

# Martijn Baart

Tilburg University  
Dept of Cognitive Neuropsychology  
Warandelaan 2, 5000 LE  
Tilburg, the Netherlands  
m.baart@tilburguniversity.edu  
+ 31 13 466 2408  
www.martijnbaart.com

Scopus ID 25723032500; 132 citations, h-index of 8  
Researcher ID L-2910-2013; 118 citations, h-index of 7  
ResearchGate; 185 citations, h-index of 9  
Google Scholar; 226 citations, h-index of 9

References available upon request

## RESEARCH INTERESTS

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Cognitive psychology, speech and language perception and processing, multisensory integration, cognitive development

## EMPLOYMENT & EXPERIENCE

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|-------------|---|
| 2016 –      | <b>Postdoctoral researcher</b> (with Jean Vroomen)<br>Tilburg University, dept of Cognitive Neuropsychology<br>Tilburg, the Netherlands   |
| 2012 – 2017 | <b>Postdoctoral researcher</b> (with Arthur Samuel)<br>Basque Center on Cognition, Brain and Language<br>Donostia/San Sebastián, Spain  |
| 2007 – 2011 | <b>PhD. student</b> (with Jean Vroomen)<br>Tilburg University, dept of Medical psychology and Neuropsychology<br>Tilburg, the Netherlands<br>Thesis: Phonetic recalibration in audiovisual speech |
| Fall 2010   | <b>Visiting scholar</b> (with Heather Bortfeld)<br>University of Connecticut & Haskins Laboratories<br>Storrs & New haven, CT, USA  |

## EDUCATION

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|------|---|
| 2012 | <b>PhD. in Psychology</b><br>Tilburg University, Tilburg, the Netherlands                                       |
| 2007 | <b>MSc. in Psychology and Mental Health</b> (Cum Laude)<br>Tilburg University, Tilburg, the Netherlands         |
| 2006 | <b>BSc. in Cognitive Neuroscience &amp; Clinical Psychology</b><br>Tilburg University, Tilburg, the Netherlands |

## PUBLICATIONS

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### Journal articles

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15. **Baart, M.**, & Vroomen, J. (accepted/in press). Recalibration of vocal affect by a dynamic face. *Experimental Brain Research*.  
(Q2 journal, 2-year impact factor: 1.917)
14. **Baart, M.**, Lindborg, A., & Andersen, T. S. (2017). Electrophysiological evidence for differences between fusion and combination illusions in audiovisual speech perception. *European Journal of Neuroscience*, *46*(10), 2578-2583.  
doi: 10.1111/ejn.13734 (Q1 journal, 2-year impact factor: 2.941)
13. **Baart, M.**, Armstrong, B. C., Martin, C. D., Frost, R., & Carreiras, M. (2017). Cross-modal noise compensation in audiovisual words. *Scientific Reports*, *7*:42055.  
doi: 10.1038/srep42055 (Q1 journal, 2-year impact factor: 5.228)
12. **Baart, M.** (2016). Quantifying lip-read-induced suppression and facilitation of the auditory N1 and P2 reveals peak enhancements and delays. *Psychophysiology*, *53*(9), 1295-1306.  
doi: 10.1111/psyp.12683 (Q1 journal, 2-year impact factor: 3.074)
11. **Baart, M.**, & Samuel, A. G. (2015). Turning a blind eye to the lexicon: ERPs show no cross-talk between lip-read and lexical context during speech sound processing. *Journal of Memory and Language*, *85*, 42-59.  
doi: 10.1016/j.jml.2015.06.008 (Q1 journal, 2-year impact factor: 4.237)
10. Shaw, K., **Baart, M.**, Depowski, N., Bortfeld, H. (2015). Infants' preference for native audiovisual speech dissociated from congruency preference. *PLOS ONE*, *10*(4): e0126059.  
doi: 10.1371/journal.pone.0126059 (Q1 journal, 2-year impact factor: 3.534)
9. **Baart, M.**, & Samuel, A. G. (2015). Early processing of auditory lexical predictions revealed by ERPs. *Neuroscience Letters*, *585*, 98-102.  
doi: 10.1016/j.neulet.2014.11.044 (Q2 journal, 2-year impact factor: 2.055)
8. **Baart, M.**, Bortfeld, H., & Vroomen, J. (2015). Phonetic matching of auditory and visual speech develops during childhood: Evidence from sine-wave speech. *Journal of Experimental Child Psychology*, *129*, 157-164.  
doi: 10.1016/j.jecp.2014.08.002 (Q1 journal, 2-year impact factor: 2.635)
7. **Baart, M.**, Stekelenburg, J. J., & Vroomen, J. (2014). Electrophysiological evidence for speech specific audiovisual integration. *Neuropsychologia*, *53*, 115-121.  
doi: 10.1016/j.neuropsychologia.2013.11.011 (Q1 journal, 2-year impact factor: 3.477)
6. **Baart, M.**, Vroomen, J., Shaw, K., & Bortfeld, H. (2014). Degrading phonetic information affects matching of audiovisual speech in adults, but not in infants. *Cognition*, *130*, 31-43.  
doi: 10.1016/j.cognition.2013.09.006 (Q1 journal, 2-year impact factor: 3.523)
5. **Baart, M.**, de Boer-Schellekens, L., & Vroomen, J. (2012). Lipread induced recalibration in Dyslexia. *Acta Psychologica*, *140*, 91-95.  
doi: 10.1016/j.actapsy.2012.03.003 (Q2 journal, 2-year impact factor: 2.246)
4. **Baart, M.**, & Vroomen, J. (2010). Phonetic recalibration does not depend on working memory. *Experimental Brain Research*, *203*, 575-582.  
doi: 10.1007/s00221-010-2264-9 (Q2 journal, 2-year impact factor: 2.195)
3. **Baart, M.**, & Vroomen, J. (2010). Do you see what you are hearing? Cross-modal effects of speech sounds on lipreading. *Neuroscience Letters*, *471*, 100-103.  
doi: 10.1016/j.neulet.2010.01.019 (Q2 journal, 2-year impact factor: 2.200)
2. Vroomen, J., & **Baart, M.** (2009). Recalibration of phonetic categories by lipread speech: Measuring after-effects after a twenty-four hours delay. *Language and Speech*, *52*, 341-350.  
doi: 0.1177/0023830909103178 (Q1 journal, 2-year impact factor: 0.757)
1. Vroomen, J., & **Baart, M.** (2009). Phonetic recalibration only occurs in speech mode. *Cognition*, *110*, 254 - 259.  
doi: 10.1016/j.cognition.2008.10.015 (Q1 journal, 2-year impact factor: 3.481)

### Books & chapters

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2. **Baart, M.** (2012). Phonetic Recalibration in audiovisual speech (Doctoral dissertation). Tilburg University, the Netherlands. Printed by Ridderprint BV, Ridderkerk, ISBN: 978-90-5335-511-4.

1. Vroomen, J., & **Baart, M.** (2012). Phonetic recalibration in audiovisual speech. In M. M. Murray and M. T. Wallace (Eds.), *The neural bases of multisensory processes*. (pp. 363-379). Boca Raton (FL): CRC Press.

#### Published Proceedings

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3. Zouridakis, G., **Baart, M.**, Stekelenburg, J. J., & Vroomen, J. (2013). Speech perception: single trial analysis of the N1/P2 complex of unimodal and audiovisual evoked responses. *Proceedings of the 13th IEEE International Conference on Bioinformatics and Bioengineering* (paper ID 165), Chania, Greece.
2. **Baart, M.**, Vroomen, J., Shaw, K., & Bortfeld, H. (2013). Phonetic information in audiovisual speech is more important for adults than for infants; preliminary findings. In S. Ouni, F. Berthomier, & A. Jesse (Eds.). *Proceedings of the 12th International Conference on Auditory-Visual Speech Processing* (pp. 61 - 64), Annecy, France.
1. Vroomen, J., van Linden, S., & **Baart, M.** (2007). Lipread aftereffects in auditory speech perception: Measuring aftereffects after a twenty-four hours delay. In J. Vroomen, M. Swerts & E. Kraemer (Eds.). *Proceedings of the 7th International Conference on Auditory-Visual Speech Processing* (paper P05), Hilvarenbeek, the Netherlands.

#### GRANT SUPPORT

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##### Personal

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|-------------|---|
| 2016 –      | Veni<br>The Netherlands Organization for Scientific Research (NWO)<br>Grant ID: 275-89-027, Speech perception driven by context (245 K€)                                    |
| 2014 – 2016 | Ayuda Formación Posdoctoral<br>Spanish Ministry of Economy and Competitiveness (MINECO)<br>Grant ID: FPD1-2013-15661 (50 K€)  |
| 2012 – 2014 | Rubicon<br>The Netherlands Organization for Scientific Research (NWO)<br>Grant ID: 446-11-014, Unraveling the time-course of phonetic binding (121 K€)                      |
| 2010        | Fulbright visiting scholar (September – November)<br>Fulbright Center, the Netherlands/America Commission for Educational Exchange<br>Grant ID: Infants' speech mode (2 K€) |

##### Other

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|-------------|---|
| 2015 – 2017 | Subprograma Estatal de Generación de Conocimiento, with Marie Pourquié (co-PI)<br>Spanish Ministry of Economy and Competitiveness (MINECO)<br>Grant ID: PSI2014-51874-P, El cerebro hablante: sano y multisensorial (57 K€) |
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#### TEACHING

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##### Graduate courses

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| 2012 – 2016 | Quantitative Methods: Basic Statistical Concepts<br>Basque Center on Cognition Brain and Language & the University of Pais Vasco, Donostia/San Sebastián, Spain |
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##### Undergraduate courses

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|--------|---|
| 2018 – | Professional Skills: Communication Skills (Course ID 500217 [English] & 500014 [Dutch]) |
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	Tilburg University, Tilburg, the Netherlands
	Research Skills in Psychology (Course ID 424531) Tilburg University, Tilburg, the Netherlands
2017 –	Academic Skills (Course ID 500182) Tilburg University, Tilburg, the Netherlands
	Experimental Psychology (Course ID 530038) Tilburg University, Tilburg, the Netherlands
2007 – 2009	Research Practical in Psychology Tilburg University, Tilburg, the Netherlands

### **Workshops/Tutorials**

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Summer 2016	ERP processing and theory (with Nicola Molinaro & Sendy Caffarra) Basque Center on Cognition Brain and Language, Donostia/San Sebastián, Spain
January 2014	ERP processing and analysis (with Sendy Caffarra & Wing Yee Chow) Basque Center on Cognition Brain and Language, Donostia/San Sebastián, Spain

### **PROFESSIONAL ACTIVITIES AND SERVICES**

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#### **Invited talks**

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2. Baart, M. Perceiving non-speech as speech based on a moving mouth. Findings from infants, children, and adults. Beyond Language Learning Workshop, September 29 - 30, 2016, Barcelona, Spain.
1. Baart, M. Hearing with our eyes. Brain Awareness Week, March 9 - 13, 2015, Donostia/San Sebastián, Spain.

#### **Editorial**

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2014 –	Frontiers in Human Neuroscience; Member of editorial board (Review editor)
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#### **Ad hoc reviewer for**

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Journals	Attention, Perception, & Psychophysics Brain Sciences Cerebral Cortex Developmental Science European Journal of Neuroscience Experimental Brain Research Frontiers in Psychology Journal of Cognitive Neuroscience Journal of Cognitive Psychology Journal of Experimental Child Psychology Journal of Memory and Language Journal of Phonetics Journal of the Acoustical Society of America Language Learning (Cognitive Neuroscience Series) Learning and Individual Differences Phonetica Scientific Reports
Funding bodies	2016 NSF; The National Science Foundation, Division of Behavioral and Cognitive Sciences: Linguistics

	2012	NSF; The National Science Foundation, Division of Behavioral and Cognitive Sciences: Perception, Action & Cognition
Conferences	2017	CogSci; The annual meeting of the Cognitive Science Society SNL; The annual meeting of the Society for the Neurobiology of Language
	2016	AMLaP; Architectures and Mechanisms for language processing SNL; The annual meeting of the Society for the Neurobiology of Language
	2015	CogSci; The annual meeting of the Cognitive Science Society
	2014	ISIS; International Conference on Infant Studies (communication and Language panel)

### Conference contributions

36. Baart, M., & Vroomen, J. (2017). Hearing an emotional face: Visual emotion recalibrates auditory perception. Poster at the NVP Winter Conference, December 14 - 16, Egmond aan Zee, the Netherlands.
35. Guediche, S., Baart, M., & Samuel, A. G. (2017). Effects of Semantic Context and Crosslinguistic Interactions on Non-Native Word Recognition in Noise. Poster at the Annual Meeting of the Psychonomic Society, November 9 - 12, Vancouver, Canada.
34. Kartushina, N., Baart, M. & Martin, C. D. (2017). The role of stimulus variability in nonnative sound production learning: evidence from behavioral and neuronal measures. Poster at the 20th Conference of the European Society for Cognitive Psychology (ESCoP), September 3 - 6, Potsdam, Germany.
33. Bortfeld, H., Shaw, K. E., & Baart, M. (2017). Infant sensitivity to audiovisual timing driven by articulator-speech sound relationship. Poster at the 18th International Multisensory Research Forum (IMRF), May 19 - 22, Nashville, USA.
32. Baart, M. (2016). Quantifying early electrophysiological effects of audiovisual speech integration. Poster at the 22nd conference on Architectures and Mechanisms for Language Processing (AMLaP), September 1 - 3, Bilbao, Spain.
31. Lindborg, A., Baart, M., & Andersen, T. (2016). Speech specific audiovisual integration suppresses induced theta-band oscillations. Poster at the 17th International Multisensory Research Forum (IMRF), June 15 - 18, Suzhou, China.
30. Baart, M. (2015). Digitizing the electrophysiological N1 and P2 to reveal general effects of audiovisual speech integration. Poster at the 16th International Multisensory Research Forum (IMRF), June 13 - 16, Pisa, Italy.
29. Baart, M., & Samuel, A.G. (2014). The N200 Lexicality Effect is Unaffected by Lip-read context. Poster at the 55th Annual Meeting of the Psychonomic Society, November 20 - 23, Long Beach, USA.
28. Shaw, K., Gaafar, J., Baart, M., & Bortfeld, H. (2014). Infants perceptually tune to multisensory speech. Poster at the 55th Annual Meeting of the Psychonomic Society, November 20 - 23, Long Beach, USA.
27. Baart M., & Samuel, A.G. (2014). Early robust auditory lexical processing revealed by ERPs. Poster at the 6th Annual Meeting of the Society for the Neurobiology of Language, August 27 - 29, Amsterdam, the Netherlands.
26. Bortfeld, H., Shaw, K., & Baart, M. (2014). Infants can perceive audiovisual speech asynchrony (if it's asynchronous enough). Poster at the 6th Annual Meeting of the Society for the Neurobiology of Language, August 27 - 29, Amsterdam, the Netherlands.
25. Molnar, M., Quiñones, I., Baart, M., Caballero-Gaudes, C., Peña, M., & Carreiras, M. (2014). Neural specialization for native speech processing in young Basque-Spanish monolingual and bilingual infants. Talk at the 2nd Basque Neuroscience Meeting (Neurogune), July 9, Donostia/San Sebastián, Spain.

24. Shaw, K., Baart, M., & Bortfeld, H. (2014). Infants can perceive asynchronies in audiovisual speech. Talk at the 15th International Multisensory Research Forum, June 11 - 14, Amsterdam, the Netherlands.
23. Baart, M., & Samuel, A. G. (2014). Audiovisual speech integration is not modulated by the lexicon. Poster at the 15th International Multisensory Research Forum, June 11 - 14, Amsterdam, the Netherlands.
22. Zouridakis, G., Baart, M., Stekelenburg, J. J., & Vroomen, J. (2013). Speech perception: single trial analysis of the N1/P2 complex of unimodal and audiovisual evoked responses. Talk at the 13th IEEE International Conference on Bioinformatics and Bioengineering, November 10 - 13, Chania, Greece.
21. Molnar, M., Peña, M., Caballero, C., Baart, M., Quiñones, I., & Carreiras, M. (2013). Different neural specializations support native speech processing of young monolingual and bilingual infants. Talk at the 5th Annual Meeting of the Society for the Neurobiology of Language, November 6 - 8, San Diego, USA.
20. Bortfeld, H., Baart, M., Shaw, K., & Vroomen, J. (2013). Infants' audiovisual speech integration does not hinge on phonetic knowledge. Poster at the 5th Annual Meeting of the Society for the Neurobiology of Language, November 6 - 8, San Diego, USA.
19. Molnar, M., Peña, M., Quiñones, I., Baart, M., Caballero, C. & Carreiras, M. (2013). Monolingual and bilingual infants follow different developmental patterns in neural specialization of native speech processing. Poster at the 38th Annual Boston University Conference on Language Development (BUCLD), November 1 - 3, Boston, USA.
18. Molnar, M., Peña, M., Quiñones, I., Baart, M., Caballero, C. & Carreiras, M. (2013). Native speech processing is supported by different neural specialization in young monolingual and bilingual infants. Talk at the International Conference on Multilingualism, October 24 - 25, Montreal, Canada.
17. Molnar, M., Peña, M., Gervain, J., Baart, M., Quiñones, I., & Carreiras, M. (2013). Language discrimination abilities of young Basque-Spanish bilingual infants. Talk at the VIIth International Conference on Language Acquisition (AEAL), September 4 - 6, Bilbao, Spain.
16. Baart, M., Vroomen, J., Shaw, K., & Bortfeld, H. (2013). Phonetic information in audiovisual speech is more important for adults than for infants; preliminary findings. Talk at the International Conference on Auditory-Visual Speech Processing, August 29 - September 1, Annecy, France.
15. Molnar, M., Gervain, J., Peña, M., Baart, M., Quiñones, I., & Carreiras, M. (2013). Language discrimination in monolingual and bilingual infants of Spanish and Basque. Talk at the Workshop on Infant Language Development, June 20 - 22, Donostia/San Sebastián, Spain.
14. Baart, M., Vroomen, J., Shaw, K., & Bortfeld, H. (2013). Infants' audiovisual speech integration does not hinge on phonetic knowledge. Poster at the Workshop on Infant Language Development, June 20 - 22, Donostia/San Sebastián, Spain.
13. Baart, M., de Boer-Schellekens, L., & Vroomen, J. (2013). Lipread-induced phonetic recalibration in Dyslexia. Poster at the International Workshop on Reading and Developmental Dyslexia, May 30 - June 1, Donostia/San Sebastián, Spain.
12. Shaw, K. E., Bortfeld, H., Baart, M., & Vroomen, J. (2013). Infants' audiovisual speech integration hinges on underlying temporal dynamics: Evidence from sine wave speech. Poster at the Biennial Meeting of the Society for Research in Child Development, April 18 - 20, Seattle, USA.
11. Baart, M., Vroomen, J., Shaw, K., & Bortfeld, H. (2013). Infants' audiovisual speech integration does not hinge on phonetic knowledge. Poster at the 5th Workshop on Speech in Noise, January 10 - 11, Vitoria/Gasteiz, Spain.
10. Baart, M., Vroomen, J., Shaw, K., & Bortfeld, H. (2012). Adults rely on phonetic cues when processing audiovisual speech, infants do not. Or do they? Talk at the Annual Meeting of the Psychonomic Society, November 15 - 18, Minneapolis, USA.

9. Shaw, K., Depowski, N., Baart, M., & Bortfeld, H. (2012). Relative influence of language familiarity and congruency in early audiovisual integration. Poster at the Annual Meeting of the Psychonomic Society, November 15 - 18, Minneapolis, USA.
8. Baart, M., Vroomen, J., Shaw, K., & Bortfeld, H. (2012). Infants do not benefit from phonetic information in audiovisual speech; Evidence from Sine-wave speech. Talk at the Workshop on word recognition in monolingual and bilingual infants and adults, November 12, Donostia/San Sebastián, Spain.
7. Depowski, N., Gruenbaum, B., Shaw, K., Baart, M., & Bortfeld, H. (2012). Language specific tuning of audiovisual integration in early development. Poster at the XVIII Biennial International Conference on Infant Studies, June 7 - 9, Minneapolis, USA.
6. Baart, M., Bortfeld, H., & Vroomen, J. (2012). Preferential looking to audiovisual (sine wave) speech in infants. Talk at the Symposium on Auditory Cognition, March 2, Tilburg, the Netherlands.
5. Baart, M., & Vroomen, J. (2010). Phonetic recalibration does not depend on working memory. Poster at the 11th International Multisensory Research Forum, June 16 - 19, 2010, United Kingdom.
4. Vroomen, J., & Baart, M. (2009). Phonetic recalibration only occurs in speech mode. Poster at the 10th International Multisensory Research Forum, June 29 - July 2, New York, USA.
3. Baart, M., & Vroomen, J. (2008). Recalibration of phonetic categories by lipread speech: measuring aftereffects after a twenty-four hours delay. Poster at the 9th International Multisensory Research Forum, July 16 - 19, Hamburg, Germany.
2. Vroomen, J., & Baart, M. (2008). Lipread induced recalibration of phonetic categories: 'speech mode' vs. non-speech mode'. Talk at the Dag van de Perceptie (Perception Day), June 20, TNO, Soesterberg, the Netherlands.
1. Vroomen, J., van Linden, S. & Baart, M. (2007). Lipread aftereffects in auditory speech perception: measuring aftereffects after a twenty-four hours delay. Poster at the Auditory-Visual Speech Processing Conference, August 31 - September 3, Hilvarenbeek, the Netherlands.

**Academic mentor**

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2017 – Tilburg University, Tilburg, the Netherlands

**Member of internal training committee**

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2014 – 2017 Basque Center on Cognition, Brain and Language, Donostia/San Sebastián, Spain

**Member of ombudsman team**

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2014 – 2017 Basque Center on Cognition, Brain and Language, Donostia/San Sebastián, Spain

**Labmeeting coordinator**

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2015 – 2017 Basque Center on Cognition, Brain and Language, Donostia/San Sebastián, Spain

**STUDENTS**

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**Supervision**

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Graduate	2017 –	Faezeh Pourhashemi (primary supervisor: Jean Vroomen) PhD thesis on multisensory speech perception Department of Cognitive Neuropsychology, Tilburg University, Tilburg, the Netherlands
	2016 – 2017	Maria Modelska (co-supervisor: Marie Pourquié) Master thesis on speech aftereffects, self versus others Basque Center on Cognition Brain and Language & the University of Pais Vasco, Donostia/San Sebastián, Spain

	2015 – 2016	Pedro Margolles (co-supervisor: Blair Armstrong) Master thesis on orthographic and phonological interactions Basque Center on Cognition Brain and Language & the University of Pais Vasco, Donostia/San Sebastián, Spain
	Fall 2015	Alma Lindborg (primary supervisor: Tobias Andersen) Research internship on oscillatory activity in audiovisual speech perception Technical University of Denmark, Lyngby, Denmark
	July 2015	Janneke van Roy Introductory research internship on psycholinguistic research Tilburg University, Tilburg, the Netherlands
Undergraduate	2017 – 2018	Jorie van Haren Bachelor thesis on speech perception in context Department of Cognitive Neuropsychology, Tilburg University, Tilburg, the Netherlands

**Evaluation**

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Graduate	2017	Ana Alves Francisco (PhD thesis) Radboud University, Nijmegen, the Netherlands
	2016	Sarah Perret, Elizabeth Hall (Master thesis)
	2014	Asier Zarraga, Saúl Villameriel, Paula Ríos (Master thesis)
	2013	Lei Zhang, Aina Casaponsa (Master thesis)