

Heather Raye Dial

Speech, Language, Aphasia and the Brain Lab (SLABlab)
Department of Communication Sciences and Disorders
University of Houston
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PROFESSIONAL APPOINTMENTS

Assistant Professor, 2021-present

University of Houston, Department of Communication Sciences and Disorders

Postdoctoral Fellow, 2016-2021

University of Texas at Austin, Department of Speech, Language and Hearing
Sciences, Aphasia Research and Treatment Lab

Advisor: Dr. Maya Henry

Secondary Advisor: Dr. Bharath Chandrasekaran, University of Pittsburgh

EDUCATION

Ph.D., Psychology, Rice University, August 2016

Thesis title: Sublexical, lexical and phonological short-term memory processes:
Evaluating models of speech perception and short-term memory

M.A., Psychology, Rice University, May 2014

Thesis Title: Separating semantic and phonological short-term memory deficits in
aphasia patients using a novel concurrent probe paradigm

Systems and Cognitive Neuroscience Research Interest Group with focus on
cognitive neuropsychology, psycholinguistics, aphasia, and working memory

Advisor: Dr. Randi Martin

B.S., Psychology, University of Houston, December 2010

Summa Cum Laude

University Honors and Honors in Major

Major: Psychology Minor: Spanish

Thesis Title: Dichotic listening using frequency filtered words

Advisor: Dr. Merrill Hiscock

PUBLICATIONS/MANUSCRIPTS IN PREPARATION

Dial, H., Gnanateja, N., Tessmer, R., Gorno-Tempini, M.L., Chandrasekaran, B., &
Henry, M. (2020). Cortical tracking of the speech envelope in logopenic variant
primary progressive aphasia. *Frontiers in Human Neuroscience*.

Henry, M., Hubbard, I., Grasso, S., **Dial, H.**, Beeson, P., Miller, B., & Gorno-Tempini,

- M.L. (2019). Treatment for word retrieval in semantic and logopenic variants of primary progressive aphasia: Immediate and long-term outcomes. *Journal of Speech, Language and Hearing Research*, 62, 2723-2749.
https://doi.org/10.1044/2018_JSLHR-L-18-0144
- Dial, H.**, McMurray, B., & Martin, R. (2019). Lexical processing depends on sublexical processing: Evidence from the visual world paradigm and aphasia. *Attention, Perception and Psychophysics*, 81, 1047-1064.
doi: 10.3758/s13414-019-01718-3
- Dial, H.**, Hinshelwood, H., Grasso, S., Hubbard, I., Gorno-Tempini, M.L. & Henry, M. (2019). Investigating the utility of teletherapy in individuals with primary progressive aphasia. *Clinical Interventions in Aging*, 14, 453-471.
doi: 10.2147/CIA.S178878
- Madera, J., Hebl, M., **Dial, H.**, Martin, R., & Valian, V. (2019). Raising doubt in letters of recommendation for academia: Gender differences and their impact. *Journal of Business and Psychology*, 1-17. *2019 Editor Commendation Award*
doi: 10.1007/s10869-018-9541-1
- Fischer-Baum, S., Mis, R., & **Dial, H.** (2018). Word deafness with preserved number word perception. *Cognitive Neuropsychology*, 35, 1-15.
doi: 10.1080/02643294.2018.1515734
- Dial, H.**, & Martin, R. (2017). Evaluating the relationship between sublexical and lexical processing in speech perception: Evidence from aphasia. *Neuropsychologia*, 96, 192-212.
doi: 10.1016/j.neuropsychologia.2017.01.009
- McCulloch, K., Lachner-Bass, N. **Dial, H.**, Hiscock, M. & Jansen, B. (2017). Interaction of attention and acoustic factors in dichotic listening for fused words. *Laterality: Asymmetries of Body, Brain and Cognition*, 22, 473-494.
doi: 10.1080/1357650X.2016.1219361
- Dial, H.**, Europa, E., Grasso, S., Hubbard, I., Gorno-Tempini, M., & Henry, M. (in preparation). Baseline patterns of brain atrophy associated with treatment outcomes in semantic variant primary progressive aphasia.
- Europa, E., **Dial, H.**, Battistella, G., Grasso, S., Hubbard, H.I., Schaffer, K., Wauters, L., Welch, A., Mandelli, M.L., Gorno-Tempini, M.L., & Henry, M. (in preparation). Baseline MRI measures associated with treatment response in nonfluent/agrammatic variant primary progressive aphasia.

BOOK CHAPTERS

Dial, H., & Henry, M. (2019). Primary progressive aphasia. In M.L. Kimbarow (Ed.), *Cognitive Communication Disorders, 3rd Edition* (pp. 207-236). San Diego, CA: Plural Publishing.

PLATFORM PRESENTATIONS/INVITED TALKS

Dial, H., Gnanateja, N., Tessmer, R., Chandrasekaran, B., & Henry, M. (May 2021). Cortical tracking of the speech envelope in semantic and logopenic variant primary progressive aphasia. Clinical Aphasiology Conference. (Virtual conference).

Europa, E., Battistella, G., **Dial, H.,** Lauricella, M., Grasso, S., Welch, A., Hubbard, H.I., Mandelli, M.L., Gorno-Tempini, M.L., & Henry, M. (May 2021). Neuroimaging predictors of treatment response in nonfluent/agrammatic variant primary progressive aphasia. Clinical Aphasiology Conference. (Virtual conference).

Dial, H. Neural processes supporting speech perception (November 2020). Invited presentation at Valkyrie AI. Austin, TX.

Dial, H., Gnanateja, N., Tessmer, R., Chandrasekaran, B., & Henry, M. (October 2020). Cortical tracking of the speech envelope in logopenic variant primary progressive aphasia. 58th Annual Academy of Aphasia Meeting. Virtual conference.

Henry, M.L., Grasso, S.M, Hubbard, I.H., **Dial, H.,** Europa, E., Welch, A., & Gorno-Tempini, M.L. (November 2018). Immediate and long-term benefits of behavioral intervention in primary progressive aphasia. 11th International Conference on Frontotemporal Dementias. Sydney, Australia.

Dial, H., Martin, R., & Schnur, T. (November 2017). Assessing the roles of semantic and phonological short-term memory in language production. 55th Annual Academy of Aphasia Meeting, Baltimore, MD. *Frontiers in Human Neuroscience, Conference Abstract*. doi: 10.3389/conf.fnhum.2017.223.00045

Dial, H., Sathishkumar, M., Hubbard, I., Grasso, S., Gorno-Tempini, M., & Henry, M. (June 2017). Gray matter predictors of treatment outcomes in primary progressive aphasia. 47th Annual Clinical Aphasiology Conference, Snowbird, UT.

Madera, J., Hebl, M., **Dial, H.,** Martin, R., & Valian, V. (April 2016). Raising doubt in letters of recommendation for academia: Gender differences. 31st Annual Conference of the Society for Industrial and Organizational Psychology, Anaheim, CA.

Martin, R., **Dial, H.,** Yue, Q., & Hamilton, A.C. (November 2015). Buffer versus embedded processes approaches to phonological short-term memory. 56th Annual Meeting of the Psychonomic Society, Chicago, IL.

Dial, H., & Martin, R. (October 2015). Evaluating proposed dorsal and ventral route functions in speech perception and phonological short-term memory: Evidence from aphasia. 53rd Annual Academy of Aphasia Meeting, Tucson, AZ. *Frontiers in Psychology, Conference Abstract*. doi: 10.3389/conf.fpsyg.2015.65.00075

POSTER PRESENTATIONS

Dial, H., Pugalenthi, L., Gnanateja, N., Tessmer, R., Li, J., & Henry, M. (2021). Contrasting static and contextualized embeddings in the use of semantic feature vectors in neurophysiological prediction. Texas Advanced Computing Center Symposium for Texas Researchers (TACCSTER) 2021. (Virtual conference).

Wauters, L., Ballard, K., Clark, H., Croot, K., **Dial, H.,** Duffy, J., Grasso, S., Kim, E., Kohley, L., Milman, L., Murray, L., Rogalski, E., Schaffer, K., & Henry, M. (May 2021). A systematic review of behavioral treatment for PPA/PPAOS: Major trends and future directions. Round table presentation. 50th Annual Clinical Aphasiology Conference. (Virtual conference).

Robinaugh, G., Beeson, P., Rising, K., Miller, C., Schmidt, O., Sfeir, N., **Dial, H.,** Gorno-Tempini, M.L., & Henry, M. (May 2021). Beyond binary: Quantifying meaningful information in BNT error responses for individuals with PPA before and after naming treatment. 50th Annual Clinical Aphasiology Conference. (Virtual conference).

Europa, E., Battistella, G., **Dial, H.,** Lauricella, M., Grasso, S., Welch, A., Hubbard, I., Mandelli, M.L., Gorno-Tempini, M.L., & Henry, M. (October 2020). Multimodal MRI correlates of positive treatment outcomes in non-fluent/agrammatic primary progressive aphasia. 12th Annual Meeting of the Society for the Neurobiology of Language. Virtual conference.

Zahn, R., **Dial, H.,** Schnur, T., & Martin, R. (October 2020). Semantic working memory supports a phrasal scope of planning in language production: Evidence from acute stroke. 58th Annual Academy of Aphasia Meeting. Virtual conference.

Dial, H., Grasso, S., Hubbard, I., Schaffer, K., Wauters, L., Europa, E., Wineholt, L., Gorno-Tempini, M.L., & Henry, M. (October 2019). Gray matter predictors of treatment outcomes in semantic variant primary progressive aphasia. 57th Annual Academy of Aphasia Meeting, Macau. *Frontiers in Human Neuroscience, Conference Abstract*. doi: 10.3389/conf.fnhum.2019.01.00118

Tian, Y., **Dial, H.,** Martin, R., & Fischer-Baum, S. (October 2019). A common serial order mechanism for verbal working memory and language production: Evidence from aphasia. 57th Annual Academy of Aphasia Meeting, Macau. *Frontiers in Human Neuroscience, Conference Abstract*. doi: 10.3389/conf.fnhum.2019.01.00113

Dial, H., Zinszer, B., Chandrasekaran, B., & Henry, M.L. (October 2018). Neural

- encoding of phonetic features relates to phonological processing in PPA. 56th Annual Academy of Aphasia Meeting, Montreal, Quebec, Canada. *Frontiers in Human Neuroscience, Conference Abstract*.
doi: 10.3389/conf.fnhum.2018.228.00017
- Dial, H.**, Zinszer, B., Chandrasekaran, B., & Henry, M.L. (August 2018). Cortical entrainment of continuous speech envelope is preserved in non-fluent PPA. 10th Annual Meeting of the Society for the Neurobiology of Language. Quebec City, Quebec, Canada.
- Dial, H.**, Hubbard, I., Grasso, S., Gorno-Tempini, M.L., & Henry, M.L. (May 2018). Developing predictive models of naming performance over time in primary progressive aphasia. 48th Annual Clinical Aphasiology Conference. Austin, TX.
- Europa, E., Grasso, S., **Dial, H.**, Yi, H., & Henry, M.L. (May 2018). Effects of script training on neural activity in primary progressive aphasia: A pilot fMRI study. 48th Annual Clinical Aphasiology Conference. Austin, TX.
- Dial, H.**, Hubbard, I., Grasso, S., Gorno-Tempini, M.L., & Henry, M.L. (April 2018). Developing predictive models of naming performance over time in primary progressive aphasia. 3rd Annual CARE Research Day. Austin, TX.
- Hubbard, I., Grasso, S., **Dial, H.**, Mandelli, M.L., Gorno-Tempini, M.L., & Henry, M. (November 2017). Examining gray matter differences in a single treatment non-responder with semantic variant primary progressive aphasia. 9th Annual Meeting of the Society for the Neurobiology of Language. Baltimore, MD.
- Dial, H.**, McMurray, B., & Martin, R. (September 2017). Evaluating the relationship between sublexical and lexical processing: Evidence from the visual world paradigm. 12th Annual Eleanor Saffran Conference for Cognitive Neuroscience. Philadelphia, PA.
- Dial, H.**, McMurray, B., & Martin, R. (November 2016). Evaluating the relationship between sublexical and lexical processing: Evidence from the visual world paradigm. 57th Annual Meeting of the Psychonomic Society. Boston, MA.
- Dial, H.**, McMurray, B., & Martin, R. (October 2016). Lexical processing depends on sublexical processing: Evidence from the visual world paradigm with aphasia. 54th Annual Academy of Aphasia Meeting. Llandudno, Wales, UK. *Frontiers in Psychology, Conference Abstract*. doi: 10.3389/conf.fpsyg.2016.68.00086
- Yue, Q., **Dial, H.**, & Martin, R. (October 2016). Non-perceptual regions in the left supramarginal gyrus support phonological short-term memory: Evidence from lesion-symptom mapping and fMRI studies. 54th Annual Academy of Aphasia Meeting. Llandudno, Wales, UK. *Frontiers in Psychology, Conference Abstract*. doi:10.3389/conf.fpsyg.2016.68.00045

- Dial, H., & Martin, R.** (December 2015). Evaluating proposed dorsal and ventral route functions in speech perception and phonological short-term memory: Behavioral and lesion evidence from individuals with aphasia. UT Health Science Center at Houston 22nd Annual Neuroscience Poster Session. Houston, TX.
- Dial, H., & Martin, R.** (October 2015). Evaluating proposed dorsal and ventral route functions in speech perception and phonological short-term memory: Evidence from aphasia. 2015 ARMADILLO Southwest Regional Conference on Cognition. Waco, TX.
- Dial, H., Tomkins, B., & Martin, R.** (December 2014). Evaluating dorsal and ventral routes in speech perception and phonological short-term memory: Evidence from aphasia. UT Health Science Center at Houston 21st Annual Neuroscience Poster Session. Houston, TX.
- Martin, R., Hamilton, C., Fischer-Baum, S., Lam, A., **Dial, H.**, & Chapman, C. (December 2014). Improving inhibitory control to improve language processing: A tDCS-augmented treatment study. Mission Connect Neurotrauma Research Symposium. Houston, TX.
- Dial, H., Tomkins, B. & Martin, R.** (October 2014). Shared perceptual processes in phoneme and word perception: Evidence from aphasia. 52nd Annual Academy of Aphasia Meeting. Miami Beach, FL. *Frontiers in Psychology, Conference Abstract*. doi:10.3389/conf.fpsyg.2014.64.00054
- Dial, H., Hamilton, A.C., Tomkins, B., & Martin, R.** (December 2013). Evidence for the separation of speech perception and short-term memory. UT Health Science Center at Houston 20th Annual Neuroscience Poster Session. Houston, TX.
- Dial, H., & Martin, R.** (October 2013). Evaluating semantic STM deficits in aphasia: Overly rapid decay vs. inhibition deficits. 51st Annual Academy of Aphasia Meeting. Lucerne, Switzerland. *Procedia-Social and Behavioral Sciences, Conference Abstract*. doi:10.1016/j.sbspro.2013.09.051
- McCulloch, K., **Dial, H.**, & Hiscock, M. (June 2012). Frequency-filtering, attention, and phonetic characteristics that influence the right-ear advantage for speech perception. The Annual American Academy of Clinical Neuropsychology meeting. Seattle, WA.
- Dial, H., & Hiscock, M.** (February 2011). Dichotic listening using frequency-filtered words. International Neuropsychological Symposium. Boston, MA.

FELLOWSHIPS AND GRANTS

Ruth L. Kirschstein National Research Service Award
(Postdoctoral NRSA, 1F32DC016812-01)

June 1, 2018-May 31, 2021

“Investigating neural signatures of rehabilitation in
primary progressive aphasia”
\$172,926

Lear Ashmore Research Fellowship Texas Speech and Hearing Association \$1400	February 2017
Rice University Graduate Student Fellowship \$77,000	August 2010-July 2015
Terry Scholarship Full scholarship granted by the Terry Foundation to attend the University of Houston \$80,000	August 2006-May 2010

HONORS AND AWARDS

NIDCD Young Investigators Travel Fellowship for Academy of Aphasia \$1200	October 2018
Society for the Neurobiology of Language Travel Award \$550 + registration	August,2018
NIDCD Fellowship for Research Symposium in Clinical Aphasiology \$1500	May 2018
NIDCD Saffran Student Scholar Award	September 2017
Nominee, Gardner Award for Best Dissertation in the Social Sciences	April 2017
NIDCD Fellowship for Research Symposium in Clinical Aphasiology \$1500	May 2017
Finalist, Graduate Instructor of the Year Award, Rice University	February 2017
Women in Cognitive Science Travel and Networking Award \$1000	November 2016
Baker College Best Professors 2015-2016	January 2016
1 st Prize for Rice Psychology Graduate Students 22 nd Annual UT-Health Science Center Neuroscience Poster Session	December,2015
1 st Prize for Graduate Student Presentations	October 2015

ARMADILLO Southwest Regional Conference
on Cognition, Baylor University

Cognitive Neuropsychology Student Travel Prize
\$750 October 2014

1st Prize for School of Social Sciences
2nd Annual Rice University Graduate Student
90 Second Thesis Competition February 2014

Cognitive Neuropsychology Student Travel Prize
\$750 October 2013

Outstanding Achievement Award in CLASS
1st Annual Rice University Graduate Student
90 Second Thesis Competition May 2013

PROFESSIONAL AFFILIATIONS

Member: Academy of Aphasia, Membership Committee Member (2020-present)

Student Member: Women in Cognitive Science, Psychonomic Society,
Society for the Neurobiology of Language

Member: Psi Chi National Honor Society in Psychology (2008-present)

TEACHING

Instructor. Neuroscience for Communication Disorders (COMD 4333), University of
Houston, Fall 2021.

Instructor. Introduction to Cognitive Psychology (Psyc 203), Rice University, Summer
2016.

Instructor. What is consciousness? First Year Writing Intensive Seminar, Rice
University, Spring 2016.

Instructor. Memory (Psyc 308), Rice University, Fall 2015.

Instructor. Introduction to Psychology (Psyc 101), Rice University, Summer 2015.

Co-Instructor: Introduction to Psychology, Rice University, Summer 2013, Summer
2014.

Co-Instructor: Contemporary Social Movements, Rice University, Spring 2014, Spring
2015, Spring 2016.

Co-Instructor: Memory, Rice University, Summer 2012.

Lab Instructor: Introduction to Behavioral Statistics, Rice University, Spring 2013, Fall
2013, and Spring 2015.

Guest Lectures / TA

Invited Guest Lecture at Rawson-Saunders School. April 2018.

Invited Guest Lecture at Rawson-Saunders School. March 2017.

Invited Guest Lecture for the Young Owls Leadership Program, Rice University, June 2015.

Invited Guest Lecture for the Rice University Alumni Association Classroom Connect: Language, memory and the brain. Rice University, June 2014.

Teaching Assistant: Introduction to Research Methods in Psychology, Rice University, Fall 2014.

Invited Guest Lecture for the Young Owls Leadership Program, Rice University, June 2014.

Teaching Assistant, Section Leader: Introduction to Cognitive Psychology, Rice University, Fall 2011.

UNIVERSITY SERVICES

Panel Member, Succeed! Workshop Series, Rice University, 2014-2016

Graduate Student Judge, Rice Undergraduate Research Symposium, April 2015

Organizer, Cog Tea Series, Rice University, 2012-2013 (Faculty Supervisor: Dr. Randi Martin)

Graduate Student Volunteer, Undergraduate Research Mixer, Rice University, Fall 2011

Graduate Student Organizer, Department Colloquium, Rice University, Fall 2010

Secretary, Psi Chi International Honor Society in Psychology, University of Houston, 2009-2010 (Faculty Supervisor: Dr. Richard Kasschau)

EXTERNAL SERVICE

Ad hoc reviewer: Journal of Communication Disorders, Cortex, AJSLP, JSLHR, International Journal of Language and Communication Disorders, Cognitive and Behavioral Neurology

Invited panel member, NIDCD Young Investigators Mentorship Panel, 2020 Meeting of the Academy of Aphasia

RELEVANT EXPERIENCE AND PROGRAMMING

*Working proficiency in SPSS, JMP, MRICron, Psyscope, PsyToolkit, Experiment Builder, R, SPM, Praat, E-Prime, BrainVision Analyzer, MATLAB, Python
Experience using AFNI, ANTs, FSL*

Advanced Statistics

Diffusion tensor imaging, resting state fMRI, VBM, VLSM

fNIRS (Workshop at University of Michigan, Ann Arbor-Dr. Ioulia Kovelman)

Houston Aphasia Recovery Center Training on Supported Communication

Intensive Teaching and Writing Workshop (40 hours)

Better Conversations with Primary Progressive Aphasia Training

MENTORING

Aphasia Research and Treatment Lab

Undergraduates Mentored

Christina Bui (Fall 2016), Madison Kurtz (Fall 2016-Spring 2017), Kansas Merritt (Spring 2017), Allison Riebach (Spring 2017-present), Christine Pham (Summer 2017), Meredith Davis (Fall 2017-Spring 2018), Madison Lee (Fall 2017-Spring 2018), Olivia Carstens (Summer 2018-present), Macie Lawson (Summer 2018-present)

Master's Students Mentored

Rachel Tessmer (Fall 2019 – present), Olivia Schmidt (Spring 2020 – Summer 2020)

Brain and Language Lab

Undergraduates Mentored

Katarina Slobodova (Fall 2011- Spring 2012), Travis Bauer (Fall 2011- Spring 2012), Alex Lam (Spring 2011-Spring 2015), Karen Hong (Summer 2013), Tristanne Mock (Spring 2013-Spring 2014), Maddie Flores (Fall 2014-Spring 2015), Annika Just (Fall 2015-Spring 2016)

Post-Bac Research Assistants Mentored

Blaine Tomkins (Summer 2012-Summer 2014)

Rachel Mis (Fall 2014-Spring 2016)

Gatekeeper Study

Undergraduates Mentored

Ashlin Orr (Fall 2011-Summer 2013), Naila Ghorbel (Fall 2011-Summer 2013), Maria Lima (Spring 2013 – Summer 2013), Raven Graves (Spring 2013 – Summer 2013)

Graduate Students Supervised

Corinne Allen (Fall 2011- Spring 2012), Yi Guo (Fall 2011- Spring 2012),

MEDIA COVERAGE

Inside Higher Education (2018). Help that hurts women (press release). Retrieved from: <https://www.insidehighered.com/news/2018/06/19/study-finds-recommendation-letters-inadvertently-signal-doubt-about-female>

Houston Chronicle (2018). Recommendation letters written for women undermine job applications, Rice and UH research finds (press release). Retrieved from: <https://www.chron.com/local/education/campus-chronicles/article/Doubt-undermines-female-candidates-job-12975661.php>

Phys.Org (2018). Letters of recommendation for women more likely to raise doubts (press release). Retrieved from: <https://phys.org/news/2018-06-letters-women.html>

Futurity (2018). 4 ‘doubt-raisers’ sap recommendation letters for women (press release). Retrieved from: <https://www.futurity.org/letters-of-recommendation-women-jobs-1778842/>

Business Report (2018). Recommendation letters for women undermine job applications, study finds (press release). Retrieved from: <https://www.businessreport.com/article/recommendation-letters-written-women-undermine-job-applications-study-finds>

EurekAlert! (2018). Letters of recommendation for women more likely to raise doubts (press release). Retrieved from: https://www.eurekalert.org/pub_releases/2018-06/ru-lor060718.php

Moneyish (2018). How a letter of recommendation could hurt your chances—especially if you’re a woman (press release). Retrieved from: <https://moneyish.com/ish/how-a-letter-of-recommendation-could-hurt-your-chances-especially-if-youre-a-woman/>