



Athina Vidaki, PhD

Associate Professor & Principal Investigator, Individual/Forensic (Epi)genomics lab
GROW / CARIM Institutes, Maastricht University / Maastricht UMC+

Vitae

2024-Now	Associate Professor, Dept. Genetics & Cell Biology, Maastricht University, NL
2024-Now	Research Group leader, Dept. Clinical Genetics, Maastricht UMC+, NL
2021-2023	Assistant Professor, Dept. Genetic Identification, Erasmus MC, NL
2020-2021	Senior Erasmus MC fellow, Dept. Genetic Identification, Erasmus MC, NL
2019	Visitor, Institute of Legal Medicine, Medical University of Innsbruck, Austria
2018-2020	EUR fellow, Dept. Genetic Identification, Erasmus MC, NL
2017	Visitor, Dept. Forensic Medicine, Yonsei University College of Medicine, Seoul, South Korea
2016-2018	Postdoc, Dept. Genetic Identification, Erasmus MC, Rotterdam, NL
2015-2016	Research scientist, DNA analysis at King's, King's College London, UK
2013	Researcher, Forensic Science SIG, UK Technology Strategy board, Horsham, UK
2012-2015	PhD student, Dept. Pharmacy & Forensic Science, King's College London, UK
2011	Visitor, Institute of Legal Medicine, University of Zurich, Switzerland
2011-2012	PhD student, Dept. Hematology, Blizard Institute, Barts & the London, UK
2010	Intern, Metropolitan Police London Forensic Services Directorate, UK
2009-2010	MSc student, Dept. Pharmacy & Forensic Science, King's College London, UK
2008-2009	Intern, Dept. Pathology, Laiko University Hospital, Athens, Greece
2006	Research assistant, Dept. Hematology, M.D. Anderson Cancer Centre, Houston, US
2004-2009	BSc student, Dept. Biology, National & Kapodistrian University of Athens, Greece

Major scientific awards

2025	Aspasia premium, Dutch Research Council (NWO)
2023	Vidi grant, Talent Programme, NWO
2020	Erasmus MC fellowship, Erasmus MC
2019	Winner, 250th Jubilee scientific competition, Batavian Society of Experimental Philosophy
2018	Erasmus University Rotterdam (EUR) fellowship, Erasmus University Rotterdam
2017	Young Investigator award, International Society of Applied Biological Sciences
2015	Best oral presentation award, International Society for Forensic Genetics
2011	Doctoral fellowship, Papadaki Foundation, National & Kapodistrian University of Athens

Main research theme

I am an internationally recognized expert in forensic genomics and young principal investigator in individual epigenomics. I am fascinated by the concept of biological uniqueness and focus on technological precision; both of which have led me to forensics. I pursue my passion for combining fundamental epigenomics research with translational applications. First, I study the influence of ageing and lifestyle on our epigenome. For example, we investigated the age correlation and estimation of Y-chromosome DNA methylation in both blood and sperm. Using large-scale methylation microarray data, we also investigated lifestyle-associated epigenomics, towards personalized smoking and alcohol prediction. Importantly, we studied stochastic epigenomic variation, relevant for the forensic differentiation of identical twins. Second, I am driven by technological innovation. For example, using novel computational/statistical approaches, we characterized the genetic influence/artifacts on methylation microarray data, discovered/mapped jointly regulated methylation markers in whole-genome sequencing data, and developed a new method to deal with missing data in modelling. In the lab, my team developed, validated and implemented a patented QC epigenetic method, while we also worked towards a new targeted but large-scale, capture probe-based epigenomic method. Combining both passions, in 2024 I kicked off a new 5-year research program to expand my fundamental epigenomics research towards unexplored parts of our genome, specifically repetitive elements, using nanopore sequencing. Finally, I recently started coordinated a new European-wide consortium project based on microfluidics and single-cell genomics to tackle sexual violence.

Main research fields

Individual epigenomics, forensic epigenetics, human repeatomics, forensic genomics, human uniqueness, ageing, lifestyle, translational epigenomics, technological innovation, sexual violence

Publications in peer-reviewed journals (H-index: 24, >2,370 citations, [Google Scholar profile](#))

International full articles: 39 (12 as first and 6 as last); # Contribution to books: 1; # Conference proceedings: 5

10 highlighted recent publications

1. Simons RB, Adams HHH, Kayser M, **Vidaki A** (2025) Investigating single-molecule molecular inversion probes for medium-scale targeted DNA methylation analysis, *Epigenomes*, 9(1), 8. <https://doi.org/10.3390/epigenomes9010008>
2. Simons RB, Karkala F, Kukk MM, Adams HHH, Kayser M, **Vidaki A** (2025) Comparative performance evaluation of bisulfite- and enzyme-based DNA conversion methods, *Clinical Epigenetics*, 17(1), 56. <https://doi.org/10.1186/s13148-025-01855-7>
3. Karkala F, Simons RB, Claessens F, Kalamara V, Kayser M, **Vidaki A** (2025) qBiCo: A method to assess global DNA conversion performance in epigenetics via single-copy genes and repetitive elements, *Epigenetics Communications*, 5(1), 2. <https://doi.org/10.1186/s43682-025-00033-3>
4. Poggiali B, Dupont ME, Kampmann ML, **Vidaki A**, Pereira V, Borsting C, Tfelt-Hansen J, Dyrberg Andersen J (2025) Evaluation of the HumanMethylationEPIC v2.0 Bead Chip using low quality and quantity DNA samples, *Biol Proced Online*, 27, 34. <https://doi.org/10.1186/s12575-025-00292-3>
5. Planterose Jiménez B, Kayser M, **Vidaki A**, Caliebe A (2024) Adaptive predictor-set linear model: An imputation-free method for linear regression prediction on data sets with missing values, *Biometrical Journal*, 66(4), 2300090. <https://doi.org/10.1002/bimj.202300090>
6. Planterose Jiménez B, Kolar B, Kayser M, **Vidaki A** (2023) Simultaneous mapping of epigenetic inter-haplotype, inter-cell and inter-individual variation via the discovery of jointly regulated CpGs in pooled sequencing data, *bioRxiv*, <https://doi.org/10.1101/2023.02.28.530419>
7. **Vidaki A**, Planterose Jiménez B, Poggiali B, Kalamara V, van der Gaag KJ, Maas SCE, BIOS Consortium, Ghanbari M, Sijen T, Kayser M (2023) Targeted DNA methylation analysis and prediction of smoking habits in blood based on massively parallel sequencing, *Forensic Science International: Genetics*, 65: 102878. <https://doi.org/10.1016/j.fsigen.2023.102878>
8. **Vidaki A**, Montiel González D, Planterose Jiménez B, Kayser M (2021) Male-specific epigenetic age estimation based on the Y-chromosome, *Aging (Albany NY)*, 13:6442-6458. <https://doi.org/10.18632/aging.202775>
9. Planterose Jiménez B, Liu F, Caliebe A, Montiel González D, Bell JT, Kayser M, **Vidaki A** (2021) Universal epigenetic inter-individual dissimilarity: Equivalent DNA methylation variation between monozygotic co-twins and unrelated individuals, *Genome Biology*, 22:18. <https://doi.org/10.1186/s13059-020-02223-9>
10. **Vidaki A** & Kayser M (2017) From forensic epigenetics to forensic epigenomics: Broadening DNA investigative intelligence, *Genome Biology*, 18: 238. <https://doi.org/10.1186/s13059-017-1373-1>

Major research funding as leading PI

Period (from-to)	Funding source	Total (€)	Project title
2025-2029	Horizon Europe	4,500,000 (coordinator)	Innovative forensic trace investigation via microfluidics and single-cell genomics
2024-2028	NWO	800,000	A cold case investigation into the human repetitive (epi)genome
2020-2024	Erasmus MC	400,000	CpGtracer: A novel, tailored and targeted approach in translational epigenomics
2020-2022	NWO	150,000	qBiCo: A novel tool for assessing bisulfite conversion in epigenetics
2018-2020	EUR	135,000	Differentiation of monozygotic twins in forensics via epigenetic profiling

Teaching and education activities 2013-2026

2026-today	'(Epi)genomics in Society, BSc Biomedical Sciences, Maastricht University
2025-today	'BSc Honours programme', Faculty of Health, Medicine & Life Sciences, Maastricht University
2025-today	'Biotechnology & societal challenges', MSc Science and Business Management, Utrecht University
2025-today	'Designing scientific research', MSc Biomedical Sciences, Maastricht University
2025-today	'Criminalistics & Forensic DNA', MSc Forensics, Criminology and Law, Maastricht University
2025-today	'Clinical & Applied Genetics & Genomics', MSc Biomedical Sciences, Maastricht University
2024-today	'Mentoring portfolio', MSc Biomedical Sciences, Maastricht University
2024-today	'Scientific writing', BSc Biomedical Sciences, Maastricht University
2024-today	'Psychological aspects of genomics', MSc Genomics in Society, Erasmus MC
2023-today	'Forensic Genomics' (founder & ex-coordinator), MSc Genomics in Society, Erasmus MC

2022-today	'Forensic Genetics & NGS' Summer School, University of Copenhagen
2021-today	'Forensic Serology', MSc Forensic Science, Arcadia University
2025	'MSc Epigenomics and Sequencing in Behaviour and Health', Vrije University of Amsterdam
2023-2024	'Personal Genetics', Laboratory of Genetics, Wageningen University & Research
2023-2024	'Advanced Forensic Biology', MSc Forensic Science, University of Amsterdam
2023	'Genomics & the City Assignment', MSc Genomics in Society, Erasmus MC
2022-2025	'Forensic Research Skills', BSc Forensic Science, Hogeschool Amsterdam
2021-2025	'Molecular & Clinical Genetics', BSc Liberal Arts & Sciences, Erasmus University College
2021-2023	'Science Communication', Netherlands Institute of Health Sciences
2020-2025	'The PCR: from A to Z', Center for Bioscience and Diagnostics, Hogeschool Leiden
2018-2023	'BSc Genetics in Society', Faculty of Medicine and Health Sciences, Erasmus University Rotterdam
2014-2015	'Forensic Science' Summer School, King's College London
2013-2016	'Forensic DNA analysis', MSc Forensic Medical Sciences, Queen Mary University of London
2013-2016	'Forensic Biology', MSc Forensic Science, King's College London

Research supervision

2 (1 ongoing) postdocs; 8 (4 ongoing) PhD candidates; 3 (1 ongoing) research analysts; 8 (1 ongoing) research assistants; 4 (1 ongoing) bioinformaticians; 10 (1 ongoing) MSc students; 6 (1 ongoing) BSc students

Roles in scientific journals

- Referee for >40 international peer-reviewed journals, including *Forensic Science International: Genetics, Genome Biology, International Journal of Legal Medicine, Epigenomics, Clinical Epigenetics, Aging, Frontiers in Genetics, Microorganisms, Environmental Epigenetics, Scientific Reports, Science & Justice* etc.
- Member of Editorial Boards: *Forensic Science International: Genetics, Forensic Science International: Reports, Genes, Frontiers in Epigenetics & Epigenomics, Electrophoresis* (previous Deputy Editor 2021-2024)

Other peer-reviewing roles

- For funding agencies: CaixaResearch Health call 2023, La Caixa Foundation, Spain; Horizon Europe Civil Security for Society & EU's research infrastructure program, European Commission; GWIS fellowship, Graduate Women in Science organization, US
- Jury panel member: Akademikus/AcademiX award jury member, AOOb Union; Best PhD publication award jury member, Erasmus MC Biomedical Science day; Mock grant interview panel member, Erasmus MC Grants Office; Best poster award jury member, ISFG Congress

Active member in scientific societies

International Society for Forensic Genetics (ISFG), Epigenetics Society (ES), International Association of Legal Medicine (IALM), European DNA profiling group (EDNAP), European Molecular Biology Laboratory Council advisory committee (EMBL-EMBC), National Center for Forensic Science & Research (CLHC), Dutch Network of Women Professors (LNVH), Dutch Society of Human Genetics (NVHG)

(Co-)organizer of scientific events

2027	Chair, Gordon Research Conference of Forensic Analysis of Human DNA, Noordwijk, NL
2027	Co-organizer, International Association of Legal Medicine conference, The Hague, NL
2025	Vice-chair, Gordon Research Conference of Forensic Analysis of Human DNA, Boston, US
2023	Co-organizer, Virtual 'Forensic Epigenetics' workshop, ISFG Summer School
2022	Co-lead, Netherlands Forensic Biology Research Agenda, Leiden. NL
2020	Discussion leader, Virtual summer seminar for Students and Young Researchers in forensic DNA
2019	Co-organizer, Biomedical Science Theme seminar series, Erasmus MC. NL
2019	Panel discussion chair, 30th International Symposium on Human Identification, California, US
2019	Co-organizer, 'Biomedical Science Theme' day, Erasmus MC, NL