BIOGRAPHICAL SKETCH

NAME: Vineis, Paolo

POSITION TITLE: Chair in Environmental Epidemiology, Imperial College London, UK

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Torino, Italy	M.D.	07/1976	Medicine
University of Torino, Italy	Ph.D.	07/1979	Occupational Health

A. Personal Statement

Professor Paolo Vineis is a leading researcher in the fields of molecular epidemiology and non-communicable diseases (NCD). He is Chair of Environmental Epidemiology at Imperial College, London. He is ranked in the top 10 most cited Imperial College scientists with nearly 145,000 citations (H-index 176). His latest research activities focus on investigating biomarkers from omic platforms (including metabolomics and epigenetics) in large epidemiological studies. He has more than 1,100 publications (many as leading author) in journals such as Nature, Science, Lancet, Lancet Oncology. He is a member of various international scientific committees and the Ethics Committee at the International Agency for Research on Cancer (IARC, WHO). Professor Vineis has extensive experience in leading international projects. He has coordinated the European Commission FP7-funded Exposomics project and the Horizon 2020-funded project Lifepath. He has been the director of the Unit of Molecular and Genetic Epidemiology at the Italian Institute for Genomic Medicine, Torino, Italy and leads the "Molecular signatures and pathways to disease" (Exposome) theme of the MRC-PHE Centre for Environment and Health at Imperial College (https://environment-health.ac.uk/molecular-signatures-and-disease-pathways/). He has published several books including "Health without borders: epidemics in the era of globalization". Springer, 2017. He is engaged in policy-making as a member of the High Council of Health (Consiglio Superiore di Sanita', advisor to the Health Minister) in Italy, and as a member of Cancer Prevention Europe (affiliated with Cancer Mission Europe). In 2020 he has been an advisor of the Piedmont Region for COVID-19 and has contributed to the development of mathematical models and containment policies (see Saltelli et al, Nature 2020).
Most notably, he has contributed to the marriage between large population studies and new biomarker and omic technologies. The main breakthroughs have been (a) the demonstration of a number of molecular alterations (miRNA, metabolomics) associated with exposure to air pollution, able to predict disease outcomes according to the concept of "meet-in-the-middle"; (b) the development of biomarkers of smoking, including the first demonstration of a methylation signature, and mutational fingerprints; (c) the development for application in epidemiological studies of "biological clocks" based on DNA methylation and metabolomics to measure biological ageing; (d) the successful promotion of the interaction between social sciences and life sciences in a large consortium on health inequalities and ageing, that applied on a large scale omic technologies to social inequalities in health. He has also been active in the field of climate change and health, with original research conducted in Bangladesh that demonstrated an increased risk of hypertension in relation to salinity in drinking water due to environmental and climatic changes. He is Co-PI at the NIHR Centre on non-communicable diseases in low-income countries, where he participates in mitigation actions of water salinity.

23 July 2024.

B. Positions and Honors

Positions and Employment

1984-1990	Adjunct Professor, Epidemiology, Post-doctoral School of Biometrics and Medical Statistics, University of Milano, Milan, Italy
1998-2005	Associate Professor, Biostatistics, Faculty of Medicine, University of Torino, Turin, Italy
1999-2010	Head, Section of Epidemiology and Life Sciences, Foundation "Institute for Scientific Interchange" (ISI), Turin, Italy
2001-	Adjunct Professor, Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA
2004-	Chair, Environmental Epidemiology, Imperial College London, London, UK
2010-2021	Head, Unit of Molecular and Genetic Epidemiology, Human Genetics Foundation (HuGeF Foundation) – now Italian Institute for Genomic Medicine, Turin, Italy
2017-	Honorary Professor, Molecular Epidemiology, London School of Hygiene and Tropical Medicine, London, UK
2019-2021	Visiting Professor, Italian Institute of Technology, Genoa, Italy

Professional Membership and Honours

1992-1994	President, Italian Association of Epidemiology
1995-1998	Member, Scientific Council, International Agency for Research on Cancer
2000-	Member, Ethical Committee, College of Physicians, Turin, Italy
2003-2019	Member, Italian Association for Cancer Research, Scientific Committee
2004-2009	Member, UK Molecular Epidemiology Group Advisory Board
2005-2012	Member, Committee on carcinogenicity of chemicals of the UK Department of Health (COC)
2007-2010	Member, Consiglio Superiore di Sanità, Department of Health, Italy
2007-2011	Member, Operational Committee Grantham Institute for Climate Change, Imperial College London
2008-	Member, Scientific Advisory Board, Canceropole Paris Ile-de-France
2009-	PI, Exposome and Health section, MRC-PHE Centre for Environment and Health at ICL
2008-2013	Member, Ethics and Governing Council, UK Biobank, Wellcome Trust
2010-	Vice Chair, Ethical Committee, International Agency for Research on Cancer
2015-2016	Member, US National Academy of Science Committee on 21st Century Risk Assessment
2019-	Vice President, Consiglio Superiore di Sanità, High Council of Health, Department of Health, Italy
2018-	Member of the Academy of Science, Turin, Italy
2022-	Chair, Scientific Panel for Epidemiology, Fondation pour la Recherche Medicale, Paris
2023-	Member of Panel, ERC Evaluation Panel, European Commission
2023-	Fellow of Accademia dei Lincei (Italian National Academy of Sciences)

Awards

2005	Distinguished lectures in occupational and environmental epidemiology: " The integration of mechanistic data into the evaluation of environmental carcinogens", National Cancer Institute, Bethesda, USA
2010	Enrico Fermi Award for best Italian book on public understanding of science
2018	Knighted by the President of the Italian Republic for scientific merits

C. Contributions to Science

1. Biomarkers and cancer. I have coordinated several international investigations on the use of biomarkers in epidemiological cohorts. I have given relevant contributions in the field of gene-environment interactions, (e.g., for bladder and lung cancer).

    a. P Vineis [1], H Bartsch, N Caporaso, A M Harrington, F F Kadlubar, M T Landi, C Malaveille, P G Shields, P Skipper, G Talaska, et al. Genetically based N-acetyltransferase metabolic polymorphism and low-level environmental exposure to carcinogens. **Nature** 1994 May 12;369(6476):154-6.

b. Fasanelli F, Baglietto L, Ponzi E, Guida F, Campanella G, Johansson M, Grankvist K, Johansson M, Assumma MB, Naccarati A, Chadeau-Hyam M, Ala U, Faltus C, Kaaks R, Risch A, De Stavola B, Hodge A, Giles GG, Southey MC, Relton CL, Haycock PC, Lund E, Polidoro S, Sandanger TM, Severi G, Vineis P. Hypomethylation of smoking-related genes is associated with future lung cancer in four prospective cohorts. Nat Commun. 2015 Dec 15;6:10192. doi: 10.1038/ncomms10192.

2. Exposome. I have coordinated EU-funded exposome networks that led to several key findings concerning the effects of chemical mixtures and association of omic profile with disease outcomes.
   a. Vineis P, Robinson O, Chadeau-Hyam M, Dehghan A, Mudway I, Dagnino S. What is new in the exposome? Environ Int. 2020 Oct;143:105887. doi: 10.1016/j.envint.2020.105887
   b. Vineis P. From John Snow to omics: the long journey of environmental epidemiology. Eur J Epidemiol. 2018 Apr;33(4):355-363. doi: 10.1007/s10654-018-0398-4.

3. Epigenetic clocks. I have set up a network of researchers for the investigation of epigenetic and metabolomic clocks within cohorts.
   a. Robinson O, Carter AR, Ala-Korpela M, Casas JP, Chaturvedi N, Engmann J, Howe LD, Hughes AD, Järvelin MR, Kähönen M, Karhunen V, Kuh D, Shah T, Ben-Shlomo Y, Sofat R, Lau CE, Lehtimäki T, Menon U, Raitakari O, Ryan A, Providencia R, Smith S, Taylor J, Tillin T, Viikari J, Wong A, Hingorani AD, Kivimäki M, Vineis P. Metabolic profiles of socio-economic position: a multi-cohort analysis. Int J Epidemiol. 2020 Nov 21:dyaa188. doi: 10.1093/ije/dyaa188
   b. Robinson O, Chadeau Hyam M, Karaman I, Climaco Pinto R, Ala-Korpela M, Handakas E, Fiorito G, Gao H, Heard A, Jarvelin MR, Lewis M, Pazoki R, Polidoro S, Tzoulaki I, Wielscher M, Elliott P, Vineis P. Determinants of accelerated metabolomic and epigenetic aging in a UK cohort. Aging Cell. 2020 Jun;19(6):e13149. doi: 10.1111/acel.13149. Epub 2020 May 3

4. Social inequalities and Health. I have coordinated a large EU H2020 funded consortium on social inequalities and health.
   a. Vineis P, Barouki R. The exposome as the science of social-to-biological transitions. Environ Int. 2022 Jul;165:107312. doi: 10.1016/j.envint.2022.107312.
   b. Stringhini S, Carmeli C, Jokela M, Avendaño M, Muennig P, Guida F, Ricceri F, d'Errico A, Barros H, Bochud M, Chadeau-Hyam M, Clavel-Chapelon F, Costa G, Delpierre C, Fraga S, Goldberg M, Giles GG, Krogh V, Kelly-Irving M, Layte R, Lasserre AM, Marmot MG, Preisig M, Shipley MJ, Vollenweider P, Zins M, Kawachi I, Steptoe A, Mackenbach JP, Vineis P, Kivimäki M; LIFEPATH consortium. Socioeconomic status and the 25 × 25 risk factors as determinants of premature mortality: a multicohort study and meta-analysis of 1·7 million men and women. Lancet. 2017 Mar 25;389(10075):1229-1237. doi: 10.1016/S0140-6736(16)32380-7. Epub 2017 Feb 1

5. Methodological developments. I have contributed in several ways to the advancement of (molecular) epidemiology.
   a. Wild C, Vineis O., Garte S. Molecular Epidemiology of Chronic Diseases, Wiley Publ., 2011 (book)
   b. Vineis P, Wild CP Global cancer patterns: causes and prevention. Lancet. 2014 Feb 8;383(9916):549-57.
   c. Vineis P. Invited Perspective: The Mysterious Case of Social Determinants of Health. Environ Health Perspect. 2022 Nov;130(11):111303. doi: 10.1289/EHP12030.

Complete List of Published Work in Pubmed:
https://pubmed.ncbi.nlm.nih.gov/?term=vineis+p&sort=date

D. Additional Information: Research Support and/or Scholastic Performance

Current Research Support

European Commission Vineis (Co-PI) 1/1/24-31/12/28

ENDOMIX
Goal: Health impacts of endocrine disruptors 460K euros

Colt Foundation Vineis (PI) 1/3/19- 31/12/23
Goal: to apply biological clocks to unstable jobs 251K pounds

NIHR-NERC Vineis (Co-PI)
Centre for NCD in low-income countries 1/10/22-30/9/27
Goal: to investigate health effects of climate change in Bangladesh 308K pounds

European Commission (Grant agreement 874627) Vineis (Co-I) 1/1/20-31/12/24
EXPANSE 621K pounds
Goal: to elucidate the impact of the urban exposome on cardio-metabolic-pulmonary disease

Completed Research Support

Lifepath (Grant Agreement No. 633666) Vineis (PI) 05/01/15-05/01/19
Funded by the European Commission's Horizon 2020 Research and Innovation Programme
Goal: To investigate the biological pathways underlying social differences in healthy ageing in Europe
Role: Principal Investigator

FP7-PEOPLE-2013-IEF Vineis (PI) 03/01/14-02/28/16
Epigenair
Funded by the European Commission
Goal: To study the association between air pollution and methylation
Role: Principal Investigator

EXPOsOMICS Vineis (PI) 11/01/12-10/31/16
Funded by the European Commission
Goal: To develop a novel approach to the assessment of exposure to high priority environmental pollutants, by characterizing the external and the internal components of the exposome.
Role: Principal Investigator

Breast cancer early detection Vineis (Co-PI) 03/01/12-02/28/17
Funded by Cancer Research UK
Goal: To examine circulating nucleic acids for early detection and monitoring of breast cancer and progress towards personalized cancer care
Role: Co-Investigator

FOOD-CT-2010-266198 Vineis (Co-PI) 05/01/11-04/30/13
ECNIS2
Funded by the European Commission
Goal: To study biomarkers in nutrition and cancer
Role: Co-Investigator

TRICL Vineis (Co-PI) 06/30/10-07/08/14
Funded by the US National Cancer Institute U19
Goal: To study the molecular epidemiology of lung cancer
Role: Co-Principal Investigator

Molecular epidemiology of cancer Vineis (PI) 01/01/10-12/31/13
Funded by Compagnia di San Paolo, Torino, HuGeF Foundation

Goal: To examine the molecular epidemiology of cancer
Role: Principal Investigator

Transphorm Vineis (Co-PI) 01/01/10-12/31/13
Funded by the European Commission
Goal: To examine air pollution mitigation in Europe
Role: Co-Investigator

1-Carbon metabolism and pancreatic cancer Vineis (PI) 12/01/08-11/31/11
Funded by the World Cancer Research Fund
Goal: To study the relationship between 1-carbon metabolism and pancreatic cancer.
Role: Principal Investigator

ESCAPE (European Study of Cohorts for Air Pollution Effects)
Vineis (Co-PI) 06/01/08-05/31/12
Funded by the European Commission
Goal: To examine the burden of air pollution-related diseases in Europe
Role: Co-Investigator

INTARESE Vineis (Co-PI) 01/01/05-
04/30/10
Funded by the European Commission
Goal: To conduct an integrated assessment of health risks from environmental stressors in Europe.
Role: Co-Investigator