
CURRICULUM VITAE

February 2019

Personal information

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Education

2001 – 2005 PhD-position “Hierarchical organization of the circadian timing system” at the Laboratory for Neurophysiology, Leiden University Medical Center, Leiden, The Netherlands
Promotor: Prof. Dr. H.J. Tanke
Co-Promotor: Dr. J.H. Meijer
Date: 21-06-2006 (cum laude)
1996 – 2001 Biopharmaceutical Sciences at the Leiden University, Leiden, The Netherlands
August 1997 Bachelor degree (cum laude)
May 2001 Master degree (cum laude)

Career

2014 – present Assistant Professor at the Department of Neurosurgery, UMC Utrecht, The Netherlands
2007 – 2014 Post-doc at the Department of Neurosurgery, UMC Utrecht, The Netherlands
2006 – 2007 Post-doc at the Laboratory for Neurophysiology, Department of Molecular Cell Biology, Leiden University Medical Center, The Netherlands

Publications

1. Branco MP, de Boer LM, Ramsey NF, **Vansteensel MJ** (in press) Encoding of kinetic and kinematic movement parameters in the sensorimotor cortex: A Brain-Computer Interface perspective. *Eur J Neurosci*, in press.
2. Salari E, Freudenburg ZV, **Vansteensel MJ**, Ramsey NF (2019) Repeated vowel production affects features of neural activity in sensorimotor cortex. *Brain Topogr* 32: 97-110.
3. Salari E, Freudenburg ZV, **Vansteensel MJ**, Ramsey NF (2018) The influence of prior pronunciations on sensorimotor cortex activity patterns during vowel production. *J Neural Eng* 15: 066025.
4. Branco MP, Leibbrand M, **Vansteensel MJ**, Freudenburg ZV, Ramsey NF (2018) GridLoc: An automatic and unsupervised localization method for high-density ECoG grids. *NeuroImage* 179: 225-234.
5. **Vansteensel MJ**, Aarnoutse EJ, Freudenburg ZV, Ramsey NF (2018) Een hersenimplantaat voor communicatie. *Neuropraxis* 22: 85-91.

6. Branco MP, Freudenburg ZV, Aarnoutse EJ, **Vansteensel MJ**, Ramsey NF (2018) Optimization of sampling rate and smoothing improves classification of high frequency power in electrocorticographic brain signals. *Biomed Phys Eng Express* 4: 045012.
7. Salari E, Freudenburg ZV, **Vansteensel MJ**, Ramsey NF (2018) Spatial-temporal dynamics of the sensorimotor cortex: Sustained and transient activity. *IEEE Trans Neural Syst Rehabil Eng*: 26: 1084-1092.
8. Ramsey NF, Salari E, Aarnoutse EJ, **Vansteensel MJ**, Bleichner MG, Freudenburg ZV (2018) Decoding spoken phonemes from sensorimotor cortex with high-density ECoG grids. *NeuroImage* 180: 301-311.
9. Van der Stighel S, Leijten F, **Vansteensel M**, Dijkerman C, Ramsey N, Freudenburg Z (2017) Removal of epileptically compromised tissue in the frontal cortex restores oculomotor selection in the antisaccade task. *J Neuropsychol*, in press.
10. Bruurmijn MLCM, Pereboom IPL, **Vansteensel MJ**, Raemaekers MAH, Ramsey NF (2017) Preservation of hand movement representation in the sensorimotor areas of amputees. *Brain* 140: 3166-3178.
11. **Vansteensel MJ**, Kristo G, Aarnoutse EJ, Ramsey NF (2017) The brain-computer interface researcher's questionnaire: from research to application. *Brain-Comput Interfaces* 4: 236-247.
12. Pels EGM, Aarnoutse EJ, Ramsey NF, **Vansteensel MJ** (2017) Estimated prevalence of the target population for brain-computer interface technology in the Netherlands. *Neurorehabil Neural Repair* 31: 677-685.
13. Nijboer CW, Buma FE, Winters C, **Vansteensel MJ**, Kwakkel G, Ramsey NF, Raemaekers M (2017) No changes in functional connectivity during motor recovery beyond 5 weeks after stroke; a longitudinal resting-state fMRI study. *PLOS ONE* 12: e0178017.
14. Gaglianese A, **Vansteensel MJ**, Harvey BM, Dumoulin SO, Petridou N, Ramsey NF (2017) Correspondence between fMRI and electrophysiology during visual motion processing in human MT. *NeuroImage* 155: 480-489.
15. Branco MP, Freudenburg ZV, Aarnoutse EJ, Bleichner MG, **Vansteensel MJ**, Ramsey NF (2017) Decoding hand gestures from primary somatosensory cortex using high-density ECoG. *NeuroImage* 147: 130-142.
16. Gaglianese A, Harvey B, **Vansteensel MJ**, Dumoulin SO, Ramsey NF, Petridou N (2017). Separate spatial and temporal frequency tuning to visual motion in human MT+ measured with ECoG. *Hum Brain Mapp* 38: 293-307.
17. **Vansteensel MJ**, Pels EG, Bleichner MG, Branco MP, Denison T, Freudenburg ZV, Gosselaar P, Leinders S, Ottens TH, Van Den Boom MA, Van Rijen PC, Aarnoutse EJ, Ramsey NF (2016). Fully Implanted Brain-Computer Interface in a Locked-In Patient with ALS. *N Engl J Med* 375: 2060-2066

*This article received a large amount of media attention, both nationally and internationally, and was covered by for example the New York Times and New Scientist. It currently (Feb 2019) ranks in the top 5% of papers in news and social media. Moreover, the article was commented on in 'Neurosurgery': Huang KT, Moses ZB, Chi JH (2017) Advances in implanted brain-computer interfaces allow for independent communication in a locked-in patient. *Neurosurgery* 80: N30-N31.*

18. De Jong MC, Hendriks R, **Vansteensel M**, Raemaekers M, Verstraten F, Ramsey NF, Erkelens C, Leijten F, Van Ee R (2016). Intracranial recordings of occipital cortex responses to illusory visual events. *J Neurosci* 36: 6297-6311.
19. Bleichner MG, Freudenburg ZV, Jansma JM, Aarnoutse EJ, **Vansteensel MJ**, Ramsey NF (2014) Give me a sign: decoding four complex hand gestures based on high-density ECoG. *Brain Struct Funct*, 221: 203-216.
20. **Vansteensel MJ**, Bleichner MG, Freudenburg ZV, Hermes D, Aarnoutse EJ, Leijten FS, Ferrier CH, Jansma JM, Ramsey NF (2014) Spatiotemporal characteristics of electrocortical brain activity during mental calculation. *Hum Brain Mapp* 35: 5903-5920.
21. Ramsey NF, Aarnoutse EJ, **Vansteensel MJ** (2014) Brain implants for substituting lost motor function: state of the art and potential impact on lives of motor-impaired seniors. *Gerontology*, 60: 366-372.
22. Hermes D, Miller KJ, **Vansteensel MJ**, Edwards E, Ferrier CH, Bleichner MG, van Rijen PC, Aarnoutse EJ, Ramsey NF (2014) Cortical theta wanes for language. *NeuroImage*, 15: 738-748.

23. Bauer PR, **Vansteensel MJ**, Bleichner MG, Hermes D, Ferrier CH, Aarnoutse EJ, Ramsey NF (2013). Mismatch between electrocortical stimulation and electrocorticography frequency mapping of language. *Brain Stimul* 6: 524-531.
24. Michel S, Marek R, vanderLeest HT, **Vansteensel MJ**, Schwartz WJ, Colwell CC, Meijer JH (2013) Mechanism of bilateral communication in the suprachiasmatic nucleus. *Eur J Neurosci* 37: 964-971.
25. **Vansteensel MJ**, Bleichner MG, Dintzner LT, Aarnoutse EJ, Leijten FSS, Hermes D, Ramsey NF (2013) Task-free electrocorticography frequency mapping of the motor cortex. *Clin Neurophysiol* 124: 1169-1174.
26. Harvey BM, **Vansteensel MJ**, Ferrier CH, Petridou N, Zuiderbaan W, Aarnoutse EJ, Bleichner MG, Dijkerman CH, van Zandvoort MJ, Leijten FS, Ramsey NF, Dumoulin SO (2012) Frequency specific spatial interactions in human electrocorticography: V1 alpha oscillations reflect surround suppression. *NeuroImage* 65: 424-432.
27. Torres Valderrama A, Paclik P, **Vansteensel MJ**, Aarnoutse EJ, Ramsey NF (2012). Error probability of intracranial brain computer interfaces under non-task elicited brain states. *Clin Neurophysiol* 123: 2392-2401.
28. Hermes D, Miller KJ, **Vansteensel MJ**, Aarnoutse EJ, Leijten FS, Ramsey NF (2012). Neurophysiologic correlates of fMRI in human motor cortex. *Hum Brain Mapp* 33:1689-1699.
29. Rohling JHT, vanderLeest HT, Michel S, **Vansteensel MJ**, Meijer JH (2011). Phase resetting of the mammalian circadian clock relies on a rapid shift of a small population of pacemaker neurons. *PLOS One* 6: e25437.
30. Bleichner MG, **Vansteensel MJ**, Huiskamp GM, Hermes D, Aarnoutse EJ, Ferrier CH, Ramsey NF (2011). The effects of blood vessels on electrocorticography. *J Neural Eng* 8: 044002.
31. Hermes D, **Vansteensel MJ**, Albers AM, Bleichner MG, Benedictus MR, Mendez Orellana C, Aarnoutse EJ, Ramsey NF (2011) Functional MRI based identification of brain areas involved in motor imagery for implantable brain-computer interfaces. *J Neural Eng* 8: 025007
32. Torres Valderrama A, Oostenveld R, **Vansteensel MJ**, Huiskamp GJM, Ramsey NF (2010) Gain of the human dura in vivo and its effects on invasive brain signal feature detection. *J Neurosci Methods* 187:270-279
33. **Vansteensel MJ**, Hermes D, Aarnoutse EJ, Bleichner MG, Schalk G, van Rijen PC, Leijten FSS, Ramsey NF (2010) Brain-Computer Interfacing Based on Cognitive Control. *Ann Neurol* 67: 809-816.
34. Hermes D, Miller KJ, Noordmans HJ, **Vansteensel MJ**, Ramsey NF (2010) Automated electrocorticographic electrode localization on individually rendered brain surfaces. *J Neurosci Methods* 185: 293-298.
35. vanderLeest HT, **Vansteensel MJ**, Duindam H, Michel S, Meijer JH (2009) Phase of the electrical activity rhythm in the SCN in vitro not influenced by preparation time. *Chronobiol Int* 26: 1075-1089.
36. van Oosterhout F, Michel S, Deboer T, Houben T, van de Ven RCG, Albus H, Westerhout J, **Vansteensel MJ**, Ferrari MD, van den Maagdenberg AMJM, Meijer JH (2008) Enhanced circadian phase resetting in R192Q Cav2.1 calcium channel migraine mice. *Ann Neurol* 64: 315-324.
37. Zhang J, Fang Z, Jud C, **Vansteensel MJ**, Kaasik K, Lee CC, Albrecht U, Tamanini F, Meijer JH, Oostra BA, Nelson DL (2008) Fragile X-related proteins regulate mammalian circadian behavioral rhythms. *Am J Hum Genet* 83: 1-10.
38. **Vansteensel MJ**, Michel S, and Meijer JH (2008) Organization of cell and tissue circadian pacemakers: A comparison among species. *Brain Res Rev* 58: 18-47.
39. Meijer JH, Michel S, and **Vansteensel MJ** (2007) Processing of daily and seasonal light information in the mammalian circadian clock. *Gen Comp Endocrinol* 152:159-64.
40. VanderLeest HT, Houben, T, Michel S, Deboer T, Albus H, **Vansteensel MJ**, Block GD and Meijer JH (2007) Seasonal encoding by the circadian pacemaker of the SCN. *Curr Biol* 17: 468-473.
41. **Vansteensel MJ**, Magnone MC, van Oosterhout F, Baeriswyl S, Albrecht U, Albus H, Dahan A and Meijer JH (2005) The opioid fentanyl affects light input, electrical activity and Per gene expression in the hamster suprachiasmatic nuclei. *Eur J Neurosci* 21: 2958-2966.
42. Albus H, **Vansteensel MJ**, Michel S, Block GD and Meijer JH (2005) A GABAergic mechanism is necessary for coupling regional oscillators within the circadian clock. *Curr Biol* 15: 886-893.

43. Itri JN, Michel S, **Vansteensel MJ**, Meijer JH and Colwell CS (2005) Fast delayed rectifier potassium current required for circadian neural activity. *Nat Neurosci* 8: 650-656.
44. Deboer T, **Vansteensel MJ**, Detari L and Meijer JH (2003) Sleep states alter activity of suprachiasmatic nucleus neurons. *Nat Neurosci* 6: 1086-1090.
45. **Vansteensel MJ**, Yamazaki S, Albus H, Deboer T, Block GD and Meijer JH (2003) Dissociation between circadian *Per1* and neuronal and behavioral rhythms following a shifted environmental cycle. *Curr Biol* 13: 1538-1542.
46. **Vansteensel MJ**, Deboer T, Dahan A and Meijer JH (2003) Differential responses of circadian activity onset and offset following GABA-ergic and opioid receptor activation. *J Biol Rhythms* 18: 297-306.

Oral Presentations

1. **Vansteensel MJ** (14-06-2018) A brain-based communication device for people with locked-in syndrome. Keynote Lecture Mind the Brain Symposium, Utrecht, The Netherlands,.
2. **Vansteensel MJ** (12-10-2017) A brain-implant for communication in severe paralysis: Performance and usability. BCN Symposium, Groningen, The Netherlands.
3. **Vansteensel MJ** (20-09-2017) Evaluation of BCI Researchers' Opinions Regarding the Future of BCIs: Results of BCI Roadmap Questionnaire 2014. Graz BCI Conference 2017, Graz, Austria.
4. **Vansteensel MJ** (04-09-2017) Fully implanted brain signal recording device for communication in severe paralysis reveals feasibility of chronic home use of neuronal activity. ECNP Congress, Paris, France.
5. **Vansteensel MJ** (15-06-2017) Fully Implanted Brain-Computer Interface in a Locked-In Patient with ALS. Dutch Neuroscience Meeting, Translational Neuroscience Award session, Lunteren, The Netherlands.
6. **Vansteensel MJ** (15-05-2017) Implantable BCI for Communication in late stage ALS. NeuroControl Symposium, Zeist, The Netherlands.
7. **Vansteensel MJ** (07-04-2017) Brain-Computer Interface for Communication in late stage ALS, AwesomeIT, Amsterdam, The Netherlands.
8. **Vansteensel MJ** (10-02-2017) Implanteren en Communiceren: De ontwikkeling en validatie van een hersenimplantaat voor communicatie bij het locked-in syndroom. USNW BrainWave, Utrecht, The Netherlands.
9. **Vansteensel MJ** (12-01-2017) The Onzichtbare BCI. Healthcare of the Future, Utrecht, The Netherlands.
10. **Vansteensel MJ** (2016) Implantable Brain-Computer Interfaces. SURE Symposium, Erasmus Medical Centre, Rotterdam, The Netherlands.
11. **Vansteensel MJ** (2016) De Onzichtbare BCI. Symposium Regie in Design on responsible and inclusive development of BCIs and communication devices, Enschede, The Netherlands.
12. **Vansteensel MJ** (2015) Brain-Computer Interface voor communicatie bij locked-in patiënten. Health course symposium for people interested in body, health and disease, UMC Utrecht, Utrecht, The Netherlands.
13. **Vansteensel MJ** (2014) Towards an ECoG-based BCI for home-use. Conference 25 years of Neuromodulation in the Netherlands, Groningen, The Netherlands.
14. **Vansteensel MJ** (2014) Neuroprothese, computerbesturing door hersensignalen. Symposium E-rehabilitation, Brain Awareness Week, De Haagse Hogeschool, The Hague, The Netherlands.
15. **Vansteensel MJ** (2014) Towards an ECoG-based BCI for home-use. Conference of the Society for Applied Neurosciences. Utrecht, The Netherlands.
16. **Vansteensel MJ** (2013) Utrecht NeuroProthese. Een pilot studie bij locked-in patiënten naar communicatie via hersensignalen. Neurosurgery Wintermeeting, De Driehoek, Utrecht.
17. **Vansteensel MJ** (2012) Brain-Computer Interface. IP2 meeting, Utrecht, The Netherlands.
18. **Vansteensel MJ** (2011) Brain-computer interfacing based on cognitive control. Top Science Session of the 9th Dutch Endo-Neuro-Psycho Meeting, Lunteren, The Netherlands.
19. **Vansteensel MJ** (2009) Praten met het brein. Hersenletselcongres, Ede, The Netherlands.
20. **Vansteensel MJ** (2008) Brain-computer interfacing gebaseerd op het frontale werkgeheugen. Meeting Dutch Society for Neurosurgeons, Leiden, The Netherlands.
21. **van Steensel MJ** (2007) Working memory BCI. IoP-RMI workshop, Utrecht, The Netherlands

22. **van Steensel MJ** (2006) Fase verschuivingen van het circadiane systeem. Autumn Meeting Dutch Society for Sleep-Wake Research, Leiden, The Netherlands.
 23. **van Steensel MJ** (2004) Multiple oscillators involved in phase resetting. Chronobiology Spring School, Groningen, The Netherlands.
 24. **van Steensel MJ** (2003) Differential responses of circadian activity onset and offset following GABA-ergic and opioid receptor activation. 2nd Dutch Endo-Neuro-Psycho Meeting, Doorwerth, The Netherlands.
 25. **van Steensel MJ** (2002) Dissociation within the circadian timing system in response to a phase resetting stimulus. Chronobiology Summer School, Andechs, Germany.
 26. **van Steensel MJ** (2002) Opioid Effects on the Expression of Syrian Hamster *Per1* in the Suprachiasmatic Nuclei. 1st Dutch Endo-Neuro-Psycho Meeting, Doorwerth, The Netherlands.
 27. **van Steensel MJ** (2001) Opioid responsiveness of the circadian timing system of the rat. 5th Dutch Endo-Neuro Meeting, Doorwerth, The Netherlands.
 28. **van Steensel MJ** (2000) Phase shifts of the hamster circadian pacemaker by a μ -receptor agonist. 4th Dutch Endo-Neuro Meeting, Doorwerth, The Netherlands.
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