

Charting the dynamic methylome across the human lifespan Slieker, R.

Citation

Slieker, R. (2017, February 9). *Charting the dynamic methylome across the human lifespan*. Retrieved from https://hdl.handle.net/1887/45888

Version:	Not Applicable (or Unknown)
License:	<u>Licence agreement concerning inclusion of doctoral thesis in the</u> <u>Institutional Repository of the University of Leiden</u>
Downloaded from:	https://hdl.handle.net/1887/45888

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <u>http://hdl.handle.net/1887/45888</u> holds various files of this Leiden University dissertation

Author: Slieker, Roderick Title: Charting the dynamic methylome across the human lifespan Issue Date: 2017-02-09

Charting the dynamic methylome across the human lifespan

Roderick Corneille Slieker

Scientific research is one of the most exciting and rewarding of occupations. It is like a voyage of discovery into unknown lands, seeking not for new territory but for new knowledge. It should appeal to those with a good sense of adventure.

Frederick Sanger, 1980

Charting the dynamic methylome across the human lifespan R.C. Slieker, MSc ISBN: 978-94-6233-510-3

© 2016 R.C. Slieker

All rights reserved. No part of this thesis may be reproduced, stored in a retrieval system or transmitted in any form by any means, without the permission of the author, or when appropriate, of the publisher of the represented published articles.

Cover: 'EpiGeneScape III' (proof) A mixed media print and animated model from a series titled 'EpiGeneScapes'. Produced by Paul Liam Harrison, Mhairi Towler and Link Li as part of Paul's EpiGeneSys European Network project with whom he is Resident Artist. The work is featured as part of Paul's exhibition 'Hashtag: Visions of Epigenetics' at the Cite Internationale des Art in Paris 2015.

Printed by: Gildeprint - The Netherlands

Charting the dynamic methylome across the human lifespan

Proefschrift

ter verkrijging van de graad van Doctor aan de Universiteit Leiden, op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker, volgens besluit van het College voor Promoties te verdedigen op donderdag 9 februari 2017 klokke 15:00 uur

door

Roderick Corneille Slieker

Geboren te Veenendaal in 1986 Promotor

Co-promotor

Leden promotiecommissie

Prof. dr. P.E. Slagboom

Dr. B.T. Heijmans

Prof. dr. J.J. Goeman

Prof. dr. M.G. Rots University Medical Centre Groningen

Prof. dr. G. de Haan University Medical Centre Groningen

Content

Chapter 1	Introduction	9
Chapter 2	Identification and systematic annotation of tissue- specific differentially methylated regions using the Illumina 450k array	23
Chapter 3	DNA methylation landscapes of human fetal development	41
Chapter 4	Age-related accrual of methylomic variability links to fundamental ageing mechanisms	61
Chapter 5	Age-related DNA methylation changes are tissue-specific but share functional elements	83
Chapter 6	General discussion	99
Chapter 7	Nederlandse samenvatting	115
Chapter 8	Nawoord Curriculum Vitae Appendices	121
Chapter 9	Appendices	129