

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/20506> holds various files of this Leiden University dissertation.

**Author:** Aten, Emmelien

**Title:** New techniques to detect genomic variation

**Issue Date:** 2013-02-07

# New techniques to detect genomic variation

Emmelien Aten

ISBN: 978-94-6191-547-4

Cover design & lay-out: Esther Beekman ([www.estherontwerpt.nl](http://www.estherontwerpt.nl))

Printed by: Ipskamp Drukkers BV, Enschede, The Netherlands

© 2012, Emmelien Aten, Leiderdorp

# New techniques to detect genomic variation

Proefschrift

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van Rector Magnificus prof.mr. P.F. van der Heijden,  
volgens besluit van het College voor Promoties  
te verdedigen op donderdag 7 februari 2013  
klokke 16.15 uur

door

Emmelien Aten  
geboren te Amersfoort  
in 1978

## **Promotiecommissie**

Promotores: Prof. dr. M.H. Breuning  
Prof. dr. J.T. den Dunnen

Overige leden: Prof. dr. M.H. Vermeer  
Prof. dr. R.C.M. Hennekam  
(Academic Medical Center, Amsterdam)  
Prof. dr. J.H.L.M. van Bokhoven  
(Radboud University Medical Center, Nijmegen)

The research presented in this thesis was performed at the Department of Human and Clinical Genetics, Leiden University Medical Center.



TCCGAGGTTCCCTGGGA  
TCCGAGGTTCCCTGGGA  
GTTCTTCCGAGGTTTC  
AATGAGGAATCCGCCG  
GTGAGAGGCCCCGTCT  
GTACCTACTGAGGTTTC  
GAGTTATGGTTTCCCTT  
TCCGAGGTTGTAAATTT  
AAAATTTGAAAATCTGG  
TGCCTACTGAGGTTCC  
GTGCCTACTGAGGTTTC  
GAGCCCCGTCTGGTA  
GTTCTTCCGAGGTTTC  
GGTTCTTCCGAGTT  
TTCCTTCCGACTTC

# Table of contents

<b>Chapter 1</b>	General introduction	9
<b>Chapter 2</b>	Methods to detect CNVs in the human genome <i>Cytogenet Genome Res. 2008;123(1-4):313-21.</i>	45
<b>Chapter 3</b>	SHFM, tetralogy of Fallot, mental retardation and a 1Mb 19p deletion <i>Am J Med Genet A. 2009;149A(5):975-81.</i>	67
<b>Chapter 4</b>	High-Resolution Melting Analysis (HRMA) - more than sequence variant screening only <i>Human Mutation. 2009;30(6):860-6.</i>	83
<b>Chapter 5</b>	Keratosis Follicularis Spinulosa Decalvans is caused by mutations in MBTPS2 <i>Human Mutation. 2010;31(10):1125-33.</i>	105
<b>Chapter 6</b>	Terminal Osseous Dysplasia is caused by a single recurrent mutation in the FLNA gene <i>Am J Hum Genet. 2010;87(1):146-53.</i>	131
<b>Chapter 7</b>	Exome sequencing identifies a branch point variant in Aarskog-Scott syndrome <i>Human Mutation. 2012. In Press.</i>	151
<b>Chapter 8</b>	Mutations in SWI/SNF chromatin remodelling complex gene ARID1B cause Coffin-Siris Syndrome <i>Nature Genetics. 2012;44(4):379-80.</i>	169
<b>Chapter 9</b>	General Discussion	185
	Summary	199
	Nederlandse samenvatting	203
	List of publications	209
	Dankwoord	213
	Curriculum Vitae	219
	List of abbreviations	221
	Addendum (color figures)	224