

# PhD Project Description

School/Department	Dept Internal Medicine, Endocrinology, Erasmus MC
<b>Supervisor information:</b>	<ul style="list-style-type: none"> <li>• Prof dr R.P. Peeters &amp; Dr. W.E. Visser</li> <li>• Email: <a href="mailto:r.peeters@erasmusmc.nl">r.peeters@erasmusmc.nl</a> &amp; <a href="mailto:w.e.visser@erasmusmc.nl">w.e.visser@erasmusmc.nl</a></li> <li>• Website: <a href="https://www.erasmusmc.nl/en/research/groups/thyroid-laboratory">https://www.erasmusmc.nl/en/research/groups/thyroid-laboratory</a></li> <li>• <b>Personal Grants:</b> <ul style="list-style-type: none"> <li>- ZonMW VENI grant and VIDI grant (Dutch equivalents of ERC Starting and Advanced Grant) ZonMW Clinical Fellowship, ZonMW TOP Grant, and several EU-Horizon2020 Grants</li> <li>- Erasmus MC fellowship</li> </ul> </li> <li>• <b>Most important publications:</b> <ul style="list-style-type: none"> <li>- Peeters RP. Subclinical Hypothyroidism. <b>N Engl J Med.</b> 2017 376(26):2556-2565 &amp; <b>N Engl J Med.</b> 2017 377(14):1404.</li> <li>- Korevaar TIM, Medici M, Visser TJ, Peeters RP. Thyroid disease in pregnancy: new insights in diagnosis and clinical management. <b>Nature Rev Endocrinol.</b> 2017 13(10):610-622.</li> <li>- Chaker L, Bianco AC, Jonklaas J, Peeters RP. Hypothyroidism. <b>Lancet.</b> 2017</li> <li>- Teumer A, Chaker L, Groeneweg S, ....., Peeters RP, Naitza S, Völzke H, Sanna S, Köttgen A, Visser TJ, Medici M. Genome-wide analyses identify a role for SLC17A4 and AADAT in thyroid hormone regulation. <b>Nature Commun.</b> 2018 Oct 26;9(1):4455.</li> <li>- Maternal thyroid function during pregnancy and child brain morphology: a time window-specific analysis of a prospective cohort. Jansen TA, Korevaar TIM, Mulder TA, White T, Muetzel RL, Peeters RP, Tiemeier H. <b>Lancet Diabetes Endocrinol.</b> 2019 Aug;7(8):629-637.390(10101):1550-1562.</li> <li>- Effectiveness and safety of the tri-iodothyronine analogue Triac in children and adults with MCT8 deficiency: an international, single-arm, open-label, phase 2 trial. Groeneweg S, Peeters RP, Moran C, ....., Polak M, Chatterjee K, Visser TJ, Visser WE. <b>Lancet Diabetes Endocrinol.</b> 2019 Sep;7(9):695-706.58</li> <li>- Association of Thyroid Function Test Abnormalities and Thyroid Autoimmunity With Preterm Birth: A Systematic Review and Meta-analysis. Consortium on Thyroid and Pregnancy—Study Group on Preterm Birth, Korevaar TIM, Derakhshan A, Taylor PN, Meima M, ..., Steegers EAP, Peeters RP. <b>JAMA.</b> 2019 Aug 20;322(7):632-641</li> <li>- Groeneweg S, Van Geest FS, .... Visser WE. Disease characteristics of MCT8 deficiency: an international, retrospective, multicentre cohort study. <b>Lancet Diabetes Endocrinol</b> 2020 July 8(7):594-605</li> </ul> </li> </ul>
<b>Project Title:</b>	<b>Consequences of thyroid dysfunction for development, metabolism and aging</b>
<b>Abstract:</b>	<p>Thyroid hormone is essential for normal development, metabolism and adequate function of all cells and tissues. Thyroid dysfunction is a very prevalent disorder, with hypothyroidism affecting circa 5% of the population.</p> <p>We study the consequences of disturbances of thyroid hormone action at multiple levels. In close collaboration with the department of epidemiology, we study the consequences of mild alterations in thyroid function on child development <sup>(Lancet Diab &amp; Endo 2019)</sup> and pregnancy outcome <sup>(JAMA 2019)</sup> in the large population-based birth cohort Generation R, whereas we study the consequences of thyroid dysfunction on the aging process <sup>(JAMA Intern Med 2017 &amp; Circ Res 2017)</sup> in the population-based Rotterdam Study. We closely collaborate with other renowned population-based studies across Europe and United States and initiated two consortia <sup>(JAMA 2019 &amp; Nat Comm 2018)</sup>.</p> <p>We have several research projects in which we investigate normal and defective thyroid hormone signaling at the molecular level. We discovered different thyroid hormone signaling disorders, e.g due to defective cellular transport (MCT8 deficiency, <sup>Lancet 2004; Lancet Diab&amp;Endo 2020</sup>) or defective receptor signaling <sup>(NEJM 2012)</sup>. We investigate mechanisms of disease through utilizing patient-derived induced pluripotent stem cells. We pursue therapy development programs and are in the lead of several international clinical trials <sup>(Lancet Diab &amp; Endo 2019)</sup>.</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 to use team work to tackle large scientific questions, thus requiring good communication skills. Projects are available focusing on epidemiology or molecular biology.</li> <li>• Master degree or MD</li> <li>• Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we can help with the scientific part of your scholarship proposal)</li> <li>• English language requirement:</li> <li>• <i>English speaking countries &amp; Netherlands:</i> no requirement</li> <li>• <i>Other countries:</i> IELTS 7.0 (min 6.0 for all subs), TOEFL 100 (min 20 for all subs)</li> </ul>

Erasmus MC, ranked world no. 32 for [Clinical Medicine US News 2020](#) no. 30 [Nature Index for Biomedical Sciences 2019](#)

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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>