

Hannah Claussenius-Kalman

Laboratory for the Neural Bases of Bilingualism
Developmental, Behavioral, & Cognitive Neuroscience
Department of Psychology
University of Houston
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EDUCATION

University of Houston – Developmental, Cognitive, & Behavioral Neuroscience
Ph.D. candidate (To be completed 2020)
M.A. (2018)
Pacific University, Oregon – Psychology with Neuroscience emphasis; Spanish minor
B.A. Summa cum laude (2016)
Study Abroad
Università Lorenzo de' Medici, Italy (2015)
Universidad Pablo De Olavide, Spain (2014)

RESEARCH INTERESTS

Cognitive psychology; Cognitive neuroscience; Executive function; Neural bases of bilingualism; Individual differences in foreign language learning success

PUBLICATIONS

- Claussenius-Kalman, H.**, Vaughn, K. A., Archila-Suerte, P., & Hernandez, A. E. (in preparation). Bilingual Language Balance Predicts Cortical Structure. To be submitted to *Cerebral Cortex*.
- Claussenius-Kalman, H.**, Li, P., & Hernandez, A. E. (in preparation). Ecosystem, Expertise, and Emergentism: Language Diversity and the Multilingual Brain. Invited article for *Frontiers in Psychology*.
- Claussenius-Kalman, H.**, Vaughn, K. A., Archila-Suerte, P., & Hernandez, A. E. (2019). Age of Acquisition Impacts the Brain Differently Depending on Neuroanatomical Metric. *Human Brain Mapping*, 1-19. <https://doi.org/10.1002/hbm.24817>
- Claussenius-Kalman, H.** & Hernandez, A. E. (2019). The Neurocognitive Effects of Multilingualism throughout the Lifespan. Chapter in J. W. Schwieter (Ed.), *The Handbook of the Neuroscience of Multilingualism*. Hoboken, NJ: Wiley-Blackwell.

Hernandez, A. E., **Claussenius-Kalman, H.**, Ronderos, J., Castilla-Earls, A., Sun, L., Weiss, S., & Young, D. (2019). Neuroemergentism: A Framework for Studying Cognition and the Brain. *The Journal of Neurolinguistics*, 49. doi:10.1016/j.jneuroling.2017.12.010

Hernandez, A. E. **Claussenius-Kalman, H.**, Ronderos, J., & Vaughn, K. A. (2018). Symbiosis, Parasitism, and Bilingual Cognitive Control: A Neuroemergentist Perspective. *Frontiers in Psychology*, 9(2171). doi: 10.3389/fpsyg.2018.02171

Hernandez, A. E., Ronderos, J. & **Claussenius-Kalman, H.** (2018). Neurocomputational Emergentism as a Framework for Language Development. Chapter in K. D. Federmeier and D. G. Watson (Eds.), *Psychology of Learning and Motivation*. <https://doi.org/10.1016/bs.plm.2018.08.010>

PROFESSIONAL PRESENTATIONS

Claussenius-Kalman, H. (Nov 14, 2019). Neural Mechanisms underlying Literacy: Preliminary Results from a Study of English Language Learners with Typical and Atypical Reading Development. Oral Presentation. University of Houston, Houston, Texas.

Claussenius-Kalman, H., Vaughn, K. A., Archila-Suerte, P., & Hernandez, A. E. (Oct 21, 2019). Age of Acquisition Impacts the Brain Differently Depending on Neuroanatomical Metric. Poster Presentation. Society for Neuroscience. McCormick Convention Center, Chicago, Illinois.

Claussenius-Kalman, H., Archila-Suerte, P., Vaughn, K., & Hernandez, A. E. (June 7, 2019). Effects of Language Experience Differ According to Neuroanatomical Metric. Poster Presentation. Symposium on Language Emergence. Carnegie Mellon University, Pittsburgh, Pennsylvania.

Claussenius-Kalman, H. (Oct 31, 2018). Age of Acquisition and Brain Structure in Bilinguals and Monolinguals: A Master's Thesis Defense. Oral Presentation. University of Houston, Houston, Texas.

Claussenius-Kalman, H., Archila-Suerte, P., Vaughn, K., & Hernandez, A. E. (Sept 28, 2018). Age of Acquisition and Three Measures of Brain Structure in Bilinguals and Monolinguals. Poster Presentation. ARMADILLO (Association for Research on Memory, Attention, Decision-making, Intelligence, Learning, and Language Organization). Rice University, Houston, Texas.

Claussenius-Kalman, H., Archila-Suerte, P., Vaughn, K., & Hernandez, A. E. (May 10, 2018). Age of Acquisition and Cortical Thickness in Bilinguals. Poster Presentation. Bilingual Research Conference, University of Texas Health and Science Center, Houston, Texas.

Claussenius-Kalman, H. (Apr 13, 2018). Comparison of Three Brain Structure Metrics to Analyze Age of Second Language Acquisition in Bilinguals and Monolinguals. Oral Presentation. University of Houston, Houston, Texas.

Claussenius-Kalman, H., Archila-Suerte, P., Vaughn, K., & Hernandez, A. E. (Nov 10, 2017). Age of Acquisition and Cortical Thickness in Bilinguals. Poster Presentation. Society for the Neurobiology of Language, Baltimore, Maryland.

Claussenius-Kalman, H. (Apr 28, 2017). Cognitive Flexibility, Individual Differences, and Novel Word Learning in Monolingual and Bilingual Adults. Oral Presentation. University of Houston, Houston, Texas.

Claussenius-Kalman, H., Wengeler, J. (Feb 28, 2016). Suckle and Smell: Abnormal Repetitive Behavior Among Three Captive Southern Sea Otters. Oral Presentation. Oregon Academy of Science, Pacific University, Forest Grove, Oregon.

Claussenius-Kalman, H., Wengeler, J. (July 15, 2015). Enclosure Utilization, Interaction Quality, and Activity Variability among Three Captive Southern Sea Otters. Oral Presentation. Pacific Research Institute for Science and Mathematics, Pacific University, Forest Grove, Oregon.

TEACHING EXPERIENCE

Graduate Teaching Fellow (Sole Instructor)

University of Houston

- Introduction to Cognitive Psychology
 - Taught 3 in-person courses (Fall 2019 - Present)
 - Taught 4 online courses (Fall 2018 - Present)

Graduate Teaching Assistant

University of Houston

- Physiological Psychology
 - 1 In-person course (Summer 2017)
 - 3 Online courses (Summer – Fall 2017)
- Introduction to Cognitive Psychology
 - 7 In-person courses (Fall 2016 – Spring 2018)
 - 2 Online courses (Spring 2017, Summer 2018)
- Psychology of Adolescence
 - 1 Online course (Spring 2018)

POSITIONS AND LEADERSHIP

Laboratory for the Neural Bases of Bilingualism

(2016 – Present)

Graduate Researcher Assistant, University of Houston

Principal Investigator: Arturo E. Hernandez

- Dissertation Topic: *Neural Mechanisms Underlying Literacy in Second Language Learners with Typical and Atypical Reading Development*
- Master's Thesis: *Effects of Language Experience Differ According to Neuroanatomical Metric.*
 - Pre-processed, analyzed, and interpreted brain MRI data of 361 bilingual and monolingual participants

- Compared and investigated the validity of gray matter volume, density, and thickness as measures of skill acquisition

Student Reviewer (2017 – Present)

Institutional Review Board (IRB), University of Houston

- Collaborated with 10 professors and IRB team members to determine whether research proposals submitted to the UH IRB should be approved, disapproved, or modified:
 - Ensured protection of human subjects' rights and welfare
 - Evaluated rationalization for study design and protocol

Scientific Peer-Reviewer (2017 – Present)

Acted as scientific reviewer to determine publication eligibility for manuscripts submitted to 6 academic journals

Community Outreach Educator (Oct 2018)

Aldine Branch Library, Houston, TX

Led outreach night to educate children about the brain

Student-Faculty Liaison (Fall 2016 – Spring 2017)

Department of Psychology, University of Houston

FELLOWSHIPS AND SCHOLARSHIPS

Fellowships

Mont. H. Jr. and Jane Goldstone Graduate Fellowship (Fall 2017 – Present)

National Institute of Health BRAIN-Initiative (June 2018)

- Built strong understanding of computational neuroscience and modeling from neurobiological level during 2-week intensive course
- Gained experience modeling neuron activity using NEURON computational engine
- Proposed project to solve controversy in the bilingual literature by modeling the basal ganglia as a switching mechanism

Pacific University Research Institute for Science and Mathematics (Summer 2015)

Scholarships

Pacific University Founder's Scholarship for Academic Achievement (2013-2016)

First Christian Church Scholarship (2012-2016)

Oregon Resident Scholarship (2012-2016)

Eva Krebs Boxer Spirit Award (2013-2015)

University of Oregon College Scholars Scholarship (2012-2013)

SOCIETIES AND PROFESSIONAL MEMBERSHIP

Society for Neuroscience	(2018)
Association for Psychological Science	(2017 – 2018)
Psi Chi, International Honors Society in Psychology	(2015 – 2016)

AWARDS

Graduate Research Showcase Award for Poster Presentation (9 th Place), University of Houston	(Nov 2019)
Summa Cum Laude, Pacific University	(2016)
Dean's List, Pacific University	(Fall 2013 – Spring 2015)
Dean's List, University of Oregon	(Fall 2012 – Spring 2013)

SELECT COURSEWORK

Functional Neuroanatomy. Dr. Leigh Leasure	(Spring 2019)
Optical Brain Imaging with fNIRS. Dr. Luca Pollonini	(Spring 2019)
R for Data Science. Dr. Peggy Lindner	(Fall 2018)
Introduction to High Performance Computing: Linux, shell scripting, queuing systems, cluster architecture. Dr. Penghi Zhang	(Fall 2018)
Neuroimaging Methods. Dr. Benjamin Tamber-Rosenau	(Spring 2018)
Grant Writing. Dr. Clayton Neighbors	(Spring 2018)
Scientific Writing. Dr. Steven P. Woods	(Fall 2017)
Cognitive Neuroscience. Dr. Arturo E. Hernandez	(Spring 2017)
Experimental Design. Dr. Christopher D. Barr	(Spring 2017)
Statistics for Psychology. Dr. Christopher D. Barr	(Fall 2016)
The Bilingual Brain. Dr. Arturo E. Hernandez	(Fall 2016)
Foundations of Neuropsychology. Dr. Paul J. Massman	(Fall 2016)

PROFESSIONAL SKILLS

Hard skills

Mac/Windows, Microsoft Office Word, Excel, Powerpoint, Neuroimaging (FreeSurfer, QDEC), interpretation of neuroimaging results, Statistical analysis (R, JASP), ICON-IRB System, IRB protocols, grant writing, scientific writing, synthesis of research from diverse fields, experimental design, General Linear Model analysis/interpretation, data management, teaching, public speaking, visualizing results, Spanish fluency

Soft skills

Able to work independently and on a team, reliable, efficient, conscientious, attention to detail, sense for aesthetics, adaptable

REFERENCES

Arturo E. Hernandez
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