

PANAGIOTIS GEORGIADIS

PhD /Senior Researcher

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Curriculum Vitae

Education

1992: PhD Degree in Biochemistry at the University College London, Department of Biochemistry and Molecular Biology, University of London. Title of the PhD thesis "Studies on the structure and repair of oligonucleotides containing O6-alkylguanine and O4-alkylthymine".

1986: Degree in Chemistry, National and Kapodistrian University of Athens, Faculty of Science, Department of Chemistry

Appointments

1996-present: Researcher (senior researcher since 2013), National Hellenic Research Foundation (NHRF), Institute of Biological Research and Biotechnology [renamed to Institute of Chemical Biology (ICB) in 2019], Athens, Greece

2016-present Visiting Professor in the Department of Biochemistry, University of Thessaly, Greece

1994-1996: Post-doctorate Fellow at the Laboratory of Chemical Carcinogenesis, Institute of Biological Research and Biotechnology, National Hellenic Research Foundation, Athens, Greece

1987-1992: Research assistant and subsequently research fellow at Cancer Research Campaign-Nitrosamine induced Cancer Group, University College and Middlesex School of Medicine, University College, London, U.K

Current research interests

His research interests focus on genome-environment interactions and the development of -omics biomarkers of environmental exposures/genetic predisposition/ risk of multifactorial diseases and their application in population studies exploiting holistic genomic, transcriptomic and epigenomic technologies. Over the last two years, his interests have extended to metagenomics analyses and how changes in the gut microbiome may affect human health. During the same period and within the framework of the Hellenic Network of Precision Medicine in Oncology, he contributed significantly to the transfer of know-how for genomic analysis with NGS to ICB/NHRF.

Teaching experience

Supervisor of several undergraduate and postgraduate students' diploma dissertations and four doctoral (Ph. D.) thesis. Course manager and lecturer of the course "Molecular Diagnostics" of the interinstitutional postgraduate M.Sc. program

"BioEntrepreneurship" (University of Thessaly/NHRF) Member of the Coordinating Committee, course manager and lecturer in the interinstitutional postgraduate M.Sc. program **"Oncology- from oncogenesis to therapy"** (University of Crete/NHRF)

Main achievements

He has served several times as project evaluator for the following funding institutions: Italian Association for Cancer Research, Medical Research Council, Open University of Greece, State Scholarships Foundation. He has participated in a large number of collaborative national or EU projects. He is the author of more than 50 papers in international peer-reviewed journals. He is currently Associate Editor of the Journal "Frontiers of Public Health-section exposome" and active reviewer in many high impact journals such as Cancer Research, Nucleic Cancer Research, Environmental Health Perspectives, Environment International, Carcinogenesis, Mutagenesis, Atmospheric Environment, Mutation Research, Environmental Pollution, Epigenomics, Science of Total Environment. He is currently a member of the Scientific Board of the Institute

Recent research projects and collaboration

a) International funding

1. Exposomics - Enhanced exposure assessment and omic profiling for high priority
2. environmental exposures in Europe (EU FP7, Collaborative project); duration: 2012-2016
3. EnviroGenomarkers – Genomics biomarkers of environmental health (EU FP7, Collaborative project); duration: 2009-2013
4. Phytome- Phytochemicals to reduce nitrite in meat products (EU FP7, SME); duration: 2012-2016

b) National funding

1. STHENOS: Targeted Therapeutic approaches against degenerative Diseases, with emphasis on cancer and ageing: within the frame of KRIPIS (ESPA 2014-2020) Developmental proposals from research institutions. Duration:2013-2015.
2. *STHENOS β*: "Targeted therapeutic approaches against degenerative diseases with special focus on cancer and ageing-optimisation of the targeted bioactive molecules" within the frame of KRIPIS II(ESPA 2014-2020) (MIS 5002398), Duration:2017-2020.
3. FunGlucan: Development of a novel functional food enriched with β-glucan isolated from edible mushrooms from Greek habitats (EREVNO-KAINOTOMO-DIMIOYRGO-ESPA 2014-2020). Duration:2018-2021
4. OSTEOME: Design and development of a dietary supplement for osteoporosis through mechanisms of the intestinal microbiome. Study of efficacy and tolerance in an innovative dietary supplement (EREVNO-KAINOTOMO-DIMIOYRGO-ESPA 2014-2020). Duration:2020-2023.
5. Hellenic Network for Precision Medicine in Oncology <https://oncopmnet.gr/#>

c) Private sector funding

1. Metagenomic and Metabolomic Profile of stool samples from neonates fed with breast milk and an infant formula enriched with probiotics., *RONTIS HELLAS*

Recent publications (2018-2020)

1. Castagné, R., Kelly-Irving, M., Krogh, V., Palli, D., Panico, S., Sacerdote, C., Tumino, R., Hebels, D.G., Kleinjans, J.C., de Kok, T.M., **Georgiadis, P.**, Kyrtopoulos, S.A., Vermeulen, R., Stringhini, S., Vineis, P., Chadeau-Hyam, M., Delpierre, C.,(2020). A multi-omics approach to investigate the inflammatory response to life course socioeconomic position. **Epigenomics**. <https://doi.org/10.2217/epi-2019-0261>
2. Boulaka, A., Christodoulou, P., Vlassopoulou, M., Koutrotsios, G., Bekiaris, G., Zervakis, G.I., Mitsou, E.K., Saxami, G., Kyriacou, A., Zervou, M., **Georgiadis, P.**, Pletsas, V.,(2020). Genoprotective Properties and Metabolites of β -Glucan-Rich Edible Mushrooms Following Their In Vitro Fermentation by Human Faecal Microbiota. **Molecules** 25. <https://doi.org/10.3390/molecules25153554>
3. Hatzioannou, A., Banos, A., Sakelaropoulos, T., Fedonidis, C., Vidali, M.-S., Kohne, M., Handler, K., Boon, L., Henriques, A., Koliaraki, V., **Georgiadis, P.**, Zoidakis, J., Termentzi, A., Beyer, M., Chavakis, T., Boumpas, D., Tsirigos, A., Verginis, P.,(2020). An intrinsic role of IL-33 in Treg cell-mediated tumor immunoevasion. **Nat. Immunol.** 21, 75–85. <https://doi.org/10.1038/s41590-019-0555-2>
4. **Georgiadis, P.**, Gavriil, M., Rantakokko, P., Ladoukakis, E., Botsivali, M., Kelly, R.S., Bergdahl, I.A., Kiviranta, H., Vermeulen, R.C.H., Spaeth, F., Hebbels, DGAJ, Kleinjans, J.C.S., de Kok, TMCM, Palli, D., Vineis, P., Kyrtopoulos, S.A.,(2019). DNA methylation profiling implicates exposure to PCBs in the pathogenesis of B-cell chronic lymphocytic leukemia. **Environ. Int.** 126, 24–36. <https://doi.org/10.1016/j.envint.2019.01.068>
5. Berger, E., Delpierre, C., Hosnijeh, F.S., Kelly-Irving, M., Portengen, L., Bergdahl, I.A., Johansson, A.-S.A.-S., Krogh, V., Palli, D., Panico, S., Sacerdote, C., Tumino, R., Kyrtopoulos, S.A., Vineis, P., Chadeau-Hyam, M., Vermeulen, R., Castagné, R., Melin, B., Lenner, P., Bendinelli, B., Botsivali, M., Chatziioannou, A., Valavanis, I., Bodinier, B., Garrido-Manriquez, J., Athersuch, T.J., Liquet, B., Lokhorst, H., **Georgiadis, P.**, Kleinjans, J.C.S., De Kok, TMCM, Keun, H.C., Kelly, R., Hallmans, G., Stephanou, E.G., Myridakis, A., Kogevinas, M., Fazzo, L., De Santis, M., Comba, P., Kiviranta, H., Rantakokko, P., Airaksinen, R., Ruokojarvi, P., Gilthorpe, M., Fleming, S., Fleming, T., Tu, Y.-K., Lundh, T., Chien, K.-L., Chen, W.J., Lee, W.-C., Hsiao, C.K., Kuo, P.-H., Hung, H., Liao, S.-F., Castagne, R.,(2018). Association between low-grade inflammation and Breast cancer and B-cell Myeloma and Non-Hodgkin Lymphoma: Findings from two prospective cohorts. **Sci. Rep.** 8, 10805. <https://doi.org/10.1038/s41598-018-29041-1>
6. Kelly, R.S.S., Kiviranta, H., Bergdahl, I.A.A., Palli, D., Johansson, A.-S., Botsivali, M., Vineis, P., Vermeulen, R., Kyrtopoulos, S.A.A., Chadeau-Hyam, M.,(2017). Prediagnostic plasma concentrations of organochlorines and risk of B-cell non-Hodgkin lymphoma in enviromarkers: a nested case-control study. **Environ. Heal. A Glob. Access Sci. Source** 16, 1–12. <https://doi.org/10.1186/s12940-017-0214-8>
7. **Georgiadis, P.**, Liampa, I., Hebels, D.G., Krauskopf, J., Chatziioannou, A., Valavanis, I., de Kok, TMCM, Kleinjans, J.C.S., Bergdahl, I.A., Melin, B., Spaeth, F., Palli, D., Vermeulen, RCHCH, Vlaanderen, J., Chadeau-Hyam, M., Vineis, P., Kyrtopoulos, S.A. (2017). Evolving DNA methylation and gene expression markers of B-cell chronic lymphocytic leukemia are present in pre-diagnostic

- blood samples more than 10 years prior to diagnosis. **BMC Genomics** *18*, 728. <https://doi.org/10.1186/s12864-017-4117-4>
8. O'Callaghan-Gordo, C., Kogevinas, M., Pedersen, M., Fthenou, E., Espinosa, A., Tsiapa, X., Chalkiadaki, G., Daraki, V., Dermitzaki, E., Decordier, I., Farmer, P.B., Georgiadis, P., Georgiou, V., Kyrtopoulos, S.A., Merlo, D.F., Romaguera, D., Roumeliotaki, T., Sarri, K., Tornqvist, M., Loock, K.V., von Stedingk, H., Kleinjans, J., Kirsch-Volders, M., Chatzi, L., O'Callaghan-Gordo, C., Kogevinas, M., Pedersen, M., Fthenou, E., Espinosa, A., Tsiapa, X., Chalkiadaki, G., Daraki, V., Dermitzaki, E., Decordier, I., Farmer, P.B., **Georgiadis, P.**, Georgiou, V., Kyrtopoulos, S.A., Merlo, D.F., Romaguera, D., Roumeliotaki, T., Sarri, K., Törnqvist, M., Loock, K.V., von Stedingk, H., Kleinjans, J., Kirsch-Volders, M., Chatzi, L.,(2018). Maternal diet during pregnancy and micronuclei frequency in peripheral blood T lymphocytes in mothers and newborns (Rhea cohort, Crete). **Eur. J. Nutr.** *57*, 209–218. <https://doi.org/10.1007/s00394-016-1310-1>
 9. Fiorito, G., Polidoro, S., Dugué, P.P.-A., Kivimaki, M., Ponzi, E., Matullo, G., Guarrera, S., Assumma, M.B., **Georgiadis, P.**, Kyrtopoulos, S.A., Krogh, V., Palli, D., Panico, S., Sacerdote, C., Tumino, R., Chadeau-Hyam, M., Stringhini, S., Severi, G., Hodge, A.M., Giles, G.G., Marioni, R., Karlsson Linnér, R., O'Halloran, A.M., Kenny, R.A., Layte, R., Baglietto, L., Robinson, O., McCrory, C., Milne, R.L., Vineis, P.,(2017). Social adversity and epigenetic aging: A multi-cohort study on socioeconomic differences in peripheral blood DNA methylation. **Sci. Rep.** *7*, 16266. <https://doi.org/10.1038/s41598-017-16391-5>
 10. Chatziioannou, A., **Georgiadis, P.**, Hebels, D.G., Liampa, I., Valavanis, I., Bergdahl, I.A., Johansson, A., Palli, D., Chadeau-Hyam, M., Siskos, A.P., Keun, H., Botsivali, M., de Kok, TMCM, Perez, A.E., Kleinjans, J.C.S., Vineis, P., Kyrtopoulos, S.A.,(2017). Blood-based omic profiling supports female susceptibility to tobacco smoke-induced cardiovascular diseases. **Sci. Rep.** *7*, 42870. <https://doi.org/10.1038/srep42870>
 11. Ek, W.E., Tobi, E.W., Ahsan, M., Lampa, E., Ponzi, E., Kyrtopoulos, S.A., **Georgiadis, P.**, Lumey, L.H., Heijmans, B.T., Botsivali, M., Bergdahl, I.A., Karlsson, T., Rask-Andersen, M., Palli, D., Ingelsson, E., Hedman, A.K., Nilsson, L.M., Vineis, P., Lind, L., Flanagan, J.M., Johansson, A., Cons, E.-W.A.S., Hedman, Å.K., Nilsson, L.M., Vineis, P., Lind, L., Flanagan, J.M., Johansson, Å., (2017). Tea and coffee consumption in relation to DNA methylation in four European cohorts. **Hum. Mol. Genet.** *26*, 3221–3231. <https://doi.org/10.1093/hmg/ddx194>
 12. Espin-Perez, A., Hebels, DGAJ, Kiviranta, H., Rantakokko, P., **Georgiadis, P.**, Botsivali, M., Bergdahl, I.A., Palli, D., Spath, F., Johansson, A., Chadeau-Hyam, M., Kyrtopoulos, S.A., Kleinjans, J.C.S., de Kok, TMCM,(2019). Identification of Sex-Specific Transcriptome Responses to Polychlorinated Biphenyls (PCBs). **Sci. Rep.** *9*, 746. <https://doi.org/10.1038/s41598-018-37449-y>
 13. Plusquin, M., Guida, F., Polidoro, S., Vermeulen, R., Raaschou-Nielsen, O., Campanella, G., Hoek, G., Kyrtopoulos, S.A., **Georgiadis, P.**, Naccarati, A., Sacerdote, C., Krogh, V., Bueno-de-Mesquita, H.B., Verschuren, W.M.M., Sayols-Baixeras, S., Panni, T., Peters, A., Hebels, D.G.A.J., Kleinjans, J., Vineis, P., Chadeau-Hyam, M., Bas Bueno-de-Mesquita, H., Monique Verschuren, W.M.M., Sayols-Baixeras, S., Panni, T., Peters, A., Hebels, D.G.A.J., Kleinjans, J., Vineis, P., Chadeau-Hyam, (2017). DNA methylation and exposure to ambient air pollution in two prospective cohorts. **Environ. Int.** *108*, 127–136. <https://doi.org/10.1016/j.envint.2017.08.006>

14. Vermeulen, R., Saberi Hosnijeh, F., Bodinier, B., Portengen, L., Liquet, B., Garrido-Manriquez, J., Lokhorst, H., Bergdahl, I.A., Kyrtopoulos, S.A., Johansson, A.-S., **Georgiadis, P.**, Melin, B., Palli, D., Krogh, V., Panico, S., Sacerdote, C., Tumino, R., Vineis, P., Castagné, R., Chadeau-Hyam, M., Botsivali, M., Chatziioannou, A., Valavanis, I., Kleinjans, J.C., de Kok, T.M., Keun, H.C., Athersuch, T.J., Kelly, R., Lenner, P., Hallmans, G., Stephanou, E.G., Myridakis, A., Kogevinas, M., Fazzo, L., De Santis, M., Comba, P., Bendinelli, B., Kiviranta, H., Rantakokko, P., Airaksinen, R., Ruokojarvi, P., Gilthorpe, M., Fleming, S., Fleming, T., Tu, Y.-K., Lundh, T., Chien, K.-L., Chen, W.J., Lee, W.-C., Kate Hsiao, C., Kuo, P.-H., Hung, H., Liao, S.-F.,(2018). Pre-diagnostic blood immune markers, incidence and progression of B-cell lymphoma and multiple myeloma: Univariate and functionally informed multivariate analyses. **Int. J. Cancer**. <https://doi.org/10.1002/ijc.31536>
15. Campanella, G., Gunter, M.J., Polidoro, S., Krogh, V., Palli, D., Panico, S., Sacerdote, C., Tumino, R., Fiorito, G., Guarrera, S., Iacoviello, L., Bergdahl, I.A., Melin, B., Lenner, P., de Kok, T.M., **Georgiadis, P.**, Kleinjans, J.C.S., Kyrtopoulos, S.A., Bueno-de-Mesquita, H.B., Lillycrop, K.A., May, A.M., Onland-Moret, N.C., Murray, R., Riboli, E., Verschuren, M., Lund, E., Mode, N., Sandanger, T.M., Fiano, V., Trevisan, M., Matullo, G., Froguel, P., Elliott, P., Vineis, P., Chadeau-Hyam, M.,(2018). Epigenome-wide association study of adiposity and future risk of obesity-related diseases. **Int. J. Obes.** 1–14. <https://doi.org/10.1038/s41366-018-0064-7>
16. Mostafavi, N., Vlaanderen, J., Portengen, L., Chadeau-Hyam, M., Modig, L., Palli, D., Bergdahl, I.A., Brunekreef, B., Vineis, P., Hebels, D.G.A.J., Kleinjans, J.C.S., Krogh, V., Hoek, G., **Georgiadis, P.**, Kyrtopoulos, S.A., Vermeulen, R.,(2017). Associations between genome-wide gene expression and ambient nitrogen oxides (NOx). **Epidemiology** 28. <https://doi.org/10.1097/EDE.0000000000000628>
17. Campanella, G., Gunter, M.J., Polidoro, S., Krogh, V., Palli, D., Panico, S., Sacerdote, C., Tumino, R., Fiorito, G., Guarrera, S., Iacoviello, L., Bergdahl, I.A., Melin, B., Lenner, P., de Kok, T.M., **Georgiadis, P.**, Kleinjans, J.C.S., Kyrtopoulos, S.A., Bueno-de-Mesquita, H.B., Lillycrop, K.A., May, A.M., Onland-Moret, N.C., Murray, R., Riboli, E., Verschuren, M., Lund, E., Mode, N., Sandanger, T.M., Fiano, V., Trevisan, M., Matullo, G., Froguel, P., Elliott, P., Vineis, P., Chadeau-Hyam, M.,(2018). Epigenome-wide association study of adiposity and future risk of obesity-related diseases. **Int. J. Obes.** <https://doi.org/10.1038/s41366-018-0064-7>