

PhD Project Description

School/Department:	Department of Epidemiology, Erasmus MC
Supervisor information:	<p>Dr. Mohsen Ghanbari m.ghanbari@erasmusmc.nl Assistant professor, Principal investigator of Molecular & Systems Epidemiology group</p> <ul style="list-style-type: none"> • Prof. dr. A Ikram m.ikram@erasmusmc.nl • Website: http://www.erasmus-epidemiology.nl https://www.erasmusmc.nl/en/research/researchers/ghanbari-mohsen • Grants: <ul style="list-style-type: none"> - Early Career Award, The Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) consortium, 2018 - European Foundation for the Study of Diabetes Fellowship, 2018 - Alzheimer Nederland Fellowship, 2018 • Most important publications: Dr. Ghanbari has so far published 60 international peer-reviewed publications. <ul style="list-style-type: none"> - Brain. 2020 Apr 1;143(4):1220-1232. Plasma tau, neurofilament light chain and amyloid-β levels ... - Cell. 2020 Sep 3;182(5):1214-1231. The Polygenic and Monogenic Basis of Blood Traits and Diseases. - Diabetes Care. 2020 Apr;43(4):875-884. Epigenetic Link Between Statin Therapy and Type 2 Diabetes. - Nature Communications. 2019 Aug 20;10(1):3346. A metabolic profile of all-cause mortality risk ... - Human Mutation. 2019 Nov;40(11):2131-2145. A functional variant in the miR-142 promoter ... - Nature Genetics. 2019 Apr;51(4):636-648. Multi-ancestry genome-wide gene-smoking interaction ... - Nature Communications. 2019 Jan 22;10(1):376. Multi-ancestry study of blood lipid levels identifies ... - Blood. 2018 Oct 25;132(17):1842-1850. DNA methylation age is associated with an altered hemostatic ... - Gastroenterology. 2017 Oct;153(4):1096-1106. Epigenome-Wide Association Study Identifies ...
Project Title:	Integration of population-based omics data to explore molecular mechanisms underlying age-related diseases
Abstract:	<p>Genetic and molecular epidemiology are emerging innovative fields of research in which molecular and biological concepts are incorporated into computational models and epidemiologic studies to identify genetic predispositions of complex diseases. This is made possible by recent rapid technological advances in high-throughput laboratory assays that measure various biomarkers from biological samples. Although traditional epidemiology has been proven valuable to identify associations between exposure and disease in populations; however, it does so without obtaining information of the biological processes that underlie the associations. Molecular epidemiology could enhance the measurement of exposure, effect, and susceptibility, and give insight into biological mechanisms. This knowledge will ultimately lead to the identification of early etiologic, diagnostic, and prognostic markers of diseases, allow us to better target preventive strategies and yield new therapeutics for complex diseases.</p> <p>Within the Molecular & Systems epidemiology research line of the Department of Epidemiology, we conduct cutting-edge research on the genetic determinants and novel biomarkers of age-related diseases (e.g., Cardiovascular disease, Alzheimer's disease, fatty liver disease) using multi-omics data (genomics, epi-genomics, transcriptomics, proteomics, and metabolomics) from the Rotterdam Study, a large population-based cohort of 15,000 participants followed since 1990. Moreover, we closely collaborate with several renowned international population-based cohort studies across Europe and United States.</p>

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Requirements of candidate:	<ul style="list-style-type: none">• We are looking for a highly motivated, bright student to join our international and multidisciplinary team. For this projects, using big data and often collaborating in consortia, we require strong statistical skills and good communication skills.• The student should have an MD or Master degree in Biology, Epidemiology, Biostatistics or a related field, and should be fluent in English (IELTS\geq7.0 (\geq6.0 for all subs), TOEFL \geq100 (\geq20 for all subs)).• We offer: Supervision, data access, advanced courses in genetic epidemiology and biostatistics, research infrastructure, and other training. Your salary and living expenses should be covered by the scholarship. We could help with the scientific part of the proposal. For more information related to this proposal, please contact dr. Mohsen Ghanbari (m.ghanbari@erasmusmc.nl).
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Application requirements & Deadlines:

<https://www.eur.nl/en/about-eur/erasmus-university-china-centre/csc-scholarship>

Erasmus MC, ranked world

** No.32 for Clinical Medicine US News 2020:*

<https://www.usnews.com/education/best-global-universities/clinical-medicine?page=3>

** No. 30 Nature Index for Biomedical Sciences 2019:*

<https://www.natureindex.com/supplements/nature-index-2019-biomedical-sciences/tables/healthcare>