

PhD Project Description

School/Department:	Department of Epidemiology, Erasmus MC
Supervisor information:	<ul style="list-style-type: none"> • Prof dr M. Kamran IKRAM • Email: m.ikram@erasmusmc.nl • Website: https://www.erasmusmc.nl/en/research/departments/epidemiology • Grants: <ul style="list-style-type: none"> - Lee Kuan Yew Fellowship, Singapore (2011) - VENI, Netherlands Organisation for Scientific Research, the Netherlands (2012) - National University Health System, National University of Singapore, Clinician Scientist Program Grant, Singapore (2012) - National Medical Research Council, Clinician Scientist Award, Investigator Category, Singapore (2013) - European Institute of Innovation and Technology (2016) - ParkinsonFonds, the Netherlands (2018) - Netherlands Organization for Scientific Research – Covid 19 Program, the Netherlands (2020) • Most important publications: <ul style="list-style-type: none"> - Mov Disord 2020; Sept 23 Epub - Am J Epidemiol 2020; Sept 5 Epub - J Am Coll Cardiol 2020;75:2387-2399 - Brain 2020;143:1220-1232 - PLoS Med 2019;16:e1002933 - Nat Genet 2019;51:1624-1636 - Nature Medicine 2019;25:1364-1369 - Circulation 2019;139:1698-1709 - Int J Epidemiol 2019;48:1286-1293 - JAMA Neurol 2018;75:1256-1263 - Lancet Neurol 2018;17:434-444 - Circulation 2017;135:2207-2209 - Nat Neurosci 2016;19:1569-1582 - Nature 2016;536:41-47
Project Title:	Vascular disease and autonomous dysregulation in Parkinson's Disease
Abstract:	<p>Parkinson's disease (PD), which is the most common subtype of parkinsonism, is a chronic neurodegenerative condition in the elderly. Although several environmental and genetic factors have been implicated in the development of parkinsonism, there is still uncertainty about the exact mechanisms underlying neuronal cell loss in these conditions. Among others, a potential role of vascular disease has been hypothesized based on the observation that markers of vascular pathology are strongly related to two other common neurological syndromes, namely stroke and dementia. Furthermore, a high prevalence of lacunar infarcts in the basal ganglia of patients with parkinsonism have been reported. During the course of dementia 25% of patients develop parkinsonism, whereas approximately a third of patients with PD are eventually diagnosed with dementia. However, in spite of an overlap in clinical and pathological features between these neurological syndromes, the role of vascular pathology in the etiology of parkinsonism syndromes remains unclear. Besides vascular disease, cardiovascular dysregulation, as a manifestation of autonomous dysfunction, has also been implicated in PD. However, these observations have mainly come from clinical studies, in which the exact order of events is difficult to disentangle (reverse causality). Thus far, observations from population-based studies are largely lacking.</p> <p>In view of these gaps in the literature, our overall aim of this project is to determine the role of vascular disease and autonomous dysfunction in the development of Parkinson's disease and non-PD parkinsonism. To accomplish this data from the large population-based Rotterdam Study (N=14,926), which has been running for more than 30 years, will be used. Within this cohort, extensive cardiovascular risk factors assessment, including imaging of the major arteries in the heart-brain axis, has been performed. All persons are also evaluated for parkinsonism, using questionnaires, extensive examinations at our research center and follow-up of medical records.</p>
Requirements of candidate:	<ul style="list-style-type: none"> • We are looking for a highly motivated, hardworking student to join our international and multidisciplinary team. Due to the nature of the project and data, strong statistical skills and good communication skills are required. • The student should have completed an MD or MSc in Neurosciences, Psychology, Health Sciences, Epidemiology, or a related field. A good command of English is required (level of IELTS 7.0 (min 6.0 for all subs) or TOEFL 100 (min 20 for all subs)). • Within the project the student will have access to the Rotterdam Study data, training in

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	epidemiology and statistics, and the broader Erasmus MC research infrastructure. The scholarship will, at least, have to cover subsistence allowance and international air plane ticket. We are happy to help with the scientific part of your scholarship proposal, please contact prof.dr. M.K. Ikram (m.ikram@erasmusmc.nl)
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Application requirements & Deadlines:

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

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