

Erasmus University Rotterdam, the Netherlands
CSC PhD 2015 Project Description

School/Department:	Erasmus University Medical Center Netherlands Institute of Health Sciences Department of Pediatrics – divisions Pulmonology and Neonatology Department of Epidemiology
Project Title:	Fetal and infant origins of chronic respiratory diseases
Abstract:	Chronic respiratory diseases often begin in childhood and account for a high morbidity rate worldwide. Adverse fetal and infant exposures lead to higher risks of chronic respiratory diseases in later life. This research programme uses an epidemiological life-course approach from early fetal life onwards and is designed to explore the underlying mechanisms. Main outcomes of interest include bronchopulmonary dysplasia, asthma and asthma-related diseases such as allergy and eczema, and other chronic respiratory diseases in different stages across the life course. Main exposures are preterm birth, small size at birth, maternal and child's lifestyle related factors, diet, obesity, and exposure to air pollution. Genetic and epigenetic studies are performed by up to date genome wide and epigenome wide approaches, in close collaboration with research groups around the world. Most studies are embedded in the Generation R Study, a population-based prospective cohort study. Specific interest is in the application of advanced epidemiological and statistical models to explore the causality for the observed associations. The study group comprises research with a clinical (Pediatrics, Pulmonology, Neonatology, and Obstetrics) and basic research (Epidemiology, Genetics, Statistics) background. Students will be embedded in the study group and, will as part of their PhD-training, participate in a MSc programme Epidemiology or Statistics at the Netherlands Institute of Health Sciences (www.nihes.nl).
Requirements of candidate:	Background: Medicine, Basic Epidemiology training Master degree: yes IELTS Grade: 7.0 (<i>minimal 6.0 per component</i>) Or TOEFL: 100 (<i>minimal 20 per component</i>)
Supervisor information:	Dr. Liesbeth Duijts, Pediatric pulmonologist-epidemiologist; Prof.dr. Johan C. de Jongste, Pediatric pulmonologist; Prof.dr. Irwin K. Reiss, Neonatologist. Email: l.duijts@erasmusmc.nl Phone: +31 10 70436263 Address: Department of Pediatrics, PO BOX 2060, 3000 CB, Rotterdam, the Netherlands Recent publications: see attachment

Selection of Publications last 5 years

1. Leermakers ET, der Voort AM, Gaillard R, Hofman A, de Jongste JC, Jaddoe VW, Duijts L. Sleep quality as a confounding factor of maternal weight and preschool wheezing. **Eur Respir J**. 2014 May;43(5):1543-5. IF 6.4.
2. Savenije OE, Mahachie John JM, Granell R, Kerkhof M, Dijk FN, de Jongste JC, Smit HA, Brunekreef B, Postma DS, Van Steen K, Henderson J, Koppelman GH. Association of IL33-IL-1 receptor-like 1 (IL1RL1) pathway polymorphisms with wheezing phenotypes and asthma in childhood. **J Allergy Clin Immunol**. 2014 Jul;134(1):170-7. IF 12.0.
3. Sonnenschein-van der Voort AM, Arends LR, de Jongste JC, Annesi-Maesano I, Arshad SH, Barros H, (...), Jaddoe VW, Duijts L. Preterm birth, infant weight gain and childhood asthma risk: A meta-analysis of 147,000 European children. **J Allergy Clin Immunol**. 2014 May;133(5):1317-29. IF 12.0.
4. van der Valk RJ*, Duijts L*, Timpson NJ, Salam MT, Standl M, Curtin JA, (...), Jaddoe VW, de Jongste JC, for the EG, Lifecourse Epidemiology C. Fraction of exhaled nitric oxide values in childhood are associated with 17q11.2-q12 and 17q12-q21 variants. **J Allergy Clin Immunol**. 2014 Jul;134(1):46-55. IF 12.0.
5. Bonnelykke K, Sleiman P, Nielsen K, Kreiner-Moller E, Mercader JM, Belgrave D, den Dekker HT, Husby A, Sevelsted A, Faura-Tellez G, Mortensen LJ, Paternoster L, Flaaten R, Molgaard A, Smart DE, Thomsen PF, Rasmussen MA, Bonas-Guarch S, Holst C, Nohr EA, Yadav R, March ME, Blicher T, Lackie PM, Jaddoe VW, Simpson A, Holloway JW, Duijts L, Custovic A, Davies DE, Torrents D, Gupta R, Hollegaard MV, Hougaard DM, Hakonarson H, Bisgaard H. A genome-wide association study identifies CDHR3 as a susceptibility locus for early childhood asthma with severe exacerbations. **Nat. Genetics**. 2014;46(1):51-5. IF 35.2.
6. Kerkhof M, Boezen HM, Granell R, Wijga AH, Brunekreef B, Smit HA, de Jongste JC, Thijs C, Mommers M, Penders J, Henderson J, Koppelman GH, Postma DS. Transient early wheeze and lung function in early childhood associated with chronic obstructive pulmonary disease genes. **J Allergy Clin Immunol**. 2014 Jan;133(1):68-76. IF 12.0.
7. Guxens M, Sonnenschein-van der Voort AM, Tiemeier H, Hofman A, Sunyer S, de Jongste JC, Jaddoe VW, Duijts L. Parental psychological distress during pregnancy and wheezing in preschool children. The Generation R Study. **J Allergy Clin Immunol**. 2014 Jan;133(1):59-67 e12. IF 12.0.
8. Hafkamp-de Groen E, Lingsma HF, Caudri D, Levie D, Wijga A, Koppelman GH, Duijts L, Jaddoe VW, Smit HA, Kerkhof M, Moll HA, Hofman A, Steyerberg EW, de Jongste JC, Raat H. Predicting asthma in preschool children with asthma-like symptoms: Validating and updating the PIAMA risk score. **J Allergy Clin Immunol**. 2013 Dec;132(6):1303-10 e6. IF 12.0.
9. van der Valk RJ, Kiefte-de Jong JC, Sonnenschein-van der Voort AM, Duijts L, Hafkamp-de Groen E, Moll HA, Tiemeier H, Steegers EA, Hofman A, Jaddoe VW, de Jongste JC. Neonatal folate, homocysteine, vitamin B12 levels and methylenetetrahydrofolate reductase variants in childhood asthma and eczema. **Allergy**. 2013;68(6):788-95. IF 5.9.
10. Leermakers ET, Sonnenschein-van der Voort AM, Gaillard R, Hofman A, de Jongste JC, Jaddoe VW, Duijts L. Maternal weight, gestational weight gain and preschool wheezing: the Generation R Study. **Eur Respir J**. 2013. Nov;42(5):1234-43. IF 6.4.
11. Leermakers ET, Sonnenschein-van der Voort AM, Heppe DH, de Jongste JC, Moll HA, Franco OH, Hofman A, Jaddoe VW, Duijts L. Maternal fish consumption during pregnancy and risks of wheezing and eczema in childhood: the Generation R Study. **Eur J Clin Nutr**. 2013 Apr;67(4):353-9. IF 2.8.
12. Sonnenschein-van der Voort AM, Jaddoe VW, Steegers EA, Hofman A, Moll HA, de Jongste JC, Duijts L. Fetal and infant growth and asthma symptoms in preschool children. **Am J Respir Crit Care Med**. 2012 Apr 1;185(7):731-7. Epub 2012 Jan 20.

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13. Hafkamp-de Groen E, Mohangoo AD, Landgraf JM, de Jongste JC, Duijts L, Moll HA, Jaddoe VW, Hofman A, Raat H. The impact of preschool wheezing patterns on health related quality of life at age 4 years. **Eur Respir J**. 2013 Apr;41(4):952-9. IF 6.4.
14. Sonnenschein-van der Voort AM, de Kluizenaar Y, Jaddoe VW, Gabriele C, Raat H, Moll HA, Hofman A, Pierik FH, Miedema HM, de Jongste JC, Duijts L. Air pollution, fetal and infant tobacco smoke exposure, and wheezing in preschool children: a population-based prospective birth cohort. **Environ Health**. 2012 Dec;11:91. IF 2.7.
15. Sonnenschein-van der Voort AM, Jaddoe VW, Raat H, Moll HA, Hofman A, de Jongste JC, Duijts L. Fetal and infant growth and asthma symptoms in preschool children: the Generation R Study. **Am J Respir Crit Care Med**. 2012 Apr 1;185(7):731-7. IF 11.0.
16. Sonnenschein-van der Voort AM, Jaddoe VW, van der Valk RJ, Willemsen SP, Hofman A, Moll HA, de Jongste JC, Duijts L. Duration and exclusiveness of breastfeeding and childhood asthma-related symptoms. **Eur Respir J**. 2012 Jan;39(1):81-9. Epub 2011 Jul 20.
17. Paternoster L, Standl M, Chen CM, Ramasamy A, Bonnelykke K, Duijts L, (...), Evans DM, Weidinger S, Genetics EA, Lifecourse Epidemiology C. Meta-analysis of genome-wide association studies identifies three new risk loci for atopic dermatitis. **Nat Genet**. 2012 Dec;44(2):187-92. IF 35.2.
18. Duijts L. Fetal and infant origins of asthma. **Eur J Epidemiol**. 2012 Jan;27(1):5-14. Epub 2012 Feb 18.
19. Duijts L, Jaddoe WV, van der Valk RJ, Henderson AJ, Hofman A, Raat H, Steegers EA, Moll HA, de Jongste JC. Fetal exposure to maternal and paternal smoking and the risks of wheezing in preschool children. **Chest**. 2012 Apr;141(4):876-85. Epub 2011 Sep 29.
20. Impact of airway obstruction on lung function in very preterm infants at term. Hilgendorff A, Reiss I, Gortner L, Schüler D, Weber K, Lindemann H. **Pediatr Crit Care Med**. 2008 Nov;9(6):629-35. doi: 10.1097/PCC.0b013e31818d17c8.
21. Tibboel J, Joza S, Reiss I, de Jongste JC, Post M. Amelioration of hyperoxia-induced lung injury using a sphingolipid-based intervention. **Eur Respir J**. 2013;42(3):776-84. Epub 2012/11/13.
22. Dahal BK, Kosanovic D, Kaulen C, Cornitescu T, Savai R, Hoffmann J, Reis I, et al. Involvement of mast cells in monocrotaline-induced pulmonary hypertension in rats. **Respir Res**. 2011;12:60. Epub 2011/05/04.
23. Gortner L, Reiss I. Inhaled nitric oxide for premature babies. **Lancet**. 2010;376(9757):1985; author reply -6. Epub 2010/12/15.
24. Risk factors for chronic lung disease and mortality in newborns with congenital diaphragmatic hernia. van den Hout L, Reiss I, Felix JF, Hop WC, Lally PA, Lally KP, Tibboel D; Congenital Diaphragmatic Hernia Study Group. **Neonatology**. 2010;98(4):370-80. doi: 10.1159/000316974. Epub 2010 Oct 30
25. Bronchopulmonary dysplasia and intrauterine growth restriction. Gortner L, Reiss I, Hilgendorff A. **Lancet**. 2006 Jul 1;368(9529):28