



Universiteit  
Leiden  
The Netherlands

**Right on track: Towards improving DBS patient selection and care**  
Geraedts V.J.

**Citation**

*Right on track: Towards improving DBS patient selection and care.* (2020, October 27). *Right on track: Towards improving DBS patient selection and care.* Retrieved from <https://hdl.handle.net/1887/137982>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/137982>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/137982> holds various files of this Leiden University dissertation.

**Author:** Geraedts, V.J.

**Title:** Right on track: Towards improving DBS patient selection and care

**Issue Date:** 2020-10-27

## Dankwoord

Dit proefschrift was niet tot stand gekomen zonder de hulp van een groot aantal mensen.

**Alle patiënten**, bedankt voor deelname aan de studies en het beschikbaar stellen van uw data.

**Bob van Hilten**, bedankt voor de mogelijkheid om in jouw team onderzoek te verrichten en voor je vertrouwen waarmee ik als onderzoeker en arts heb kunnen groeien.

**Fiorella Contarino**, bedankt voor de kritische en zorgvuldige houding ten aanzien van elk project, waardoor ten alle tijden de kwaliteit van het onderzoek verbeterd werd.

**Martijn Tannemaat**, bedankt voor het aanwakkeren van het enthousiasme ten aanzien van de EEGs en het vooruitzicht van nog meer neurofysiologische projecten. Het EEG was het meest uitdagende facet van dit proefschrift.

**Han Marinus**, bedankt voor je methodologische begeleiding en praktische blik op alle onderzoeken, evenals het zetten in de richting van de Epidemiologie opleiding.

**Gerty Hendriks**, bedankt voor alle logistieke ondersteuning en jouw inzicht vanuit een andere hoek tijdens de onderzoeken.

**Günter Stalla, Caroline Sievers, Ron de Kloet**, dank euch hat mich Forschung überhaupt begeistert. Ohne euch hätte ich vielleicht nie angefangen.

**Collega's, coauteurs, studenten, verpleegkundigen, secretaresses en laboranten**, bedankt voor jullie interesse, samenwerking, afleiding en gezelligheid.

**Ouders en familie**, bedankt voor de interesse in alle projecten. Ook al was het soms even onduidelijk met welke afkorting ik op een willekeurig moment bezig was (DBS, EEG, EPI, enz.), uiteindelijk wisten jullie toch altijd wanneer de projecten geland waren.

**Tim en Jeroen**, bedankt dat jullie straks als paranimfen tijdens mijn verdediging naast mij staan. Na alle discussie over de proefschrift-inhoud kunnen jullie vast alle vragen zelf beantwoorden.

**Katrien**, bedankt voor alles! Zonder jou was niets van dit alles mogelijk geweest. Boven alles bedankt voor het met 'ja' beantwoorden van de allerbelangrijkste vraag die ik ooit gesteld heb.



## Curriculum Vitae

Victor J. Geraedts (September 16<sup>th</sup>, 1991) was born in Zoetermeer, the Netherlands. In 2009, he completed his pre-university education and started his study Biomedical Sciences at Leiden University. In 2012, he started his study Medicine at Leiden University concomitantly. For his Bachelor thesis, he started working on the *Profiling Parkinson's Disease* (PROPARK) study under supervision of prof. dr. J.J. van Hilten, and was later awarded the prof. E.L. Noach research prize for his thesis. In 2012, he started the Master Biomedical Sciences 'Health', and in 2013 the Master Medicine, both at Leiden University. In 2014, he performed his first Master thesis at the Max-Planck-Institute of Psychiatry in Munich, Germany under supervision of prof. dr. G.K. Stalla and dr. C.S. Sievers, on the subject of Quality of Life in pituitary adenomas. After finalizing this thesis, he was given a contract to continue his research, with a particular focus on Acromegaly. His second Master thesis was at the Leiden University Medical Centre under supervision of prof. dr. J.J. van Hilten and dr. M.R. Tannemaat, on the subject of quantitative EEG in Parkinson's Disease patients. In 2017, he graduated both the Master Biomedical Sciences and the Master Medicine.

After graduation, he started his PhD project at the department of Neurology under supervision of prof. dr. J.J. van Hilten, dr. M.F. Contarino, and dr. M.R. Tannemaat, on the *Optimizing Patient Selection for Deep Brain Stimulation of the Subthalamic Nucleus in Parkinson's Disease* (OPTIMIST) study. In 2019, he concomitantly started his training to become a registered Epidemiologist at the department of Clinical Epidemiology. During his PhD, he focussed on studying potential improvements of Deep Brain Stimulation (DBS) care and translate research findings directly to clinical practice in movement disorders, as well as studying the practical utility of quantitative EEG during the screening for DBS. Part of this thesis (Chapter 7) was awarded the Storm van Leeuwen – Magnus Prize in 2018. Victor currently works as a researcher on several projects related to prediction modelling of DBS effects in both patients and caregivers, and automated assessment of Clinical Neurophysiology metrics.

Victor is an enthusiastic marathon-runner and currently lives in Zoetermeer with his wife Katrien.

## Publications

- Kefalas M, Koch M, **Geraedts VJ**, Wang H, Bäck THW, Tannemaat MR. Automated Machine Learning for the classification of normal and abnormal Electromyography data. *Under review*.
- Yin Z & **Geraedts VJ** & Wang Z, Contarino MF, Dibeklioglu H, van Gemert J. Assessment of Parkinson's Disease severity from videos using deep architectures. *Under review*.
- **VJ Geraedts**, van Ham RAP, van Hilten JJ, Mosch A, Hoffmann CFE, van der Gaag NA, Contarino MF. Difference in thresholds for side effects between intraoperative test stimulation and postoperative stimulation after pallidal and thalamic Deep Brain Stimulation. *Under review*.
- Van Hienen MM, Contarino MF, Middelkoop HAM, van Hilten JJ, **Geraedts VJ**. Effect of deep brain stimulation on caregivers of patients with Parkinson's Disease: a systematic review. *Under review*.
- **Geraedts VJ**, Koch M, Contarino MF, Middelkoop HAM, Wang H, van Hilten JJ, Bäck THW, Tannemaat MR. Machine learning for automated EEG-based biomarkers of cognitive impairment in Deep Brain Stimulation candidates with Parkinson's Disease. *Under review*.
- Van 't Westende C, Peeters-Scholte CMPCD, Jansen L, Van Egmond-van Dam JC, Tannemaat MR, Wiggers-de Bruine ST, Van den Berg-Huysmans AA, **Geraedts VJ**, Gouw AA, Steggerda SJ, Stam CJ, Van de Pol LA. The Degree of Prematurity Affects Functional Brain Activity in Preterm Born Children at School-Age: an EEG study. *Early Hum Dev* 2020.
- **Geraedts VJ**, Feleus S, Marinus J, van Hilten JJ, Contarino MF. What predicts Quality of Life after STN DBS in Parkinson Disease? A systematic review. *Eur J Neurol* 2019.
- Van Prooijje TH & **Geraedts VJ**, de Bie RMA, van Hilten JJ & Post B. Farmacologische behandeling bij de Ziekte van Parkinson: op zoek naar de balans. *Tijdschrift voor de Neurologie en Neurochirurgie* 2019.
- Koch M, **Geraedts VJ**, Wang H, Tannemaat MR, Bäck THW. Automated Machine Learning for EEG-Based Classification of Parkinson's Disease Patients. *IEEE International Conference on Big Data* 2019.

- 
- Khodakarami H, Ricciardi L, Contarino MF, Pahwa R, Lyons KE, **Geraedts VJ**, Morgante F, Leake A, Paviour D, De Angelis A, Horne M. Prediction of the levodopa challenge test in Parkinson's Disease using data from a wrist-worn sensor. *Sensors* 2019.
  - **Geraedts VJ**, van Hilten JJ, Contarino MF, Tannemaat MR. Unravelling the Parkinson's Disease network: Taking the connectome beyond the brain. *Clin Neurophysiol* 2019.
  - **Geraedts VJ**, van Hilten JJ, Marinus J, Mosch A, Naarding KJ, Hoffmann CFE, van der Gaag NA, Contarino MF. Stimulation challenge test after STN DBS improves postoperative satisfaction in Parkinson's Disease patients. *Parkinsonism Relat Disord* 2019.
  - **Geraedts VJ**, Kuijf M, Marinus J, van Hilten JJ, Oosterloo M, Contarino MF. Selecting candidates for Deep Brain Stimulation in Parkinson's Disease: the role of patients' expectations. *Parkinsonism Relat Disord* 2019.
  - **Geraedts VJ**, van Ham RAP, Marinus J, van Hilten JJ, Hoffmann CFE, van der Gaag NA, Contarino MF. Intraoperative test stimulation of the subthalamic nucleus reduces the search space for chronic stimulation settings in Parkinson's disease. *Parkinsonism Relat Disord*. 2019 May.
  - Boon LI, **Geraedts VJ**, Hillebrand A, Tannemaat MR, Contarino MF, Stam CJ, Berendse HW. A systematic review of MEG-based studies in Parkinson's disease: The motor system and beyond. *Hum Brain Mapp* 2019.
  - **Geraedts VJ**, Boon LI, Marinus J, Gouw AA, van Hilten JJ, Stam CJ, Tannemaat MR, Contarino MF. Clinical correlates of quantitative EEG in Parkinson's disease: a systematic review. *Neurology* 2018.
  - Dekker L & **Geraedts VJ**, Hund H, Cannegieter SC, Nogueira R, Goyal M, van den Wijngaard IR. Importance of reperfusion status after intra-arterial thrombectomy for prediction of outcome in anterior circulation large vessel stroke. *Interv Neurol* Apr 2018.
  - **Geraedts VJ**, Marinus J, Gouw AA, Mosch A, Stam CJ, van Hilten JJ, Contarino MF, Tannemaat MR. Quantitative EEG reflects Non-Dopaminergic Disease Severity in Parkinson's Disease. *Clin Neurophysiol*. 2018.
  - **Geraedts VJ**, Andela CD, Sievers C, Stalla GK, van Furth WR, Pereira AM, Biermasz NR. Predictors of quality of life in acromegaly: no consensus on biochemical parameters.

Front Endocrinol (Lausanne) 2017.

- Van der Heeden JF, Marinus J, Martinez-Martin P, Rodriguez-Blazquez C, **Geraedts VJ**, Van Hilten JJ. Postural instability and gait are associated with severity and prognosis of Parkinson Disease. *Neurology* 2016.
- Dimopoulou C, **Geraedts V**, Stalla GK, Sievers C. Neuropsychiatric and cardiometabolic comorbidities in patients with previously diagnosed Cushing's disease: a longitudinal observational study. *BMJ Open* 2015.
- **Geraedts VJ**, Dimopoulou C, Auer M, Schopohl J, Stalla GK, Sievers C. Health Outcomes in Acromegaly: Depression and Anxiety are Promising Targets for Improving Reduced Quality of Life. *Front Endocrinol (Lausanne)* 2014.