# William Matchin, Ph.D.

#### **Curriculum Vitae**

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Website: <a href="mailto:www.neurosyntaxlab.org">www.neurosyntaxlab.org</a>



## **Current Appointment**

Assistant Professor Department of Communication Sciences & Disorders

Director, NeuroSyntax Lab

Arnold School of Public Health
University of South Carolina

# **Editor & Conference Organizing**

Program Chair-Elect, Society for the Neurobiology of Language

2022 - 2023

Associate Editor, Frontiers in Language Sciences

2022 – present

Consulting Editor, Journal of Cognitive Neuroscience

2020 - present

Guest Editor, Proceedings of the National Academy of Sciences (PNAS)

2019 – 1 time

## **Education**

Ph.D Cognitive Neuroscience Dept. of Cognitive Sciences 2009-2014

University of California, Irvine

B.A. Psychology University of California, Irvine 2005-2009

Minor in Linguistics

Magna Cum Laude
Phi Beta Kappa

## **Research Interests**

Syntax, sentence processing, psycholinguistics, neurolinguistics, fMRI, aphasia, lesion-symptom mapping.

I work to bridge the gaps between linguistics, neuroscience, and aphasia, particularly with respect to syntax.

#### **Dissertation**

Title: Investigations of the syntax-brain relationship

Supervisors: Prof. Gregory Hickok (Chair)

Prof. Jon Sprouse (Co-Chair)

## **Past Appointments**

Postdoctoral Associate Depts. of Linguistics and Radiology 2016-2018

University of California, San Diego

Prof. Rachel Mayberry Prof. Eric Halgren

Postdoctoral Fellow Dept. of Linguistics 2014-2016

University of Maryland, College Park

Prof. Ellen Lau

Graduate Student Researcher	Dept. of Cognitive Sciences University of California, Irvine Prof. Gregory Hickok	2009-2014
Research Assistant	Dept. of Cognitive Sciences University of California, Irvine Prof. Gregory Hickok	2007-2014

## **Grant funding**

PI: Julius Fridriksson	2021-2025
Mentee: Emily Wood	Spring 2019
Mentee: Hannah Grim	Winter 2020
Mentee: Hannah Grim	Winter 2020
	Mentee: Emily Wood Mentee: Hannah Grim

## **Journal Articles**

- 24. **Matchin, W.**, den Ouden, D. B., Hickok, G., Hillis, A. E., Bonilha, L., & Fridriksson, J. (2022). Reply: The Wernicke conundrum is misinterpreted. *Brain*, awac483, <a href="https://doi.org/10.1093/brain/awac483">https://doi.org/10.1093/brain/awac483</a>.
- 23. **Matchin, W.**, den Ouden, D. B., Hickok, G., Hillis, A. E., Bonilha, L., & Fridriksson, J. (2022). The Wernicke conundrum revisited: evidence from connectome-based lesion-symptom mapping in post-stroke aphasia. *Brain*. <a href="https://doi.org/10.1093/brain/awac219">https://doi.org/10.1093/brain/awac219</a>
- 22. **Matchin, W.**, Basilakos, A., Stark, B. C., Den Ouden, D., Fridriksson, J., & Hickok, G. (2022). Functional differentiation in the language network revealed by lesion-symptom mapping. *NeuroImage*, *247*, 1-12. <a href="https://doi.org/10.1016/j.neuroimage.2021.118778">https://doi.org/10.1016/j.neuroimage.2021.118778</a>
- 21. **Matchin, W.**, Ilkbasaran, D., Hatrak, M., Roth, A., Villwock, A., Halgren, E., & Mayberry, R. I. (2022). The cortical organization of syntactic processing is supramodal: Evidence from American Sign Language. *Journal of Cognitive Neuroscience, 34*(2), 224-235. <a href="https://doi.org/10.1162/jocn\_a\_01790">https://doi.org/10.1162/jocn\_a\_01790</a>
- 20. Stockbridge, M. D., **Matchin, W.**, Walker, A., Breining, B. L., Fridriksson, J., Hillis, A. E., & Hickok, G. (2021). One cat, Two cats, Red cat, Blue cats: Eliciting morphemes from individuals with primary progressive aphasia. *Aphasiology*, *35*(12), 1-12. https://doi.org/10.1080/02687038.2020.1852167
- 19. Stockbridge, M. D., Walker, A., **Matchin, W.**, Breining, B. L., Fridriksson, J., Hillis, A. E., & Hickok, G. (2021). A double dissociation between plural and possessive "s": Evidence from the Morphosyntactic Generation test. *Cognitive Neuropsychology*, *38*(1), 1-8. <a href="https://doi.org/10.1080/02643294.2020.1833851">https://doi.org/10.1080/02643294.2020.1833851</a>
- 18. **Matchin, W.**, & <u>Wood, E</u>. (2020). Syntax-sensitive regions of the posterior inferior frontal gyrus and the posterior temporal lobe are differentially recruited by production and perception. *Cerebral Cortex Communications*, *1*, 1-12. <a href="https://doi.org/10.1093/texcom/tgaa029">https://doi.org/10.1093/texcom/tgaa029</a>
- 17. **Matchin, W.**, Basilakos, A., Stark, B. C., Den Ouden, D., Fridriksson, J., & Hickok, G. (2020). Agrammatism and paragrammatism: a cortical double dissociation. *Neurobiology of Language*, *1*(2), 1-18. <a href="https://doi.org/10.1162/nol\_a\_00010">https://doi.org/10.1162/nol\_a\_00010</a>
- 16. **Matchin, W.** & Hickok, G. (2020). The cortical organization of syntax. *Cerebral Cortex,* 30(3), 1481-1498. <a href="https://doi.org/10.1093/cercor/bhz180">https://doi.org/10.1093/cercor/bhz180</a>
- 15. **Matchin, W.**, Liao, C., Gaston, P., & Lau, E.F. (2019). Same words, different structures: an fMRI investigation of argument relations and the angular gyrus. *Neuropsychologia*, 125, 116-128. https://doi.org/10.1016/j.neuropsychologia.2019.01.019
- 14. Matchin, W., Brodbeck, C., Hammerly, C., & Lau, E.F. (2019). The temporal dynamics of

- structure and content in sentence processing: Evidence from fMRI-constrained MEG. *Human Brain Mapping*, *40*(2), 663-678. https://doi.org/10.1002/hbm.24403
- Hickok, G., Rogalsky, R., Matchin, W., Basilakos, A., Cai, J., Pillay, S., Ferrill, M., Love, T., Binder, J., Fridriksson, J. (2018). Neural Networks Supporting Audiovisual Integration for Speech: A Large-Scale Lesion Study. *Cortex*, 103, 360-371. <a href="https://doi.org/10.1016/j.cortex.2018.03.030">https://doi.org/10.1016/j.cortex.2018.03.030</a>
- 12. Okada, K.\*, **Matchin, W.**\*, & Hickok, G. (2018). Phonological feature repetition-suppression in the left inferior frontal gyrus. *Journal of Cognitive Neuroscience*, *30*(10), 1549-1557. \*This is a joint first-author publication. https://doi.org/10.1162/jocn\_a\_01287
- 11. **Matchin, W.** (2018). A neuronal retuning hypothesis of sentence-specificity in Broca's area. *Psychonomic Bulletin & Review*, *25*(5), 1682-1694. <a href="https://doi.org/10.3758/s13423-017-1377-6">https://doi.org/10.3758/s13423-017-1377-6</a>
- 10. **Matchin, W.**, Hammerly, C., & Lau, E.F. (2017). The role of the IFG and pSTS in syntactic prediction: Evidence from a parametric study of hierarchical structure in fMRI. *Cortex*, 88, 106-123. https://doi.org/10.1016/j.cortex.2016.12.010
- 9. Okada, K., **Matchin, W.**, & Hickok, G. (2017). Neural evidence for predictive coding in auditory cortex during speech production. *Psychonomic Bulletin & Review*, *25*(1), 423-430. <a href="https://doi.org/10.3758/s13423-017-1284-x">https://doi.org/10.3758/s13423-017-1284-x</a>
- 8. **Matchin, W.** & Hickok, G. (2016). 'Syntactic perturbation' during production activates the right IFG, but not Broca's area or the ATL. *Frontiers in Psychology*, *7*, 241. https://doi.org/10.3389/fpsyg.2016.00241
- Venezia, J. H., Fillmore, P., Matchin, W., Isenberg, A. L., Hickok, G., & Fridriksson, J. (2016). Perception drives production across sensory modalities: A network for sensorimotor integration of visual speech. *NeuroImage*, 126, 196-207. https://doi.org/10.1016/j.neuroimage.2015.11.038
- 6. Venezia, J., Thurman, S., **Matchin, W.,** George, S., Hickok, G. (2015). Timing in audiovisual speech perception: A mini review and new psychophysical data. *Attention, Perception, & Psychophysics*, 78(2), 583-601. <a href="https://doi.org/10.3758/s13414-015-1026-y">https://doi.org/10.3758/s13414-015-1026-y</a>
- 5. **Matchin, W.**, Sprouse, J., & Hickok, G. (2014). A structural distance effect for backward anaphora in Broca's area: an fMRI study. *Brain and Language, 138,* 1-11. https://doi.org/10.1016/j.bandl.2014.09.001
- 4. **Matchin, W.,** Groulx, K., & Hickok, G. (2014). Audiovisual speech integration does not rely on the motor system: evidence from articulatory suppression, the McGurk effect and fMRI. *Journal of Cognitive Neuroscience*, *26*(3), 606-620. https://doi.org/10.1162/jocn\_a\_00515
- 3. Okada, K., Venezia, J. H., **Matchin, W.**, Saberi, K., & Hickok, G. (2013). An fMRI study of audiovisual speech perception reveals multisensory interactions in auditory cortex. *PLoS One*, *8*(6), e68959. <a href="https://doi.org/10.1371/journal.pone.0068959">https://doi.org/10.1371/journal.pone.0068959</a>
- 2. Okada, K., Rong, F., Venezia, J., **Matchin, W.**, Hsieh, I.H., Saberi, K., et al. (2010). Hierarchical organization of human auditory cortex: evidence from acoustic invariance in the response to intelligible speech. *Cerebral Cortex*, 20(10), 2486-2495. <a href="https://doi.org/10.1093/cercor/bhp318">https://doi.org/10.1093/cercor/bhp318</a>
- Rogalsky, C., Matchin, W., & Hickok, G. (2008). Broca's area, sentence comprehension, and working memory: an fMRI study. Frontiers in Human Neuroscience, 2. <a href="https://doi.org/10.3389/neuro.09.014.2008">https://doi.org/10.3389/neuro.09.014.2008</a>

## **Articles in preparation**

5. Melissa D. Stockbridge, M. D., **Matchin, W.**, DeLuque, E., Sharif, M., Fridriksson, J., Faria, A. V., & Hillis, A. E. (in review). Mary has a little chair: Eliciting noun-modifier phrases in individuals with acute post-stroke aphasia. Submitted to *Aphasiology*.

- 4. **Matchin, W.**, Almeida, D., Sprouse, J., & Hickok, G. (in prep). Semantic processing triggered by subject island violations (but not phrase structure violations): evidence from fMRI.
- 3. Matchin, W. Language acquisition as neuronal retuning: a minimalist perspective (in prep).
- 2. <u>Fahey, D., Igoe, J.</u>, Fridriksson, J., Hickok, G., **Matchin, W.** (in prep). Localizing syntactic comprehension through syntactic acceptability judgments & lesion symptom mapping.
- 1. **Matchin, W.**, Basilakos, A., Stark, B., den Ouden, D. B., Fridriksson, J., & Hickok, G. (in review). Grammatical parallelism in aphasia revisited. Submitted to *Neurobiology of Language*.

## **Book Chapters**

- 4. **Matchin, W.** (in press). Neurolinguistics. In: *The Cambridge Handbook of Minimalism*. Grohmann, K.K., Leivada, E. (Eds.). Cambridge University Press.
- 3. **Matchin, W.** (2021). Neuroimaging. In: *The Cambridge Handbook of Experimental Syntax*. Goodall, G. (editor). Cambridge University Press.
- 2. **Matchin, W**. & Rogalsky, C. (2023). Aphasia and syntax. In: *The Oxford Handbook of Experimental Syntax*. Sprouse, J. (editor). Oxford University Press.
- 1. Venezia, J., **Matchin, W.**, & Hickok, G. (2015). Audiovisual integration. In: *Brain Mapping: An Encyclopedic Reference*. Toga A.W., Poldrack R.A. (Eds.). Amsterdam: Elsevier.

## **Invited Talks**

- 12. **Matchin, W.** (January 2023). The Wernicke conundrum revisited. Invited lecture at Cognitive, Auditory, and Neural Bases of Language and Speech (CANBLS) at Duke University. (virtual)
- 11. **Matchin, W.** (September 2022). The Wernicke conundrum revisited. Invited lecture at the Center for the Study of Aphasia Recovery (C-STAR) at the University of South Carolina.
- 10. **Matchin, W.** (March 2022). The Wernicke Conundrum Revisited. Invited colloquium talk, Dept. of Language and Cognition, University College London (virtual).
- 9. **Matchin, W.** (October 2021). Grammatical Parallelism in Aphasia Revisited. Invited keynote lecture, presented at the international symposium "Leipzig Lectures on Language" at the Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig. (virtual).
- 8. **Matchin, W.** (June 2021). The cortical organization of syntax and aphasia. Invited lecture, presented at the international colloquium "The Representation of Language in Brains and Machines" at the Collège de France, Paris.
- 7. **Matchin, W.** (March 2021). The cortical organization of syntax. Invited lecture, presented at the 44<sup>th</sup> Annual Penn Linguistics Conference at the University of Pennsylvania (virtual presentation).
- 6. **Matchin, W.** (July 2020). Paragrammatism and the cortical organization of syntax. Invited colloquium talk, Dept. of Speech and hearing Science, Arizona State University (virtual).
- 5. **Matchin, W.** (December 2019). Paragrammatism and the cortical organization of syntax. Invited colloquium talk, Dept. of Hearing and Speech Sciences, Vanderbilt University.
- 4. **Matchin, W.** (2018). The temporal dynamics of structure and content: evidence from fMRI-constrained MEG. Invited colloquium talk at the Institute for Mind and Brain, the University of South Carolina, October 23.
- 3. **Matchin, W.** (2018). Theoretical linguistics within cognitive science: A crisis? Invited talk and chair of roundtable discussion. SinFonIJA 11, Kraków, Poland.
- 2. **Matchin**, **W.** (2018). The cortical organization of syntax. Invited lecture presented at the Institute of English Studies of the Jagiellonian University in Kraków, Poland, October 12.
- 1. **Matchin, W.** (2018). The cortical organization of syntax. Invited lecture at the Center for the Study of Aphasia Recovery (C-STAR) at the University of South Carolina, August 30.

#### **Scientific Presentations**

Trainee names are underlined

- 58. <u>Fahey, D.</u>, Yeaton, J., Stark, B. C., Fridriksson J., Hickok, G., **Matchin, W.** (2022).

  Analyses of agrammatic & paragrammatic speech: A comparison of discourse & utterance level analyses. Poster presented at the 60<sup>th</sup> annual meeting of the Academy of Aphasia.
- 57. **Matchin, W.**, den Ouden, D. B., Hickok, G., Hillis, A. E., Bonilha, L., Fridriksson, J. (2022). The Wernicke conundrum revisited: evidence from connectome-based lesion-symptom mapping in post-stroke aphasia. Talk presented at the 60<sup>th</sup> annual meeting of the Academy of Aphasia.
- 56. <u>Fahey, D.</u>, Yeaton, J., Stark, B. C., Fridriksson J., Hickok, G., **Matchin, W.** (2022). Utterance-level analyses of grammatical errors in aphasic discourses. Poster presented at the Society for the Neurobiology of Language.
- 55. **Matchin, W.**, den Ouden, D. B., Hickok, G., Hillis, A. E., Bonilha, L., Fridriksson, J. (2022). The Wernicke conundrum revisited: evidence from connectome-based lesion-symptom mapping in post-stroke aphasia. Poster presented at the Society for the Neurobiology of Language.
- 54. **Matchin, W.**, Basilakos, A., Stark, B.C., den Ouden, D.B., Fridriksson, J., Hickok, G. (2022). Grammatical parallelism in aphasia revisited. Poster presented at the Society for Human Sentence Processing (HSP) (virtual).
- 53. <u>Fahey, D., Igoe, J., Fridriksson, J., Hickok, G., **Matchin, W.** (2022). Anomalous sentence processing by people with aphasia and age-matched controls. Poster presented at the Society for Human Sentence Processing (HSP) (virtual).</u>
- 52. <u>Fahey, D., Igoe, J.,</u> Fridriksson, J., Hickok, G., **Matchin, W.** (2021). Localizing syntactic comprehension through syntactic acceptability judgments & lesion symptom mapping. Poster presented at the 59<sup>th</sup> annual meeting of the Academy of Aphasia.
- 51. **Matchin, W.**, Stockbridge, M.D., Walker, A., Breining, B., Hillis, A.E., Fridriksson, J., Hickok, G. (2021). Distinct aspects of phrasal production are associated with distinct lesion correlates in chronic post-stroke aphasia. Poster presented at the 59<sup>th</sup> annual meeting of the Academy of Aphasia.
- 50. **Matchin, W.**, Basilakos, A., Stark, B.C., den Ouden, D.B., Fridriksson, J., Hickok, G. (2021). Grammatical parallelism in aphasia revisited: a common lesion substrate for syntactic production and comprehension deficits in the posterior temporal lobe. Talk presented at the 59<sup>th</sup> annual meeting of the Academy of Aphasia.
- 49. <u>Fahey, D., Igoe, J.,</u> Fridriksson, J., Hickok, G., **Matchin, W.** (2021). Localizing syntactic comprehension through syntactic acceptability judgments & lesion symptom mapping. Slide Slam (poster) presented at the 13<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 48. **Matchin, W.**, Stockbridge, M.D., Walker, A., Breining, B., Hillis, A.E., Fridriksson, J., Hickok, G. (2021). Distinct aspects of phrasal production are associated with distinct lesion correlates in chronic post-stroke aphasia. Slide Slam (poster) presented at the 13<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 47. **Matchin, W.**, Basilakos, A., Stark, B.C., den Ouden, D.B., Fridriksson, J., Hickok, G. (2021). Grammatical parallelism in aphasia revisited: a common lesion substrate for syntactic production and comprehension deficits in the posterior temporal lobe. Slide Slam (poster) presented at the 13<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 46. Matchin, W. (October 2020). The Language Organ. Talk presented at the Center for

- Research on Language, UCSD (virtual).
- 45. <u>Fahey, D.,</u> Fridriksson, J., Hickok, G., **Matchin, W.** (2020). Localizing syntactic comprehension through syntactic acceptability judgments & lesion symptom mapping. Poster presented at the 12<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 44. **Matchin, W.**, Basilakos, A., den Ouden, D.B., Stark, B.C., Hickok, G., Fridriksson, J. (2020). Neuroanatomical dissociations of syntax and semantics revealed by lesion-symptom mapping. Poster presented at the 12<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 43. **Matchin, W.**, <u>Wood, E.</u> (2020). Syntax-sensitive regions of the posterior inferior frontal gyrus and the posterior temporal lobe are differentially recruited by production and perception. Poster presented at the 12<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 42. Matchin, W. (July 2020). The language organ: architecture and development. Talk presented in the Abralin ao vivo Linguists Online series of the Brazilian Linguistics Association (virtual).
- 41. **Matchin, W.** (April 2020). The Language Organ. Colloquium talk, Program in Linguistics, University of South Carolina (virtual).
- 40. Stockbridge, M.D., **Matchin, W.**, Walker, A., Adams, L., Breining, B., Fridriksson, J., Hickok, G., Hillis, A.E. (2020). Dissociable deficits in morphosyntactic production in post-stroke aphasia and primary progressive aphasia. Poster presented at the Clinical Aphasiology Conference.
- 39. Wood, E. & **Matchin, W.** (March 2020). Syntactic working memory. Poster presented at the 27<sup>th</sup> annual Cognitive Neuroscience Society (virtual).
- 38. **Matchin, W.**, Basilakos, A., Stark, B.C., den Ouden, D.B., Fridriksson, J., Hickok, G. (2019). Paragrammatism and Agrammatism: a cortical double dissociation revealed by lesion-symptom mapping. Talk presented at the 57<sup>th</sup> annual meeting of the Academy of Aphasia.
- 37. **Matchin, W.**, Luke Adams, Whitney Footman, Emily Wood, Julius Fridriksson, Argye Hillis, Gregory Hickok. (2019). The morphosyntactic generation (MorGen) task: quantifying dissociable production deficits in post-stroke aphasia and primary progressive aphasia. Poster presented at the University of South Carolina Dept. of Communication Sciences and Disorders 'Get the Message' conference.
- 36. Basilakos, A., Stark, B.C., **Matchin, W.**, den Ouden, D.B., Fridriksson, J., Hickok, G. (2019). Rating Paragrammatism in Speakers with Aphasia: Methods and Reliability. Poster presented at the Annual ASHA Convention, Orlando.
- 35. **Matchin, W.**, Basilakos, A., den Ouden, D.B., Stark, B.C., Fridriksson, J., Hickok, G. (2019). Paragrammatism, agrammatism and the cortical organization of syntax: a lesion-symptom mapping study. Poster presented at the 11<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 34. **Matchin, W.**, Basilakos, A., den Ouden, D.B., Stark, B.C., Fridriksson, J., Hickok, G. (2019). Paragrammatism: a lesion-symptom mapping study. Poster presented at the 26th Annual Meeting of the Cognitive Neuroscience Society, San Francisco.
- 33. Mayberry, R., Hatrak, M., Ilkbasaran, D., **Matchin, W.**, Villwock, A., Roth, A., & Halgren, E. (2018). Syntactic development and neurolinguistic processing go hand in hand: Evidence from early vs late L1 acquisition of ASL. Talk presented at the Boston University Conference on Child Language, Boston.
- 32. Villwock, A., **Matchin, W.**, Roth, A., Ilkbasaran, D., Hatrak, M., Davenport, T., Halgren, E. & Mayberry, M. (2018). The neural basis of syntactic processing in American Sign Language: An fMRI study. Poster presented at the 13<sup>th</sup> High Desert Linguistics Society Conference.

- 31. **Matchin, W.**, Brodbeck, C., Hammerly, C., & Lau, E. (2018). The temporal dynamics of structure and content in the language network. Talk presented at the 31<sup>st</sup> CUNY sentence processing conference.
- 30. **Matchin, W.**, Almeida, D., Sprouse, J., & Hickok, G. (2018). Semantic processing triggered by subject island violations (but not phrase structure violations): evidence from fMRI. Poster presented at the 31<sup>st</sup> CUNY sentence processing conference.
- 29. **Matchin, W.** (2018). The neurobiology of language: insights both from and for linguistic theory. Talk presented at the UCLA Linguistics Department psycholinguistics seminar.
- 28. **Matchin, W.**, Almeida, D., Sprouse, J., & Hickok, G. (2018). Semantic processing triggered by subject island violations (but not phrase structure violations): evidence from fMRI. Poster presented at the 92<sup>nd</sup> Annual Meeting of the Linguistic Society of America.
- 27. **Matchin, W.**, Almeida, D., Sprouse, J., & Hickok, G. (2017). Semantic processing triggered by subject island violations (but not phrase structure violations): evidence from fMRI. Talk presented at the first CAlifornia Meeting on Psycholinguistics (CAMP) 2017.
- 26. **Matchin, W.**, Villwock, A., Roth, A., Ilkbasaran, D., Hatrak, M., Davenport, T., Halgren, E. & Mayberry, M. (2017). The cortical organization of syntactic processing in American Sign Language: Evidence from a parametric manipulation of constituent structure in fMRI and MEG. Poster presented at the 9<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 25. **Matchin, W.**, & Hickok, G. (2017). A syntax area in the posterior superior temporal sulcus. Poster presented at the 9<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 24. Okada, K., **Matchin, W.,** & Hickok, G. (2017). Phonological Feature Repetition Suppression in the Left Inferior Frontal Gyrus. Poster presented at the 9<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 23. Villwock, A., **Matchin, W.**, Roth, A., Ilkbasaran, D., Hatrak, M., Davenport, T., Halgren, E. & Mayberry, M. (2017). The cortical organization of syntactic processing in American Sign Language: Evidence from a parametric manipulation of constituent structure in fMRI and MEG. Poster presented at the 47<sup>th</sup> annual meeting of the Society for Neuroscience.
- 22. **Matchin, W.** (2017). The cortical organization of syntactic processing in American Sign Language. Talk presented at the Center for Research on Language, UCSD.
- 21. **Matchin, W**., Liao, C., Gaston, P., & Lau, E.F. (2017). An fMRI investigation of argument structure and syntactic selection. Poster presented at the 24<sup>th</sup> annual meeting of the Cognitive Neuroscience Society.
- 20. **Matchin, W.** (January 2017). Structure and Content in Real-time: an integrated theory of syntax. Linguistics Dept. Colloquium talk, UC Irvine.
- 19. **Matchin, W.** (November 2016). On the relation between syntactic theory and sentence processing, and a theory of island phenomena. Linguistics Dept. Colloquium talk, UCSD.
- 18. **Matchin, W.** (2016). On the relation between syntactic theory and sentence processing, and a theory of island phenomena. Talk presented at the Center for Research on Language, UCSD.
- 17. **Matchin, W.**, Hammerly, C., Lau, E. (2015). A parametric study of hierarchical structure-building in fMRI and MEG. Poster presented at the 7<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 16. **Matchin, W.**, Hickok, G. (2014). A novel approach to investigating the neural correlates of syntax: a 'syntactic perturbation' paradigm during sentence production. Poster presented at the 6<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 15. Venezia, J., Fillmore, P., **Matchin, W.**, Isenberg, A.L., Hickok, G., Fridriksson, J. (2014). Cortical network for sensorimotor integration of audio-visual speech. Poster presented at the 6<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 14. Matchin, W. & Hickok, G. (2014). A 'syntactic perturbation' paradigm during sentence

- production reveals sentence processing networks in the brain. Poster presented at the 21<sup>st</sup> annual meeting of the Cognitive Neuroscience Society.
- 13. **Matchin, W.**, Sprouse, J., Hickok, G. (2013). A syntactic distance effect for backwards anaphora in Broca's area: an fMRI study. Poster presented at the 5<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 12. Venezia, J., Thurman, S., **Matchin, W.**, George, S., Hickok, G. (2013). Mapping the timecourse of visual interference on auditory speech perception: A novel application of the McGurk effect. Poster presented at the 5<sup>th</sup> annual meeting of the Society for the Neurobiology of Language.
- 11. **Matchin, W.** & Hickok, G. (2013). Audiovisual speech integration does not rely on the motor system: evidence from articulatory suppression, the McGurk effect and fMRI. Poster presented at the 20<sup>th</sup> annual meeting of the Cognitive Neuroscience Society.
- 10. **Matchin, W.**, Ferrill, M., Rogalsky, C., Love, T., Hickok, G. (2012). Audiovisual speech integration does not rely on the motor system: evidence from intact McGurk fusion in Broca's aphasia. Poster presented at the 4<sup>th</sup> annual Neurobiology of Language Conference.
- 9. **Matchin, W.,** Ferrill, M., Rogalsky, C., Love, T., Hickok, G. (2012). Audiovisual speech integration does not rely on the motor system. Talk presented at the 42<sup>nd</sup> annual meeting of the Society for Neuroscience.
- 8. **Matchin, W**., Sprouse, J., & Hickok ,G. (2012). Broca's area shows a distance effect for both syntactic movement and backwards anaphora in fMRI. Poster presented at the 25<sup>th</sup> CUNY Sentence Processing Conference.
- 7. **Matchin, W**., Sprouse, J., & Hickok ,G. (2012). Broca's area shows a distance effect for both syntactic movement and backwards anaphora in fMRI. Poster presented at the 19<sup>th</sup> annual meeting of the Cognitive Neuroscience Society.
- 6. **Matchin, W**. & Hickok, G. (2011). Visual speech and speech production rely on separate cognitive networks: evidence from articulatory suppression, the McGurk effect and fMRI. Talk presented at the 2<sup>nd</sup> annual Southern California Cognitive Neuroscience Meeting.
- 5. Okada, K., **Matchin, W**., Alshara, S., & Hickok, G. (2012). A hierarchy of internal forward models in speech production. Poster presented at the 19<sup>th</sup> annual meeting of the Cognitive Neuroscience Society.
- 4. **Matchin, W**. & Hickok, G. (2011). Visual speech and speech production rely on separate cognitive networks: evidence from articulatory suppression, the McGurk effect and fMRI. Poster presented at the 3<sup>rd</sup> annual Neurobiology of Language Conference.
- 3. **Matchin, W**., Ferril, M., Rogalsky, C., Love, T., & Hickok, G. (2011). Role of the motor system in audio-visual speech integration: evidence from the McGurk effect in Broca's aphasia. Poster presented at the 18<sup>th</sup> annual meeting of the Cognitive Neuroscience Society.
- 2. Okada, K., Venezia, J., **Matchin, W**., Saberi, K., & Hickok, G. (2010). Activity in primary auditory cortex is enhanced by visual speech. Poster presented at the 2<sup>nd</sup> annual Neurobiology of Language Conference.
- 1. Okada, K., Venezia, J., **Matchin, W.**, Saberi, K., Serences, J., & Hickok, G. (2009). Early auditory cortical regions discriminate intelligible from unintelligible speech. Poster presented at the 1<sup>st</sup> Neurobiology of Language Conference.

#### **Guest Lectures**

- 4. March 2020. The cortical organization of syntax. University of Georgia, Dept. of Linguistics. Instructor: John Hale.
- 3. November 2019. Syntax and the brain. Indiana University Bloomington, Dept. of Speech and Hearing Sciences. Instructor: Brielle C. Stark.

- 2. April 2019. Sign language and the brain. University of South Carolina, Dept. of Communication Sciences and Disorders. Instructor: Dirk den Ouden.
- 1. October 2018. The cortical organization of syntax. Jagiellonian University (Kraków, Poland)

# Ad-hoc Reviewer - Journal

Nature Human Behavior, Nature Communications, Neuron, Glossa, Neurobiology of Language, PNAS, NeuroImage, Cerebral Cortex, eLife, PLoS Biology, Human Brain Mapping, Psychological Science, Philosophical Transactions of the Royal Society B, Cortex, Journal of Cognitive Neuroscience, Psychonomic Bulletin and Review, European Journal of Neuroscience, Brain and Language, Cognitive Psychology, Language, Cognition and Neuroscience, Journal of Neurolinguistics, Scientific Reports, PLoS One, Neuropsychologia, JSLHR, Aging Brain, Neuroscience Letters, Ear and Hearing, Experimental Brain Research, Frontiers in Psychology, Brain Structure and Function, Brain Research

## Ad-hoc Reviewer – Funding Agencies

National Science Foundation, Austrian Academy of Sciences Doctoral Fellowship Program

**Professional Memberships** 

Cognitive Neuroscience Society	2010-2020
Society for the Neurobiology of Language	2011-present
Society for Neuroscience	2012-2018
Linguistics Society of America	2017-2018
Academy of Aphasia	2021-present

**Teaching** 

reaching		
COMD570: Language Development	Professor	Summer 2023
COMD570: Language Development	Professor	Spring 2023
COMDJ570: Language Development	Professor	Summer 2022
COMD570: Language Development	Professor	Summer 2022
COMD822: Normal bases of Speech Production	Professor	Spring 2022
COMD570: Language Development	Professor	Summer 2021
COMD823: Normal Bases of Language	Professor	Spring 2021
COMD570: Language Development	Professor	Summer 2020
COMD822: Normal Bases of Speech Production	Professor	Spring 2020
COMD570: Language Development	Professor	Summer 2019
LIGN101: Intro. to the Study of Language	Lecturer	Spring 2018
ESL 4C (intermediate)	Volunteer Instructor	Summer 2015
ESL Basic B (beginner)	Volunteer Instructor	Spring 2015
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Summer 2014
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Spring 2014
Psychology 56L: Acquisition of Language	Teaching Assistant	Winter 2014
Psychology 9A: Psychology Fundamentals	Teaching Assistant	Fall 2013
Linguistics 10: Introduction to Phonology	Lecturer	Summer 2013
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Winter 2013
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Fall 2012
Linguistics 20: Introduction to Syntax	Lecturer	Summer 2012
Linguistics 10: Introduction to Phonology	Lecturer	Summer 2012
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Spring 2012
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Winter 2012
Linguistics 3: Introduction to Linguistics	Teaching Assistant	Fall 2011
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Psychology 161: Language and the Brain Teaching Assistant Psychology 9A: Psychology Fundamentals Teaching Assistant Winter 2011 Psychology 155: Psychology of Language Teaching Assistant Teaching Assistant Fall 2010 Linguistics 10: Introduction to Phonology Teaching Assistant Psychology 159: Creating Languages Teaching Assistant Fall 2009

In addition, I have given several guest lectures in Psychology, Linguistics and Neuroscience at Whittier College, University of Maryland, UC San Diego, Jagellonian University (Kraków), Indiana University Bloomington, and University of Georgia.

## **Student/Postdoc Supervision**

Danielle Fahey, PhD – Postdoctoral Scholar Supervisor
Julia Igoe, B.S. – Undergraduate Research Mentor
Lisa Johnson, PhD – PhD Committee Member
Jeremy Yeaton – PhD Graduate Student Research Mentor
Emily Wood B.S. – Honors College Undergraduate Thesis Supervisor
Hannah Grim (est. completion, 2023) B.S. – Magellan Grant thesis advisor
Rachael Lobb – Undergraduate Research Mentor
Emma Hanson – Undergraduate Research Mentor
Sarah Germany – Undergraduate Research Mentor
Cecilia Cherico – Undergraduate Research Mentor, Magellan Grant

Technical Skills

Programming Matlab/PsychToolBox

UNIX/LINUX

Languages English (native)

Kat McConnell – Undergraduate Research Mentor

American Sign Language (moderate)

French (beginner)
Persian (beginner)

# **Workshops and Blog Posts**

Host & Moderator: Hickok & Poeppel 20-year retrospective.

https://youtu.be/6GgeLbhXeCg

Organizer and Host: CUNY 2020 Remote Data Collection Workshop.

https://youtu.be/d6PnglLXwWQ

Talking Brains: Review of W. T. Fitch's *Evolution of Language* 

http://www.talkingbrains.org/2014/01/tecumseh-fitchs-evolution-of-language.html

Talking Brains: Broca's area doesn't care what you do syntactically

http://www.talkingbrains.org/2014/10/brocas-area-doesnt-care-what-you-do.html

Talking Brains: What's the right hemisphere doing?

http://www.talkingbrains.org/2016/02/whats-right-hemisphere-doing-guest-post.html

Talking Brains: Abstractness, innateness, and modality-independence of language http://www.talkingbrains.org/2017/11/abstractness-innateness-and-modality.html

Talking Brains: Reply to Jarvis

http://www.talkingbrains.org/2018/01/reply-to-erich-jarvis-by-william-matchin.html

Faculty of Language: Brains and syntax: part 1

http://facultyoflanguage.blogspot.com/2016/09/brains-and-syntax.html

Faculty of Language: Brains and syntax: part 2

http://facultyoflanguage.blogspot.com/2016/09/brains-and-syntax-part-2.html

Faculty of Language: Reflections on SinFonIJA 11: part 1

http://facultyoflanguage.blogspot.com/2018/11/guest-post-by-william-matchin.html

Faculty of Language: Reflections on SinFonIJA 11: part 2

http://facultyoflanguage.blogspot.com/2018/11/guest-post-by-william-matchin-on.html

## Service/volunteer activities

<u>Gervice/volunteer activities</u>	
UofSC COMD Student Wellness Committee	2021-
UofSC Graduate Council	2021-
UofSC ASPH Student Awards Committee	2020
UofSC COMD Master's Program Admissions Committee	2020-2021
UofSC COMD Frank Scholarship Committee Leader	2019-2021
Our Revolution South Carolina	2018-2020
Secretary	2019-2020
Member & Volunteer	2018-2020
UofSC Institute for Mind and Brain Annual Conference	2018-2019
Organizer	
UofSC Faculty Senate	2018-2021
COMD Senate representative	
UofSC COMD Doctoral Program Committee	2018-
Member	
UofSC COMD Summative Assessment Committee	2018-
Member	
Local school visits to UMD Language Science Center	2015-2016
Presenter	
Washington English Center	Winter-Summer 2015
Volunteer ESL Instructor	
UMD Language Science Center "Winter Storm"	Winter 2015
Special interest group discussion leader:	
"Technology and language"	
Climatepedia: climate change advocacy & education	Spring 2014
Member/Volunteer	
UCI Cognitive Sciences Department	2013-2014
Graduate Liaison	
Irvine Unified School District Annual Science Fair	2013-2014
Volunteer Judge	
Irvine Unified School District "Ask-A-Scientist Night"	2012
Volunteer Panel Member	