

## PhD Project Description

<b>School/Department:</b>	<b>Department of Internal Medicine, Erasmus MC, The Netherlands</b>
<b>Supervisor information:</b>	<ul style="list-style-type: none"> <li>• Prof. Dr. Joyce B.J. van Meurs (<a href="mailto:j.vanmeurs@erasmusmc.nl">j.vanmeurs@erasmusmc.nl</a>) associate professor</li> <li>• Dr. Cindy Boer (<a href="mailto:c.boer@erasmusmc.nl">c.boer@erasmusmc.nl</a>) Postdoctoral researcher</li> <li>• <b>Website:</b> <a href="http://www.glimdna.org">http://www.glimdna.org</a> ; <a href="https://www.linkedin.com/in/joyce-van-meurs-78171313/">https://www.linkedin.com/in/joyce-van-meurs-78171313/</a>;</li> <li>• <b>Key words:</b> Large scale population genomics, novel analytic techniques, international and multidisciplinary collaboration, learning environment</li> <li>• <b>Grants:</b> <ul style="list-style-type: none"> <li>- NWO-VIDI (prestigious Dutch personal grant): €900K</li> <li>- H2020 EU: €1500K of in total €1200K</li> <li>- National Heart, Lung and blood institute (NIH, USA):\$350K of in total \$5000K</li> <li>- BBMRI-NL roadmap: €2500K</li> <li>- Multiple ZONMW-grants (Dutch Government funding scheme) In total &gt;€1000K</li> <li>- Erasmus strategic grant: €500K</li> </ul> </li> <li>• <b>Most important publications:</b> <ol style="list-style-type: none"> <li>1. <b>New Engl J Med</b> 350(20):2033-41 (2004) [IF07 : 52.6]</li> <li>2. <b>Nat Genet.</b> 2013;45(10):1238-43. [IF14:31.6]</li> <li>3. <b>Proc Natl Acad Sci, 2012 22;109(21):8218-23</b> [IF10:9.9]</li> <li>4. <b>Nature.</b> 2017 Jan 5;541(7635):81-86. [IF17:41.6]</li> <li>5. <b>Nat Commun.</b> 2015;6 [IF14:11.3]</li> <li>6. <b>Nat Commun.</b> 2019 Oct 25;10(1):4881. [IF17:11.9]</li> <li>7. <b>Genome Biol.</b> 2019 Nov 14;20(1) [IF17:13.2]</li> <li>8. <b>Nat Genet.</b> 2017 Jan;49(1):131-138. [IF17:27.1]</li> <li>9. <b>Nat Genet.</b> 2017 Jan;49(1):139-145 . [IF17:27.1]</li> <li>10. <b>Lancet.</b> 2010 Jul 17;376(9736):180-8 [IF10: 33.6]</li> <li>11.</li> </ol> </li> </ul>
<b>Project Title:</b>	<b><i>Large scale functional population genomics to unravel mechanisms of locomotor diseases</i></b>
<b>Abstract:</b>	<p>The Genetic Laboratory of the Department of Internal Medicine has a longstanding tradition and reputation in genomics research, positioned as one of the leading centers in the field of genomics of complex diseases worldwide, with particular focus on locomotor diseases. Prof. Joyce van Meurs has excellent track record in population genetics and genomics studies in osteoarthritis, chronic pain and biological aging. We offer an interesting and challenging position in a multidisciplinary research environment.</p> <p>The project focusses on combining and examining multiple molecular level data ((epi)genetics, transcriptomics, proteomics, metabolomics, microbiome) to understand mechanisms of diseases of the locomotor system, such as chronic pain and osteoarthritis.</p> <p>The hallmark of population genomics research is the agnostic, large-scale nature of the data, which allows for novel biological pathways to be discovered. The project is embedded within well-known large scale population studies (Rotterdam Study and Generation R), which have comprehensive phenotyping (including detailed imaging data) as well as a wealth of molecular data available. We also have full access to the UK-biobank data a frequently utilized database for genomics studies. Research will take place in multidisciplinary international consortia, in which the group is well-known and has a leading role. You will explore the available molecular and detailed phenotype data using state-of-the-art analysis techniques (including machine-learning/AI/MR).</p> <p>The aim is to translate the findings of our population genomics studies into two directions:</p> <ol style="list-style-type: none"> <li>1. Mechanic studies where cell models are used to further study the identified mechanisms; this includes using IPS-cells as a personalized model for disease (done in collaboration with cell biology lab)</li> <li>2. Application of novel findings into clinic in collaboration with clinical departments.</li> </ol>

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<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</li><li>• Scholarship that will, at least, cover subsistence allowance and international air plane 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>