

Vitória Piai

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Junior Principal Investigator, Radboud University Medical Center, Donders Centre for Medical Neuroscience

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Research Summary

As a PhD candidate at Radboud University, supervised by Ardi Roelofs and Herbert Schriefers, I did research on the role of executive control in word production using behavioural methods, scalp electrophysiology, and functional MRI. Halfway into my PhD, I initiated my own, independent, research programme on the electrophysiology of language production in healthy speakers. I then obtained personal post-doctoral funding to go to the University of California Berkeley and expand my research towards populations with acquired language impairment. Under the mentoring of Bob Knight and Nina Dronkers, I used intracranial and scalp electrophysiology to investigate the neurophysiological underpinnings of language and language neuroplasticity. Since 2017, I head the Language Function and Dysfunction group at the Donders Institute for Brain, Cognition and Behaviour in Nijmegen. My research programme focuses on the neuropsychological and neurophysiological basis of language in healthy adults and the impairment of language functioning after brain injury or damage to the speech organs. My research is characterised by bridging across the domains of language, memory, and executive control and by the way I use my strong fundamental and methodological background to approach the study of language disorders. Electrophysiology holds an important place in my research programme, which I combine with behavioural measures, non-invasive brain stimulation and lesion-symptom models.

Positions

Associate Principal Investigator, *Radboud University, Donders Centre for Cognition, Department of Neuropsychology and Rehabilitation Psychology and Radboud University Medical Centre, Donders Centre for Medical Neuroscience, Department of Medical Psychology, Nijmegen, the Netherlands*

2016-present

Postdoctoral Fellow, *Helen Wills Neuroscience Institute, University of California, Berkeley and Center for Aphasia and Related Disorders, Veterans Affairs Health Care System Northern, California, USA*

2014-2016

Clinical Duties	Monitoring of function during awake craniotomies, developing and improving protocols for intraoperative assessments <i>Radboud University Medical Centre</i>	2016-present
Education		
	Ph.D. in Cognitive Neuroscience (distinction: "cum laude"), <i>Radboud University, Donders Graduate School for Cognitive Neuroscience & International Max Planck Research School for Language Sciences</i> , Nijmegen, the Netherlands	2009-2013
	M.Sc. in Cognitive Neuroscience (distinction: "bene meritum"), <i>Radboud University</i> , Nijmegen, the Netherlands	2007-2009
	B.A. in Linguistics (distinction: "cum laude"), <i>Utrecht University</i> , Utrecht, the Netherlands	2004-2007
	B.A. in Portuguese Language and Culture (distinction: "cum laude"), <i>Utrecht University</i> , Utrecht, the Netherlands	
Certificates		
	Basic course on Regulations and Organisation for clinical investigators (BROK)	2016
	Dutch University Teaching Qualification	2013
Competitive Funding		
Principal Investigator	Junior Principal Investigator premium , <i>Radboud University Medical Center</i> , Radboudumc funds dedicated to research excellence (€ 125,000)	2020-2024
	Interfaculty collaborative grant , <i>Radboud University</i> , "Adaptive Language Initiative", with prof. James McQueen and prof. Asli Özyürek (€ 150,000)	2020-2022
	Internal PhD-grant round , <i>Radboud University, Donders Centre for Cognition</i> , "Unravelling how prefrontal cortex recruitment supports language functioning" (€ 250,000)	2019-2023
	Veni , <i>Netherlands Organisation for Scientific Research (NWO)</i> , "Reorganising language: Neuroplasticity after left-hemisphere stroke through right-hemisphere recruitment" (€ 250,000)	2017-2020
	Rubicon , <i>Netherlands Organisation for Scientific Research (NWO)</i> , "Towards a neural mechanism of context-driven memory access in language: prefrontal cortex and neuronal oscillations" (€ 127,690)	2014-2016
	Niels Stensen Fellowship , <i>Niels Stensen Stichting</i> , "Towards a neuronal mechanism of context-dependent memory access in spoken word production" (€ 43,736). Declined due to Rubicon	2014-2015
Co-Investigator		

Discovery Project, Australian Research Council, "How the brain produces speech: Neuronal oscillations to neuromodulation" 2020-2024

Internal PhD-grant round, Radboud University, Donders Centre for Cognition, "The lexical interface in the brain" (€ 234,000) 2016-2020

Internal Utilisation Grant Round, Language in Interaction Consortium, "SimpTell, an application for the training of elliptical language production style by patients with chronic Broca's aphasia" (€ 25,000) 2016

Awards and Prizes

Early Career Award, International Neuropsychological Society 2020

Early Career Award, Dutch Psychonomic Society 2019

Early Career Award, Society for the Neurobiology of Language 2018

Early Career Award, Dutch Society of Neuropsychology 2017

Top reviewer for Radboud University (Arts and Humanities), Publons 2017

Top 10% of review contributions to field of Psychology, Publons 2016

Frye Stipend, Radboud University, Nijmegen, Awarded yearly to the ten most promising female researchers across Radboud University 2012

Publications

Asterisks indicate (graduate or undergraduate) student lead authors. Publication list also available in [Google Scholar](#) and [ORCID](#). Full-texts of all published papers available through my [website](#)

Submitted with open
data and code

Piai, V., Nieberlein, L., & Hartwigsen, G. Effects of transcranial magnetic stimulation over the left posterior superior temporal gyrus on picture-word interference. [Open data](#)

*Garg, A., **Piai, V.**, McQueen, J., & Roelofs, A. The comprehension-production interface: insights from cumulative semantic effects. [Open data](#)

Journal Articles

*Janssen, N., Roelofs, A., Mangnus, M., Sierpowska, J., Kessels, R. P. C., & **Piai, V.** How the speed of word finding depends on ventral tract integrity in primary progressive aphasia. *NeuroImage: Clinical*.

*Abrahamse, R., Beynon, A., & **Piai, V.** Long-term auditory processing outcomes in early implanted young adults with cochlear implants: the MMN vs. P300 response. *Clinical Neurophysiology*.

*Todorova, L., Neville, D., & **Piai, V.** Lexical-semantic and executive deficits revealed by computational modelling: a drift diffusion model perspective. *Neuropsychologia*. doi: [10.1016/j.neuropsychologia.2020.107560](https://doi.org/10.1016/j.neuropsychologia.2020.107560) [Open data](#)

Accepted

2020

*Roos, N. M., & **Piai, V.** Across-session consistency of context-driven language processing: a magnetoencephalography study. *European Journal of Neuroscience*. doi: [10.1111/ejn.14785](https://doi.org/10.1111/ejn.14785) [Open data](#)

Piai, V., De Witte, E., Sierpowska, J., Zheng, X., Hinkley, L. B., Mizuiri, D., Knight, R. T., Berger, M. S., & Nagarajan, S. S. Language neuroplasticity in brain tumour patients revealed by magnetoencephalography. *Journal of Cognitive Neuroscience*. doi: [10.1162/jocn_a_01561](https://doi.org/10.1162/jocn_a_01561) [Open data](#)

Piai, V., Klaus, J., & Rossetto, E. The lexical nature of alpha-beta oscillations in context-driven word production. *Journal of Neurolinguistics*, 55, 100905. doi: [10.1016/j.jneuroling.2020.100905](https://doi.org/10.1016/j.jneuroling.2020.100905) [Open data](#)

*Ferreira, J., Roelofs, A., & **Piai, V.** The role of inhibition in inflectional encoding: producing the past tense. *Cognition*, 200, 104235. doi: [10.1016/j.cognition.2020.104235](https://doi.org/10.1016/j.cognition.2020.104235) [Open data](#)

Williams Roberson, S., Shah, P., **Piai, V.**, Gatens, H., Krieger, A.M., Lucas II, T.H., Litt, B. Electrocorticography reveals spatiotemporal neuronal activation patterns of verbal fluency in patients with epilepsy. *Neuropsychologia*, 141, 107386. doi: [10.1016/j.neuropsychologia.2020.107386](https://doi.org/10.1016/j.neuropsychologia.2020.107386)

Jongman, S. R., **Piai, V.**, & Meyer, A. S. (2020). Planning for language production: the electrophysiological signature of attention to the cue to speak. *Language, Cognition and Neuroscience*. doi: [10.1080/23273798.2019.1690153](https://doi.org/10.1080/23273798.2019.1690153)

2019

Klaus, J., Schutter, D. J. L. G., & **Piai, V.** (2019). Transient perturbation of the left temporal cortex evokes plasticity-related reconfiguration of the lexical network. *Human Brain Mapping*, 41, 1061-1071. doi: [10.1002/hbm.24860](https://doi.org/10.1002/hbm.24860) [Open data](#)

Piai, V., et al. (2019). Assessment of neurocognitive impairment and speech functioning before head and neck cancer treatment. *JAMA Otolaryngology-Head & Neck Surgery*, 145, 251-257. doi: [10.1001/jamaoto.2018.3981](https://doi.org/10.1001/jamaoto.2018.3981)

Piai, V., Vos, S. H., Idelberger, R., Gans, P., Doorduyn, J., & ter Laan, M. (2019). Awake surgery for a violin player: monitoring motor and music performance, a case report. *Archives of Clinical Neuropsychology*, 34, 132-137. doi: [10.1093/arclin/acy009](https://doi.org/10.1093/arclin/acy009)

Riès, S. K., **Piai, V.**, Perry, D., Griffin, S., Jordan, K., Henry, R., Knight, R. T., & Berger, M. S. (2019). Roles of ventral versus dorsal pathways in language production: an awake language mapping study. *Brain & Language*, 191, 17-27. doi: [10.1016/j.bandl.2019.01.001](https://doi.org/10.1016/j.bandl.2019.01.001)

De Witte, E., **Piai, V.**, Kurteff, G., Cai, R., Mariën, P., Dronkers, N., Chang, E., & Berger, M. (2019). A valid alternative for in-person language assessments in brain tumor patients: feasibility and validity measures of the new TeleLanguage test. *Neuro-Oncology Practice*, 6, 93-102. doi: [10.1093/nop/npy020](https://doi.org/10.1093/nop/npy020)

2018

Piai, V., Rommers, J., & Knight, R. T. (2018). Lesion evidence for a critical role of left posterior but not frontal areas in alpha-beta power decreases during context-driven word production. *European Journal of Neuroscience*, 48, 2622-2629. doi: [10.1111/ejn.13695](https://doi.org/10.1111/ejn.13695)

Piai, V., & Knight, R. T. (2018). Lexical selection with competing distractors: Evidence from left temporal lobe lesions. *Psychonomic Bulletin & Review*, *25*, 710-717. doi: [10.3758/s13423-017-1301-0](https://doi.org/10.3758/s13423-017-1301-0)

Baldo, J. V., Kacinik, N., Ludy, C., Paulraj, S., Moncrief, A., **Piai, V.**, Curran, B., Turken, A., Herron, T., & Dronkers, N. F. (2018). Voxel-based lesion analysis of brain regions underlying reading and writing. *Neuropsychologia*, *115*, 51-59. doi: [10.1016/j.neuropsychologia.2018.03.021](https://doi.org/10.1016/j.neuropsychologia.2018.03.021)

Wesdorp, M., et al. (2018). Heterozygous missense variants of LMX1A lead to nonsyndromic hearing impairment and vestibular dysfunction. *Human Genetics*, *137*, 389-400. doi: [10.1007/s00439-018-1880-5](https://doi.org/10.1007/s00439-018-1880-5)

Singh, T., Phillip, L., Behroozmand, R., Gleichgerrcht, E., **Piai, V.**, Fridriksson, J., & Bonilha, L. (2018). Pre-articulatory electrical activity associated with correct naming in individuals with aphasia. *Brain & Language*, *177-178*, 1-6. doi: [10.1016/j.bandl.2018.01.002](https://doi.org/10.1016/j.bandl.2018.01.002)

2017

Piai, V., Meyer, L., Dronkers, N. F., & Knight, R. T. (2017). Neuroplasticity of language in left-hemisphere stroke: subsecond electrophysiology and structural connections. *Human Brain Mapping*, *38*, 3151-3162. doi: [10.1002/hbm.23581](https://doi.org/10.1002/hbm.23581)

Jafarpour, A., **Piai, V.**, Lin, J. J., & Knight, R. T. (2017). Human hippocampal pre-activation predicts behavior. *Scientific Reports*, *7*, 5959. doi: [10.1038/s41598-017-06477-5](https://doi.org/10.1038/s41598-017-06477-5)

Roelofs, A., & **Piai, V.** (2017). Distributional analysis of semantic interference in picture naming. *Quarterly Journal of Experimental Psychology*, *70*, 782-792. doi: [10.1080/17470218.2016.1165264](https://doi.org/10.1080/17470218.2016.1165264)

2016

Piai, V., Anderson, K.L., Lin, J. J., Dewar, C., Parvizi, J., Dronkers, N. F., & Knight, R. T. (2016). Direct brain recordings reveal hippocampal rhythm underpinnings of language processing. *Proceedings of the National Academy of Sciences*, *113*, 11366-11371. doi: [10.1073/pnas.1603312113](https://doi.org/10.1073/pnas.1603312113)

Piai, V., Riès, S. K., & Swick, D. (2016). Lesions to lateral prefrontal cortex impair interference control in word production. *Frontiers in Human Neuroscience*, *9*, 721. doi: [10.3389/fnhum.2015.00721](https://doi.org/10.3389/fnhum.2015.00721)

Piai, V. (2016). The role of electrophysiology in informing theories of word production: a critical standpoint. *Language, Cognition and Neuroscience*, *31*, 471-473. doi: [10.1080/23273798.2015.1100749](https://doi.org/10.1080/23273798.2015.1100749)

Roelofs, A., **Piai, V.**, Garrido Rodriguez, G., & Chwilla, D. J. (2016). Electrophysiology of cross-language interference and facilitation in picture naming. *Cortex*, *76*, 1-16. doi: [10.1016/j.cortex.2015.12.003](https://doi.org/10.1016/j.cortex.2015.12.003)

2015

Piai, V., Roelofs, A., Rommers, J., Dahlslett, K., & Maris, E. (2015). Withholding planned speech is reflected in synchronized beta-band oscillations. *Frontiers in Human Neuroscience*, *9*, 549. doi: [10.3389/fnhum.2015.00549](https://doi.org/10.3389/fnhum.2015.00549)

Piai, V., Roelofs, A., Rommers, J., & Maris, E. (2015). Beta oscillations reflect memory and motor aspects of spoken word production. *Human Brain Mapping*, *36*, 2767-2780. doi: [10.1002/hbm.22806](https://doi.org/10.1002/hbm.22806)

- Piai, V.**, Roelofs, A. & Roete, I. (2015). Semantic interference in picture naming does not vary with reading ability. *Quarterly Journal of Experimental Psychology*, 68, 1758-1768. doi: [10.1080/17470218.2014.985689](https://doi.org/10.1080/17470218.2014.985689)
- Piai, V.**, Roelofs, A., & Schriefers, H. (2015). Task choice and semantic interference in picture naming. *Acta Psychologica*, 157, 13-22. doi: [10.1016/j.actpsy.2015.02.003](https://doi.org/10.1016/j.actpsy.2015.02.003)
- Piai, V.**, Riès, S. K., & Knight, R. T. (2015). The electrophysiology of language production: What could be improved. *Frontiers in Human Neuroscience*, 5, 5160. doi: [10.3389/fpsyg.2014.01560](https://doi.org/10.3389/fpsyg.2014.01560)
- Piai, V.**, Dahlslett, K., & Maris, E. (2015). Statistically comparing EEG/MEG waveforms on the basis of successive univariate test statistics: How bad can it be? *Psychophysiology*, 52, 440-443. doi: [10.1111/psyp.12335](https://doi.org/10.1111/psyp.12335)
- Roelofs, A., & **Piai, V.** (2015). Aspects of competition in word production: Reply to Mahon and Navarrete. *Cortex*, 69, 420-424. doi: [10.1016/j.cortex.2014.10.016](https://doi.org/10.1016/j.cortex.2014.10.016)

2014

- Piai, V.**, Roelofs, A., Jensen, O., Schoffelen, J. M., & Bonnefond, M. (2014). Distinct patterns of brain activity characterise lexical activation and competition in spoken word production. *PLoS ONE* 9(2): e88674. doi: [10.1371/journal.pone.0088674](https://doi.org/10.1371/journal.pone.0088674)
- Piai, V.**, Roelofs, A., & Schriefers, H. (2014). Locus of semantic interference in picture naming: Evidence from dual-task performance. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 40, 147-165. doi: [10.1037/a0033745](https://doi.org/10.1037/a0033745)
- Piai, V.**, Roelofs, A., & Maris, E. (2014). Oscillatory brain responses in spoken word production reflect lexical frequency and sentential constraint. *Neuropsychologia*, 53, 146-156. doi: [10.1016/j.neuropsychologia.2013.11.014](https://doi.org/10.1016/j.neuropsychologia.2013.11.014)
- Piai, V.**, Roelofs, A., Acheson, D. J., & Takashima, A. (2013). Attention for speaking: Domain-general control from anterior cingulate cortex in spoken word production. *Frontiers in Human Neuroscience*, 7:832. doi: [10.3389/fnhum.2013.00832](https://doi.org/10.3389/fnhum.2013.00832)

2013

- Piai, V.**, Meyer, L., Schreuder, R., & Bastiaansen, M. C. M. (2013). Sit down and read on: Working memory and long-term memory in particle-verb processing. *Brain & Language*, 127, 296-306. doi: [10.1016/j.bandl.2013.09.015](https://doi.org/10.1016/j.bandl.2013.09.015)
- Piai, V.** & Roelofs, A. (2013). Working memory capacity and dual-task interference in picture naming. *Acta Psychologica*, 142, 332-342. doi: [10.1016/j.actpsy.2013.01.006](https://doi.org/10.1016/j.actpsy.2013.01.006)
- Roelofs, A., & **Piai, V.** (2013). Associative facilitation in the stroop task: Comment on Mahon et al. (2012). *Cortex*, 49, 1767-1769. doi: [10.1016/j.cortex.2013.03.001](https://doi.org/10.1016/j.cortex.2013.03.001)
- Roelofs, A., **Piai, V.**, & Schriefers, H. (2013). Context effects and selective attention in picture naming and word reading: Competition versus response exclusion. *Language and Cognitive Processes*, 28, 655-671. doi: [10.1080/01690965.2011.615663](https://doi.org/10.1080/01690965.2011.615663)
- Roelofs, A., **Piai, V.**, & Schriefers, H. (2013). Selection by competition in word production: Rejoinder to Janssen (2012). *Language and Cognitive Processes*, 28, 679-683. doi: [10.1080/01690965.2013.770890](https://doi.org/10.1080/01690965.2013.770890)

2012

- Piai, V.**, Roelofs, A., & Schriefers, H. (2012). Distractor strength and selective attention in picture

naming performance. *Memory & Cognition*, 40, 614-627. doi: [10.3758/s13421-011-0171-3](https://doi.org/10.3758/s13421-011-0171-3)

Piai, V., Roelofs, A., & Van der Meij, R. (2012). Event-related potentials and oscillatory brain responses associated with semantic and Stroop-like interference effects in overt naming. *Brain Research*, 1450, 87–101. doi: [10.1016/j.brainres.2012.02.050](https://doi.org/10.1016/j.brainres.2012.02.050)

Piai, V., Roelofs, A., & Schriefers, H. (2011). Semantic interference in immediate and delayed naming and reading: Attention and task decisions. *Journal of Memory and Language*, 64, 404-423. doi: [10.1016/j.jml.2011.01.004](https://doi.org/10.1016/j.jml.2011.01.004)

Roelofs A., & **Piai, V.** (2011). Attention demands of spoken word planning: A review. *Frontiers in Psychology*, 2:307. doi: [10.3389/fpsyg.2011.00307](https://doi.org/10.3389/fpsyg.2011.00307)

Roelofs, A., **Piai, V.**, & Garrido Rodriguez, G. (2011). Attentional inhibition in bilingual naming performance: Evidence from delta-plot analyses. *Frontiers in Psychology*, 2:184. doi: [10.3389/fpsyg.2011.00184](https://doi.org/10.3389/fpsyg.2011.00184)

Roelofs, A., **Piai, V.**, & Schriefers, H. (2011). Selective attention and distractor frequency in naming performance: Comment on Dhooge and Hartsuiker (2010). *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 37, 1032-1038. doi: [10.1037/a0023328](https://doi.org/10.1037/a0023328)

Book chapters

Piai, V., & Zheng, X. (2019). Speaking waves: neuronal oscillations in language production. *Psychology of Learning and Motivation*, 71, 265-302. doi: [10.1016/bs.plm.2019.07.002](https://doi.org/10.1016/bs.plm.2019.07.002)

de Zubicaray, G., & **Piai, V.** (2019). Investigating the spatial and temporal components of speech production. In G. de Zubicaray, & N. O. Schiller (Eds.), *The Oxford Handbook of Neurolinguistics*. Oxford University Press. doi: [10.1093/oxfordhb/9780190672027.013.19](https://doi.org/10.1093/oxfordhb/9780190672027.013.19)

Flinker, A., **Piai, V.**, & Knight, R. T. (2018). Intracranial electrophysiology in language research. In S-A. Rueschemeyer, & M. G. Gaskell (Eds.), *The Oxford Handbook of Psycholinguistics*. Oxford University Press. doi: [10.1093/oxfordhb/9780198786825.013.43](https://doi.org/10.1093/oxfordhb/9780198786825.013.43)

Products

Released

"SimpTell", an application for the training of elliptical language production style by patients with chronic Broca's aphasia (*Co-developer*)

Under development

"TeleLanguage-NL", Dutch version, a telephone-based language test battery to assess patients with mild language disorders (*Co-developer*)

"Syntest", a Dutch test for the comprehension of (complex) syntactic structures (*with Nikki Janssen*)

Invited Talks

- Conceptual and lexical retrieval in spoken word production.** IMPRS Conference 2020, Interdisciplinary Approaches in the Language Sciences, Nijmegen, the Netherlands. June, 2020. 2020
- Memory and control in spoken word production: evidence from electrophysiology and brain lesions.** Institute of Cognitive Neuroscience, University College London. February, 2020.
- Neurale processen tijdens het spreken.** Werkverband Amsterdamse Psycholinguïsten Symposium. Amsterdam, the Netherlands. January, 2020.
- The effects of head and neck tumours on neurocognition before and after treatment.** Autumn Conference of the Dutch Workgroup for Head and Neck Tumours. Maastricht, the Netherlands. October, 2019. 2019
- Interfering and facilitating contexts in spoken word production.** Brownbag Lab Seminars. University of Geneva, Switzerland. June, 2019.
- Context effects in language production examined with electrophysiology.** International Symposium on Neurobiology of Language. Waseda University, Tokyo, Japan. February, 2019.
- Comprehending and producing words: scalp and intracranial electrophysiology.** Satellite Seminar on Neurobiology of Language. Waseda University, Tokyo, Japan. February, 2019.
- Context-driven word production through an electrophysiological lens.** Queensland University of Technology, Brisbane, Australia. November, 2018. 2018
- Language and speech functioning through an electrophysiological lens.** CLaS-CCD Colloquium Series. Macquarie University. November, 2018.
- Key considerations for EEG and language studies.** School of Psychology and Clinical Language Sciences, University of Reading, UK. June, 2018.
- Oscillations in language research.** Summer Neurolinguistics School, National Research University Higher School of Economics, Moscow, Russia. May, 2018.
- Neuropsychologie en de Psychologie van Taal.** Nederlandse Vereniging voor Neuropsychologie Voorjaarsconferentie 2018. Utrecht, the Netherlands. April, 2018.
- Intracranial electrophysiology in language research.** National Research University, Higher School of Economics, Moscow, Russia. November, 2017. 2017
- Taalverwerking in relatie tot geheugen: Van fundamenteel onderzoek naar klinische toepassing.** Afasieconferentie "State of the Art 2017". Zeist, the Netherlands. October, 2017.
- Language production and acquired language disorders.** International Radboud Summer School, Introduction to Cognitive Neuroscience. Nijmegen, the Netherlands. August, 2017.
- Oscillations as a bridge between language and other cognitive domains.** International Symposium on Neural Oscillations in Speech and Language Processing. Harnack Haus of the Max Planck Society, Berlin, Germany. May, 2017.
- Context-driven word production.** Department of Neuropsychology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany. October, 2016. 2016
- Context-driven word production in the healthy and stroke populations.** Introduction to International Max Planck Research School PhD students. Nijmegen, the Netherlands. September, 2016.

Language production and acquired language disorders. International Radboud Summer School, Introduction to Cognitive Neuroscience. Nijmegen, the Netherlands. August, 2016.

Electrophysiology measured over the scalp and intracranially: examples from context-driven word production. Summer School - Human Language: From Genes and Brains to Behaviour. Berg en Dal, the Netherlands. July, 2016.

Where language production meets memory (or how). Center for Mind and Brain, Davis, USA. February, 2016.

The N450 in picture-word interference tasks. Donders Discussion. Nijmegen, the Netherlands. October, 2011.

Comprehending particle verbs. Experimental Linguistics Talks Utrecht. Utrecht, the Netherlands. September, 2009.

2011 and earlier

Conference Presentations

Past 5 years. Asterisks indicate (graduate or undergraduate) student lead authors.

Oral presentations

*Camerino, I. L., Sierpowska, J., Meyer, N. H., Tuladhar, A. M., Reid, A. T., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *White-matter bottleneck in small vessel disease: A lesion-symptom mapping study of executive-language functions.* 20th International Science of Aphasia Conference. Rome, Italy. September, 2019.

2019

Sierpowska, J., Bryant, K., Römkens, M., Mangnus, M., Janssen, N., Kessels, R., Roelofs, A., Mars, R., & **Piai, V.** *The functional neuroanatomy of the left temporal lobe white matter – an interdisciplinary approach based on intraoperative and comparative studies.* 20th International Science of Aphasia Conference. Rome, Italy. September, 2019.

Sierpowska, J., Rofes, A., Mandonnet, E., ter Laan, M., & **Piai, V.** *The AFTERCARE survey - The assessment and intervention survey for professionals working with individuals after brain surgery.* 14th European Low Grade Glioma Network Meeting. London, UK. June, 2019.

Piai, V. *Reconfiguration of the language network after brain damage.* Symposium "Cognitive Networks: Trends in Multimodal Approaches and Connectomics" at the 26th Annual Meeting of the Cognitive Neuroscience Society. San Francisco, USA. March, 2019.

2018

*Garg, A., **Piai, V.**, McQueen, J., & Roelofs, A. *The perception-production interface: Insights from cumulative semantic effects.* 26th Annual Conference on Architectures and Mechanisms for Language Processing. Hyderabad, India. February, 2018.

2017

Piai, V. *Cognitive function in relation to speech problems in head and neck cancer prior to treatment.* 2nd NET-QUBIC Symposium. Utrecht, the Netherlands. November, 2017.

2016

Piai, V. , Meyer, L., Dronkers, N. F., & Knight, R. T. *Neuroplasticity of language in left-hemisphere*

Janssen, N., Roelofs, A., Mangnus, M., Sierpowska, J., Kessels, R. P. C., & Piai, V. *Speed of word finding depends on ventral tract integrity in primary progressive aphasia*. International Neuropsychological Society Virtual Event. July, 2020.

*Camerino, I. L., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *White-matter microstructural integrity in small vessel disease with category fluency impairment*. International Neuropsychological Society Virtual Event. July, 2020.

Severijnen, G., Bosker, H. R., **Piai, V.**, & McQueen, J. *The role of talker-specific prosody in predictive speech perception*. 26th Architectures and Mechanisms for Language Processing Conference. Potsdam, Germany. September, 2020.

*Hustá, C., Zheng, X., Papoutsis, C., & **Piai, V.** *Why we speak affects how we speak: Electrophysiological signatures of word planning following verbal versus nonverbal material*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Roos, N. M., Takashima, A., & **Piai, V.** *Functional anatomy of context-driven word retrieval: across-session consistency in fMRI*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Cao, Y. & **Piai, V.** *Do alpha and beta oscillations dissociate in context-driven spoken-word production?* International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Wets, I., Janssen, N. & **Piai, V.** *Semi-spontaneous language production in Dutch speaking people with primary progressive aphasia*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Garg, A., **Piai, V.**, Takashima, A., McQueen, J.M., & Roelofs, A. *Investigating the lemma using fMRI – Linking production and comprehension*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Camerino, I. L., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *White-matter microstructural integrity in small vessel disease with category fluency impairment*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

*Ferreira, J., Roelofs, A., & **Piai, V.** *The role of the basal ganglia in inflectional encoding: An fMRI study of producing the past tense*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

Sierpowska, J., Janssen, N., Kessels, R. P. C., Roelofs, A., & **Piai, V.** *Lexical selection in word production and the white-matter system of the (pre)supplementary motor area*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2020.

Piai, V., Dahlslätt, K., Verdonck-de Leeuw, I., Prins, J., Takes, R., NET-QUBIC Consortium, & Kessels, R. *Cognitive and speech functioning in HNC: baseline prevalence and possible causes*. Meeting of the International Cognition and Cancer Task Force. Denver, USA. February, 2020.

2019

*Ferreira, J., Roelofs, A., & **Piai, V.** *The role of inhibition in inflectional encoding: Producing the past tense*. 25th Annual Conference on Architectures and Mechanisms for Language Processing. Moscow, Russia. September, 2019.

*Janssen, N., Mangnus, M., Roelofs, A., Sierpowska, J., Kessels, R. P. C., & **Piai, V.** *The role of the uncinata fasciculus and inferior longitudinal fasciculus in healthy and disordered language production*. 20th International Science of Aphasia Conference. Rome, Italy. September, 2019.

*Garg, A., **Piai, V.**, Takashima, A., McQueen, J.M., & Roelofs, A. *Linking production and comprehension – Investigating the lexical interface*. 20th International Science of Aphasia Conference. Rome, Italy. September, 2019.

Vos, S., Kessels, R. P. C., & **Piai, V.** *The effect of deep brain stimulation of the subthalamic nucleus on language processing in Parkinson's Disease: a review*. 7th Scientific Meeting of the Federation of the European Societies of Neuropsychology. Milan, Italy, September 2019.

*Garg, A., **Piai, V.**, Takashima, A., McQueen, J.M., & Roelofs, A. *Linking production and comprehension – Investigating the lexical interface*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

*Camerino, I. L., Sierpowska, J., Meyer, N. H., Tuladhar, A. M., Reid, A. T., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *White-matter bottleneck in small vessel disease: A lesion-symptom mapping study of executive-language functions*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

*Dewenter, A. F., Sierpowska, J., Kessels, R. P. C., & **Piai, V.** *Investigating the semantic control network and its structural decline in mild cognitive impairment and mild dementia*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

Sierpowska, J., Janssen, N., Kessels, R. P. C., Roelofs, A., & **Piai, V.** *The frontal aslant white matter tract (FAT) and semantic selection in word production*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

*Mangnus, M., Roelofs, A., Sierpowska, J., Kessels, R. P. C., **Piai, V.**, & Janssen, N. *The role of ventral fiber pathways in healthy and disordered language production*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

*Ferreira, J., Roelofs, A., & **Piai, V.** *The role of inhibition in inflectional encoding: Producing the past tense*. Eleventh Annual Meeting of the Society for the Neurobiology of Language. Helsinki, Finland. August, 2019.

*Abrahamse, R., Beynon, A. J., & **Piai, V.** *Auditory discrimination in prelingually deaf early implanted cochlear implant users: an ERP study*. XXVIth Biennial Symposium of the International Evoked Response Audiometry Study Group (IERASG). Sydney, Australia. June, 2019.

*Todorova, L., Neville, D., Knight, R.T., & **Piai, V.** *Lexical-semantic and executive deficits revealed by computational modelling: a drift diffusion model perspective*. 26th Annual Meeting of the Cognitive Neuroscience Society. San Francisco, USA. March, 2019.

*Garg, A., **Piai, V.**, McQueen, J.M., & Roelofs, A. *The perception-production interface: Insights from cumulative semantic effects*. 10th International Workshop on Language Production. Nijmegen, the Netherlands. July, 2018.

*Camerino, I. L., Meyer, N. H., Sierpowska, J. M., Tuladhar, A. M., Reid, A. T., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *Role of white matter lesions in cerebral small vessel disease: A voxel-based lesion symptom mapping study of language production*. 10th International Workshop on Language Production. Nijmegen, the Netherlands. July, 2018.

Rossetto, E., Klaus, J., & **Piai, V.** *The lexical nature of alpha-beta desynchronisation in context-driven word production*. 10th International Workshop on Language Production. Nijmegen, the Netherlands. July, 2018.

Klaus, J., Schutter, D., & **Piai, V.** *Oscillatory brain responses in language production following transient disruption of the left middle temporal gyrus: A cTBS-EEG study*. 10th International Workshop on Language Production. Nijmegen, the Netherlands. July, 2018.

*Roos, N. & **Piai, V.** *Context-dependent language processing: towards a clinical tool*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2018.

*Camerino, I. L., Meyer, N. H., Tuladhar, A. M., Reid, A. T., Kessels, R. P. C., de Leeuw, F.-E., & **Piai, V.** *Role of white matter hyperintensity at specific locations in cerebral small vessel disease: A voxel-based lesion symptom mapping study*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2018.

*Abrahamse, S., A., Langereis, M., Vermeulen, A., Beynon, A., & **Piai, V.** *P300 versus MMN: The clinical potential of ERPs to assess auditory discrimination abilities*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2018.

*Ferreira, J., Roelofs, A., & **Piai, V.** *Role of basal ganglia in producing inflections*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2018.

*Garg, A., **Piai, V.**, McQueen, J.M., & Roelofs, A. *The perception-production interface: Insights from cumulative semantic effects*. International Max Planck Research School for the Language Sciences Conference. Nijmegen, the Netherlands. June, 2018.

Jongman, S. R., **Piai, V.**, & Meyer, A. S. *Withholding speech: does the EEG signal reflect planning for production or attention?* 31st Annual CUNY Conference on Human Sentence Processing. Davis, USA. March, 2018.

Piai, V., Rommers, J., & Knight, R. T. *Evidence for a causal link between left temporoparietal alpha-beta desynchronisation and context-driven word production*. Ninth Annual Meeting of the Society for the Neurobiology of Language. Baltimore, USA. November, 2017.

Riès, S. K., **Piai, V.**, Perry, D., Griffin, S., Jordan, K., Knight, R. T., & Berger, M. S. *Dissociating the roles of ventral versus dorsal pathways in language production: an awake language mapping study*. Ninth Annual Meeting of the Society for the Neurobiology of Language. Baltimore, USA. November, 2017.

Williams, S. T., Shah, P. A., **Piai, V.**, Gatens, H., Krieger, A., Lucas, T. H., & Litt, B. *Spatiotemporal neuronal activation patterns during verbal fluency tasks*. Ninth Annual Meeting of the Society for the Neurobiology of Language. Baltimore, USA. November, 2017.

Jafarpour, A., **Piai, V.**, Lin, J. J., & Knight, R. T. *Human hippocampal pre-activation predicts behavior*. Neuroscience 2017. Washington, USA. November, 2017.

Hoy, C., Anderson, K. L., **Piai, V.**, Lin, J. J., Millan, J. D. R., & Knight, R. T. *Conflict-sensitive high frequency activity and event-related potentials in medial and lateral prefrontal cortex during a Stroop task*. Neuroscience 2017. Washington, USA. November, 2017.

2016

Piai, V., Meyer, L., Dronkers, N. F., & Knight, R. T. *Neuroplasticity of language in left-hemisphere stroke: evidence linking subsecond electrophysiology and structural connectivity*. Eighth Annual Meeting of the Society for the Neurobiology of Language. London, UK. August, 2016.

Supervision

Postdoctoral researchers

Joanna Sierpowska, *Radboud University*
 Jana Klaus, *Radboud University*

2018-present

2017-2018

PhD Candidates

Natascha Roos, *Radboud University*
 Yang Cao, *Radboud University*
 Matteo Mascelloni, *Queensland University of Technology, Australia*
 Adrian Jodzio, *Radboud University*
 Lara Todorova, *Radboud University*
 João Ferreira, *Radboud University*
 Ileana Camerino, *Radboud University*
 Nikki Janssen, *Radboud University*
 Arushi Garg, *Radboud University*

2019-present

2018-present

2017-present

2016-present

Master's Students

I am an associated partner of the Erasmus+ Mundus Joint Master Degree programme in Clinical Linguistics

Main supervision: thesis

Priscila Borges, *European Master in Clinical Linguistics*
 Irina Chupina, *European Master in Clinical Linguistics*
 Christina Papoutsis, *Utrecht University*
 Imke Wets, *Radboud University*
 Cecília Hustá, *University of Groningen*
 Anna Dewenter, *Radboud University*

2020

2019

2018-2019

Laura ten Dijke, <i>University of Amsterdam</i>	2018
Karleen van Dijk, <i>Radboud University</i>	
Elena Rossetto, <i>University of Trento</i>	2017-2018
Natascha Roos, <i>Radboud University</i>	
Rosanne Abrahamse, <i>Radboud University</i>	
Manon Jacobs, <i>Radboud University</i>	2017
Tessa Ruijs, <i>University of Amsterdam</i>	

Co-supervision: thesis

Giulio Severijnen, <i>Radboud University</i> , with James McQueen	2019-2020
Margot Magnus, <i>Radboud University</i> , with Nikki Janssen	2018-2019
Manon Hendriks, <i>Radboud University</i> , with Ton Dijkstra	2017-2018
Svetlana Gerakakis, <i>Radboud University</i> , with Ardi Roelofs	2010-2011
Gabriela Garrido Rodriguez, <i>Radboud University</i> , with Ardi Roelofs	2009-2010

Internship

Sevilay Tokgöz, <i>Radboud University</i>	2020-2021
Juliette Vertregt, <i>University of Groningen</i>	2020
Anne Billot, <i>Pierre-and-Marie-Curie University, France</i>	2017
Nathalie Meyer, <i>École Polytechnique Fédérale de Lausanne, Switzerland</i>	

Bachelor's Students

Honours thesis

Evelien Linders, <i>Radboud University</i>	2020-2021
Laurie Marsman, <i>Radboud University</i>	2019-2020
Joran Muller, <i>Radboud University</i>	
Tamar Ardesch, <i>Radboud University</i>	2018-2019
Rosemarije Weterings, <i>Radboud University</i>	2017-2018

Thesis

Sjoerd van Erp, (co-supervision with I. Camerino and J. Ferreira) <i>Radboud University</i>	2020
Ingeborg Roete, <i>Radboud University</i>	2012

Teaching

<i>Research Master's Programme in Cognitive Neuroscience, Radboud University</i>	
Lecturer for "Cognitive Neuroscience of Memory" (2017-2018), "Trends in Cognitive Sciences" (2018-present), "Neurobiology of Language" (2019-present)	2017-present
<i>Bachelor's Programme in Psychology, Radboud University</i>	
Lecturer for "Brain and Cognition" (2017-2018), "Core theme: Language" (2019-present), "Applied Research Methods" (2020-present)	2017-present

Media and Outreach

Print

[De Volkskrant](#) | [Algemeen Dagblad](#) | [The Asha Leader](#) | [The Daily Californian](#) | [Donders Newsletter](#)

Radio and podcast

[Mindtrace Podcast: The SCIENCE of language](#) | Science Today on CBS Radio News

Online

[Nemo Kennislink 1](#) | [Nemo Kennislink 2](#) | [Nemo Kennislink 3](#) | [California Magazine](#) | [M.D./Alert](#) | [Quartz](#) | [NWO](#) | [ZME_Science](#) | [Science Alert](#) | [Fanpage.it](#)

Outreach

Article contribution to O2, the magazine of the Dutch Association for Physiotherapy within Lymphology and Oncology (NVFL)

2020

Radio interview: [Relatie Brein En Taal](#), *GL8 Media*

2018

Public talk: Hoe werkt ons taalsysteem? Over de relatie tussen taal en hersenen, *Loop- en Ontmoetingscentrum, Molenhoek*

Laureate presentation at Rubicon information meeting, *Radboud University, Nijmegen*

2017

Interview and demo to high school students (Profielwerkstuk)

2016-2017

Co-facilitator for Aphasia Stroke Support Group, *Veterans Affairs Hospital, Martinez, California, USA*

2014-2016

Team member for De Jonge Akademie on Wheels, *Openbaar Zeister Lyceum, Zeist*

2008

Professional Activities

Doctoral Examination Board

Amie Fairs, *Radboud University, Nijmegen*

2019-present

Ana Murteira, *Macquarie University, Sydney, Australia*

PhD Opposition

Radboud University, Nijmegen

2017-present

Flora Vanlangendonck | Natalia Shitova | Ashley Lewis | Jim Herring | Xiaochen Zheng

Recruiting Committees

Radboud University, Max Planck Institute for Psycholinguistics

2016-present

Ad-hoc Reviewer

See my [Publons](#) profile for details

BMC Psychology; Brain and Language; Brain Topography; Cerebral Cortex; Cognition; Collabra; Cortex; Emotion; Frontiers in Human Neuroscience; Frontiers in Language Sciences; Human Brain Mapping; Journal of Cognitive Neuroscience; Journal of Experiment Psychology: General; Journal of

2012-present

Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of the International Neuropsychological Society; Journal of Neurolinguistics; Journal of Neuroscience; Language and Speech; Language, Cognition and Neuroscience; Nature Communications; NeuroImage; Neuropsychologia; PLoS ONE; Proceedings of the National Academy of Sciences; Psychonomic Bulletin & Review; Quarterly Journal of Experimental Psychology

Guest lectures

Language testing during awake brain surgery (and beyond). *University of Groningen, the Netherlands* 2020
Producing words: The eletrophysiology of memory and motor aspects of speaking. *University of Sao Paulo, Brazil* 2019
Tutor for FieldTrip Toolkit, *Nijmegen, the Netherlands* 2019-present

Organisation

Research committee member, *Department of Medical Psychology, Radboudumc, Nijmegen* 2016-present
Co-organiser of Psycholinguistics in Flanders Meeting, *Nijmegen, the Netherlands* 2012
Organiser of the Language Division Meetings, *Donders Centre for Cognition* 2010-2013

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