

# PhD Project Description

<b>School/Department:</b> <i>Dept of Epidemiology and Dept Cardiology, Erasmus MC</i>	
<b>Supervisors information:</b>	<ul style="list-style-type: none"> <li>• <b>Dr. Maryam Kavousi, MD, PhD</b></li> <li>• <b>Email:</b> <a href="mailto:m.kavousi@erasmusmc.nl">m.kavousi@erasmusmc.nl</a></li> <li>• <b>Website:</b> <a href="https://www.erasmusmc.nl/en/research/groups/cardiometabolic-epidemiology">https://www.erasmusmc.nl/en/research/groups/cardiometabolic-epidemiology</a></li> <li>• <b>Grants and Awards:</b> <ul style="list-style-type: none"> <li>- AXA Research Fund (2012)</li> <li>- IDF (2014)</li> <li>- Prestigious UNESCO-Loreal Fellowship 'For Women in Science' (2014)</li> <li>- Prestigious ZonMw VENI Grant (2015)</li> <li>- COLCIENCIAS (2016)</li> <li>- Erasmus MC Mrace Grant (2016, 2019)</li> <li>- Netherlands Organisation for Scientific Research (2017, 2017, 2019, 2020, 2020)</li> <li>- Dutch Heart Foundation (2017, 2019, 2020)</li> <li>- NIH (2019, 2020)</li> <li>- European Commission Horizon 2020 (2020)</li> <li>- European Commission Horizon 2020 – Innovative Medicines Initiative (IMI) (2020)</li> <li>- European Society of Cardiology Viviane Conraads Outstanding Achievement Award (2020)</li> <li>- Young Academy of The Royal Netherlands Academy of Arts and Sciences (2020)</li> <li>- Dutch Cardiovascular Alliance (2020)</li> </ul> </li> <li>• <b>Most important publications:</b> <ul style="list-style-type: none"> <li>- <b>BMC Medicine</b> 2020; 18:263.</li> <li>- <b>Heart</b> 2020; 1062:133-9. / 2019;105:1414-22.</li> <li>- <b>Lancet</b> 2019;394:2173-83.</li> <li>- <b>Circulation</b> 2019;139:e1019-20.</li> <li>- <b>JACC</b> 2019;74:1420-21.</li> <li>- <b>Diabetologia</b> 2019;62:1581-90.</li> <li>- <b>Circulation Research</b> 2017 121:1392-400</li> <li>- <b>JAMA Cardiology</b> 2017 2:986-94.</li> <li>- <b>JAMA</b> 2016 316:2126-34. / 2014 311:1416-23.</li> <li>- <b>JAMA Cardiology</b> 2016 1:767-76.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Professor Dirk J.G.M Duncker, MD, PhD</b></li> <li>• <b>Email:</b> <a href="mailto:d.duncker@erasmusmc.nl">d.duncker@erasmusmc.nl</a></li> <li>• <b>Website:</b> <a href="https://www.erasmusmc.nl/en/research/departments/cardiology">https://www.erasmusmc.nl/en/research/departments/cardiology</a></li> <li>• <b>Grants and Awards:</b> <ul style="list-style-type: none"> <li>- NATO Science Fellowship (1991)</li> <li>- American Heart Association (1992, 1994)</li> <li>- Royal Dutch Academy of Sci. Fellowship (1995)</li> <li>- Dutch Heart Foundation (1999, 2007)</li> <li>- Prestigious Dutch Heart Foundation Established Investigator Fellowship (2000)</li> <li>- Erasmus MC Grant (2008)</li> <li>- European Space Agency Grant (2004)</li> <li>- US Navy Grant (2007)</li> <li>- Center for Translational Mol. Med. Grant (2008)</li> <li>- EU-FP7-Health-2010 Grant (2010)</li> <li>- Dutch CV Research Grants (2012, 2014, 2017)</li> <li>- Wellcome Trust Grant (2017)</li> <li>- Prestigious Gabor Kaley Award from the American Physiological Society and the Microcirculatory Society (2020)</li> </ul> </li> <li>• <b>Most important publications:</b> <ul style="list-style-type: none"> <li>- <b>Circ Res</b> 2007;100:1079-88 / 2008;102:795-803</li> <li>- <b>Physiol Rev</b> 2008;88:1009-86</li> <li>- <b>Circ Heart Fail</b> 2009;2:233-42 / 2016;18:588-98</li> <li>- <b>Circulation</b> 2012;126:468-78</li> <li>- <b>Comprehensive Physiology</b> 2012;2:321-447</li> <li>- <b>JACC Cardiovasc Interv</b> 2015;8:1990-99</li> <li>- <b>Basic Res Cardiol</b> 2016;111:61 / 2020:115:21</li> <li>- <b>Cardiovasc Res</b> 2018;114:954-64.</li> <li>- <b>Cardiovasc Res</b> 2020;116:741-755 / 756-770</li> <li>- <b>Eur Heart J</b> 2015;36:3134-46 / 2017;38:1951-58</li> <li>- <b>Eur Heart J</b> 2020;41:1687-96 / 2020 (PMID32626906)</li> <li>- <b>Eur J Heart Fail</b> 2018;20:89-96</li> <li>- <b>Braunwald's Heart Disease</b> 11<sup>th</sup> Ed, 2018, Ch 57</li> <li>- <b>ESC Textbook of Sports Cardiol</b> 2019 Ch 1.2.4</li> </ul> </li> </ul>
<b>Project Title:</b>	<b><i>The failing heart: ageing-associated cardiovascular changes in women and men</i></b>
<b>Abstract:</b>	<p>Heart failure is largely known as a disease of the elderly. It has turned out as a global pandemic affecting at least 26 million people worldwide and is increasing in prevalence. Heart failure is associated with substantial morbidity and mortality, despite advances in medical therapy. Aging denotes a convergence of diminishing cardio-protective mechanisms and growing disease processes that contributed to development of heart failure. This project outlines the link between (normal) aging and the increased risk for deterioration of cardiovascular function and development of heart failure. We will focus on microscopic and macroscopic changes in cardiovascular structure and function, cardio-protective mechanisms, and diseases associated with aging. The project will be conducted at the intersection of the two departments of Experimental Cardiology (Professor Dirk Duncker) and Epidemiology (Dr. Maryam Kavousi) and will cover the epidemiology, pathophysiology, and prognosis of heart failure from basic laboratory studies (Experimental Cardiology) to population-based studies (Department of Epidemiology). Due to differences in cardiovascular structure and function between women and men, we will take a sex-specific approach throughout the project. This project aims to increase our understanding of ageing process and transition from a healthy heart to the development of heart failure and would aid in appropriate and effective primary prevention strategies for both women and men.</p>
<b>Requirements of candidate:</b>	<ul style="list-style-type: none"> <li>• We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills.</li> <li>• Master degree or MD – preferably with basic skills in laboratory molecular techniques and</li> </ul>

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	<p>epidemiology</p> <ul style="list-style-type: none"><li>• Scholarship that will, at least, cover subsistence allowance and international airplane ticket (we could help with the scientific part of your scholarship proposal)</li><li>• English language requirement:<ul style="list-style-type: none"><li>○ <i>English speaking countries &amp; Netherlands</i>: no requirement</li><li>○ <i>Other countries</i>: IELTS 7.0 (<i>min 6.0 for all subs</i>), TOEFL 100 (<i>min 20 for all subs</i>)</li></ul></li></ul>
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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>