bioRxiv, 2023.
- Bartell, E., …, **Marouli E**., …et al., *Genetics of skeletal proportions in two different populations.* bioRxiv, 2023.
- Baronas, J.M., …, **Marouli E**., …, et al., *Genome-wide CRISPR screening of chondrocyte maturation newly implicates genes in skeletal growth and height-associated GWAS loci.* Cell Genom, 2023. **3**(5): p. 100299.
- Wielscher M, Mandaviya PR, Kuehnel B, Joehanes R, Mustafa R, Robinson O, …, **Marouli E**.,.,et al. DNA methylation signature of chronic low-grade inflammation and its role in cardio-respiratory diseases. Nature communications. 2022;13(1):2408.
- Ramdas S, Judd J, Graham SE, …, **Marouli E**…, et al. A multi-layer functional genomic analysis to understand noncoding genetic variation in lipids. American journal of human genetics. 2022;109(8):1366-87.
- Raghavan S, Huang J, Tcheandjieu C, Huffman JE, Litkowski E, Liu C, …, **Marouli E**…, et al. A multi-population phenome-wide association study of genetically-predicted height in the Million Veteran Program. PLoS genetics. 2022;18(6):e1010193.
- Kjaergaard AD, Teumer A, **Marouli E**, Deloukas P, Kuś A, Sterenborg R, et al. Thyroid function, pernicious anemia and erythropoiesis: a two-sample Mendelian randomization study. Human molecular genetics. 2022;31(15):2548-59.
- Kanoni S, Graham SE, Wang Y, Surakka I, Ramdas S, Zhu X, …, **Marouli E,…,** et al. Implicating genes, pleiotropy, and sexual dimorphism at blood lipid loci through multi-ancestry meta-analysis. Genome biology. 2022;23(1):268.
- Hawe JS, Wilson R, Schmid KT, Zhou L, Lakshmanan LN, Lehne BC, …, **Marouli E,…,** et al. Genetic variation influencing DNA methylation provides insights into molecular mechanisms regulating genomic function. Nature genetics. 2022;54(1):18-29.
- Xie T, Gorenjak V, Stathopoulou MG, Dadé S, **Marouli E**, Masson C, et al. Epigenome-wide association study detects a novel loci associated with central obesity in healthy subjects. BMC medical genomics. 2021;14(1):233.
- Sulc J, Sonrel A, Mounier N, Auwerx C, **Marouli E**, Darrous L, et al. Composite trait Mendelian randomization reveals distinct metabolic and lifestyle consequences of differences in body shape. Communications biology. 2021;4(1):1064.
- Mensah-Kane J, Schmidt AF, Hingorani AD, Finan C, Chen Y, van Duijvenboden S, …, **Marouli E,…,** et al. No Clinically Relevant Effect of Heart Rate Increase and Heart Rate Recovery During Exercise on Cardiovascular Disease: A Mendelian Randomization Analysis. Frontiers in genetics. 2021;12:569323.
- Kuś A, **Marouli E**, Del Greco MF, Chaker L, Bednarczuk T, Peeters RP, et al. Variation in Normal Range Thyroid Function Affects Serum Cholesterol Levels, Blood Pressure, and

Type 2 Diabetes Risk: A Mendelian Randomization Study. Thyroid : official journal of the American Thyroid Association. 2021;31(5):721-31.

- Kuś A, Kjaergaard AD, **Marouli E**, Del Greco MF, Sterenborg R, Chaker L, et al. Thyroid Function and Mood Disorders: A Mendelian Randomization Study. Thyroid : official journal of the American Thyroid Association. 2021;31(8):1171-81.
- Graham SE, Clarke SL, Wu KH, …, **Marouli E,…,** , et al. The power of genetic diversity in genome-wide association studies of lipids. Nature. 2021;600(7890):675-9.
- Graff M, Justice AE, Young KL, **Marouli E**, Zhang X, Fine RS, et al. Discovery and fine-mapping of height loci via high-density imputation of GWASs in individuals of African ancestry. American journal of human genetics. 2021;108(4):564-82.
- Ellervik C, Mora S, Kuś A, Åsvold B, **Marouli E**, Deloukas P, et al. Effects of Thyroid Function on Hemostasis, Coagulation, and Fibrinolysis: A Mendelian Randomization Study. Thyroid : official journal of the American Thyroid Association. 2021;31(9):1305-15.
- Mapping the human genetic architecture of COVID-19. Nature. 2021;600(7889):472-7. **(I was author in the writing group and two expert working groups)**
- **Marouli E**, Kus A, Del Greco MF, Chaker L, Peeters R, Teumer A, et al. Thyroid Function Affects the Risk of Stroke via Atrial Fibrillation: A Mendelian Randomization Study. The Journal of clinical endocrinology and metabolism. 2020;105(8):2634-41.
- Erzurumluoglu AM, Liu M, Jackson VE, Barnes DR, Datta G, Melbourne CA, …, **Marouli E,…,** et al. Meta-analysis of up to 622,409 individuals identifies 40 novel smoking behaviour associated genetic loci. Molecular psychiatry. 2020;25(10):2392-409.
- Xie T, Gorenjak V, M GS, Dadé S, **Marouli E**, Masson C, et al. Epigenome-Wide Association Study (EWAS) of Blood Lipids in Healthy Population from STANISLAS Family Study (SFS). International journal of molecular sciences. 2019;20(5).
- Turcot V, Lu Y, Highland HM, Schurmann C, Justice AE, Fine RS, …, **Marouli E,…,** et al. Publisher Correction: Protein-altering variants associated with body mass index implicate pathways that control energy intake and expenditure in obesity. Nature genetics. 2019;51(7):1191-2.
- Pulit SL, Stoneman C, Morris AP, Wood AR, Glastonbury CA, Tyrrell J, …, **Marouli E,…,** et al. Meta-analysis of genome-wide association studies for body fat distribution in 694 649 individuals of European ancestry. Human molecular genetics. 2019;28(1):166-74.
- Murphy AM, Smith CE, Murphy LM, Follis JL, Tanaka T, Richardson K, …, **Marouli E,…,** et al. Potential Interplay between Dietary Saturated Fats and Genetic Variants of the NLRP3 Inflammasome to Modulate Insulin Resistance and Diabetes Risk: Insights from a Meta-Analysis of 19 005 Individuals. Molecular nutrition & food research. 2019;63(22):e1900226.
- **Marouli E**, Del Greco MF, Astley CM, Yang J, Ahmad S, Berndt SI, et al. Mendelian randomisation analyses find pulmonary factors mediate the effect of height on coronary artery disease. Communications biology. 2019;2:119.
- Justice AE, Karaderi T, Highland HM, Young KL, Graff M, Lu Y, …, **Marouli E,…,** et al. Protein-coding variants implicate novel genes related to lipid homeostasis contributing to body-fat distribution. Nature genetics. 2019;51(3):452-69.
- Huang T, Wang T, Zheng Y, Ellervik C, Li X, Gao M, …, **Marouli E,…,** et al. Association of Birth Weight With Type 2 Diabetes and Glycemic Traits: A Mendelian Randomization Study. JAMA network open. 2019;2(9):e1910915.
- Brazel DM, Jiang Y, Hughey JM, Turcot V, Zhan X, Gong J, …, **Marouli E,…,** et al. Exome Chip Meta-analysis Fine Maps Causal Variants and Elucidates the Genetic Architecture of Rare Coding Variants in Smoking and Alcohol Use. Biological psychiatry. 2019;85(11):946-55.
- Dairy Intake and Body Composition and Cardiometabolic Traits among Adults: Mendelian Randomization Analysis of 182041 Individuals from 18 Studies. Clinical chemistry. 2019;65(6):751-60.
- Turcot V, Lu Y, Highland HM, Schurmann C, Justice AE, Fine RS, …, **Marouli E**, …, et al. Protein-altering variants associated with body mass index implicate pathways that control energy intake and expenditure in obesity. Nature genetics. 2018;50(1):26-41.
- Mamakou V, Hackinger S, Zengini E, Tsompanaki E, **Marouli E**, Serafetinidis I, et al. Combination therapy as a potential risk factor for the development of type 2 diabetes in patients with schizophrenia: the GOMAP study. BMC psychiatry. 2018;18(1):249.

- Mahajan A, Wessel J, Willems SM, Zhao W, Robertson NR, Chu AY, **Marouli E**, …, et al. Refining the accuracy of validated target identification through coding variant fine-mapping in type 2 diabetes. Nature genetics. 2018;50(4):559-71.
- Hackinger S, Prins B, Mamakou V, Zengini E, **Marouli E**, Brčić L, et al. Evidence for genetic contribution to the increased risk of type 2 diabetes in schizophrenia. Translational psychiatry. 2018;8(1):252.
  Webb TR, Erdmann J, Stirrups KE, Stitziel NO, Masca NG, Jansen H, **Marouli E**, …, et al. Systematic Evaluation of Pleiotropy Identifies 6 Further Loci Associated With Coronary Artery Disease. Journal of the American College of Cardiology. 2017;69(7):823-36.
  Saleheen D, Zhao W, Young R, Nelson CP, Ho W, Ferguson JF, **Marouli E**, …, et al. Loss of Cardioprotective Effects at the ADAMTS7 Locus as a Result of Gene-Smoking Interactions. Circulation. 2017;135(24):2336-53.
- Nelson CP, Goel A, Butterworth AS, Kanoni S, Webb TR, **Marouli E**, et al. Association analyses based on false discovery rate implicate new loci for coronary artery disease. Nature genetics. 2017;49(9):1385-91.
- **Marouli E**, Kanoni S, Mamakou V, Hackinger S, Southam L, Prins B, **Marouli E**, …, et al. Evaluating the glucose raising effect of established loci via a genetic risk score. PloS one. 2017;12(11):e0186669.
- **Marouli E**, Graff M, Medina-Gomez C, Lo KS, Wood AR, Kjaer TR, et al. Rare and low-frequency coding variants alter human adult height. **Nature**. 2017;542(7640):186-90.
  Liu DJ, Peloso GM, Yu H, Butterworth AS, Wang X, Mahajan A, **Marouli E**, …, et al. Exome-wide association study of plasma lipids in >300,000 individuals. Nature genetics. 2017;49(12):1758-66.
- Li M, Li Y, Weeks O, Mijatovic V, Teumer A, Huffman JE, **Marouli E**, …, et al. SOS2 and ACP1 Loci Identified through Large-Scale Exome Chip Analysis Regulate Kidney Development and Function. Journal of the American Society of Nephrology : JASN. 2017;28(3):981-94.
  Surendran P, Drenos F, Young R, Warren H, Cook JP, Manning AK, **Marouli E**, …, et al. Trans-ancestry meta-analyses identify rare and common variants associated with blood pressure and hypertension. Nature genetics. 2016;48(10):1151-61.
- Stitziel NO, Stirrups KE, Masca NG, Erdmann J, Ferrario PG, König IR, **Marouli E**, …, et al. Coding Variation in ANGPTL4, LPL, and SVEP1 and the Risk of Coronary Disease. The New England journal of medicine. 2016;374(12):1134-44.
  Loley C, Alver M, Assimes TL, Bjonnes A, Goel A, Gustafsson S, **Marouli E**, …, et al. No Association of Coronary Artery Disease with X-Chromosomal Variants in Comprehensive International Meta-Analysis. Scientific reports. 2016;6:35278.
- Ehret GB, Ferreira T, Chasman DI, Jackson AU, Schmidt EM, Johnson T, **Marouli E**, …, et al. The genetics of blood pressure regulation and its target organs from association studies in 342,415 individuals. Nature genetics. 2016;48(10):1171-84.
- Agiannitopoulos K, Bakalgianni A, **Marouli E**, Zormpa I, Manginas A, Papamenzelopoulos S, **Marouli E**, …, et al. Gender Specificity of a Genetic Variant of Androgen Receptor and Risk of Coronary Artery Disease. Journal of clinical laboratory analysis. 2016;30(3):204-7.
- Wessel J, Chu AY, Willems SM, Wang S, Yaghootkar H, Brody JA, **Marouli E**, …, et al. Low-frequency and rare exome chip variants associate with fasting glucose and type 2 diabetes susceptibility. Nature communications. 2015;6:5897

Research Grants

Project Title & Funding Source	Start Date of Grant	End Date of Grant
QMUL-Cornell seed funding: Demographic inference from cost-effective DNA sequencing experiments using deep learning	2024	2025
HORIZON 2022: Preventing Obesity Through Biologically And BEhaviorally Tailored InTERventions For You - BETTER4U**, £10 Million**	2023	2027
Cancer Tech Accelerator: **AI multi-modal data integration for thyroid cancer prediction** Bootcamp 2022 Stage 1 2022 Stage 2/ Cancer Research UK (Project 11380450)	Sep 2022	April 2024
Horizon Europe Mission on Cancer- **Expert Working Group: pan-European initiative to Understand CANcer, UNCAN.eu**	Sep 2022	Dec 2023
Applying Artificial Intelligence for improving diagnosis of thyroid cancer **CAP-AI** **Capital Enterprise** European Regional Development Fund (ERDF) With **Industry Partner** https://capitalenterprise.org/capai/	March 2021	Sept 2022
Unravelling the complex relationships between adult height, adiposity and disease Great Britain Sasakawa Foundation (**UK and Japan**) http://www.gbsf.org.uk/	Feb 2021	-present

Invited Talks/Chair

- Invited speaker at the AI and Equality, A Human Rights Toolbox Workshop, UK, 21 Nov 2023
- **Invited** talk at Social Genomics Group, University of Wisconsin-Madison, **USA**, Nov 2022
- **Invited** Seminar - Genome Analysis, Greece, Nov 2022
- **Invited keynote**-DERI sandpit - Nov 2022
- **Invited - Excellence in Biology** eLectures 2022 – Cyprus Biological Society
- **Invited** 2nd Olympiad in Cardiovascular Medicine, Crete, Greece, 27-30 Apr 2022 Session **Chair**
- **Invited -**WHRI Annual Review 2021- **Chair**
- **Invited** "The genetic interplay between risk factors and disease" Genes and Beyond Conference, 20-21 Nov 2021
- **Invited** "Genetics of COVID-19 - Host Genetics Initiative", Genes and Beyond Conference, 7-8 Nov 2020
- **Invited** Seminar: "AI and the genetic interplay of cause and effect" -Genome Analysis-Invited, October 2020

▪ **Invited** "Genetics and COVID-19", Clinical Genetics Society, Imperial College, Sept 2020
▪ **Invited** "Mendelian Randomization analyses reveal a causal effect of thyroid function on stroke risk via atrial fibrillation" Global Cardiology Summit, London, UK, 19-20 March 2020
▪ *"Genetics of human adult height"* - EVOluTION Summer School and IQVIA workshop, London, UK, 10 September 2018
▪ "83 rare and low-frequency coding variants implicate specific genes affecting human height variation"
▪ Genomics and Post-Genomics Medicine Scientific Meeting- Malta Enterprise and Malta Life Sciences Park, Malta, 11 November 2016

Conferences – Leading (*indicative*)

- **Team member presentations where I am senior author.**

PhD student A. Papadopoulou

London Genetics Network	2022
American Society of Human Genetics	2022 (two presentations)
European Mathematical Genetics Meeting	2022
WHRI Annual Review	2022
WHRI PhD symposium	2021
WHRI Annual Review	2021
American Society of Human Genetics	2021

Data Scientist O. Babajide

London Genetics Network	2022
WHRI Annual Review	2022

MSc student H. Musa at**:** Having IMPACTT 1: Advancing Microbiome Research (2021)

- **Presenter/ co-author**

- Sailaja Vedantam, **Eirini Marouli** et al. ASHG 2022
- UCL/QMUL Data Science and AI Networking event at DERI-Speaker, 2022
- Vedantam S, **Marouli E.** et al. ASHG 2021
- **E. Marouli** et al. Mendelian Randomization analyses reveal a causal effect of thyroid function on stroke risk via atrial fibrillation. UK Biobank Annual Conference 2020 - **Presenter**
- **E. Marouli** et al. Mendelian randomization analyses reveal a causal effect of thyroid function on cardiovascular risk factors and diseases. American Society of Human Genetics 2019, October 14-19, Houston, TX, USA – **Talk**
- Vedantam. S., **Marouli. E.** et al. GWAS in >2 million individuals imputed to deep reference panels in human adult height to facilitate gene burden testing of low frequency variants. American Society of Human Genetics 2020
- Yengo L, Wood AR, Vedantam S**, Marouli E** et al. Meta-analysis of genome-wide association study of height in 4.1 million individuals of European ancestry. American Society of Human Genetics 2020 (**Featured in Science**)
- Kus A.*, **Marouli E.*,** et al. Thyroid function and traditional risk factors for cardiovascular disease: A Mendelian Randomisation study. European Thyroid Association 2019, September 6-11, Budapest, Hungary
- **E. Marouli** et al. Mendelian Randomization analyses reveal a causal effect of thyroid function on stroke risk via atrial fibrillation. European Thyroid Association, September 6-11 2019, Budapest, Hungary – **Presenter**
- S. Vedantam, L Yengo, **E. Marouli** et al. Meta-analysis of >1.6 million individuals for human height
- American Society of Human Genetics 2019
- **E. Marouli** et al. Mendelian Randomisation analyses find pulmonary factors mediate the effect of height on coronary artery disease. UK Biobank Annual Conference 2019 – **Presenter and Top 20 Early Career Researcher Award**
- **E. Marouli** et al. The role of glycaemic, lipid, obesity and blood pressure risk factors as mediators of the effect of height on Coronary Artery Disease and Type 2 Diabetes Mellitus: A Mendelian Randomisation Study. American Society of Human Genetics 2018, October 16-20, San Diego, CA, USA - **Presenter**
- **E. Marouli**, et al. – Adult height and risk of cardiometabolic disease. - American Society of Human Genetics 2017, October 17-21, Orlando, FL, USA - **Presenter**
- **E. Marouli**, et al. - Cigarette smoking reduces DNA methylation levels at multiple genomic loci in skin biopsy samples. CHARGE meeting 2017, September 26-28, Boston, MA, USA – **Presenter**

Other Conferences *(Indicative)*

- AI - Big Data Expo-London **Nov 2023**
- Festival of Genomics, London, UK – January **2023**
- Santorini Conference, Greece– May **2022**
- 2nd Olympiad in Cardiovascular Medicine, Heraklion, Greece, 2022
- Intelligent Health, London, UK -April **2022**
- Festival of Genomics, London, UK – January **2022**
- UK Biobank Scientific Conference, February **2021**
- Quantum Machine Learning, February **2021**
- The Festival of Genomics and Biodata, London, UK January **2021**
- Summer School on Machine Learning and Big Data with Quantum Computing - Porto, Portugal, September **2020**
- European Mathematical Genetics Meeting. April **2020**
- Festival of Genomics – January **2020**
- Miao J., Eliasen A.U., Weeks E., Vedantam S., Sakaue S., **Marouli E**.et al. Assessment of gene prioritization methods in a large height GWAS shows that gene prioritization transfers well across ancestries and that performance differs across methods. American Society of Human Genetics **2020**
- R.A.J. Smit, M.H. Preuss, J. Zeng, Y.V. Sun, H.A. Katki, **E. Marouli** et al. A Bayesian polygenic risk score predicts and suggests possible clinical utility for extreme obesity. American Society of Human Genetics **2020**
- M. Graff, …, **E. Marouli**, …, et al. Clinical utility of polygenic risk prediction for obesity across age, sex, and ancestrally diverse population subgroups. American Society of Human Genetics **2019**
- R.A.J. Smit, …, **E. Marouli**, … et al. Resilience to obesity in genetically at-risk individuals – a study of the potential underlying mechanisms. American Society of Human Genetics **2019**
- Graham S., …, **Marouli E.**, … et al. Trans-ethnic meta-analysis of cholesterol and triglyceride levels from 1.6 million individuals. American Society of Human Genetics **2019**

Peer review of papers and grants/editorships

Oct 2020 - present	Editorial Board – Communications Biology- **Springer Nature Group**
Invited Grant Reviewer	**External Funding Application Reviewer** Invited reviewer for grant proposals. • UKRI Artificial intelligence innovation to accelerate health research Panel ▪ Medical Research Foundation – UK (2021) ▪ John Templeton Foundation – USA (2022)
Feb 2021 - present	Editorial Board - Frontiers in Genetics
Feb 2020 – Feb 2022	Volunteer in the QMUL Researcher Mentoring scheme providing 1-1 support to researchers.
Nov 2018 - present	Associate Editor - Open Access Blood Research & Transfusion Journal (OABTJ)
Aug 2019 - present	Editorial Board - Canadian Journal of Clinical and Medical Research
Oct 2019 - present	Editorial Board - Biointerface Research in Applied Chemistry
2014 - present	**Reviewer** Human Molecular Genetics - Plos Genetics – Thyroid - Plos Medicine - The Journal of Clinical Endocrinology & Metabolism - Communication Biology - Genome Medicine – Hypertension - Physiological Genomics - Journal of Epidemiology & Community Health
Professional discipline body memberships	▪ European Thyroid Association - ETA ▪ American Society of Human Genetics - ASHG ▪ Hellenic Society of Clinical Chemistry-Clinical Biochemistry ▪ Hellenic Biosciences Society

Computing and Bioinformatics Skills

- Data Analysis using complex statistical methods for GWAS, PheWAS, EWAS, metQTL, GWAS meta-analysis, Mendelian Randomization/ Causal inference
- Artificial Intelligence: deep learning, convolutional neural networks, random forest, machine learning implementations

- Software for genetic analysis including: Mendelian Randomization, RareMetal, Plink, PlinkSeq, Saige, Snptest, GTOOL, QCTOOL, QUICKTEST, GWAMA, GEMMA, SNPTEST, vcftools, samtools, bcftools, VEP
- Programming: R, Python
- Experience working with Big Data
- Proficient working in a high performance computer cluster
- Experienced in shell, awk, command line scripting
- Use of the predictive analytic software SPSS, STATA
- Use of multiple sequence alignment computer programs (ClustalX, MEGA, BLAST, FASTA)
- European Computer Driving Licence (ECDL) Modules: Concepts of Information Technology, Using the Computer and Managing Files, Word Processing, Spreadsheets, Database, Presentation, Information & Communication

Technical laboratory expertise

- Tissue culture (cell line adherent cells, transfection)
- Animal handling (rodents), breeding, mating maintenance of transgenic lines, surgery
- Molecular biology (electrophoretic techniques, Western Blotting, SDS-PAGE electrophoresis, visualization of proteins in gels, cloning, miniprep, largeprep, Transformation of bacterial cells (heat shock), PCR, primer design, RT-PCR, RNA assay, ELISA)
- Cell biology (immunoprecipitation, immunocytochemistry, immunohistochemistry, immunofluorescence, flow cytometry, basic fluorescence microscopy)

Awards and prizes

- **Shortlisted** in the Research Supervisor category in the **2024 QMUL Research and Innovation Awards**
- **Nomination for *Student Experience Excellence Award*** - Faculty of Medicine and Dentistry- Queen Mary University of London – February 2024
- **Nomination- shortlist of seven candidates:** Bodossaki Distinguished Young Scientist Awards 2023
- **Best Student-Staff Collaboration**-Faculty of Medicine and Dentistry- Queen Mary University of London – October 2022
- **Nomination: SMD Women in Science Award 2021**
- American Society of Human Genetics 2020 - Featured article in in Science
- Best poster presentation prize – William Harvey Research Institute Annual Review (June 2020)
- Top 20 Early Career Researcher of the year for the UK Biobank Conference (June 2019)
- Nomination: American Society of Human Genetics Trainee Paper Spotlight 2018, for the paper: “Rare and low-frequency coding variants alter human adult height", *Nature*, 2017
- **2016 ASHG/Charles J. Epstein Trainee Award for Excellence in Human Genetics** Research – Semifinalist
- The Genomics of Common Diseases congress, 2-5 September 2015, Wellcome Genome Campus, Hinxton, Cambridge (Travel Grant)
- Greek State Scholarships Foundation Fellow (July 2014-Dec 2014)