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Employment

Stanford University

Associate Professor of Psychology and (by courtesy) Linguistics (2014 – present)

Assistant Professor of Psychology and (by courtesy) Linguistics (2010 – 2014)

Education

Massachusetts Institute of Technology

Ph.D (2010), Department of Brain and Cognitive Sciences

Advisor: Edward Gibson

Thesis title: “Early word learning through communicative inference”

Stanford University

B.S. with Honors (2004), Symbolic Systems

B.A. (2004), Comparative Literature

Honors and Awards

Federation of Associations in Behavioral and Brain Sciences (FABBS) Early Career Impact Award (2017)

Klaus W. Jacobs Foundation Advanced Research Fellowship (2016)

Gordon and Dailey Pattee Faculty Fellowship (2014)

Kavli Frontiers of Science Fellow (2014)

Association for Psychological Science Rising Star (2011)

Robert J. Glushko Dissertation Prize, Cognitive Science Society (2011)

National Science Foundation Graduate Fellowship (2006–2010)

Jacob Javits Fellowship for Graduate Study (2006–2010)

Walle Nauta Award for Continued Dedication to Teaching, MIT BCS (2009)

Linguistic Society of America Bloch Fellowship (2007–2009)

Angus MacDonald Award for Excellence in Undergraduate Teaching, MIT BCS (2008)

David Marr Prize for Best Student Paper, Cognitive Science Society (2008)

Publications

Peer-Reviewed Journal Articles

1. Byers-Heinlein, K., Bergmann, C., Black, A., Carbajal, M. J., Fennell, C. T., Frank, M. C., . . . & Tsui, A. S.-M. (accepted pending data collection). A multi-lab study of bilingual infants: exploring the preference for infant-directed speech. *Advances in Methods and Practices in Psychological Science*.
2. The ManyBabies Consortium. (accepted pending data collection). Quantifying sources of variability in infancy research using the infant-directed speech preference. *Advances in Methods and Practices in Psychological Science*.
3. Barner, D., Athanasopoulou, A., Chu, J., Lewis, M. L., Marchand, E., Schneider, R. M., & Frank, M. C. (in press). A one-year classroom-randomized trial of mental abacus instruction for first- and second-grade students. *Journal of Numerical Cognition*.
4. Bergmann, C., Tsuji, S., Piccinini, P. E., Lewis, M. L., Braginsky, M., Frank, M. C., & Cristia, A. (in press). Promoting replicability in developmental research through meta-analyses: insights from language acquisition research. *Child Development*.
5. Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., . . . & Yurovsky, D. (in press). A collaborative approach to infant research: promoting reproducibility, best practices, and theory-building. *Infancy*.
6. Hawkins, R. X. D., Smith, E. N., Students, P. 2., & Frank, M. C. (in press). Improving the replicability of psychological science through pedagogy. *Advances in Methods and Practices in Psychological Science*.
7. *Horowitz, A. C., *Schneider, R. M., & Frank, M. C. (in press). The trouble with quantifiers: explaining children's deficits in scalar implicature. *Child Development*.
8. MacDonald, K., Yurovsky, D., & Frank, M. C. (2017). Social cues modulate the representations underlying cross-situational learning. *Cognitive Psychology*, 94, 67–84.
9. Räsänen, O., Doyle, G., & Frank, M. C. (in press). Pre-linguistic segmentation of speech into syllable-like units. *Cognition*.
10. Brooks, N. B., Barner, D., Frank, M. C., & Goldin-Meadow, S. (2017). The role of gesture in supporting mental representations: the case of mental abacus arithmetic. *Cognitive Science*.
11. Casillas, M. C. & Frank, M. C. (2017). Cues to turn boundary projection in adults and preschoolers. *Journal of Memory and Language*, 92, 234–253.
12. Ouyang, L., Boroditsky, L., & Frank, M. C. (2017). Semantic coherence facilitates distributional learning of word meaning. *Cognitive Science*, 41(54), 855–884.
13. Meylan, S. C., Roy, B. C., Frank, M. C., & Levy, R. (2017). The emergence of an abstract grammatical category in children's early speech. *Psychological Science*, 28, 181–192.
14. Yurovsky, D., Case, S., & Frank, M. C. (2017). Preschoolers flexibly adapt to noisy linguistic input. *Psychological Science*, 28(1), 132–140.
15. Goodman, N. D. & Frank, M. C. (2016). Pragmatic language interpretation as probabilistic inference. *Trends in Cognitive Sciences*, 20, 818–829.
16. Lewis, M. L. & Frank, M. C. (2016d). Understanding the effect of social context on learning: a replication of xu and tenenbaum (2007b). *Journal of Experimental Psychology: General*, 145(9), e72–e80.

17. Anderson, C. J., Bahnik, S., Barnett-Cowan, M., Bosco, F. A., Chandler, J., Chartier, C. R., ... & Zuni, K. (2016). Response to a comment on "Estimating the reproducibility of psychological science". *Science*, *351*, 1037.
18. Frank, M. C. (2016b). Comment on "Math at home adds up to achievement in school". *Science*, *351*, 1161.
19. Frank, M. C., Braginsky, M., Yurovsky, D., & Marchman, V. A. (2016). Wordbank: an open repository for developmental vocabulary data. *Journal of Child Language*.
20. Lewis, M. L. & Frank, M. C. (2016c). The length of words reflects their conceptual complexity. *Cognition*, *153*, 182–195.
21. Waskom, M. L., Frank, M. C., & Wagner, A. D. (2016). Adaptive engagement of cognitive control in context-dependent decision-making. *Cerebral Cortex*.
22. Barner, D., Alvarez, G. A., Sullivan, J., Brooks, N. B., Srinivasan, M., & Frank, M. C. (2016). Learning mathematics in a visuospatial format: a randomized, controlled trial of mental abacus instruction. *Child Development*.
23. Frank, M. C., Sugarman, E., Horowitz, A. C., Lewis, M. L., & Yurovsky, D. (2016). Using tablets to collect data from young children. *Journal of Cognition and Development*, *17*(1), 1–17.
24. Horowitz, A. C. & Frank, M. C. (2016). Children's pragmatic inferences as a route for learning about the world. *Child Development*, *87*(3), 807–819.
25. Sullivan, J., Frank, M. C., & Barner, D. (2016). Intensive math training does not affect approximate number acuity: evidence from a three-year longitudinal curriculum intervention. *Journal of Numerical Cognition*, *2*(2), 57–76.
26. Hall, S. S., Frank, M. C., Pusiol, G. T., Farzin, F., Lightbody, A. A., & Reiss, A. L. (2015). Quantifying naturalistic social gaze in fragile x syndrome using a novel eye tracking paradigm. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*.
27. Horowitz, A. C. & Frank, M. C. (2015b). Young children's developing sensitivity to discourse continuity as a cue for inferring reference. *Journal of Experimental Child Psychology*, *129*, 84–97.
28. Goodman, N. D., Frank, M. C., Griffiths, T. L., Tenenbaum, J. B., Battaglia, P. W., & Hamrick, J. B. (2015). Relevant and robust: A response to Marcus and Davis (2013). *Psychological Science*, *26*(4), 539–541.
29. Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, *349*.
30. Phillips, J., Ong, D. C., Surtees, A. D. R., Xin, Y., Williams, S., Saxe, R., & Frank, M. C. (2015). A second look at automatic theory of mind: Reconsidering Kovács, Téglás, and Endress (2010). *Psychological Science*.
31. Potts, C., Lassiter, D., Levy, R., & Frank, M. C. (2015). Embedded implicatures as pragmatic inferences under compositional lexical uncertainty. *Journal of Semantics*.
32. Roy, B. C., Frank, M. C., DeCamp, P., Miller, M., & Roy, D. (2015). Predicting the birth of a spoken word. *Proceedings of the National Academy of Sciences*, *112*, 12663–12668.
33. Stiller, A. J., Goodman, N. D., & Frank, M. C. (2015). Ad-hoc implicature in preschool children. *Language Learning and Development*, *11*(2), 176–190.

34. Yurovsky, D. & Frank, M. C. (2015a). An integrative account of constraints on cross-situational learning. *Cognition*, *145*, 53–62.
35. Yurovsky, D. & Frank, M. C. (2015b). Beyond naïve cue combination: salience and social cues in early word learning. *Developmental Science*.
36. Frank, M. C., Amso, D., & Johnson, S. P. (2014). Visual search and attention to faces during early infancy. *Journal of Experimental Child Psychology*, *118*, 13–26.
37. Frank, M. C. & Goodman, N. D. (2014). Inferring word meanings by assuming that speakers are informative. *Cognitive Psychology*, *75*, 80–96.
38. Nordmeyer, A. E. & Frank, M. C. (2014). The role of context in young children’s comprehension of negation. *Journal of Memory and Language*, *77*, 25–39.
39. Rohde, H. & Frank, M. C. (2014). Markers of topical discourse in child-directed speech. *Cognitive Science*, *38*(8), 1634–1661.
40. Yoon, J. M., Witthoft, N., Winawer, J., Frank, M. C., Everett, D. L., & Gibson, E. (2014). Cultural differences in perceptual reorganization in US and Pirahã adults. *PLoS ONE*, *9*, e110225.
41. Frank, M. C. (2013). Throwing out the bayesian baby with the optimal bathwater: response to endress (2013). *Cognition*, *128*(3), 417–423.
42. Frank, M. C., Tenenbaum, J. B., & Fernald, A. (2013). Social and discourse contributions to the determination of reference in cross-situational word learning. *Language, Learning, and Development*, *9*, 1–24.
43. Frank, M. C., Tenenbaum, J. B., & Gibson, E. (2013). Learning and long-term retention of large-scale artificial languages. *PLoS ONE*, *8*(1), e52500.
44. Kurumada, C., Meylan, S. C., & Frank, M. C. (2013). Zipfian frequency distributions facilitate word segmentation in context. *Cognition*, *127*(3), 439–453.
45. Luong, M.-T., Frank, M. C., & Johnson, M. (2013). Parsing entire discourses as very long strings: capturing topic continuity in grounded language learning. *Transactions of the Association for Computational Linguistics*, *1*, 315–326.
46. Frank, M. C., Fedorenko, E., Lai, P., Saxe, R., & Gibson, E. (2012). Verbal interference suppresses exact numerical representation. *Cognitive Psychology*, *64*(1), 74–92.
47. Frank, M. C. & Goodman, N. D. (2012). Predicting pragmatic reasoning in language games. *Science*, *336*(6084), 998.
48. Frank, M. C. & Saxe, R. (2012). Teaching replication. *Perspectives on Psychological Science*, *7*, 595–599.
49. Frank, M. C., Vul, E., & Saxe, R. (2012). Measuring the development of social attention using free-viewing. *Infancy*, *17*, 355–375.
50. Shafto, P., Goodman, N. D., & Frank, M. C. (2012). Learning from others: the consequences of psychological reasoning for human learning. *Perspectives on Psychological Science*, *7*(4), 341–351.
51. Open Science Collaboration. (2012). An open, large-scale, collaborative effort to estimate the reproducibility of psychological science. *Perspectives on Psychological Science*, *7*, 657–660.
52. Frank, M. C. & Barner, D. (2011). Representing exact number visually using mental abacus. *Journal of Experimental Psychology: General*, *141*, 131–149.

53. Frank, M. C. & Gibson, E. (2011). Overcoming memory limitations in rule learning. *Language Learning and Development*, 7(2), 130–148.
54. Frank, M. C. & Tenenbaum, J. B. (2011). Three ideal observer models for rule learning in simple languages. *Cognition*, 120, 360–371.
55. Frank, M. C., Goldwater, S., Griffiths, T. L., & Tenenbaum, J. B. (2010). Modeling human performance in statistical word segmentation. *Cognition*, 117(2), 107–125.
56. Fletcher-Watson, S., Leekam, S. R., Benson, V., Frank, M., & Findlay, J. (2009). Eye-movements reveal attention to social information in autism spectrum disorder. *Neuropsychologia*, 47, 248–257.
57. Frank, M. C., Goodman, N. D., & Tenenbaum, J. B. (2009). Using speakers' referential intentions to model early cross-situational word learning. *Psychological Science*, 20(5), 578–585.
58. Frank, M. C., Slemmer, J. A., Marcus, G. F., & Johnson, S. P. (2009). Information from multiple modalities helps 5-month-olds learn abstract rules. *Developmental Science*, 12(4), 504–509.
59. Frank, M. C., Vul, E., & Johnson, S. P. (2009). Development of infants' attention to faces during the first year. *Cognition*, 110(2), 160–170.
60. Johnson, S. P., Fernandes, K. J., Frank, M. C., Kirkham, N., Marcus, G., Rabagliati, H., & Slemmer, J. A. (2009). Abstract rule learning for visual sequences in 8- and 11-month-olds. *Infancy*, 14(1), 2–18.
61. Frank, M. C., Everett, D. L., Fedorenko, E., & Gibson, E. (2008). Number as a cognitive technology: Evidence from Pirahã language and cognition. *Cognition*, 108, 819–824.
62. Johnson, S. P., Davidow, J., Hall-Haro, C., & Frank, M. C. (2008). Development of perceptual completion originates in information acquisition. *Developmental Psychology*, 44, 1214.
63. Oppenheimer, D. M. & Frank, M. C. (2008). A rose in any other font would not smell as sweet: effects of perceptual fluency on categorization. *Cognition*, 106, 1178–1194.
64. Winawer, J., Witthoft, N., Frank, M. C., Wu, L., Wade, A. R., & Boroditsky, L. (2007). Russian blues reveal effects of language on color discrimination. *Proceedings of the National Academy of Sciences*, 104, 7780–7785.

Chapters, Reviews, and other Manuscripts

65. Lewis, M. L. & Frank, M. C. (2016b). Linguistic structure emerges through the interaction of memory constraints and communicative pressures. Commentary on M. Christiansen & N. Chater, The Now-or-Never Bottleneck: A Fundamental Constraint on Language. *Behavioral and Brain Sciences*.
66. Frank, M. C. (2016a). Chasing the Rubicon? Review of "Chaser: Unlocking the Genius of the Dog Who Knows a Thousand Words". *American Journal of Psychology*, 129, 99–104.
67. Frank, M. (2013). Learning words through probabilistic inferences about speakers' communicative intentions. In I. Arnon, M. Casillas, C. Kurumada, & B. I. Estigarribia (Eds.), *Language in interaction*. Stanford, CA: CSLI Press.
68. Frank, M. C. (2012). Cross-cultural differences in representations and routines for exact number. In N. Evans & M. Klamer (Eds.), *Language documentation and conservation, special publication no. 5: melanesian languages on the edge of asia: challenges for the 21st century* (pp. 219–238). University of Hawai'i Press.

69. Fernald, A. & Frank, M. C. (2012). Finding the words: how young children develop skill in interpreting spoken language. In M. Spivey, K. McRae, & M. Joanisse (Eds.), *The cambridge handbook of psycholinguistics* (p. 104). Cambridge, UK: Cambridge University Press.
70. Johnson, S., Amso, D., Frank, M., & Shuwairi, S. (2008). Development of event perception in infancy. In T. F. Shipley & J. M. Zacks (Eds.), *Understanding events: how humans see, represent, and act on events* (pp. 436–464). Oxford, UK: Oxford University Press.

Peer-Reviewed Conference Proceedings

71. Doyle, G., Goldberg, A., Srivastava, S. B., & Frank, M. C. (2017). Alignment at work: accommodation and enculturation in corporate communication. In *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics*.
72. Fourtassi, A. & Frank, M. C. (2017). Word identification under multimodal uncertainty. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
73. Hawkins, R. X. D., Frank, M. C., & Goodman, N. D. (2017). Convention-formation in iterated reference games. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
74. Hembacher, E., deMayo, B., & Frank, M. C. (2017). Children's social referencing reflects sensitivity to graded uncertainty. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
75. Jasbi, M. & Frank, M. C. (2017). The semantics and pragmatics of logical connectives: adults' and children's interpretations of "and" and "or" in a guessing game. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
76. MacDonald, K., Blonder, A., Marchman, V. A., Fernald, A., & Frank, M. C. (2017). An information-seeking account of eye movements during spoken and signed language comprehension. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
77. Ouyang, L. & Frank, M. C. (2017). Pedagogical learning. In *Nips workshop on teaching machines, robots, and humans*.
78. Yoon, E. J., Tessler, M. H., Goodman, N. D., & Frank, M. C. (2017). "i won't lie, it wasn't amazing": modeling polite indirect speech. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
79. Braginsky, M., Yurovsky, D., Marchman, V. A., & Frank, M. C. (2016). From uh-oh to tomorrow: predicting age of acquisition for early words across languages. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
80. Crone, P. & Frank, M. C. (2016). Inferring generic meaning from pragmatic reference failure. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
81. Doyle, G., Yurovsky, D., & Frank, M. C. (2016). A robust framework for estimating linguistic alignment in social media conversations. In *Proceedings of the 25th international world wide web conference*.
82. Doyle, G. & Frank, M. C. (2016). Investigating the sources of linguistic alignment in conversation. In *Proceedings of the 54th Annual Conference of the Association for Computational Linguistics*.
83. Frank, M. C., Lewis, M. L., & MacDonald, K. (2016). A performance model for early word learning. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
84. Hembacher, E. & Frank, M. C. (2016). Measuring lay theories of parenting and child development. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.

85. Lewis, M. L. & Frank, M. C. (2016a). Linguistic niches emerge from pressures at multiple timescales. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
86. MacDonald, K. & Frank, M. C. (2016). When does passive learning improve the effectiveness of active learning? In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
87. Nordmeyer, A. E., Yoon, E. J., & Frank, M. C. (2016). Distinguishing processing difficulties in inhibition, implicature, and negation. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
88. Peloquin, B. & Frank, M. C. (2016). Determining the alternatives for scalar implicature. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
89. Pusiol, G., Esteva, A., Hall, S. S., Frank, M. C., Milstein, A., & Li, F.-F. (2016). Vision-based classification of developmental disorders using eye-movements. In *19th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*.
90. Schneider, R. M. & Frank, M. C. (2016). A speed-accuracy trade-off in children's processing of scalar implicatures. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
91. Yoon*, E. J., Tessler*, M. H., Goodman, N. D., & Frank, M. C. (2016). Talking with tact: polite language as a balance between kindness and informativity. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
92. Yurovsky, D., Doyle, G., & Frank, M. C. (2016). Linguistic input is tuned to children's developmental level. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
93. Braginsky, M., Yurovsky, D., Marchman, V. A., & Frank, M. C. (2015). Developmental changes in the relationship between grammar and the lexicon. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
94. Horowitz, A. C. & Frank, M. C. (2015a). Sources of developmental change in pragmatic inferences about scalar terms. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
95. Lewis, M. L. & Frank, M. C. (2015). Conceptual complexity and the evolution of the lexicon. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
96. MacDonald, K., Yurovsky, D., & Frank, M. C. (2015). Referential cues modulate attention and memory during cross-situational word learning. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
97. Nordmeyer, A. E. & Frank, M. C. (2015). The pragmatics of negation across contexts. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
98. Schneider, R. M., Yurovsky, D., & Frank, M. C. (2015). Large-scale investigations of variability in children's first words. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
99. Yoon, E. J., Wu, Y. C., & Frank, M. C. (2015). Children's online processing of ad-hoc implicatures. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
100. Yurovsky, D., Wagner, K., Barner, D., & Frank, M. C. (2015). Signatures of domain-general categorization mechanisms in color word learning. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
101. Doyle, G. & Frank, M. C. (2015b). Shared common ground influences information density in microblog texts. In *Proceedings of NAACL-HLT*.

102. Doyle, G. & Frank, M. C. (2015a). Audience size and contextual effects on information density in twitter conversations. In *Proceedings of the Workshop on Cognitive Modeling and Computational Linguistics*.
103. Räsänen, O., Doyle, G., & Frank, M. C. (2015). Unsupervised word discovery from speech using automatic segmentation into syllable-like units. In *Proceedings of Interspeech*.
104. Schuster, S., Pancoast, S., Ganjoo, M., Frank, M. C., & Jurafsky, D. (2014). Speaker-independent detection of child-directed speech. In *Spoken language technology workshop (slt), 2014 ieee* (pp. 366–371). IEEE.
105. Frank, M. C. (2014). Modeling the dynamics of classroom education using teaching games. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*.
106. Horowitz, A. C. & Frank, M. C. (2014). Preschoolers infer contrast from adjectives if they can access lexical alternatives. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*.
107. Lewis, M. L., Sugarman, E., & Frank, M. C. (2014). The structure of the lexicon reflects principles of communication. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*.
108. Pusiol, G., Soriano, L., Fei-Fei, L., & Frank, M. C. (2014). Discovering the signatures of joint attention in child-caregiver interaction. In *Proceedings of the 36th annual conference of the cognitive science society*.
109. Vogel, A., Emilsson, A. G., Frank, M. C., Jurafsky, D., & Potts, C. (2014). Learning to reason pragmatically with cognitive limitations. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*.
110. Yurovsky, D. & Frank, M. C. (2014). Beyond naive cue combination: salience and social cues in early word learning. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*.
111. Smith, N. J., Goodman, N., & Frank, M. (2013). Learning and using language via recursive pragmatic reasoning about other agents. In *Advances in neural information processing systems*.
112. Casillas, M. & Frank, M. C. (2013). The development of predictive processes in children’s discourse understanding. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 299–304). Cognitive Society.
113. Frank, M. C., Simmons, K., Yurovsky, D., & Pusiol, G. (2013). Developmental and postural changes in children’s visual access to faces. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
114. Horowitz, A. C. & Frank, M. C. (2013). Young children’s developing sensitivity to discourse continuity as a cue to reference. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
115. Lewis, M. L. & Frank, M. C. (2013b). Modeling disambiguation in word learning via multiple probabilistic constraints. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
116. Lewis, M. L. & Frank, M. C. (2013a). An integrated model of concept learning and word-concept mapping. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
117. Meylan, S., Frank, M. C., & Levy, R. (2013). Modeling the development of determiner productivity in children’s early speech. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
118. Nordmeyer, A. E. & Frank, M. C. (2013). Measuring the comprehension of negation in 2-to 4-year-old children. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.

119. Yurovsky, D., Wade, A., & Frank, M. C. (2013). Online processing of speech and social information in early word learning. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
120. Tice, M. P. & Frank, M. C. (2012). Cues to turn boundary projection in adults and preschoolers. In *Proceedings of SemDial 16*.
121. Johnson, M., Demuth, K., & Frank, M. (2012). Exploiting social information in grounded language learning via grammatical reductions. In *Proceedings of the 50th Annual Conference of the Association for Computational Linguistics*.
122. Frank, M. C., Vul, E., & Saxe, R. (2012). Measuring the development of social attention using free-viewing. *Infancy, 17*, 355–375.
123. Horowitz, A. C. & Frank, M. C. (2012). Learning from speaker word choice by assuming adjectives are informative. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society*.
124. Meylan, S., Kurumada, C., Börschinger, B., Johnson, M., Frank, M. C., et al. (2012). Modeling online word segmentation performance in structured artificial languages. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society*.
125. Ouyang, L., Boroditsky, L., & Frank, M. C. (2012). Semantic coherence facilitates distributional learning of word meanings. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society*.
126. Roy, B. C., Frank, M. C., & Roy, D. (2012). Relating activity contexts to early word learning in dense longitudinal data. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society*.
127. Smith, C. & Frank, M. C. (2012). Zero anaphora and object reference in Japanese child-directed speech. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society*.
128. Kurumada, C., Meylan, S. C., & Frank, M. C. (2011). Zipfian word frequencies support statistical word segmentation. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*.
129. Stiller, A., Goodman, N. D., & Frank, M. C. (2011). Ad-hoc scalar implicature in adults and children. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*.
130. Rohde, H. & Frank, M. C. (2011). Markers of discourse structure in child-directed speech. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*.
131. Tily, H., Frank, M. C., & Jaeger, T. F. (2011). The learnability of constructed languages reflects typological patterns. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*.
132. Yoon, J., Witthoft, N., Winawer, J., Frank, M. C., Gibson, E., & Markman, E. M. (2011). Thinking for seeing: enculturation of visual-referential expertise as demonstrated by photo-triggered perceptual reorganization of two-tone mooney images. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*.
133. Johnson, M., Demuth, K., Frank, M. C., & Jones, B. (2010). Synergies in learning words and their referents. In *Advances in neural information processing systems* (Vol. 23).
134. Jones, B. K., Johnson, M., & Frank, M. C. (2010). Learning words and their meanings from unsegmented child-directed speech. In *Proceedings of NAACL-HLT*.
135. Vosoughi, S., Roy, B. C., Frank, M. C., & Roy, D. (2010). Contributions of prosodic and distributional features of caregivers' speech in early word learning. In *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*.

136. Frank, M. C., Tily, H., Arnon, I., & Goldwater, S. (2010). Beyond transitional probabilities: human learners impose a parsimony bias in statistical word segmentation. In *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*.
137. Vul, E., Frank, M. C., Alvarez, G., & Tenenbaum, J. (2009). Explaining human multiple object tracking as resource-constrained approximate inference in a dynamic probabilistic model. In *Advances in neural information processing systems* (Vol. 22).
138. Frank, M. C., Goodman, N. D., Tenenbaum, J. B., & Fernald, A. (2009). Continuity of discourse provides information for word learning. In *Proceedings of the 31st Annual Cognitive Science Society*.
139. Frank, M. C., Goodman, N. D., Lai, P., & Tenenbaum, J. B. (2009). Informative communication in word production and word learning. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society*.
140. Ichinco, D., Frank, M. C., & Saxe, R. (2009). Cross-situational word learning respects mutual exclusivity. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society*.
141. Roy, B. C., Frank, M. C., & Roy, D. (2009). Exploring word learning in a high-density longitudinal corpus. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society*. Cognitive Science Society.
142. Frank, M. C., Fedorenko, E., & Gibson, E. (2008). Language as a cognitive technology: English-speakers match like Pirahã when you don't let them count. In *Proceedings of the 30th Annual Conference of the Cognitive Science Society*. [Marr Prize]
143. Frank, M. C., Ichinco, D., & Tenenbaum, J. B. (2008). Principles of generalization for learning sequential structure in language. In *Proceedings of the 30th Annual Conference of the Cognitive Science Society*.
144. Frank, M. C., Goodman, N. D., & Tenenbaum, J. B. (2007). A bayesian framework for cross-situational word-learning. In *Advances in neural information processing systems*.
145. Frank, M. C., Goldwater, S., Mansinghka, V., Griffiths, T. L., & Tenenbaum, J. B. (2007). Modeling human performance in statistical word segmentation. In *Proceedings of the 29th Annual Meeting of the Cognitive Science Society*.
146. Frank, M. C., Mansinghka, V., Gibson, E., & Tenenbaum, J. B. (2007). Word segmentation as word learning: integrating meaning learning with distributional cues to segmentation. In *Proceedings of the 31st Annual Boston University Conference on Language Development*. Cascadilla Press.
147. Johnson, S. P., Davidow, J., Hall, C. H., & Frank, M. C. (2006). Developmental mechanisms of perceptual completion. In *Proceedings of the International Conference on Development and Learning*.
148. Witthoft, N., Winawer, J., Wu, L., Frank, M. C., Wade, A., & Boroditsky, L. (2003). Effects of language on color discriminability. In *Proceedings of the 25th Annual Conference of the Cognitive Science Society*.
149. Boroditsky, L., Ramscar, M., & Frank, M. C. (2001). Roles of body and mind in abstract thought. In *Proceedings of the 23rd Annual Meeting of the Cognitive Science Society*.

Grants

Zhou Gift for Research on Language Development. 11/1/17 – 10/31/22. \$1,000,000.

NSF Research Experience for Undergraduates (Co-PI: Chris Potts, Linguistics). 5/1/17 – 4/30/20. "REU Site: Language, Cognition, and Computation." \$283,231.

Jacobs Foundation Advanced Research Fellowship. 1/1/17 – 12/31/20. 400,000 CHF.

Association for Psychological Science Grant to support ManyBabies 1 Data Collection. Re-granted to participating labs. 9/15/16 – 9/15/17. \$52,000.

NSF DRK (Co-PI: David Barner, UCSD). 9/1/15 – 8/31/16. “Collaborative Research: RAPID: Evaluating the Cognitive and Educational Benefits of Mental Abacus Training.” Stanford budget: \$99,958.

Gift from Kinedu, Inc. for the purpose of studying electronically-delivered parenting interventions. \$160,000.

France-Stanford Collaborative Grant (Co-PI: Emmanuel Dupoux, LSCP, Paris). 9/1/2015 – 8/31/2016 “Learning Sound and Meaning Jointly in Early Language Acquisition.” \$14,000.

NSF Perception, Action, and Cognition (Co-PIs: Roger Levy, UCSD; Chris Potts, Stanford). 9/1/15 – 8/31/18. “Collaborative Research: CompCog: Broad-coverage probabilistic models of communication in context.” Stanford budget: \$427,940.

NSF Development and Learning Sciences. 7/1/15 – 6/30/18. “Wordbank: An open repository for developmental vocabulary data.” \$502,087.

National Institutes of Health R21 (Co-PI, with Antonio Hardan and Grace Gengoux, Psychiatry), 12/13 – 12/15, “Pivotal response treatment package for young children with autism.” \$431,750.

Department of the Navy (Co-PI, with Chris Potts, Linguistics, and Noah Goodman, Psychology), 01/13 – 12/15, “Grounded language understanding as social cognition.” \$494,731.

John Merck Scholars (PI), 5/11 – 5/15, “Social attention and word learning in typical development and autism spectrum disorders.” \$300,000.

Stanford Bio-X Interdisciplinary Initiatives Program (Co-PI, with Fei-Fei Li, Computer Science), 1/13 – 12/14, “Computational methods for characterizing children’s first-person social experiences.” \$150,000.

Stanford Child Health Research Initiative (PI), 2/13 – 2/14, “Social and attentional components of early word learning.” \$32,000.

Australian Research Council Discovery Proposal DP110102506 (Partner Investigator, with PIs Mark Johnson and Katherine Demuth, Macquarie University), 6/11 – 6/13, “Computational models of synergies in human language acquisition.” \$368,000.

Hellman Faculty Scholars (PI), 9/11 – 9/12, “Characterization of children’s social attention via eye-tracking at the San Jose Children’s Discovery Museum.” \$36,400.

Humanities Center Workshop (Co-Organizer, with Chris Potts, Linguistics, and Krista Lawlor, Philosophy), 9/11 – 9/12, “Context dependence in language and cognition.” \$12,000.

NSF Doctoral Dissertation Research Improvement Grant #0746251 (Co-PI, with Edward Gibson, MIT), 2/07 – 2/09, “Empirical studies and probabilistic models of word segmentation and word learning.” \$12,000.

Invited Presentations (Selected)

UCSD Psychology Colloquium, November 2017

University of Maryland Cognitive Science Colloquium, September 2017

Chegg, Inc. Data Science for Education Speaker Series, September 2017
Keynote at Basque Center Stat Learning Conference, June 2017
UBC Gold Medal Language Sciences Speaker Series, Feb 2017
Keynote at XPRAG.de Satellite Symposium, May 2016
Princeton Cognitive Science Colloquium, March 2016
Harvard Psychology Colloquium, February 2016
UNLV Psychology Colloquium, December 2015
Brain and Mind Institute Opening Symposium, Chinese University of Hong Kong, November 2015
Keynote at XPRAG.de (Experimental Pragmatics Workshop), July 2015
Keynote at SocialNLP Workshop, North American Conference on Computational Linguistics (NAACL), June 2015
Google Tech Talks, March 2015
Pennsylvania State University, Young Scholar Series, January 2015
University of Edinburgh, School of Informatics, August 2014
UC Merced Psychology Colloquium, March 2014
Indiana University Cognitive Science Colloquium, February 2014
Society for Language Development Invited Symposium, "Mechanisms of word learning," November 2013
Child Development Society Invited Symposium, "Science at an exhibition: What we learn from studying children in museums," October 2013
Morris Symposium (at Stony Brook Linguistics), "What counts in language and cognition: Number and quantification in the mind/brain," September 2013
NYU Linguistics Colloquium, upcoming September 2013
Max Planck Institute for Psycholinguistics (Nijmegen, Netherlands), Invited Symposium, "Challenges for the field of language development," October 2012
RIKEN Brain Sciences Institute (Tokyo, Japan), July 2012
UC Berkeley Program in Undergraduate Research Keynote, April 2012
UC Merced Cognitive Science Colloquium, April 2012
UC Santa Cruz Psychology Colloquium, April 2012
UC Berkeley Cognitive Science Colloquium, February 2012
University of Michigan Theme Semester, "Language: the Human Quintessence," January 2012
Australian National University Linguistics Colloquium, August 2011
Macquarie University (Sydney, Australia) Workshop on Language, Logic, and Learning, August 2011

Stanford Undergraduate Psychology Conference Keynote, May 2011

UMD Linguistics Colloquium, October 2010

International Research Training Group on Language Technology and Cognitive Systems, Kloster Irsee (Munich, Germany), June 2009

University of Edinburgh School of Informatics Colloquium, June 2009

Conference on Natural Language Learning (CoNLL) Keynote, June 2009

Psychonomic Society Invited Symposium, "Language as a Tool for Thinking," November 2008

Mentorship

Postdoctoral Fellows

Tom Hardwicke – current postdoc, co-supervised with METRICS meta-research center

Manuel Bohn – current postdoc (Marie Curie Fellowship)

Bria Long – current postdoc (NSF SBE Postdoc Fellowship)

Abdellah Fourtassi - current postdoc (Fyssen Fellowship)

Emily Hembacher – current postdoc (Stanford Child Health Research Initiative Postdoc)

Gabriel Doyle – former postdoc – Assistant Professor, San Diego State University

Daniel Yurovsky – former postdoc (NIH NRSA award through NICHD, Anne Fernald, co-mentor) – Assistant Professor, University of Chicago

Guido Pusiol – former postdoc (co-advised, Fei-Fei Li, CS Department), currently Stanford CS postdoc

Brandon C. Roy – former postdoc (co-advised, Deb Roy, MIT Media Lab), currently Twitter, Inc.

Graduate Students

Ben Peloquin – current graduate student

Masoud Jasbi – current graduate student (Linguistics)

Erica Yoon – current graduate student, NSERC (Canadian NSF-equivalent) Fellow

Kyle Macdonald – current graduate student, NSF Graduate Fellowship

Molly L. Lewis – former graduate student, NSF Honorable Mention – postdoc, University of Wisconsin, Madison

Ann E. Nordmeyer – former graduate student, NSF Graduate Fellowship – Assistant Professor, Southern New Hampshire University

Alexandra Horowitz – former graduate student, Stanford Weiland Fellow – Facebook

Ph.D Committee Memberships

(Psychology Department except where noted.)

Michael Henry Tessler, Robin Melnick (Linguistics), Phil Crone (Linguistics), Eleanor Chestnut, Alex Genevsky, Justine Kao, Ricardo Bion, Sarah Gripshover, Taylor Holubar, Daniel Hawthorne, Long Ouyang, Chigusa Kurumada (Linguistics), Marisa Casillas (Linguistics), Hilarie Mazur, Brandon Roy (MIT Media Lab), Lucas Butler, Jennifer Yoon, Hanna Popick, Steven Flusberg, Jessica Tsang (Education), Bokyung Kim (Communication)

Research Assistants

Jacqueline Quirke – current RA'

Alessandro Sanchez – current RA'

Danielle Kellier – current RA

Veronica Cristiano – former RA, now SLP student, Gallaudet

Rose Schneider – former RA, now Psychology PhD student, UPenn

Mika Braginsky – former RA, now Psychology PhD student, MIT

Andrew Weaver – former RA

Sarah James – former RA

Janelle Klaas – former RA

Allison Kraus – former RA, now UC Santa Cruz

Stephan Meylan – former RA, now Psychology PhD student, UC Berkeley

Theresa Hennings – former RA, now Psychology PhD student, University of Washington

Selected Masters, Undergraduate, and High School Students

(All undergraduates listed participated in laboratory research for at least 2–3 quarters.)

Stanford:

Benjamin deMayo – psych BA, honors thesis

Tamara Mekler – HumBio BA, honors thesis

Allison Dods – Symbolic Systems BS, honors thesis

Benjamin Peloquin – Symbolic Systems MS

Sarah Case – HumBio BA, honors thesis

Rachel Chung – Science, Technology, & Society BS, honors thesis, Haas Fellow

Nicholas Moores – Ling BA, Psych MA, honors thesis, UAR Major Grant

Elise Sugarman – Symbolic Systems BS, honors thesis, UAR Major Grant

Laura Soriano – HumBio BA, honors thesis, UAR Major Grant

Stephanie Muscat – HumBio BA, honors thesis (Dornbusch award), UAR Major Grant

Kaia Simmons – HumBio BA, honors thesis (Dornbusch award), UAR Major Grant

Stephanie Nicholson – Psych BA, UAR Major Grant (declined), Beinecke Scholar
Rebecca Chung – SymSys BS, honors thesis
Monchette Gonda – HumBio BA, reading on Cog Neuro of Language (with Sam McClure)
Binna Kim – Psych BA, Psych co-term
Maya Mathur – Psych BA, Statistics co-term
Adrienne Gispén – SymSys BS, DAAD fellow in Germany
Cybelle Smith – Ling BA, now PhD student University of Illinois, NSF GRFP
Alex Stiller – Symbolic Systems MS, now Linguistics PhD student UCSD

Other Institutions:

Charles Wu – CSLI intern (Wabash), now PhD student, CMU
Liza Benabbas – RISE intern, Emoryville HS
Angelica Perez – RISE intern, Eastside College Prep (HS), Yale undergraduate
Allison Gofman – Hendrick Hudson School (HS), Intel Semifinalist, Harvard undergraduate
Avril Kenney – MIT SB, now M.Eng. student at MIT
Peter Lai – MIT SB, now software engineer at Crocodoc
Denise Ichinco – MIT SB, now software engineer at Smarter Travel Media

Professional Service

Governing Board: Cognitive Science Society (2015–present), elected position; elected Chair of the Governing Board (2018–2019)

Founding Member and Interim Executive Committee: Society for the Improvement of Psychological Science (2016–present)

Associate Editor: *Cognition* (2016–2017)

APS Search Committee for Editor in Chief for new *Advances in Methodologies and Practices in Psychological Science* (AMPPS) journal

Advisory Board: MacArthur-Bates Communicative Development Inventory (2014–present), *Databrary* (2016–present)

Editorial Board: *Cognitive Science Journal* (2010–present), *Journal of Experimental Psychology: General* (2016–present), *Advances in Methods and Practices in Psychological Science* (AMPPS) (2017–present)

National Children’s Study: Cognitive Health Domain Team Member (2014–2015)

Program Committee: Cognitive Science Society Annual Meeting (2010–present), Workshop on Cognitive Modeling and Computational Linguistics (at the Association for Computational Linguistics meeting, 2010–2013)

Conference reviewing: Boston University Conference on Language Development; Neural Information Processing Systems; International Conference on Infant Studies; Association for Computational Linguistics; Semantics and Linguistic Theory (SALT); and others.

Executive board member: Linguistic Society of America (2007–2009)

Organizational board: CUNY Sentence Processing Conference (2011), Stanford Child Language Research Forum (2009)

Continuing memberships in: Cognitive Science Society, International Society for Infant Studies, Society for Research in Child Development, Association for Psychological Science, Society for the Improvement of Psychological Science

Ad-hoc reviewer: Child Development, Cognition, Cognitive Science, Developmental Psychology, Developmental Science, Journal of Memory and Language, Nature, Proceedings of the National Academy of Sciences, Psychological Review, Psychological Science, Science, and others.

Other Service

Organizer, ManyBabies Collective (Group for collaborative replication research in developmental psychology)

Acting Director, Center for the Study of Language and Information (2016–2017)

Organizer, Center for the Study of Language and Information (CSLI) Summer Program for undergraduate research experiences (2014–present)

Founding board member and former secretary, The I-HELP Liberia Project, Inc., not-for-profit 501(c)(3) dedicated to improving math and science education in Liberia.

Parent Board Member, Children’s Center of the Stanford Community (2017-2018).

Media Coverage

Anderson et al. (2016): Response to comment on “Estimating the reproducibility of psychological science”

Reported in many major media outlets, including Slate, The Atlantic, etc.

Roy et al. (2015): “Predicting the birth of a spoken word”

Reported in Stanford Report, Science News, Spectrum.de, Focus.it

Open Science Collaboration (2015): “Estimating the reproducibility of psychological science”

Reported in many major media outlets, including New York Times, Washington Post, Nature, Science, The Atlantic, etc.

Personally conducted radio interviews for WNYC and for KUSP

Frank & Goodman (2012): “Predicting pragmatic reasoning in language games”

Reported in Stanford Report, Science Daily, Wired Magazine, EFE Newswire.

Frank & Barner (2011): “Representing exact number visually using mental abacus”

Reported in Stanford Report, Discover Magazine Online, New Scientist, India Express, Times of India.

Frank, Vul, & Johnson (2009): “Development of infants’ attention to faces in the first year”

Reported in Babytalk magazine, April 2009.

Frank et al. (2008): “Number as a cognitive technology: Evidence from Pirahã language and cognition”

Reported on sciencenews.org, Language Log, slashdot.org, London Telegraph, Discover Magazine (100 Top Science Stories of 2008).

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<http://www.stanford.edu/~mcfrank/papers/cv.pdf>