University of Groningen

Genetic Determinants of Atrial Fibrillation

Siland, Joylene

DOI:
[10.33612/diss.177557355](https://doi.org/10.33612/diss.177557355)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2021

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Siland, J. (2021). *Genetic Determinants of Atrial Fibrillation: converging genetic and clinical information*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.
<https://doi.org/10.33612/diss.177557355>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

**rijksuniversiteit
 groningen**

Genetic Determinants of Atrial Fibrillation

Converging genetic and clinical information

Proefschrift

ter verkrijging van de graad van doctor aan de
Rijksuniversiteit Groningen
op gezag van de
rector magnificus prof. dr. C. Wijmenga
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

woensdag 1 september 2021 om 14.30 uur

door

Joylene Elisabeth Siland

geboren op 24 mei 1993
te Gorinchem

Promotor(es)

Prof. dr. M. Rienstra

Prof. dr. P. van der Harst

Prof. dr. I. C. van Gelder

Beoordelingscommissie

Prof. dr. R. B. Schnabel

Prof. dr. H. J. G. M. Crijns

Prof. dr. M. P. van den Berg

Paranimfen

Drs. B. O. Nguyen

Drs. M. A. Bayón

The research described in this thesis was supported by a grant of the Dutch Heart Foundation (NHS2010B280). Financial support by the Dutch Heart Foundation for the publication of this thesis is gratefully acknowledged. The dissertation was made possible by the Dutch Heart Foundation.

TABLE OF CONTENTS

PART I - Genetics and determinants of incident atrial fibrillation	9
Chapter 1. Introduction	11
Published in part as: Atrial fibrillation genetics update: towards clinical implementation	
<i>Frontiers Cardiovascular Medicine 2019</i>	
Chapter 2. Telomere length and incident atrial fibrillation	37
– data of the PREVEND cohort	
<i>PLOS ONE 2017</i>	
Chapter 3. Resting heart rate and incident atrial fibrillation: a stratified Mendelian randomization in the AFGen consortium	59
<i>Submitted</i>	
PART II – Genetics and determinants of atrial fibrillation after initial diagnosis	91
Chapter 4. Clinical, biomarker and genetic predictors of specific types of atrial fibrillation in a community-based cohort: data of the PREVEND study	93
<i>Europace 2017</i>	
Chapter 5. Genetically-determined body mass index and the risk of atrial fibrillation progression in men and women	113
<i>PLOS ONE 2021</i>	
Chapter 6. Atrial fibrillation and left atrial size and function: a Mendelian randomization study	139
<i>Scientific Reports 2021</i>	
Chapter 7. Discussion and future perspectives	157
Published in part as: Role of genetics in atrial fibrillation management	
<i>Europace 2021</i>	
Appendices. Dutch summary Nederlandse samenvatting	180
Acknowledgements Dankwoord	188
Bibliography	194
Biography	197

PART I

GENETICS AND DETERMINANTS OF INCIDENT ATRIAL FIBRILLATION