

RACHEL RENÉ ROMEO, PhD, CCC-SLP

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PROFESSIONAL POSITIONS

- Postdoctoral Research Fellow** 2018-present
Translational Postdoctoral Training Program in Neurodevelopment
Massachusetts Institute of Technology and Boston Children's Hospital
PIs: John D. E. Gabrieli; Charles A. Nelson, III
- Adjunct Professor** 2019-present
Department of Speech, Language, and Hearing Sciences
Sargent College of Health and Rehabilitation Sciences
Boston University

EDUCATION

- Ph.D., Harvard University & Massachusetts Institute of Technology** May 2018
Program in Speech and Hearing Bioscience and Technology
Advisor: John D. E. Gabrieli, PhD
Dissertation: Environmental influences on the neural basis of language and reading development
- CCC-SLP, MGH Institute of Health Professions** August 2015
Department of Communication Sciences and Disorders
Clinical Fellowship (2017-2018): Diagnostic Specialist in pediatric language and literacy disorders in the Brain, Education, and Mind (BEAM) Group, Boston, MA
ASHA License: 14092953 MA License: 77082-SP-SL
- M.Sc. with Distinction, University College London** October 2012
Language Sciences, with specialisation in Language Development
Advisor: Valerie Hazan, PhD
Dissertation: Demographic trends and perceptual effects of intra-speaker acoustic variability in consonant production in adolescence
- B.A. Summa Cum Laude, University of Pennsylvania** May 2011
Majors: Psychology *with Honors*, and Linguistics
Advisor: Daniel Swingley, PhD
Honors Thesis: Longitudinal examination of phonetic specificity development during word recognition, in children with and without chronic otitis media with effusion

SELECTED RECOGNITIONS

- Selected for ASHA Lessons for Success Research Mentorship Program 2019
- Nominee for Forbes 30 under 30 in Science and Healthcare 2018
- Cognitive Neuroscience Society Graduate Student Award 2018
- Society for the Neurobiology of Language Graduate Student Award 2017
- UCL MSc Language Sciences Highest Overall Achievement Award 2012

UCL MSc Language Sciences Best Dissertation Prize	2012
Morris Viteles Award for Excellence in Undergraduate Psychology Research	2011
Phi Beta Kappa Society	2011
R. Jean Brownlee Honor Award for Campus Leadership	2011
Dean's List	2007-2011
National Society of Collegiate Scholars	2008-2011

FUNDING

Individual Fellowships

F31 HD086957: Individual Pre-Doctoral National Research Service Award <i>Eunice Kennedy Schriver</i> National Institute of Child Health and Human Development "Effects of linguistic input on the neural capacity for language development"	2016-2018
The Thouron US-UK Graduate Exchange Fellowship "Examining social, cognitive, and neural contributions to childhood language disorders"	2011-2012
Fulbright Postgraduate Award to the United Kingdom "Assessing eyetracking as clinical tool for early diagnosis of atypical language development"	2011-2012

Training Grants

T32 MH112510: Translational Post-doctoral Training in Neurodevelopment National Institute of Mental Health	2018-2020
T32 DC000038: Pre-doctoral Training for Speech and Hearing Sciences National Institute on Deafness and Other Communication Disorders	2012-2015

Individual Research Grants

Harvard University Mind Brain Behavior Graduate Student Research Grant "Linking home audio recordings to neurocognitive performance"	2016
Benjamin Franklin Society Undergraduate Research Grant, "Phonological development in children with demographic variability"	2011
Mary & Matthew Santirocco College Alumni Society Undergraduate Research Grant "Phonological development in children with potential hearing impairments"	2010

Scholarships (selected)

Friends of the McGovern Institute Student Fellowship	2016-2017
University College London Language Sciences Departmental Merit Scholarship	2011-2012
Penn President Amy Gutmann & Dr. Michael Doyle Scholarship	2007-2011
The Lui Family Scholarship for Excellence in Psychology	2008-2011
US Department of Defense: Science, Mathematics and Research for Transformation (SMART) Scholarship (declined)	2009

PEER REVIEWED JOURNAL ARTICLES

*Denotes student mentee.

Published or In Press

Leonard, J. A., **Romeo, R. R.**, Park, A. T., Takada, M., Robinson, S.T., Grotzinger, H., Finn, A. S., Gabrieli, J. D. E., & Mackey, A. P. (2019). Associations between cortical thickness and reasoning vary by socioeconomic status in early childhood and adolescence. *Developmental Cognitive Neuroscience*. <https://doi.org/10.1016/j.dcn.2019.100641>

Romeo, R. R., *Segaran, J., Leonard, J. A., Robinson, S., West, M. R., Mackey, A. P., Yendiki, A., Rowe, M. L., Gabrieli, J. D. E. (2018). Language exposure relates to structural neural connectivity in childhood. *Journal of Neuroscience*, 38(36), 7870-7877. [doi:10.1523/JNEUROSCI.0484-18.2018](https://doi.org/10.1523/JNEUROSCI.0484-18.2018)

†Selected as cover article/illustration: www.jneurosci.org/content/38/36.cover-expansion

†Chosen as topic of student journal club: [doi:10.1523/JNEUROSCI.2895-18.2018](https://doi.org/10.1523/JNEUROSCI.2895-18.2018)

Romeo, R. R., Leonard, J. A., Robinson, S. T., West, M. R., Mackey, A. P., Rowe, M. L., Gabrieli, J. D. E. (2018). Beyond the “30 million word gap:” Children’s conversational exposure is associated with language-related brain function. *Psychological Science*, 29(5), 700–710. [doi:10.1177/0956797617742725](https://doi.org/10.1177/0956797617742725)

Romeo, R. R., Christodoulou, J. A., Halverson, K. K., Murtagh, J., Cyr, A. B., Schimmel, C., Chang, P., Hook, P. E., & Gabrieli J. D. E. (2017). Socioeconomic status and reading disability: Neuroanatomy and plasticity in response to intervention. *Cerebral Cortex*, 28(7), 2297-2312. [doi:10.1093/cercor/bhx131](https://doi.org/10.1093/cercor/bhx131)

Tuomainen, O., Hazan, V., & **Romeo, R.** (2016). Do talkers produce less dispersed phoneme categories in a clear speaking style? *Journal of the Acoustical Society of America*, 140(4), EL320. [doi:10.1121/1.4964815](https://doi.org/10.1121/1.4964815)

Romeo R., Hazan V., & Pettinato M. (2013). Developmental and gender-related trends of intra-talker variability in consonant production. *Journal of the Acoustical Society of America*, 134(5), 3781 - 3792. [doi:10.1121/1.4824160](https://doi.org/10.1121/1.4824160)

Hazan, V., **Romeo, R.**, & Pettinato, M. (2013). The impact of variation in phoneme category structure on consonant intelligibility. *Proceedings of Meetings on Acoustics*, 19(1), 060103. [doi:10.1121/1.4800618](https://doi.org/10.1121/1.4800618)

Under Review

Guell, X., D’Mello, A., **Romeo, R. R.**, Hubbard, N., Schmahmann, J. D., Whitfield-Gabrieli, S., Gabrieli, J.D.E, Anteraper, S. A. (*Under review*). Functional territories of human dentate nucleus. <https://www.biorxiv.org/content/10.1101/608620v1>

In Preparation

Romeo, R. R., Leonard, J. A., Scherer, E., Mackey, A. P., West, M. R. Gabrieli, J. D. E. Neuroplasticity in linguistic and social brain regions is associated with increased turn-taking in a two-generation intervention.

Romeo, R. R., Olson, H., Christodoulou, J. A., Gabrieli, J. D. E. Core deficits contributing to developmental reading disability vary by socioeconomic context.

Romeo, R. R., Leonard, J. A., Segaran, J., Grotzinger, H., Robinson, S., West, M. R., Mackey, A. P., Rowe, M. L., Gabrieli, J. D. E. Interactions between SES, language exposure, and brain structure in young children.

Pezanowski, R., **Romeo, R. R.**, Merrill, K., Hargrave, S., Hansen, A. Facilitation and obstacles to language stimulation in neonatal intensive care units (NICU).

INVITED ARTICLES AND CHAPTERS

In Press

Romeo, R. R., Imhof, A., Bhatia, P., Christodoulou, J. A. (2019). Relationships between socioeconomic status and reading development: Cognitive outcomes and neural mechanisms. In Lipina, S., Segretin, M. S., and Pakulak, E. (Eds.) *Mind, brain and education: The neuroscience of poverty*. Buenos Aires: CLASCO.

In Preparation

Romeo, R. R. (2019). Environmental and experiential influences on the neurobiology of language development. *Perspectives of the ASHA Special Interest Groups: Special Issue on the Neurobiology of Language Development and Disorders*.

CONFERENCE PRESENTATIONS

Spoken Presentations

Romeo, R. R., Christodoulou, J.A., Olson, H., & Gabrieli, J.D.E. (2019). Socioeconomic dissociations in the neurocognitive profiles of dyslexia. *New England Research on Dyslexia Society*, Boston, MA.

Leonard, J. A., **Romeo, R. R.**, Park, A. T., Takada, M. E., Robinson, S. T., Grotzinger, H., Last, B. S., Finn, A. S., Gabrieli, J. D. E., Mackey, A. P., (2019). The neural correlates of reasoning differ by socioeconomic status in development. Part of the paper symposium: "Socioeconomic status, brain, and cognitive development: Environmental mechanisms and individual differences." *Society for Research in Child Development*, Baltimore, MD.

Romeo, R. R., Leonard, J. A., Robinson, S. T., Rowe, M. L., Mackey, A. P., Gabrieli, J. D. E. (2018). Neural plasticity associated with a parent-implemented language intervention. In **R. R. Romeo (symposium organizer)**, "Varying approaches to early language interventions for lower-SES families." *Boston University Conference on Child Language Development*, Boston, MA.

Romeo, R. R. (2018). Socioeconomic influences on language and literacy development. *American Speech-Language Hearing Association*, Boston, MA.

D'Mello A., **Romeo, R. R.**, Leonard, J. A., Mackey, A. P., Gabrieli, J. D. E. (2018). Cerebellar contributions to children's language processing. In nanosymposium: Human cognition and behavior: neurocognitive development. *Society for Neuroscience*, San Diego, CA.

- Romeo, R. R.,** Leonard, J. A., Robinson, S. T., Rowe, M. L., Mackey, A. P., Gabrieli, J. D. E. (2017). Structural and functional neural mechanisms underlying the relationship between children's language exposure and their linguistic abilities. *Many Paths to Language Workshop*. Max Planck Institute, Nijmegen, The Netherlands.
- Christodoulou, J. A., **Romeo, R. R.,** Cyr, A., Halverson, K., Murtagh, J., Chang, P., Hook, P., Gabrieli, J.D.E. (2017). Neurocognitive correlates of treatment response in children with dyslexia across SES. *Society for the Scientific Study of Reading*, Nova Scotia, Canada.
- Romeo, R. R.,** Leonard, J. A., Robinson, S. T., Rowe, M. L., Mackey, A. P., Gabrieli, J. D. E. (2017). Children's language exposure predicts neural structure and function during language processing, independent of SES. Part of the paper symposium: "Advances in neuroimaging research paradigms and techniques in the study of development." *Society for Research in Child Development*, Austin, TX.
- Leonard, J. A., **Romeo, R. R.,** Robinson, S. T., Mackey, A. P., Gabrieli, J. D. E. (2017). Can we improve children's learning through interventions? Evidence from a parenting intervention, exploratory play, and social learning about effort. Part of the paper symposium: Interaction of executive function and knowledge in the preschool years. *Society for Research in Child Development*, Austin, TX.
- Romeo, R. R.,** Christodoulou, J. A, Cyr, A. B., Halverson, K. K., Murtagh, J., Chang, P., Hook, P.E., & Gabrieli J.D.E. (2015). Children's socioeconomic status influences their response to reading intervention. *American Speech-Language Hearing Association*, Denver, CO.
- Romeo, R. R.,** Christodoulou, J. A, Cyr, A. B., Halverson, K. K., Murtagh, J., Chang, P, Mackey, A.P., Hook, P.E., Gabrieli J.D.E. (2015). Impact of SES on brain and behavior in children with dyslexia receiving intervention. *Society for the Scientific Study of Reading*, Kona, HI.
- Romeo, R. R.,** & Swingle, D. (2015). Word recognition, phonological specificity, and SES: a longitudinal word-recognition study of toddlers. Part of the paper symposium: SES and infant language development: Four longitudinal studies. *Society for Research in Child Development*, Philadelphia, PA.
- Hazan, V., **Romeo, R.,** Pettinato, M. (2013). The impact of variation in phoneme category structure on consonant intelligibility. Part of the invited session: "Variability in speech intelligibility: Behavioral and neural perspectives." *International Congress on Acoustics and The Acoustical Society of America*, Montreal, Canada.

Posters

*Denotes student mentee.

- *Valencia, V., **Romeo, R. R.,** Leonard, J. A., Rowe, M. L., Gabrieli, J. D. E. (2019). Hablamos ambos (We speak both): Relationship between primary language use and lexical diversity in bilingual families. *Society for Research in Child Development*, Baltimore, MD.
- Romeo, R. R.,** Leonard, J. A., Segaran, J., Mackey, A. P., Rowe, M. L., Gabrieli, J. D. E. (2019). Structural and functional neural correlates of language experience in children from diverse socioeconomic backgrounds. Invited poster presentation in "Taking on the challenge: Re-evaluating the word gap and examining promising interventions for

promoting young children's language." *Society for Research in Child Development*, Baltimore, MD.

Wilmot, D., D'Mello, A. M., **Romeo, R. R.**, Peek, C., Meegoda, O., Centanni, T., Halverson, K., Gabrieli, J. D. E., Christodoulou, J. A. (2018). Neural correlates of phonological processing in dyslexia and comorbid dyslexia-ADHD. *Society for Neuroscience*, San Diego, CA.

Meegoda, O., DeNovi, N., Pennebaker, M., Halverson, K., **Romeo, R. R.**, Imhof, A., Wilmot, D., Centanni, T., Gabrieli, J. D. E., Christodoulou, J. A. (2018). Reading miscue analysis in children with dyslexia, comorbid dyslexia/ADHD, & typical reading skills. *American Speech-Language Hearing Association*, Boston, MA.

Imhof, A., D'Mello, A., Halverson, K., Wilmot, D., **Romeo, R. R.**, Frosch, I., Sridhar, A., Gabrieli, J. D. E., Christodoulou, J. A. (2018). Examining rates of comorbidity in Dyslexia, Dyscalculia & ADHD. *American Speech-Language Hearing Association*, Boston, MA.

Mesite, L., Bhatia, P., **Romeo, R. R.**, Gabrieli, J. D. E., Christodoulou, J. A. (2018). Exploring relationships between socioeconomic status & reading skills in children with & without reading difficulties. *American Speech-Language Hearing Association*, Boston, MA.

Romeo, R. R., Segaran, J., Leonard, J. A., Robinson, S. T., Mackey, A. P., Yendiki, A., Rowe, M. L., Gabrieli, J. D. E. (2018). Neural correlates of the "30-million word gap": Children's language exposure is related to white matter structure. *Cognitive Neuroscience Society*, Boston, MA.

†Highest rated submission in the "Developmental" category.

Leonard, J. A., **Romeo, R. R.**, Park, A. T., Takada, M., Robinson, S.T., Gabrieli, J. D. E., & Mackey, A. P. Associations between cortical thickness and reasoning vary by socioeconomic status in early childhood. *Cognitive Neuroscience Society*, Boston, MA.

Romeo, R. R., Leonard, J. A., Robinson, S. T., Rowe, M. L., Mackey, A. P., Gabrieli, J. D. E. (2017). Language exposure is associated with the cortical thickness of young, low-SES children. *Society for the Neurobiology of Language*, Baltimore, MD.

Christodoulou, J. C., **Romeo, R. R.** Halverson, K., Cyr, A., Murtagh, J., Chang, P, Mackey, A. P., Hook, P. E., Gabrieli J. D. E. (2017). Individual differences in intervention response: Socioeconomic status and reading disability as predictors. *Association for Psychological Science*, Boston, MA.

Takada, M. E., Leonard, J. A., **Romeo, R. R.**, Robinson, S. T., Mackey, A. P., Gabrieli, J. D. E. (2017). Cognitive and neural correlates of mathematical reasoning across math proficiency levels. *Society for Research in Child Development*, Austin, TX.

Romeo, R. R., Leonard, J. A., Robinson, S.T., Segaran, J., Rowe, M. L. Mackey, A. P., Gabrieli, J. D. E. (2016). Children's language exposure predicts neural activation during language processing. *Society for Neuroscience*, San Diego, CA.

†Selected as a "hot topic" – top 5% of all abstracts deemed newsworthy by peer review.

INVITED TALKS AND GUEST LECTURES

- 2/28/2019, Environmental influences on the neurocognitive basis of language and literacy development. University of Chicago Department of Psychology Colloquium, Chicago, IL.
- 12/5/2018, Neuroscience approaches to alleviating the academic achievement gap. University of Delaware School of Education Colloquium, Newark, DE.
- 12/03/2018, Socioeconomic contributions to typical and atypical language development. Center for Autism Research Excellence, Boston, MA.
- 11/15/2018, Environmental influences on phenotypes of developmental disorders and implications for precision treatment. Boston Children's Hospital Department of Pediatrics, Chiefs' Grand Rounds, Boston, MA.
- 11/12/2018, Socioeconomic influences on early neurocognitive development: Implications for education. Stanford University Graduate School of Education Colloquium, Stanford, CA.
- 10/25/2018, The importance of interactive talk for linguistic, cognitive, and neural development. LENA Foundation (webinar), Denver, CO.
- 9/27/2018, Relationships between children's conversational exposure and brain development. The Hanen Centre (webinar), Toronto, ON.
- 7/25/2018, Science matters panel: Early language interaction and brain development. Campaign for Grade Level Reading, Philadelphia, PA.
- 6/26/2018, The importance of an engaging environment for children's language and literacy development. AARP Foundation Experience Corps Network (Keynote Address), Orange County, CA.
- 3/29/2018, Beyond the "30-million-word gap:" Children's conversational exposure is associated with language-related brain function. LENA Foundation (webinar), Denver, CO.
- 3/28/2018, The importance of conversation for children's language development. Pediatric Hearing Loss Professionals study group, Boston MA.
- 1/10/2018, Environmental influences on the neural basis of language and reading development. Boston Children's Hospital Laboratories of Cognitive Neuroscience Colloquium, Boston MA.
- 9/29/2017, Environmental influences on the neural basis of language and reading development. Landmark College Symposium, Cambridge MA.
- 7/19/2017, 6/27/2018 Socioeconomic effects on language and reading development. Neuroscience of Reading Summer Institute, Cambridge MA.

TEACHING EXPERIENCE

Boston University

Spring 2019

Sargent College: Department of Speech, Language & Hearing Sciences

Adjunct Professor

SH524: Language Acquisition and Development (undergraduate level)

Harvard University Fall 2016 and 2017
Graduate School of Education
Teaching Fellow and Independent Section Instructor
H-126: Typical and Atypical Neurodevelopment (masters level)

MGH Institute of Health Professions Summer 2015
Department of Communication Sciences and Disorders
Course Co-designer and Teaching Assistant
CD723: Language, Culture and Cognition (masters level)

MGH Institute of Health Professions Summer 2015
Department of Communication Sciences and Disorders
Adjunct Lecturer and Teaching Assistant
CD833: Neuromotor Speech Disorders (masters level)

Massachusetts Institute of Technology Spring 2014
Departments of Health Science and Technology; Electrical Engineering and Computer Science;
and Linguistics and Philosophy
Teaching Assistant and Section Instructor
6.541/24.968/HST.710: Speech Communication (doctoral level)

STUDENT MENTORING

Masters Students:

2017-2018	Melissa Giebler	Harvard Graduate School of Education (independent study)
2016	Christina Stavrakas	MGH Institute of Health Professions (research assistant)
2016	Natalie Albrittain-Ross	MGH Institute of Health Professions (research assistant)

Undergraduate Students:

2016-present	Veronica Valencia	Wellesley College (mentored honors thesis, conference submission, McNair Scholar recipient)
2016-2018	Joshua Segaran	Massachusetts Institute of Technology (mentored independent study, co-author on publication)
2017-2018	Jessica Chang	Emory University (research assistant)
2017	Donna Gan	Wellesley College (research assistant)
2017	Melissa Meloche	Massachusetts Institute of Technology (research assistant)
2016-2017	Lucy Cronin-Golomb	Tufts University (research assistant)
2016-2017	Nina Manning	Massachusetts Institute of Technology (research assistant)
2016-2017	Laura McGeary	Wellesley College (research assistant)
2009-2011	Research Peer Advisor,	Penn Center for Undergraduate Research & Fellowships

High School Students:

2017	Samantha Chin	The Winsor School (summer research internship)
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2017	Charlotte Fries	The Winsor School (summer research internship)
2017	Rebecca Lasser	Dana Hall School (summer research internship)
2017	August Kane	Commonwealth School (summer research internship)
2017	Andrew Ark	Winchester High School (summer research internship)

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Society for Research in Child Development (SRCD); Society for the Neurobiology of Language (SNL); Cognitive Neuroscience Society (CNS); Society for Neuroscience (SfN); Society for Developmental Cognitive Neuroscience (Flux Society); American Speech Language Hearing Association (ASHA); Society for the Scientific Study of Reading (SSSR); International Dyslexia Association (IDA)

SELECTED PRESS

Full list available at <http://rachelromeo.com/press/>

BBC World News, 8/13/18, <http://www.bbc.co.uk/programmes/w172w4hs8vxxgvn>

ABC News, 8/13/18, <http://abcnews.go.com/Health/young-children-talking-back-adults-strengthens-language-regions/story?id=57150490>

Reuters, 8/13/18, <http://www.reuters.com/article/us-health-childhood-language/back-and-forth-conversations-with-young-kids-may-aid-brain-development-idUSKBN1KY28O>

The Times, 8/13/18, <https://www.thetimes.co.uk/article/let-the-young-answer-back-to-improve-language-skills-jwxjs56df>

US News & World Report, 3/13/2018, <http://www.usnews.com/news/national-news/articles/2018-03-13/talking-and-listening-to-your-children-could-be-key-to-brain-development>

World Economic Forum, 2/28/2018, <http://www.weforum.org/agenda/2018/02/how-you-talk-to-your-child-changes-their-brain/>

Scientific American, 2/22/2018, <http://www.scientificamerican.com/article/talking-with-mdash-not-just-to-mdash-kids-powers-how-they-learn-language/>

National Public Radio, 2/14/2018, <http://www.wbur.org/commonhealth/2018/02/14/mit-brain-study>

Boston Globe, 6/29/2017, <http://www.bostonglobe.com/metro/2017/06/26/mit-study-finds-poorer-kids-benefit-more-from-summer-reading-programs/UQwO4xh3caCbJYZUDpWGPI/story.html>

ACADEMIC SERVICE

Ad Hoc Manuscript Review (<http://publons.com/a/1353200/>)

Cerebral Cortex; Developmental Science; Child Development; Journal of Child Language; Pediatrics; Journal of the Acoustical Society of America

Departmental Committees

- 2015-2018 Graduate admissions committee member, Harvard Division of Medical Sciences
2017 Student committee member for “Science of Learning” faculty search, Harvard Graduate School of Education

SELECTED COMMUNITY SERVICE

- Developed and delivered hands-on “Introduction to Brain Science” seminars for elementary-aged students within local Boston-area schools. 2017-present
- Playspace Activity Leader, providing play-based early learning to homeless infants and young children, Horizons for Homeless Children 2014-2016
- Volunteer remedial reading tutor in high-need elementary schools (grades K-6), Penn Reading Initiative 2008-2011