Patricia K. Kuhl

Professor, Speech and Hearing Sciences

Co-Director, UW Institute for Learning & Brain Sciences

The Bezos Family Foundation Endowed Chair for Early Childhood Learning

BASIC DATA

Academic Rank: Professor, Department of Speech and Hearing Sciences
Date of Birth: November 5, 1946
Married: Andrew N. Meltzoff

EDUCATIONAL BACKGROUND

Institution	Degree	Dates
St. Cloud State University	B.A. (Speech; Psychology)	1964–1967
University of Minnesota	M.A. (Speech Science)	1968–1971
University of Minnesota	Ph.D. (Speech; Psychology)	1971–1973

EMPLOYMENT RECORD

Institution	Position	Dates
Central Institute for the Deaf	Post-doctoral Fellow	1973–1976
University of Washington	Assistant Professor	1977–1979
University of Washington	Associate Professor	1979–1982
University of Washington	Professor (Speech and Hearing)	1982–present
University of Washington	Adjunct Professor (Psychology)	1985–present
University of Washington	Adjunct Professor (Otolaryngology)	1987–present
University of Washington	Adjunct Professor (Neuroscience)	1994–present
University of Washington	Adjunct Professor (Linguistics)	1998–present
University of Washington	Adjunct Professor (Education)	2004–present

MAJOR PROFESSIONAL OFFICES AND SERVICE

Executive Council: Acoustical Society of America, 1982–1986
Associate Editor: *Journal of the Acoustical Society of America* (1988–1992), *Journal of Neuroscience* (1989–1995), *Developmental Science* (2000–2012)
Member, University of Washington College of Arts and Science Council: 1982–1986
Member, Speech Communication Technical Committee: Acoustical Society, 1989–1992
Chair, Medals and Awards Committee: Acoustical Society of America, 1993–1995
Human Frontiers Scientific Review Committee: 1994–1999
Department Chair, Speech and Hearing Sciences, University of Washington: 1995–1999
Neuroscience Affiliate: G. Edelman's Neuroscience Research Group, La Jolla, CA, 1994–2000
Board of Directors: American Institute of Physics, 1994–1996
Board of Directors (Governor Appointed): Washington Technology Center, 1994–1997
White House Speaker, President and Mrs. Clinton's Summit on Early Learning: 1997
Co-Chair ASA/ICA: Joint International Meeting of the ASA and ICA, 1998
Board of Trustees: Neurosciences Research Foundation, Inc., 1994–1999
Vice-President Elect: Acoustical Society of America, 1995–1996
Vice President: Acoustical Society of America, 1996–1997
President-Elect: Acoustical Society of America, 1998–1999
President: Acoustical Society of America, 1999–2000
White House Speaker: First Lady Laura Bush's Summit on Learning to Read: 2001
Co-Director Santa Fe Research Consortium: 2003–2005
Co-Chair (with Leo Beranik) ASA 75th Anniversary Celebration: 2004
Co-Director, University of Washington Institute for Learning & Brain Sciences: 2004–present
Member, ASA Publication Policy Committee: 2004–2005
Member, ASA Investment Committee: Acoustical Society of America, 2004–2006
Co-Director, NSF Science of Learning Center (LIFE Center): 2004–2005
International Advisory Board: Nippon Telegraph and Telephone, 2004–2008
American Association for the Advancement of Science: Section Z, Linguistics, 2005
Director, NSF Science of Learning Center (LIFE Center): 2005–2018
Chair, AAAS Nominating Committee: Section J, Psychology, 2006
Member, National Academy of Science Troland Award Committee: 2011–2012
Chair, National Academy of Science Troland Award Committee: 2012–2013
NAS Chair of Membership (Section 52 Psychological & Cognitive Sciences): 2014–2016
White House Speaker, President Obama's Summit on Early Learning: 2014
NSF Alan T Waterman Award Committee: 2015–2017
Bezos Family Foundation Scientific Advisory Board: 2015–present
AAAS Psychology (Section J) Steering Committee: 2016–2019
National Academy Chair of Section 52 (Psychological & Cognitive Sciences): 2016–2019
National Academy of Sciences Board of Directors (Council): 2019–2022
Global Science of Learning (GSOLEN), Advisory Committee: 2019–
Special Olympics, Scientific Advisory Committee: 2020–
National Academy of Sciences, Engineering & Medicine Global Affairs Committee: 2023–
National Academy of Sciences Nominating Committee Chair: 2024–2025

HONORS AND AWARDS

Fellow: Acoustical Society of America, 1982
Fellow: American Psychological Society, 1988
Fellow: American Association for the Advancement of Science, 1999
Fellow: Cognitive Science Society, 2013
Research Award: Virginia Merrill Bloedel Scholar, University of Washington, 1992–1994
Silver Medal: Acoustical Society of America, 1997
Endowed Professorship: William P. and Ruth Gerberding University Professor, 1997–2005
American Academy of Arts and Sciences: Elected 1997
Faculty Lectureship Award: University of Washington, 1998
Rodin Academy: Elected 2000
Norwegian Academy of Science and Letters: Elected 2003
Research Award: Kenneth Craik Award: University of Cambridge, Cambridge, England, 2005
Alumni Outstanding Achievement Award: University of Minnesota, April, 2007
Gold Medal: Acoustical Society of America, Paris, France, July, 2008
Endowed Chair for Early Childhood Learning: Bezos Family Foundation, 2009–present
Member: Washington State Academy of Sciences: Elected 2010
National Academy of Sciences: Elected 2010
TED.com Presentation: 2011, http://www.ted.com/talks/patricia_kuhl_the_linguistic_genius_of_babies.html
Education Nation: 2011, http://ilabs.washington.edu/i-labs-news-education-nation-2011
IPSEN Foundation's Jean-Louis Signoret Neuropsychology Prize: Paris, Nov 29, 2011
William James Lifetime Achievement Award, Assoc. for Psychological Science: 2013
Honoris Causa Doctor, Stockholm University, Nobel Hall: 2014
George A. Miller Prize in Cognitive Neuroscience: 2015
Seattle Hall of Fame: 125 Most Influential People in 50yr History, Patricia Kuhl: 2016
Simms/Mann Foundation Whole Child Award: 2018
APA Distinguished Scientific Contributions Award: 2018
Council of Luminaries: Yidan Foundation: 2020–
Karl Spencer Lashley Award: The American Philosophical Society: 2021
Honorary Doctorate: Erickson Institute: 2022
Inaugural Past President's Council Panel: ICIS, Scotland, 2024
Distinguished Scientific Contributions Award: International Congress of Infant Studies, 2024
Member: Society for Experimental Psychologists: Elected 2025
Transforming Education Through the Science of Learning Award: Learning & Brain Foundation, 2025

CURRENT RESEARCH GRANTS

P. K. Kuhl, Principal Investigator, Bezos Family Foundation
Brain, Behavior, and Development: Infancy to Adolescence, 2019–2026
P. K. Kuhl, Principal Investigator, Bezos Family Foundation
SparkLing™ Bilingual: Teacher Training Program for 0–5 Educators, 2021–2026
P. K. Kuhl, Co-Principal Investigator, Sabol Family Foundation
PI: Christina Zhao, Effects of Music on the Brain, 2023–2026

PUBLICATIONS

Martin, R. R., Haroldson, S. K., & **Kuhl, P.** (1972). Disfluencies in child-child and mother-child speaking situations. *Journal of Speech and Hearing Research*, *15*(4), 753–756. https://doi.org/10.1044/jshr.1504.753

Martin, R. R., Haroldson, S. K., & **Kuhl, P.** (1972). Disfluencies of young children in two speaking situations. *Journal of Speech and Hearing Research*, *15*(4), 831–836. https://doi.org/10.1044/jshr.1504.831

Martin, R. R., **Kuhl, P.**, & Haroldson, S. (1972). An experimental treatment with two preschool stuttering children. *Journal of Speech and Hearing Research*, *15*(4), 743–752. https://doi.org/10.1044/jshr.1504.743

Speaks, C., Parker, B., Harris, C., & **Kuhl, P.** (1972). Intelligibility of connected discourse. *Journal of Speech and Hearing Research*, *15*(3), 590–602. https://doi.org/10.1044/jshr.1503.590

Ingham, R. J., Martin, R. R., & **Kuhl, P.** (1974). Modification and control of rate of speaking by stutterers. *Journal of Speech and Hearing Research*, *17*(3), 489–496. https://doi.org/10.1044/jshr.1703.489

Martin, R. R., **Kuhl, P.**, & Haroldson, S. (1974). An experimental treatment with two preschool stuttering children. In C. M. Franks & G. T. Wilson (Eds.), *Annual review of behavior therapy: Theory & practice* (Vol. 2, pp. 187–197). Brunner/Mazel.

Kuhl, P. K., & Miller, J. D. (1975). Speech perception by the chinchilla: Voiced-voiceless distinction in alveolar plosive consonants. *Science*, *190*(4209), 69–72. https://doi.org/10.1126/science.1166301

Kuhl, P. K. (1976). Speech perception in early infancy: The acquisition of speech-sound categories. In S. K. Hirsh, D. H. Eldredge, I. J. Hirsh, & S. R. Silverman (Eds.), *Hearing and Davis: Essays honoring Hallowell Davis* (pp. 265–280). Washington University Press.

Kuhl, P. K. (1978). Predispositions for the perception of speech-sound categories: A species-specific phenomenon? In F. D. Minifie & L. L. Lloyd (Eds.), *Communicative and cognitive abilities—Early behavioral assessment* (pp. 229–255). University Park Press.

Kuhl, P. K., & Miller, J. D. (1978). Speech perception by the chinchilla: Identification functions for synthetic VOT stimuli. *Journal of the Acoustical Society of America*, *63*(3), 905–917. https://doi.org/10.1121/1.381770

Sparks, D. W., **Kuhl, P. K.**, Edmonds, A. E., & Gray, G. P. (1978). Investigating the MESA (Multipoint Electrotactile Speech Aid): The transmission of segmental features of speech. *Journal of the Acoustical Society of America*, *63*(1), 246–257. https://doi.org/10.1121/1.381720

Kuhl, P. K. (1979). Models and mechanisms in speech perception: Species comparisons provide further contributions. *Brain, Behavior and Evolution*, *16*(5–6), 374–408. https://doi.org/10.1159/000121877

Kuhl, P. K. (1979). Predispositions for the perception of speech by human infants. In *Proceedings of the Ninth International Congress of Phonetic Sciences* (pp. 162–168). Institute of Phonetics.

Kuhl, P. K. (1979). Speech perception in early infancy: Perceptual constancy for spectrally dissimilar vowel categories. *Journal of the Acoustical Society of America*, *66*(6), 1668–1679. https://doi.org/10.1121/1.383639

Reprinted in: J. L. Miller, R. D. Kent, & B. S. Atal (Eds.), *Papers in speech communication: Speech Perception* (pp. 685–696). Acoustical Society of America, 1991.

Kuhl, P. K. (1979). The perception of speech in early infancy. In N. J. Lass (Ed.), *Speech and language: Advances in basic research and practice* (Vol. 1, pp.1–47). Academic Press. https://doi.org/10.1016/B978-0-12-608601-0.50006-1

Sparks, D. W., Ardell, L. A., Bourgeois, M., Wiedmer, B., & **Kuhl, P. K.** (1979). Investigating the MESA (Multipoint Electrotactile Speech Aid): The transmission of connected discourse. *Journal of the Acoustical Society of America*, *65*(3), 810–815. https://doi.org/10.1121/1.382502

Kuhl, P. K. (1980). Infant speech perception: Reviewing data on auditory category formation. In P. Levinson & C. Sloan (Eds.), *Auditory processing and language: Clinical and research perspectives* (pp. 35–59). Grune & Stratton.

Kuhl, P. K. (1980). Perceptual constancy for speech-sound categories in early infancy. In G. H. Yeni-Komshian, J. F. Kavanagh, & C. A. Ferguson (Eds.), *Child phonology: Perception* (Vol. 2, pp. 41–66). Academic Press.

Kuhl, P. K. (1981). Auditory category formation and developmental speech perception. In R. E. Stark (Ed.), *Language behavior in infancy and early childhood* (pp. 165–183). Elsevier.

Kuhl, P. K. (1981). Discrimination of speech by nonhuman animals: Basic auditory sensitivities conducive to the perception of speech-sound categories. *Journal of the Acoustical Society of America*, *70*(2), 340–349. https://doi.org/10.1121/1.386782

Kuhl, P. K. (1982). Speech perception: An overview of current issues. In N. J. Lass, L. V. McReynolds, J. L. Northern, & D. E. Yoder (Eds.), *Speech, language, and hearing: Normal processes* (Vol. 1, pp. 286–322). Saunders.

Kuhl, P. K., & Meltzoff, A. N. (1982). The bimodal perception of speech in infancy. *Science*, *218*(4577), 1138–1141. https://doi.org/10.1126/science.7146899

Kuhl, P. K., & Miller, J. D. (1982). Discrimination of auditory target dimensions in the presence or absence of variation in a second dimension by infants. *Perception & Psychophysics*, *31*(3), 279–292. https://doi.org/10.3758/BF03202536

Kuhl, P. K., & Padden, D. M. (1982). Enhanced discriminability at the phonetic boundaries for the voicing feature in macaques. *Perception & Psychophysics*, *32*(6), 542–550. https://doi.org/10.3758/BF03204208

Kuhl, P. K. (1983). Perception of auditory equivalence classes for speech in early infancy. *Infant Behavior and Development*, *6*(3), 263–285. https://doi.org/10.1016/S0163-6383(83)80036-8

Kuhl, P. K. (1983). The perception of speech in early infancy: Four phenomena. In S. E. Gerber & G. T. Mencher (Eds.), *The development of auditory behavior* (pp. 187–218). Grune & Stratton.

Kuhl, P. K., & Padden, D. M. (1983). Enhanced discriminability at the phonetic boundaries for the place feature in macaques. *Journal of the Acoustical Society of America*, *73*(3), 1003–1010. https://doi.org/10.1121/1.389148

Kuhl, P. K., & Meltzoff, A. N. (1984). The intermodal representation of speech in infants. *Infant Behavior and Development*, *7*(3), 361–381. https://doi.org/10.1016/S0163-6383(84)80050-8

Grant, K. W., Ardell, L. H., **Kuhl, P. K.**, & Sparks, D. W. (1985). The contribution of fundamental frequency, amplitude envelope, and voicing duration cues to speechreading in normal-hearing subjects. *Journal of the Acoustical Society of America*, *77*(2), 671–677. https://doi.org/10.1121/1.392335

Kuhl, P. K. (1985). Categorization of speech by infants. In J. Mehler & R. Fox (Eds.), *Neonate cognition: Beyond the blooming buzzing confusion* (pp. 231–262). Erlbaum.

Kuhl, P. K. (1985). Methods in the study of infant speech perception. In G. Gottlieb & N. Krasnegor (Eds.), *Measurement of audition and vision in the first year of postnatal life: A methodological overview* (pp. 223–251). Ablex.

Grant, K. W., Ardell, L. A. H., **Kuhl, P. K.**, & Sparks, D. W. (1986). The transmission of prosodic information via an electrotactile speechreading aid. *Ear and Hearing*, *7*(5), 328–335. https://doi.org/10.1097/00003446-198610000-00008

Kuhl, P. K. (1986). Infants' perception of speech: Constraints on characterizations of the initial state. In B. Lindblom & R. Zetterström (Eds.), *Precursors of early speech* (pp. 219–244). Stockton Press. https://doi.org/10.1007/978-1-349-08023-6_16

Kuhl, P. K. (1986). Reflections on infants' perception and representation of speech. In J. S. Perkell & D. H. Klatt (Eds.), *Invariance and variability in speech processes* (pp. 19–30). Erlbaum.

Kuhl, P. K. (1986). Theoretical contributions of tests on animals to the special-mechanisms debate in speech. *Experimental Biology*, *45*(3), 233–265.

Fernald, A., & **Kuhl, P.** (1987). Acoustic determinants of infant preference for motherese speech. *Infant Behavior and Development*, *10*(3), 279–293. https://doi.org/10.1016/0163-6383(87)90017-8

Kuhl, P. K. (1987). Perception of speech and sound in early infancy. In P. Salapatek & L. Cohen (Eds.), *Handbook of infant perception: From perception to cognition* (Vol. 2, pp. 275–382). Academic Press.

Kuhl, P. K. (1987). The special-mechanisms debate in speech research: Categorization tests on animals and infants. In S. Harnad (Ed.), *Categorical perception: The groundwork of cognition* (pp. 355–386). Cambridge University Press.

Grieser, D. L., & **Kuhl, P. K.** (1988). Maternal speech to infants in a tonal language: Support for universal prosodic features in motherese. *Developmental Psychology*, *24*(1), 14–20. https://doi.org/10.1037/0012-1649.24.1.14

Kuhl, P. K. (1988). Auditory perception and the evolution of speech. *Human Evolution*, *3*(1), 19–43. https://doi.org/10.1007/BF02436589

Kuhl, P. K. (1988). On handedness in primates and human infants. *Behavioral and Brain Sciences*, *11*(4), 727–729. https://doi.org/10.1017/S0140525X00054340

Kuhl, P. K., & Meltzoff, A. N. (1988). Speech as an intermodal object of perception. In A. Yonas (Ed.), *Perceptual development in infancy: The Minnesota Symposia on Child Psychology* (Vol. 20, pp. 235–266). Erlbaum.

Green, K. P., & **Kuhl, P. K.** (1989). The role of visual information in the processing of place and manner features in speech perception. *Perception & Psychophysics*, *45*(1), 34–42. https://doi.org/10.3758/BF03208030

Grieser, D., & **Kuhl, P. K.** (1989). Categorization of speech by infants: Support for speech-sound prototypes. *Developmental Psychology*, *25*(4), 577–588. https://doi.org/10.1037/0012-1649.25.4.577

Kuhl, P. K. (1989). Infants' acquisition of speech: Evidence of an early understanding of auditory-articulatory correspondences. In J. Erber, R. Menzel, H. Pfluger, & D. Todt (Eds.), *Neural mechanisms of behavior* (pp. 153–154). Georg Thieme Verlag.

Kuhl, P. K. (1989). On babies, birds, modules, and mechanisms: A comparative approach to the acquisition of vocal communication. In R. J. Dooling & S. H. Hulse (Eds.), *The comparative psychology of audition: Perceiving complex sounds* (pp. 379–419). Erlbaum.

Meltzoff, A. N., & **Kuhl, P. K.** (1989). Infants' perception of faces and speech sounds: Challenges to developmental theory. In P. R. Zelazo & R. G. Barr (Eds.), *Challenges to developmental paradigms: Implications for theory, assessment and treatment* (pp. 67–91). Erlbaum.

Kuhl, P. K. (1990). Auditory perception and the ontogeny and phylogeny of human speech. *Seminars in Speech and Language*, *11*(2), 77–91. https://doi.org/10.1055/s-2008-1064243

Kuhl, P. K. (1990). Towards a new theory of the development of speech perception. In H. Fujisaki (Ed.), *Proceedings of the International Conference on Spoken Language Processing* (pp. 745–748). Acoustical Society of Japan.

Green, K. P., & **Kuhl, P. K.** (1991). Integral processing of visual place and auditory voicing information during phonetic perception. *Journal of Experimental Psychology: Human Perception and Performance*, *17*(1), 278–288. https://doi.org/10.1037/0096-1523.17.1.278

Green, K. P., **Kuhl, P. K.**, Meltzoff, A. N., & Stevens, E. B. (1991). Integrating speech information across talkers, gender, and sensory modality: Female faces and male voices in the McGurk effect. *Perception & Psychophysics*, *50*(6), 524–536. https://doi.org/10.3758/BF03207536

Kuhl, P. K. (1991). Human adults and human infants show a "perceptual magnet effect" for the prototypes of speech categories, monkeys do not. *Perception & Psychophysics*, *50*(2), 93–107. https://doi.org/10.3758/BF03212211

Kuhl, P. K. (1991). Perception, cognition, and the ontogenetic and phylogenetic emergence of human speech. In S. E. Brauth, W. S. Hall, & R. J. Dooling (Eds.), *Plasticity of development* (pp. 73–106). MIT Press.

Kuhl, P. K. (1991). [Review of Modularity and the motor theory of speech perception: Proceedings of a conference to honor Alvin M. Liberman. In I. G. Mattingly & M. Studdert-Kennedy (Eds.)]. *Language and Speech*, *34*(4), 367–373. https://doi.org/10.1177/002383099103400405

Kuhl, P. K., Williams, K. A., & Meltzoff, A. N. (1991). Cross-modal speech perception in adults and infants using nonspeech auditory stimuli. *Journal of Experimental Psychology: Human Perception and Performance*, *17*(3), 829–840. https://doi.org/10.1037/0096-1523.17.3.829

Meltzoff, A. N., **Kuhl, P. K.**, & Moore, M. K. (1991). Perception, representation, and the control of action in newborns and young infants: Toward a new synthesis. In M. J. S. Weiss & P. R. Zelazo (Eds.), *Newborn attention: Biological constraints and the influence of experience* (pp. 377–411). Ablex.

Davis, K., & **Kuhl, P. K.** (1992). Best exemplars of English velar stops: A first report. In J. J. Ohala, T. M. Nearey, B. L. Derwing, M. M. Hodge, & G. E. Wiebe (Eds.), *Proceedings of the International Conference on Spoken Language Processing* (pp. 495–498). University of Alberta.

Kuhl, P. K. (1992). Infants' perception and representation of speech: Development of a new theory. In J. J. Ohala, T. M. Nearey, B. L. Derwing, M. M. Hodge, & G. E. Wiebe (Eds.), *Proceedings of the International Conference on Spoken Language Processing* (pp. 449–456). University of Alberta.

Kuhl, P. K. (1992). Psychoacoustics and speech perception: Internal standards, perceptual anchors, and prototypes. In L. A. Werner & E. W. Rubel (Eds.), *Developmental psychoacoustics* (pp. 293–332). American Psychological Association. https://doi.org/10.1037/10119-012

Kuhl, P. K. (1992). Speech prototypes: Studies on the nature, function, ontogeny and phylogeny of the "centers" of speech categories. In Y. Tohkura, E. Vatikiotis-Bateson, & Y. Sagisaka (Eds.), *Speech perception, production and linguistic structure* (pp. 239–264). Ohmsha.

Kuhl, P. K., Williams, K. A., Lacerda, F., Stevens, K. N., & Lindblom, B. (1992). Linguistic experience alters phonetic perception in infants by 6 months of age. *Science*, *255*(5044), 606–608. https://doi.org/10.1126/science.1736364

Reprinted in: F. H. Bess & J. S. Gravel (Eds.), *Foundations of pediatric audiology* (pp. 71–74). Plural Publishing, 2006.

Marean, G. C., Werner, L. A., & **Kuhl, P. K.** (1992). Vowel categorization by very young infants. *Developmental Psychology*, *28*(3), 396–405. https://doi.org/10.1037/0012-1649.28.3.396

Goodsitt, J. V., Morgan, J. L., & **Kuhl, P. K.** (1993). Perceptual strategies in prelingual speech segmentation. *Journal of Child Language*, *20*(2), 229–252. https://doi.org/10.1017/S0305000900008266

Kuhl, P. K. (1993). Developmental speech perception: Implications for models of language impairment. In P. Tallal, A. M. Galaburda, R. R. Llinás, & C. von Euler (Eds.), *Temporal information processing in the nervous system. Annals of the New York Academy of Sciences* (Vol. 682, pp. 248–263). The New York Academy of Sciences. https://doi.org/10.1111/j.1749-6632.1993.tb22973.x

Kuhl, P. K. (1993). Early linguistic experience and phonetic perception: Implications for theories of developmental speech perception. *Journal of Phonetics*, *21*(1–2), 125–139. https://doi.org/10.1016/S0095-4470(19)31326-9

Kuhl, P. K. (1993). Infant speech perception: A window on psycholinguistic development. *International Journal of Psycholinguistics*, *9*(1), 33–56.

Kuhl, P. K. (1993). Innate predispositions and the effects of experience: The native language magnet theory. In B. de Boysson-Bardies, S. de Schonen, P. Jusczyk, P. McNeilage, & J. Morton (Eds.), *Developmental neurocognition: Speech and face processing in the first year of life* (pp. 259–274). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-015-8234-6_22

Green, K. P., Stevens, E. B., & **Kuhl, P. K.** (1994). Talker continuity and the use of rate information during phonetic perception. *Perception & Psychophysics*, *55*(3), 249–260. https://doi.org/10.3758/BF03207596

Kuhl, P. K. (1994). Forming the brain's perceptual maps: Effects of language experience on speech perception. In *Brain and Communication: 1994 Yakult International Symposium* (pp. 1–22). Yakult Honsha Co.

Kuhl, P. K. (1994). Learning and representation in speech and language. *Current Opinion in Neurobiology*, *4*(6), 812–822. https://doi.org/10.1016/0959-4388(94)90128-7

Kuhl, P. K. (1994). Speech perception. In F. D. Minifie (Ed.), *Introduction to communication sciences and disorders* (pp. 77–148). Singular.

Kuhl, P. K., Tsuzaki, M., Tohkura, Y., & Meltzoff, A. N. (1994). Human processing of auditory-visual information in speech perception: Potential for multimodal human-machine interfaces. In *Proceedings of the International Conference on Spoken Language Processing* (pp. 539–542). Acoustical Society of Japan.

Meltzoff, A. N., & **Kuhl, P. K.** (1994). Faces and speech: Intermodal processing of biologically relevant signals. In D. J. Lewkowicz & R. Lickliter (Eds.), *The development of intersensory perception: Comparative perspectives* (pp. 335–369). Erlbaum.

Iverson, P., & **Kuhl, P. K.** (1995). Mapping the perceptual magnet effect for speech using signal detection theory and multidimensional scaling. *Journal of the Acoustical Society of America, 97*(1), 553–562. https://doi.org/10.1121/1.412280

Kuhl, P. K. (1995). Mechanisms of developmental change in speech and language. *Proceedings of the XIIIth International Congress on Phonetic Sciences*, *2*, 132–139.

Kuhl, P. K. (1995). The acquisition of language and speech. In G. Bloothooft, V. Hazan, D. Huber, & J. Llisterri (Eds.), *European studies in phonetics and speech communication* (pp. 93–98). OTS Publications.

Kuhl, P. K., & Iverson, P. (1995). Linguistic experience and the "perceptual magnet effect." In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research* (pp. 121–154). York Press.

Kuhl, P. K., & Meltzoff, A. N. (1995). Vocal learning in infants: Development of perceptual-motor links for speech. *Proceedings of the XIIIth International Congress on Phonetic Sciences*, *1*, 146–149.

Andruski, J. E., & **Kuhl, P. K.** (1996). The acoustic structure of vowels in mothers' speech to infants and adults. *Proceedings of the 1996 International Conference on Spoken Language Processing*, *3*, 1545–1548. https://doi.org/10.1109/ICSLP.1996.607913

Iverson, P., & **Kuhl, P. K.** (1996). Influences of phonetic identification and category goodness on American listeners' perception of /r/ and /l/. *Journal of the Acoustical Society of America*, *99*(2), 1130–1140. https://doi.org/10.1121/1.415234

Kuhl, P. K., & Meltzoff, A. N. (1996). Infant vocalizations in response to speech: Vocal imitation and developmental change. *Journal of the Acoustical Society of America*, *100*(4), 2425–2438. https://doi.org/10.1121/1.417951

Willerman, R., & **Kuhl, P. K.** (1996). Cross-language speech perception: Swedish, English, and Spanish speakers' perception of front rounded vowels. *Proceedings of the 1996 International Conference on Spoken Language Processing*, *1*, 442–445. https:///doi.org/10.1109/ICSLP.1996.607149

Green, K. P., Tomiak, G. R., & **Kuhl, P. K.** (1997). The encoding of rate and talker information during phonetic perception. *Perception & Psychophysics*, *59*(5), 675–692. https://doi.org/10.3758/BF03206015

Kuhl, P. K., Andruski, J. E., Chistovich, I. A., Chistovich, L. A., Kozhevnikova, E. V., Ryskina, V. L., Stolyarova, E. I., Sundberg, U., & Lacerda, F. (1997). Cross-language analysis of phonetic units in language addressed to infants. *Science*, *277*(5326), 684–686. https://doi.org/10.1126/science.277.5326.684

Kuhl, P. K., & Meltzoff, A. N. (1997). Evolution, nativism, and learning in the development of language and speech. In M. Gopnik (Ed.), *The inheritance and innateness of grammars* (pp. 7–44). Oxford University Press.

Hudson, R. E., Bachevalier, J., Doupe, A. J., Fanselow, M. S., **Kuhl, P. K.**, Menzel, R., Morris, R. G. M., Rudy, J. W., & Squire, L. R. (1998). Group report: What does behavior tell us about the relationship between development and learning? In T. J. Carew, R. Menzel, & C. J. Shatz (Eds.), *Mechanistic relationships between development and learning* (pp. 75–92). John Wiley.

Kuhl, P. K. (1998). Effects of language experience on speech perception. In P. K. Kuhl & L. Crum (Eds.), *Proceedings 16th International Congress on Acoustics and 135th Meeting of the Acoustical Society of America* (Vol. 3, pp. 1601–1602). Acoustical Society of America. https://doi.org/10.1121/1.422159

Kuhl, P. K. (1998). Language, culture, and intersubjectivity: The creation of shared perception. In S. Bråten (Ed.), *Intersubjective communication and emotion in early ontogeny* (pp. 297–315). Cambridge University Press.

Kuhl, P. K. (1998). The development of language. In C. von Euler, I. Lundberg, & R. Llinás (Eds.), *Basic mechanisms in cognition and language* (pp. 175–195). Elsevier.

Kuhl, P. K. (1998). The development of speech and language. In T. J. Carew, R. Menzel, & C. J. Shatz (Eds.), *Mechanistic relationships between development and learning* (pp. 53–73). John Wiley.

Doupe, A. J., & **Kuhl, P. K.** (1999). Birdsong and human speech: Common themes and mechanisms. *Annual Review of Neuroscience*, *22*(1), 567–631. https://doi.org/10.1146/annurev.neuro.22.1.567

Reprinted in: H. P. Zeigler & P. Marler (Eds.), *Neuroscience of birdsong* (pp. 5–31). Cambridge University Press, 2008.

Gopnik, A., Meltzoff, A. N., & **Kuhl, P. K.** (1999). *The scientist in the crib: Minds, brains, and how children learn.* Harper Collins.

Kuhl, P. K. (1999). Speech, language, and the brain: Innate preparation for learning. In M. D. Hauser & M. Konishi (Eds.), *The design of animal communication* (pp. 419–450). MIT Press.

Kuhl, P. K. (1999). The role of experience in early language development: Linguistic experience alters the perception and production of speech. In N. A. Fox, L. A. Leavitt, & J. G. Warhol (Eds.), *The role of early experience in infant development early childhood matters: Advances in early childhood development* (pp. 101–125). Johnson & Johnson Pediatric Institute.

Dawson, G., Osterling, J., Meltzoff, A. N., & **Kuhl, P.** (2000). Case study of the development of an infant with autism from birth to two years of age. *Journal of Applied Developmental Psychology*, *21*(3), 299–313. https://doi.org/10.1016/S0193-3973(99)00042-8

Iverson, P., & **Kuhl, P. K.** (2000). Perceptual magnet and phoneme boundary effects in speech perception: Do they arise from a common mechanism? *Perception & Psychophysics*, *62*(4), 874–886. https://doi.org/10.3758/BF03206929

Kuhl, P. K. (2000). A new view of language acquisition. *Proceedings of the National Academy of Sciences*, *97*(22), 11850–11857. https://doi.org/10.1073/pnas.97.22.11850

Reprinted in: H. Luria, D. M. Seymour, & T. Smoke. *Language and linguistics in context: Readings and applications for teachers* (pp. 29–41). Lawrence Erlbaum Associates, 2006.

Kuhl, P. K. (2000). Language, mind, and brain: Experience alters perception. In M. S. Gazzaniga (Ed.), *The new cognitive neurosciences* (2nd ed., pp. 99–115). MIT Press.

Zhang, Y., **Kuhl, P. K.**, Imada, T., Iverson, P., Pruitt, J., Kotani, M., Stevens, E. (2000). Neural plasticity revealed in perceptual training of a Japanese adult listener to learn American /l-r/ contrast: A whole-head magnetoencephalography study. *Proceedings of the 6th International Conference on Spoken Language Processing*, *3*, 953–956.

Kuhl, P. K. (2001). Speech, language, and developmental change. In F. Lacerda, C. von Hofsten, & M. Heimann (Eds.), *Emerging cognitive abilities in early infancy* (pp. 111–133). Lawrence Erlbaum Associates.

Kuhl, P. K., Tsao, F.-M., Liu, H.-M., Zhang, Y., & de Boer, B. (2001). Language/culture/mind/brain: Progress at the margins between disciplines. In A. R. Damasio, A. Harrington, J. Kagan, B. S. McEwen, H. Moss, & R. Shaikh (Eds.), *Unity of knowledge: The convergence of natural and human science* (pp. 136–174). The New York Academy of Sciences. https://doi.org/10.1111/j.1749-6632.2001.tb03478.x

de Boer, B., & **Kuhl, P. K.** (2003). Investigating the role of infant-directed speech with a computer model. *Acoustic Research Letters Online*, *4*(4), 129–134. https://doi.org/10.1121/1.1613311

Iverson, P., **Kuhl, P. K.**, Akahane-Yamada, R., Diesch, E., Tohkura, Y., Kettermann, A., & Siebert, C. (2003). A perceptual interference account of acquisition difficulties for non-native phonemes. *Cognition*, *87*(1), B47–B57. https://doi.org/10.1016/S0010-0277(02)00198-1

Reprinted in: A. Faulkner, S. Rosen, & M. Holland. *Speech, hearing and language: Work in progress* (Vol. 13, pp. 106–118). University College London, 2001.

Kuhl, P. K. (2003). Human speech and birdsong: Communication and the social brain. *Proceedings of the National Academy of Sciences*, *100*(17), 9645–9646. https://doi.org/10.1073/pnas.1733998100

Kuhl, P. K., Tsao, F.-M., & Liu, H.-M. (2003). Foreign-language experience in infancy: Effects of short-term exposure and social interaction on phonetic learning. *Proceedings of the National Academy of Sciences*, *100*(15), 9096–9101. https://doi.org/10.1073/pnas.1532872100

Liu, H.-M., **Kuhl, P. K.**, & Tsao, F.-M. (2003). An association between mothers' speech clarity and infants' speech discrimination skills. *Developmental Science*, *6*(3), F1–F10. https://doi.org/10.1111/1467-7687.00275

Wang, Y., & **Kuhl, P. K.** (2003). Evaluating the "critical period" hypothesis: Perceptual learning of Mandarin tones in American adults and American children at 6, 10 and 14 years of age. *Proceedings of the 15th International Congress of Phonetic Sciences*, 1537–1540.

Cheour, M., Imada, T., Taulu, S., Ahonen, A., Salonen, J., & **Kuhl, P.** (2004). Magnetoencephalography is feasible for infant assessment of auditory discrimination. *Experimental Neurology*, *190*(1), S44–S51. https://doi.org/10.1016/j.expneurol.2004.06.030

Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. *Nature Reviews Neuroscience*, *5*(11), 831–843. https://doi.org/10.1038/nrn1533

Tsao, F.-M., Liu, H.-M., & **Kuhl, P. K.** (2004). Speech perception in infancy predicts language development in the second year of life: A longitudinal study. *Child Development*, *75*(4), 1067–1084. https://doi.org/10.1111/j.1467-8624.2004.00726.x

Conboy, B. T., Rivera-Gaxiola, M., Klarman, L., Aksoylu, E., & **Kuhl, P. K.** (2005). Associations between native and nonnative speech sound discrimination and language development at the end of the first year. *Proceedings of the 29th annual Boston University Conference on Language Development*.

Kuhl, P. K., Coffey-Corina, S., Padden, D., & Dawson, G. (2005). Links between social and linguistic processing of speech in preschool children with autism: Behavioral and electrophysiological measures. *Developmental Science*, *8*(1), F9–F20. https://doi.org/10.1111/j.1467-7687.2004.00384.x

Kuhl, P. K., Conboy, B. T., Padden, D., Nelson, T., & Pruitt, J. (2005). Early speech perception and later language development: Implications for the "critical period." *Language Learning and Development*, *1*(3&4), 237–264. https://doi.org/10.1080/15475441.2005.9671948

Liu, H.-M., Tsao, F.-M., & **Kuhl, P. K.** (2005). The effect of reduced vowel working space on speech intelligibility in Mandarin-speaking young adults with cerebral palsy. *Journal of the Acoustical Society of America*, *117*(6), 3879–3889. https://doi.org/10.1121/1.1898623

Rivera-Gaxiola, M., Klarman, L., García-Sierra, A., & **Kuhl, P. K.** (2005). Neural patterns to speech and vocabulary growth in American infants. *NeuroReport*, *16*(5), 495–498. https://doi.org/10.1097/00001756-200504040-00015

Rivera-Gaxiola, M., Silva-Pereyra, J., & **Kuhl, P. K.** (2005). Brain potentials to native and non-native speech contrasts in 7- and 11-month-old American infants. *Developmental Science*, *8*(2), 162–172. https://doi.org/10.1111/j.1467-7687.2005.00403.x

Silva-Pereyra, J. F., Klarman, L., Lin, L. J.-F., & **Kuhl, P. K.** (2005). Sentence processing in 30-month-old children: An event-related potential study. *NeuroReport*, *16*(6), 645–648. https://doi.org/10.1097/00001756-200504250-00026

Silva-Pereyra, J., Rivera-Gaxiola, M., & **Kuhl, P. K.** (2005). An event-related brain potential study of sentence comprehension in preschoolers: Semantic and morphosyntactic processing. *Cognitive Brain Research*, *23*(2–3), 247–258. https://doi.org/10.1016/j.cogbrainres.2004.10.015

Zhang, Y., **Kuhl, P. K.**, Imada, T., Kotani, M., & Tohkura, Y. (2005). Effects of language experience: Neural commitment to language-specific auditory patterns. *NeuroImage*, *26*(3), 703–720. https://doi.org/10.1016/j.neuroimage.2005.02.040

Bransford, J., Barron, B., Pea, R., Meltzoff, A., **Kuhl, P.**, Bell, P., Stevens, R., Schwartz, D., Vye, N., Reeves, B., Roschelle, J., & Sabelli, N. (2006). Foundations and opportunities for an interdisciplinary science of learning. In K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 19–34). Cambridge University Press. https://doi.org/10.1017/CBO9780511816833.003

Reprinted in Chinese, 2010
Reprinted in Malaysian, 2011

Bransford, J., Vye, N., Stevens, R., **Kuhl, P.**, Schwartz, D., Bell, P., Meltzoff, A., Barron, B., Pea, R., Reeves, B., Roschelle, J., & Sabelli, N. (2006). Learning theories and education: Toward a decade of synergy. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (2nd ed., pp. 209–244). Erlbaum. https://doi.org/10.4324/9780203874790.CH10

Imada, T., Zhang, Y., Cheour, M., Taulu, S., Ahonen, A., & **Kuhl, P. K.** (2006). Infant speech perception activates Broca's area: A developmental magnetoencephalography study. *NeuroReport*, *17*(10), 957–962. https://doi.org/10.1097/01.wnr.0000223387.51704.89

Kuhl, P. K., Stevens, E., Hayashi, A., Deguchi, T., Kiritani, S., & Iverson, P. (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. *Developmental Science*, *9*(2), F13–F21. https://doi.org/10.1111/j.1467-7687.2006.00468.x

Tsao, F.-M., Liu, H.-M., & **Kuhl, P. K.** (2006). Perception of native and non-native affricate-fricative contrasts: Cross-language tests on adults and infants. *Journal of the Acoustical Society of America*, *120*(4), 2285–2294. https://doi.org/10.1121/1.2338290

Conboy, B. T., & **Kuhl, P. K.** (2007). Early speech perception: Developing a culturally specific way of listening through social interaction. In S. Bråten (Ed.), *On being moved: From mirror neurons to empathy* (pp. 175–199). Cambridge University Press. https://doi.org/10.1075/aicr.68.15con

Constantino J. N., Yang D., Gray T. L., Gross M. M., Abbacchi A. M., Smith S. C., Kohn C. E., & **Kuhl P. K.** (2007). Clarifying the associations between language and social development in autism: A study of non-native phoneme recognition. *Journal of Autism and Developmental Disorders*, *37*(7), 1256–1263. https://doi.org/10.1007/s10803-006-0269-9

Kuhl, P. K. (2007). Cracking the speech code: How infants learn language. *Acoustical Science and Technology*, *28*(2), 71–83. https://doi.org/10.1250/ast.28.71

Kuhl, P. K. (2007). Is speech learning 'gated' by the social brain? *Developmental Science*, *10*(1), 110–120. https://doi.org/10.1111/j.1467-7687.2007.00572.x

Liu, H.-M., Tsao, F.-M., & **Kuhl, P. K.** (2007). Acoustic analysis of lexical tone in Mandarin infant-directed speech. *Developmental Psychology*, *43*(4), 912–917. https://doi.org/10.1037/0012-1649.43.4.912

Rivera-Gaxiola, M., Silva-Pereyra, J., Klarman, L., García-Sierra, A., Lara-Ayala, L., Cadena-Salazar, C., & **Kuhl, P. K.** (2007). Principal component analyses and scalp distribution of the auditory P150–250 and N250–550 to speech contrasts in Mexican and American infants. *Developmental Neuropsychology*, *31*(3), 363–378. https://doi.org/10.1080/87565640701229292

Silva-Pereyra, J., Conboy, B. T., Klarman, L., & **Kuhl, P. K.** (2007). Grammatical processing without semantics? An event-related brain potential study of preschoolers using jabberwocky sentences. *Journal of Cognitive Neuroscience*, *19*(6), 1050–1068. https://doi.org/10.1162/jocn.2007.19.6.1050

Wang, Y., Lin, L., **Kuhl, P.**, & Hirsch, J. (2007). Mathematical and linguistic processing differs between native and second languages: An fMRI study. *Brain Imaging and Behavior*, *1*(3–4), 68–82. https://doi.org/10.1007/s11682-007-9007-y

Coffey-Corina, S., Padden, D., & **Kuhl, P.K.** (2008). ERPs to words correlate with behavioral measures in children with Autism Spectrum Disorder. *Journal of the Acoustical Society of America*, *123*(5), 5161–5166. https://doi.org/10.1121/1.2935280

Conboy, B. T., Rivera-Gaxiola, M., Silva-Pereyra, J., & **Kuhl, P. K.** (2008). Event-related potential studies of early language processing at the phoneme, word, and sentence levels. In A. D. Friederici & G. Thierry (Eds.), *Early language development: Bridging brain and behaviour; Trends in language acquisition research* (5th ed., pp. 23–64). John Benjamins. https://doi.org/10.1075/tilar.5.04con

Conboy, B. T., Sommerville, J. A., & **Kuhl, P. K.** (2008). Cognitive control factors in speech perception at 11 months. *Developmental Psychology*, *44*(5), 1505–1512. https://doi.org/10.1037/a0012975

Kuhl, P. K., Conboy, B. T., Coffey-Corina, S., Padden, D., Rivera-Gaxiola, M., & Nelson, T. (2008). Phonetic learning as a pathway to language: New data and Native Language Magnet Theory expanded (NLM-e). *Philosophical Transactions of the Royal Society B*, *363*(1493), 979–1000. https://doi.org/10.1098/rstb.2007.2154

Kuhl, P. K., & Rivera-Gaxiola, M. (2008). Neural substrates of language acquisition. *Annual Review of Neuroscience*, *31*(1493), 511–534. https://doi.org/10.1146/annurev.neuro.30.051606.094321

Lin, J.-F., Imada, T., Tanaka, K., Hirai, K., Maeshima, K., Nemoto, I., & **Kuhl, P. K.** (2008). The effect of translation on bilingual mental addition revealed by magnetoencephalography (MEG). In R. Kakigi, K. Yokosawa, & S. Kuriki (Eds.), *Biomagnetism: Interdisciplinary research and exploration* (pp. 212–214). Hokkaido University Press.

Raizada, R. D. S., Richards, T. L., Meltzoff, A. N., & **Kuhl, P. K.** (2008). Socioeconomic status predicts hemispheric specialization of the left inferior frontal gyrus in young children. *NeuroImage*, *40*(3), 1392–1401. https://doi.org/10.1016/j.neuroimage.2008.01.021

Wang, Y., **Kuhl, P. K.**, Li, H., & Dong, Q. (2008). Sustained and transient brain activations in bilingual control. *Journal of the Acoustical Society of America*, *123*(5), 6179–6184. https://doi.org/10.1121/1.2935837

Kuhl, P. K. (2009). Early language acquisition: Neural substrates and theoretical models. In M. S. Gazzaniga (Ed.), *The cognitive neurosciences* (4th ed., pp. 837–854). MIT Press. https://doi.org/10.1146/annurev.neuro.30.051606.094321

Kuhl, P. K. (2009). Early language acquisition: Phonetic and word learning, neural substrates, and a theoretical model. In B. Moore, L. Tyler, & W. Marslen-Wilson (Eds.), *The perception of speech: From sound to meaning* (pp. 103–131). Oxford University Press.

Kuhl, P. K. (2009). Linking infant speech perception to language acquisition: Phonetic learning predicts language growth. In J. Colombo, P. McCardle, & L. Freund (Eds.), *Infant pathways to language: Methods, models, and research directions* (pp. 213–243). Erlbaum.

Liu, H.-M., Tsao, F.-M., & **Kuhl, P. K.** (2009). Age-related changes in acoustic modifications of Mandarin maternal speech to preverbal infants and five-year-old children: A longitudinal study. *Journal of Child Language*, *36*(4), 909–922. https://doi.org/10.1017/S030500090800929X

Meltzoff, A. N., **Kuhl, P. K.**, Movellan, J., & Sejnowski, T. J. (2009). Foundations for a new science of learning. *Science*, *325*(5938), 284–288. https://doi.org/10.1126/science.1175626

Reprinted in Chinese: *Journal of Distance Education*, 2011.

Wang, Y., **Kuhl, P. K.**, Chen, C., & Dong, Q. (2009). Sustained and transient language control in the bilingual brain. *NeuroImage*, *47*(1), 414–422. https://doi.org/10.1016/j.neuroimage.2008.12.055

Zhang, Y., **Kuhl, P. K.**, Imada, T., Iverson, P., Pruitt, J., Stevens, E. B., Kawakatsu, M., Tohkura, Y., & Nemoto, I. (2009). Neural signatures of phonetic learning in adulthood: A magnetoencephalography study. *NeuroImage*, *46*(1), 226–240. https://doi.org/10.1016/j.neuroimage.2009.01.028

Kuhl, P. K. (2010). Brain mechanisms in early language acquisition. *Neuron*, *67*(5), 713–727. https://doi.org/10.1016/j.neuron.2010.08.038

Kuhl, P. K. (2010). Brain mechanisms underlying the critical period for language: Linking theory and practice. In A. M. Battro, S. Dehaene, & W. J. Singer (Eds.), *Human neuroplasticity and education* (pp. 33–59). The Pontifical Academy of Sciences.

Lebedeva, G. C., & **Kuhl, P. K.** (2010). Sing that tune: Infants' perception of melody and lyrics and the facilitation of phonetic recognition in songs. *Infant Behavior and Development*, *33*(4), 419–430. https://doi.org/10.1016/j.infbeh.2010.04.006

Raizada, R. D. S., Tsao, F.-M., Liu, H.-M., Holloway, I. D., Ansari, D., & **Kuhl, P. K.** (2010). Linking brain-wide multivoxel activation patterns to behaviour: Examples from language and math. *NeuroImage*, *51*(1), 462–471. https://doi.org/10.1016/j.neuroimage.2010.01.080

Raizada, R. D. S., Tsao, F.-M., Liu, H.-M., & **Kuhl, P. K.** (2010). Quantifying the adequacy of neural representations for a cross-language phonetic discrimination task: Prediction of individual differences. *Cerebral Cortex*, *20*(1), 1–12. https://doi.org/10.1093/cercor/bhp076

Conboy, B. T., & **Kuhl, P. K.** (2011). Impact of second-language experience in infancy: Brain measures of first- and second-language speech perception. *Developmental Science*, *14*(2), 242–248. https://doi.org/10.1111/j.1467-7687.2010.00973.x

García-Sierra, A., Rivera-Gaxiola, M., Percaccio, C. R., Conboy, B. T., Romo, H., Klarman, L., Ortiz, S., & **Kuhl, P. K.** (2011). Bilingual language learning: An ERP study relating early brain responses to speech, language input, and later word production. *Journal of Phonetics*, *39*(4), 546–557. https://doi.org/10.1016/j.wocn.2011.07.002

Kuhl, P. K. (2011). Early language learning and literacy: Neuroscience implications for education. *Mind, Brain, and Education*, *5*(3), 128–142. https://doi.org/10.1111/j.1751-228X.2011.01121.x

Kuhl, P. K. (2011). Social mechanisms in early language acquisition: Understanding integrated brain systems supporting language. In J. Decety & J. Cacioppo (Eds.), *The Oxford handbook of social neuroscience* (pp. 649–667). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195342161.013.0043

Kuhl, P. K. (2011). Who's talking? *Science*, *333*(6042), 529–530. https://doi.org/10.1126/science.1210277

Sundara, M., Demuth, K., & **Kuhl, P. K.** (2011). Sentence-position effects on children's perception and production of English third person singular *–s*. *Journal of Speech, Language, and Hearing Research*, *54*(1), 55–71. https://doi.org/10.1044/1092-4388(2010/10-0056)

Zhao, T., Moon, C., Lagercrantz, H., & **Kuhl, P.** (2011). Prenatal motherese? Newborn speech perception may be enhanced by having a young sibling. *Psi Chi Journal of Undergraduate Research*, *16*(2), 90–94. https://doi.org/10.24839/1089-4136.jn16.2.90

Kuhl, P. K., & Damasio, A. (2012). Language. In E. R. Kandel, J. H. Schwartz, T. M. Jessell, S. Siegelbaum, & J. Hudspeth (Eds.), *Principles of neural science* (5th ed., pp. 1353–1372). McGraw Hill.

Lin, J.-F. L., Imada, T., & **Kuhl, P. K.** (2012). Mental addition in bilinguals: An fMRI study of task-related and performance-related activation. *Cerebral Cortex*, *22*(8), 1851–1861. https://doi.org/10.1093/cercor/bhr263

Ramírez-Esparza, N., Harris, K., Hellermann, J., Richard, C., **Kuhl, P. K.**, & Reder, S. (2012). Socio-interactive practices and personality in adult learners of English with little formal education. *Language Learning*, *62*(2), 541–570. https://doi.org/10.1111/j.1467-9922.2011.00631.x

Rivera-Gaxiola. M., García-Sierra, A., Lara-Ayala, L., Cadena, C., Jackson-Maldonado, D., & **Kuhl, P. K.** (2012). Event-related potentials to an English/Spanish syllabic contrast in Mexican 10–13-month-old infants. *ISRN Neurology*, *2012*, Article 702986. https://doi.org/10.5402/2012/702986

Akiyama, L. F., Richards, T. R., Imada, T., Dager, S. R., Wroblewski, L., & **Kuhl, P. K.** (2013). Age-specific average head template for typically developing 6-month-old infants. *PLoS ONE*, *8*(9), Article e73821. https://doi.org/10.1371/journal.pone.0073821

Bosseler, A. N., Taulu, S., Pihko, E., Mäkelä, J. P., Imada, T., Ahonen, A., & **Kuhl, P. K.** (2013). Theta brain rhythms index perceptual narrowing in infant speech perception. *Frontiers in Psychology*, *4*, Article 690. https://doi.org/10.3389/fpsyg.2013.00690

Deniz Can, D., Richards, T., & **Kuhl, P. K.** (2013). Early gray-matter and white-matter concentration in infancy predict later language skills: A whole-brain voxel-based morphometry study. *Brain and Language*, *124*(1), 34–44. https://doi.org/10.1016/j.bandl.2012.10.007

Kuhl, P. K., Coffey-Corina, S., Padden, D., Munson, J., Estes, A., & Dawson, G. (2013). Brain responses to words in 2-year-olds with autism predict developmental outcomes at age 6. *PLoS ONE*, *8*(5), Article e64967. https://doi.org/10.1371/journal.pone.0064967

Moon, C., Lagercrantz, H., & **Kuhl, P. K.** (2013). Language experienced *in utero* affects vowel perception after birth: A two-country study. *Acta Pediatrica*, *102*(2), 156–160. https://doi.org/10.1111/apa.12098

Kuhl, P. K. (2014). Early language learning and the social brain. *Cold Spring Harbor Symposia on Quantitative Biology*, *79*, 211–220. https://doi.org/10.1101/sqb.2014.79.024802

Kuhl, P. K., Ramírez, R. R., Bosseler, A., Lin, J.-F., & Imada, T. (2014). Infants' brain responses to speech suggest Analysis by Synthesis. *Proceedings of the National Academy of Sciences*, *111*(31), 11238–11245. https://doi.org/10.1073/pnas.1410963111

Ramírez-Esparza, N., García-Sierra, A., & **Kuhl, P. K.** (2014). Look who's talking: Speech style and social context in language input are linked to concurrent and future speech development. *Developmental Science*, *17*(6), 880–891. https://doi.org/10.1111/desc.12172

Conboy, B. T., Brooks, R., Meltzoff, A. N., & **Kuhl, P. K.** (2015). Social interaction in infants' learning of second-language phonetics: An exploration of brain–behavior relations. *Developmental Neuropsychology*, *40*(4), 216–229. https://doi.org/10.1080/87565641.2015.1014487

Kuhl, P. K. (2015). Baby talk. *Scientific American*, *313*(5), 64–69. https://doi.org/10.1038/scientificamerican1115-64

Moon, C., Zernzach, R. C., & **Kuhl, P. K.** (2015). Mothers say "baby" and their newborns do not choose to listen: A behavioral preference study to compare with ERP results. *Frontiers in Human Neuroscience*, *9*, Article 153. https://doi.org/10.3389/fnhum.2015.00153

Zhao, T. C., & **Kuhl, P. K.** (2015). Effect of musical experience on learning lexical tone categories. *Journal of the Acoustical Society of America*, *137*(3), 1452–1463. https://doi.org/10.1121/1.4913457

Zhao, T. C., & **Kuhl, P. K.** (2015). Higher-level linguistic categories dominate over lower-level acoustics in lexical tone processing. *Journal of the Acoustical Society of America*, *138*(2), 133–137. https://doi.org/10.1121/1.4927632

García-Sierra, A., Ramírez-Esparza, N., & **Kuhl, P. K.** (2016). Relationships between quantity of language input and brain responses in bilingual and monolingual infants. *International Journal of Psychophysiology*, *110*, 1–17. https://doi.org/10.1016/j.ijpsycho.2016.10.004

Kuhl, P. K. (2016). Language and the social brain: The power of surprise in science. In R. J. Sternberg, S. T. Fiske, & D. J. Foss (Eds.), *Scientists making a difference: One hundred eminent behavioral and brain scientists talk about their most important contributions* (pp. 206–209). Cambridge University Press. https://doi.org/10.1017/cbo9781316422250.046

Kuhl, P. K., Stevenson, J., Corrigan, N. M., van den Bosch, J. J. F., Deniz Can, D., & Richards, T. (2016). Neuroimaging of the bilingual brain: Structural brain correlates of listening and speaking in a second language. *Brain and Language*, *162*, 1–9. https://doi.org/10.1016/j.bandl.2016.07.004

Mamiya, P. C., Richards, T. L., Coe, B. P., Eichler, E. E., & **Kuhl, P. K.** (2016). Brain white matter structure and COMT gene are linked to second-language learning in adults. *Proceedings of the National Academy of Sciences*, *113*(26), 7249–7254. https://doi.org/10.1073/pnas.1606602113

Meltzoff, A. N., & **Kuhl, P. K.** (2016). Exploring the infant social brain: What's going on in there? *Zero to Three*, *36*(3), 2–9.

Nakagawa, S., Imada, T., Hosoi, H., Meltzoff, A. N., & **Kuhl, P. K.** (2016). Development of an infant-friendly flat-panel earphone for non-invasive functional brain imaging on awake babies using cartilage conduction. *Transactions of Japanese Society for Medical and Biological Engineering*, *54*, 1–2. https://doi.org/10.11239/jsmbe.54Annual.P2-A07-1

Zhao, T. C., & **Kuhl, P. K.** (2016). Effects of enriched auditory experience on infants' speech perception during the first year of life. *Prospects*, *46*(2), 235–247. https://doi.org/10.1007/s11125-017-9397-6

Zhao, T. C., & **Kuhl, P. K.** (2016). Musical intervention enhances infants' neural processing of temporal structure in music and speech. *Proceedings of the National Academy of Sciences*, *113*(19), 5212–5217. https://doi.org/10.1073/pnas.1603984113

Ferjan Ramírez, N., & **Kuhl, P. K.** (2017). Bilingual baby: Foreign language intervention in Madrid's Infant Education Centers. *Mind, Brain, and Education*, *11*(3), 133–143. https://doi.org/10.1111/mbe.12144

Ferjan Ramírez, N., & **Kuhl, P. K.** (2017). The brain science of bilingualism. *Young Children*, *72*(2), 38–44. https://www.jstor.org/stable/90004120

Ferjan Ramírez, N., Ramírez, R. R., Clarke, M., Taulu, S., & **Kuhl, P. K.** (2017). Speech discrimination in 11-month-old bilingual and monolingual infants: A magnetoencephalography study. *Developmental Science*, *20*(1), Article e12427. https://doi.org/10.1111/desc.12427

Fish, M. S., García-Sierra, A., Ramírez-Esparza, N., & **Kuhl, P. K.** (2017). Infant-directed speech in English and Spanish: Assessments of monolingual and bilingual caregiver VOT. *Journal of Phonetics*, *63*(C), 19–34. https://doi.org/10.1016/j.wocn.2017.04.003

Kuhl, P. K. (2017). Big surprises from little brains. *Bernard van Leer Foundation* (*Early childhood matters: Advances in early childhood development*) 126, 20–25. https://earlychildhoodmatters.online/2017/big-surprises-from-little-brains/

Lytle, S. R., & **Kuhl, P. K.** (2017). Social interaction and language acquisition: Toward a neurobiological view. In E. M. Fernández & H. S. Cairns (Eds.), *Blackwell handbooks in linguistics. The handbook of psycholinguistics* (pp. 615–634). Wiley Blackwell. https://doi.org/10.1002/9781118829516.ch27

Ramírez-Esparza, N., García-Sierra, A., & **Kuhl, P. K.** (2017). Look who's talking NOW! Parentese speech, social context, and language development across time. *Frontiers in Psychology*, *8*, Article 1008. https://doi.org/10.3389/fpsyg.2017.01008

Ramírez-Esparza, N., García-Sierra, A., & **Kuhl, P. K.** (2017). The impact of early social interactions on later language development in Spanish–English bilingual infants. *Child Development*, *88*(4), 1216–1234. https://doi.org/10.1111/cdev.12648

Zhao, T. C., Lam, H. T. G., Sohi, H., & **Kuhl, P. K.** (2017). Neural processing of musical meter in musicians and non-musicians. *Neuropsychologia*, *106*, 289–297. https://doi.org/10.1016/j.neuropsychologia.2017.10.007

Ferjan Ramírez, N., Lytle, S. R., Fish, M., & **Kuhl, P. K.** (2018). Parent coaching at 6 and 10 months improves language outcomes at 14 months: A randomized controlled trial. *Developmental Science*, *22*(3), Article e12762. https://doi.org/10.1111/desc.12762

Lin, J.-F. L., Imada, T., **Kuhl, P. K.**, & Lin, F.-H. (2018). Incongruent pitch cues are associated with increased activation and functional connectivity in the frontal areas. *Scientific Reports*, *8*, Article 5206. https://doi.org/10.1038/s41598-018-23287-5

Lytle, S. R., García-Sierra, A., & **Kuhl, P. K.** (2018). Two are better than one: Infant language learning from video improves in the presence of peers. *Proceedings of the National Academy of Sciences*, *115*(40), 9859–9866. https://doi.org/10.1073/pnas.1611621115

Mamiya, P. C., Richards, T. L., & **Kuhl, P. K.** (2018). Right forceps minor and anterior thalamic radiation predict executive function skills in young bilingual adults. *Frontiers in Psychology*, *9*, Article 118. https://doi.org/10.3389/fpsyg.2018.00118

Zhao, T. C., & **Kuhl, P. K.** (2018). Linguistic effect on speech perception observed at the brainstem. *Proceedings of the National Academy of Sciences*, *115*(35), 8716–8721. https://doi.org/10.1073/pnas.1800186115

Kuhl, P. K., & Ferjan Ramírez, N. (2019). Neuroscience and education: How early brain development affects school. In P. K. Kuhl, S.-S. Lim, S. Guerriero, & D. Van Damme (Eds.), *Developing minds in the digital age: Towards a science of learning for 21st century education*. OECD Publishing. https://doi.org/10.1787/1006e998-en

Kuhl, P. K., Lim, S.-S., Guerriero, S., & Van Damme, D. (2019). *Developing minds in the digital age: Towards a science of learning for 21st century education*. OECD Publishing. https://doi.org/10.1787/562a8659-en

Lin, J.-F. L., Imada, T., & **Kuhl, P. K.** (2019). Neuroplasticity, bilingualism, and mental mathematics: A behavior-MEG study. *Brain and Cognition*, *134*, 122–134. https://doi.org/10.1016/j.bandc.2019.03.006

Zhao, M., Masapollo, M., Polka, L., Ménard, L., & **Kuhl, P. K.** (2019). Effects of formant proximity and stimulus prototypicality on the neural discrimination of vowels: Evidence from the auditory frequency-following response. *Brain and Language*, *194*, 77–83. https://doi.org/10.1016/j.bandl.2019.05.002

Chen, L., Dager, S. R., Shaw, D. W. W., Corrigan, N. M., Mossa-Basha, M., Pimentel, K. D., Kleinhans, N. M., **Kuhl, P. K.**, Hwang, J.-N., & Yuan, C. (2020). A novel algorithm for refining cerebral vascular measurements in infants and adults. *Journal of Neuroscience Methods*, *340*, Article 108751. https://doi.org/10.1016/j.jneumeth.2020.108751

Ferjan Ramírez, N., & **Kuhl, P. K.** (2020). Early second language learning through SparkLing™: Scaling up a language intervention in infant education centers. *Mind, Brain, and Education*, *14*(2), 94–103. https://doi.org/10.1111/mbe.12232

Ferjan Ramírez, N., & **Kuhl, P. K.** (2020). Second language learning in early childhood: Creating a language intervention for infant education centers in Madrid. In M. M. Brown & A. Kohut (Eds.), *Proceedings of the 44th Boston University Conference on Language Development* (Vol. 1, pp. 128–139). Cascadilla Press.

Ferjan Ramírez, N., Lytle, S. R., & **Kuhl, P. K.** (2020). Parent coaching increases conversational turns and advances infant language development. *Proceedings of the National Academy of Sciences*, *117*(7), 3484–3491. https://doi.org/10.1073/pnas.1921653117

Lam, H. T. G., **Kuhl, P. K.**, & Zhao, T. C. (2020). Executive function skills in English monolinguals and Mandarin-English bilinguals. *Proceedings of Meetings on Acoustics*, *42*, Article 060015. https://doi.org/10.1121/2.0001450

Lee, C. D., Meltzoff, A. N., & **Kuhl, P. K.** (2020). The braid of human learning and development: Neuro-physiological processes and participation in cultural practices. In N. S. Nasir, C. D. Lee, R. Pea, & M. McKinney de Royston (Eds.), *Handbook of the cultural foundations of learning* (pp. 24–43). Routledge. https://doi.org/10.4324/9780203774977

Mamiya, P. C., Richards, T., Corrigan, N. M., & **Kuhl, P. K.** (2020). Strength of ventral tegmental area connections with left caudate nucleus is related to conflict monitoring. *Frontiers in Psychology*, *10*, Article 2869. https://doi.org/10.3389/fpsyg.2019.02869

Sundara, M., Ward, N., Conboy, B., & **Kuhl P. K.** (2020). Exposure to a second language in infancy alters speech production. *Bilingualism: Language and Cognition*, *23*(5), 978–991. https://doi.org/10.1017/S1366728919000853

Zhao, T. C., & **Kuhl, P. K.** (2020). How early music training changes the brain. *Acoustics Today*, *16*(3), 61–69. https://doi.org/10.1121/AT.2020.16.3.61

Zhao, T. C., & **Kuhl, P. K.** (2020). Neural and physiological relations observed in musical beat and meter processing. *Brain and Behavior*, *10*(11), Article e01836. https://doi.org/10.1002/brb3.1836

Bosseler, A. N., Clarke, M., Tavabi, K., Larson, E. D., Hippe, D. S., Taulu, S., & **Kuhl, P. K.** (2021). Using magnetoencephalography to examine word recognition, lateralization, and future language skills in 14-month-old infants. *Developmental Cognitive Neuroscience*, *47*, Article 100901. https://doi.org/10.1016/j.dcn.2020.100901

Chen, L., Shaw, D. W. W., Dager, S. R., Corrigan, N. M., Chu, B., Kleinhans, N. M., **Kuhl, P. K.**, Hwang, J.-N., & Yuan, C. (2021). Quantitative assessment of the intracranial vasculature of infants and adults using iCafe (intracranial artery feature extraction). *Frontiers in Neurology*, *12*, Article 668298. https://doi.org/10.3389/fneur.2021.668298

Corrigan, N. M., Yarnykh, V. L., Hippe, D. S., Owen, J. P., Huber, E., Zhao, T. C., & **Kuhl, P. K.** (2021). Myelin development in cerebral gray and white matter during adolescence and late childhood. *NeuroImage*, *277*, Article 117678. https://doi.org/10.1016/j.neuroimage.2020.117678

Ferjan Ramírez, N., Hippe, D. S., & **Kuhl, P. K.** (2021). Comparing automatic and manual measures of parent–infant conversational turns: A word of caution. *Child Development*, *92*(2), 672–681. https://doi.org/10.1111/cdev.13495

Ferjan Ramírez, N., Sheth, K. K., & **Kuhl, P. K.** (2021). The effects of age, dosage, and poverty on second language learning through SparkLing™ in infant education centers in Madrid, Spain. *International Journal of Environmental Research and Public Health*, *18*(23), Article 12758. https://doi.org/10.3390/ijerph182312758

Gijbels, L., Cai, R., Donnelly, P. M., & **Kuhl, P. K.** (2021). Designing virtual, moderated studies of early childhood development. *Frontiers in Psychology*, *12*, Article 740290. https://doi.org/10.3389/fpsyg.2021.740290

Kuhl, P. K. (2021). Infant speech perception: Integration of multimodal data leads to a new hypothesis—Sensorimotor mechanisms underlie learning. In M. D. Sera & M. Koenig (Eds.), *Minnesota symposia on child psychology: Human communication: Origins, mechanism, and functions* (Vol. 40, pp. 113–149). Wiley. https://doi.org/10.1002/9781119684527.ch5

Kuhl, P. K. (2021). Language. In E. R. Kandel, J. D. Koester, S. H. Mack, & S. A. Siegelbaum (Eds.), *Principles of neural science* (6th ed., pp. 1370–1391). McGraw Hill.

Mittag, M., Larson, E., Clarke, M., Taulu, S., & **Kuhl, P. K.** (2021). Auditory deficits in infants at risk for dyslexia during a linguistic sensitive period predict future language. *NeuroImage: Clinical*, *30*, Article 102578. https://doi.org/10.1016/j.nicl.2021.102578

Zhao, T. C., Boorom, O., **Kuhl, P. K.**, & Gordon, R. (2021). Infants' neural speech discrimination predicts individual differences in grammar ability at 6 years of age and their risk of developing speech-language disorders. *Developmental Cognitive Neuroscience*, *48*, Article 100949. https://doi.org/10.1016/j.dcn.2021.100949

Clarke, M. D., Bosseler, A. N., Mizrahi, J. C., Peterson, E. R., Larson, E., Meltzoff, A. N., **Kuhl, P. K.**, & Taulu, S. (2022). Infant brain imaging using magnetoencephalography: Challenges, solutions, and best practices. *Human Brain Mapping*, *43*(12), 3609–3619. https://doi.org/10.1002/hbm.25871

Corrigan, N. M., Yarnykh, V. L., Huber, E., Zhao, T. C., & **Kuhl, P. K.** (2022). Brain myelination at 7 months of age predicts later language development. *NeuroImage*, *263*, Article 119641. https://doi.org/10.1016/j.neuroimage.2022.119641

Llanos, F., Zhao, T. C., **Kuhl, P. K.**, & Chandrasekaran, B. (2022). The emergence of idiosyncratic patterns in the frequency-following response during the first year of life. *JASA Express Letters*, *2*(5), Article 054401. https://doi.org/10.1121/10.0010493

Mamiya, P. C., Richards, T. L., Edden, R. A. E., Lee, A. K. C., Stein, M. A., & **Kuhl, P. K.** (2022). Reduced Glx and GABA inductions in the anterior cingulate cortex and caudate nucleus are related to impaired control of attention in attention-deficit/hyperactivity disorder. *International Journal of Molecular Sciences*, *23*(9), Article 4677. https://doi.org/10.3390/ijms23094677

Mittag, M., Larson, E., Taulu, S., Clarke, M., & **Kuhl, P. K.** (2022). Reduced theta sampling in infants at risk for dyslexia across the sensitive period of native phoneme learning. *International Journal of Environmental Research and Public Health*, *19*(3), Article 1180. https://doi.org/10.3390/ijerph19031180

Reprinted in: *Prime Archives in Public Health*. Vide Leaf, 2022.

Weiss, Y., Huber, E., Ferjan Ramírez, N., Corrigan, N. M., Yarnykh, V. L., & **Kuhl, P. K.** (2022). Language input in late infancy scaffolds emergent literacy skills and predicts reading related white matter development. *Frontiers in Human Neuroscience*, *16*, Article 922552. https://doi.org/10.3389/fnhum.2022.922552

Weiss, Y., Yeatman, J. D., Ender, S., Gijbels, L., Loop, H., Mizrahi, J. C., Woo, B. Y., & **Kuhl, P. K.** (2022). Can an online reading camp teach 5-year-old children to read? *Frontiers in Human Neuroscience*, *16*, Article 793213. https://doi.org/10.3389/fnhum.2022.793213

Zhao, T. C., Corrigan, N. M., Yarnykh, V. L., & **Kuhl, P. K.** (2022). Development of executive function-relevant skills is related to both neural structure and function in infants. *Developmental Science*, *25*(6), Article e13323. https://doi.org/10.1111/desc.13323

Zhao, T. C., & **Kuhl, P. K.** (2022). Development of infants' neural speech processing and its relation to later language skills: A MEG study. *NeuroImage*, *256*, Article 119242. https://doi.org/10.1016/j.neuroimage.2022.119242

Zhao, T. C., Llanos, F., Chandrasekaran, B., & **Kuhl, P. K.** (2022). Language experience during the sensitive period narrows infant's sensory encoding of lexical tones—Music intervention reverses it. *Frontiers in Human Neuroscience*, *16*, Article 941853. https://doi.org/10.3389/fnhum.2022.941853

Ferjan Ramírez, N., Hippe, D. S., Braverman, A., Weiss, Y., & **Kuhl, P. K.** (2023). A comparison of automatic and manual measures of turn-taking in monolingual and bilingual contexts. *Behavior Research Methods*, *56*, 1936–1952. https://doi.org/10.3758/s13428-023-02127-z

Ferjan Ramírez, N., Weiss, Y., Sheth, K. K., & **Kuhl, P. K.** (2023). Parentese in infancy predicts 5-year language complexity and conversational turns. *Journal of Child Language*, *51*(2), 359–384. https://doi.org/10.1017/s0305000923000077

Huber, E., Corrigan, N. M., Yarnykh, V. L., Ferjan Ramírez, N., & **Kuhl, P. K.** (2023). Language experience during infancy predicts white matter myelination at age 2 years. *Journal of Neuroscience*, *43*(9), 1590–1599. https://doi.org/10.1523/jneurosci.1043-22.2023

Huber, E., Ferjan Ramírez, N., Corrigan, N. M., & **Kuhl, P. K.** (2023). Parent coaching from 6 to 18 months improves child language outcomes through 30 months of age. *Developmental Science*, *26*(6), Article e13391. https://doi.org/10.1111/desc.13391

Lin, J.-F. L., Imada, T., Meltzoff, A. N., Hiraishi, H., Ikeda, T., Takahashi, T., Hasegawa, C., Yoshimura, Y., Kikuchi, M., Hirata, M., Minabe, Y., Asada, M., & **Kuhl, P. K.** (2023). Dual-MEG interbrain synchronization during turn-taking verbal interactions between mothers and children. *Cerebral Cortex*, *33*(7), 4116–4134. https://doi.org/10.1093/cercor/bhac330

Bosseler, A. N., Meltzoff, A. N., Bierer, S., Huber, E., Mizrahi, J. C., Larson, E., Endevelt-Shapira, Y., Taulu, S., & **Kuhl, P. K.** (2024). Infants' brain responses to social interaction predict future language growth. *Current Biology*, *34*(8), 1731–1738. https://doi.org/10.1016/j.cub.2024.03.020

Corrigan, M. N., Rokem, A., & **Kuhl, P. K.** (2024). COVID-19 lockdown effects on adolescent brain structure suggest accelerated maturation that is more pronounced in females than in males. *Proceedings of the National Academy of Sciences*, *121*(38), Article e2403200121. https://doi.org/10.1073/pnas.2403200121

Corrigan, M. N., Rokem, A., & **Kuhl, P. K.** (2024). Reply to Brown et al.: Significant sex differences in accelerated cortical thinning associated with the COVID-19 lockdowns. *Proceedings of the National Academy of Sciences*, *122*(14), Article e2426640122. https://doi.org/10.1073/pnas.2426640122

Corrigan, M. N., Rokem, A., & **Kuhl, P. K.** (2024). Reply to Fine et al. and Rippon: Significant sex differences in accelerated cortical thinning associated with the COVID-19 lockdowns. *Proceedings of the National Academy of Sciences*, *121*(49), Article e2421468121. https://doi.org/10.1073/pnas.2421468121

Endevelt-Shapira, Y., Bosseler, A. N., Mizrahi, J. C., Meltzoff, A. N., & **Kuhl, P. K.** (2024). Mother–infant social and language interactions at 3 months are associated with infants' productive language development in the third year of life. *Infant Behavior and Development*, *75*, Article 101929. https://doi.org/10.1016/j.infbeh.2024.101929

Endevelt-Shapira, Y., Bosseler, A. N., Zhao, T. C., Mizrahi, J. C., Meltzoff, A. N., & **Kuhl, P. K.** (2024). Heart-to-heart: Infants heart rate at 3 months is linked to infant-directed speech, mother–infant interaction, and later language outcomes. *Frontiers in Human Neuroscience*, *18*, Article 1380075. https://doi.org/10.3389/fnhum.2024.1380075

Kuhl, P. K. (2024). Birds and babies: Ontogeny of vocal learning. *Proceedings of the National Academy of Sciences*, *121*(21), Article e2405626121. https://doi.org/10.1073/pnas.2405626121

Yeatman, J. D., McCloy, D. R., Caffarra, S., Clarke, M. D., Ender, S., Gijbels, L., Joo, S. J., Kubota, E. C., **Kuhl, P. K.**, Larson, E., O'Brien, G., Peterson, E. R., Takada, M. E., & Taulu, S. (2024). Reading instruction causes changes in category-selective visual cortex. *Brain Research Bulletin*, *212*, Article 110958. https://doi.org/10.1016/j.brainresbull.2024.110958

Ingraham, K. A., Zaino, N. L., Feddema, C., Hoffman, M. E., Gijbels, L., Sinclair, A., Meltzoff, A. N., **Kuhl, P. K.**, Feldner, H. A., & Steele, K. M. (2025). Quantifying joystick interactions and movement patterns of toddlers with disabilities using powered mobility with an instrumented Explorer Mini. *IEEE Transactions on Neural Systems and Rehabilitative Engineering*, *33*, 431–440. https://doi.org/10.1109/TNSRE.2025.3528454

INVITED ADDRESSES (Since 2010)

"The Science of Early Childhood Development and the Impact of Adversity," *Applying the Science of Early Childhood Development to State Policy*, Seattle, WA, January, 2010.

"Charlie Rose Brain Series Episode Five: The Developing Brain," *The Charlie Rose Show*, New York, NY, February, 2010. Video: http://www.charlierose.com/view/interview/10877

"Cracking the Speech Code: Language and the Infant Brain," *Pinkel Endowed Lecture on Mind/Brain Paradigms*, University of Pennsylvania, Philadelphia, PA, April, 2010. https://www.youtube.com/watch?v=EeYeZO67r2Q

"The New Science of Learning: What's the Brain Have to Do with It?" *Presidential Session, American Educational Research Association Annual Meeting*, Denver, CO, May, 2010.

"Cracking the Speech Code: Language and the Infant Brain," *Merck Neurosciences Seminar*, University of California, San Diego, La Jolla, CA, May, 2010.

"Minds, Brains & Early Learning: How Infants Crack the Speech Code," *Keynote for Living, Learning, and the Brain Conference*, Genesee School District, Flint, MI, June, 2010.

"Minds, Brains & Early Learning: How Infants Crack the Speech Code," *Association for Library Service to Children Charlemae Rollins President's Program, American Library Association Annual Conference*, Washington, DC, June, 2010.

"Minds, Brains & Early Learning: How Young Children Crack the Speech Code," *Early Learning in Missouri: Where Bright Futures Begin, 49th Annual Cooperative Conference for School Administrators*, Osage Beach, MO, August, 2010.

"How Infants Crack the Speech Code: Exploring Minds in the Making Using the Tools of Modern Neuroscience," *2010 Freshman Convocation Keynote*, University of Alaska Anchorage, Anchorage, AK, August, 2010.

"Learning and the 'Social Brain,'" *National Science Foundation Distinguished Lecture*, Directorate for Social, Behavioral & Economic Sciences, Washington, DC, October, 2010.

"How Infants Crack the Speech Code: Exploring the Infant Mind Using the Tools of Modern Neuroscience," *Working Group on Human Neuroplasticity and Education*, The Pontifical Academy of Sciences, Vatican City, Italy, October, 2010.

"The Linguistic Genius of Babies: Early Learning and the Brain," *Public Talk for the Opening Ceremony of the Division of Brain Science and Educational Research*, Key State Laboratory, Beijing Normal University, Beijing, China, May, 2011.

"How Infants Crack the Speech Code: Exploring the Infant Mind Using the Tools of Modern Neuroscience," *First International Workshop on Brain, Cognition, and Learning*, Beijing, China, May, 2011.

"Talking to the Media: Lessons in Crossing the Great Divide," *Invited Presentation, 161st Meeting of the Acoustical Society of America*, Seattle, WA, May, 2011.

"How Children Learn: 'Windows of Opportunity' for the Young Brain," *Keynote Address, The Third Annual Starting Strong P–3 Institute*, Spokane, WA, August, 2011.

"Babies, Brains, and Learning," *Session Leader, Science Foo Camp*, Googleplex, Mountain View, CA, August, 2011.

"A Visual Tour Through the Baby Brain: Why the First 2000 Days Matter," *Launching of Education Nation at Rockefeller Plaza*, New York, NY, September, 2011.

"The Mind of the Child: What Neuroscience Reveals About Brains, Learning, and Language," *IPSEN Award Lecture*, Paris, France, November, 2011.

"Exploring the Social Foundations of Learning Through Neuroscience, Technology, and Education," *Presentation at OECD (Organization for Economic Cooperation and Development*, Paris, France, January, 2012.

"The First Stages of First and Second Language Acquisition: What Neuroscience Reveals About Mechanisms of Learning," *Invited Presentation*, Collège de France, Paris, France, January, 2012.

"Early Language and Brain Development," *Neuroscience and Education Workshop*, NeuroSpin Institute, Paris, France, January, 2012.

"Bilingual Language Learning, Cognitive Flexibility, and the Future of Education," *Keynote Address for Early Childhood*, Illinois Resource Center, Bloomington, IL, March, 2012.

"The Linguistic Genius of Infants: Early Learning and Brain Plasticity: Lecture 1," *Distinguished Lecturer, 2012: Mind, Brain, Behavior Interfaculty Initiative*, Harvard University, Cambridge, MA, April, 2012.

"The Infant Brain: Using Neuroscience Tools to Measure Neurolearning: Lecture 2," *Distinguished Lecturer, 2012: Mind, Brain, Behavior Interfaculty Initiative*, Harvard University, Cambridge, MA, April, 2012.

"Using MEG to Explore Developmental Change in Speech Processing," *MEG: Applications to Cognitive Neuroscience, The 2012 McGovern Institute Symposium*, Massachusetts Institute of Technology, Cambridge, MA, April, 2012.
https://www.youtube.com/watch?v=-n7R9TLawzM

"Humans' Capacity for Language: NeuroLearning," *Seattle Brain Salon*, University of Washington I-LABS and Allen Institute for Brain Science, Seattle, WA, April, 2012.
https://www.youtube.com/watch?v=EDLAzgPuvS0

"Language Learning and the Developing Brain: Cross-Cultural Studies Unravel the Effects of Biology and Culture," *Keynote Lecture, 161st Meeting of the Acoustical Society of America*, Hong Kong, Hong Kong, May, 2012.

"The Mind of the Child: What Neuroscience Reveals About Baby Brains and Learning," *Public Lecture*, Chinese University of Hong Kong, Hong Kong, May, 2012.

"The Genius of Bilingual Babies and Children," *Invited Speaker, International Conference on Bilingualism and Comparative Linguistics*, Chinese University of Hong Kong, Hong Kong, May, 2012.

"A Child's First 2000 Days: What's the Brain Got to Do With It?" *Featured Speaker, Aspen Ideas Festival*, Aspen, CO, June, 2012.

"Early Language Experience and Brain Development: Paving the Path to School," *Keynote Address, First Things First*, Arizona Early Childhood Development and Health Board, Phoenix, AZ, August, 2012.

"Dual Language: Geddes and the Science of Child Development," *Expert Panelist, NBC Education Nation Summit*, New York, NY, September, 2012.

"The Buzz on Brains and Babies: How and Why Do the Earliest Years Matter?" *Session Speaker, Aspen ThinkXChange*, Aspen, CO, October, 2012.

"Human Language Development: Using Brain Measures to Advance Theory," *Plenary Address, Boston University Conference on Language Development*, Boston, MA, November, 2012.

"The Child's First 2000 Days: Brain and Language Development," *Invited Address, Building a Grad Nation Summit*, Washington, DC, February, 2013.

"How Brain Science Can Advance the Nation: The Child's First 2000 Days," *Congressional Briefing*, Washington, DC, February, 2013.

"The Human Language Puzzle: Advancing Theory Through Brain Science," *Keynote Address, Cognitive Neuroscience Society Annual Meeting*, San Francisco, CA, April, 2013.

"Human Language: How Brain Measures Advance Theories of Human Learning," *Invited Address, Society for Research on Child Development Biennial Meeting*, Seattle, WA, April, 2013.

"How to Build a Brain: Language Learning and the Importance of Social Talk," *Keynote Address, Annual Meeting of the LENA Foundation*, Denver, CO, April, 2013.

"The 'Big Bang' in Learning: Brain Changes and Childhood Learning," *Invited Address, Aspen Ideas Festival*, Aspen, CO, June, 2013. https://www.youtube.com/watch?v=4zgkSObH4dU&t=2816s&pp=ygUNcGF0cmljaWEga3VobA%3D%3D

"Human Learning and the Child's Developing Brain," *Invited Speaker, Paul G. Allen's 10th Anniversary Celebration of the Founding of the Allen Brain Institute*, Seattle, WA, September, 2013.

"Brain Mechanisms of Learning and the Preparation Gap," *Invited Address, White House Meeting of the Office of Science and Technology Policy (OSTP) on Bridging the Thirty-Million-Word Gap*, Washington, DC, September, 2013.

"The First 2000 Days: How Opportunities to Learn Determine Brain Development," *Invited Speaker, The Giving Pledge*, Tulsa, OK, October, 2013.

"The Linguistic Genius of Babies," *Invited Speaker, Public Lecture Series, The Welcome Trust/DBT India Alliance*, New Delhi, India, November, 2013. https://www.youtube.com/watch?v=1611ZyqBh_Q&t=24s

"The Scientist in the Crib: Early Development of the Human Mind," *Invited Speaker, Workshop on "The Evolution of the Human Mind,"* Pune, India, November, 2013.

"The Social Brain, Neuroplasticity, and Early Language Learning," *Invited Speaker, Science of Learning Symposium*, International Convention on Science of Learning, Shanghai, China, March, 2014.

"Bilingualism Alters the Brain's White-Matter Microstructure," *Invited Speaker, Science of Learning Symposium*, International Convention on Science of Learning, Shanghai, China, March, 2014.

"Teachable Agents and Other Social Learning Technologies," *Invited Speaker, Science of Learning Symposium*, International Convention on Science of Learning, Shanghai, China, March, 2014.

"Frontiers in Science of Learning: Their Implications for Education Policies and Practices," *Invited Presenter, Dialogue on Science of Learning: How Can It Make a Difference?* International Convention on the Science of Learning, Shanghai, China, March, 2014.

"Early Learning and Success in School: Neuroscience Implications for Education," *Keynote Speaker, International Forum on Science of Learning and Innovation in Education*, International Convention on Science of Learning, Shanghai, China, March, 2014.

"IQ vs. EQ: How Brain Research Can Give Our Children a Head Start," *Keynote Speaker, Distinguished Speaker Series*, Global Parent Child Centre, Hong Kong, March, 2014.

"Learning and the Infant Brain: Mechanisms Underlying Initial Language Learning," *Invited Speaker, Science & Technology Discovery Series, Technology Alliance*, Seattle, WA, April, 2014.

"Brain Mechanisms Underlying the Developmental Change in Infant Speech Perception," *Invited Speaker, Special Symposium on Developmental Circuit Pruning, Conte Center at Harvard, Harvard University*, Cambridge, MA, April, 2014.

"Understanding the Fine Structure of Speech: Contributions of Joanne L. Miller," *Invited Speaker, 167th Meeting of the Acoustical Society of America*, Providence, RI, May, 2014.

"Language Learning and the Developing Brain," *Invited Speaker, 79th Cold Spring Harbor Symposium on Cognition, Cold Spring Harbor Laboratory*, Cold Spring Harbor, NY, May, 2014.

"Building a Child's Brain," *Keynote Speaker, 82nd Annual Meeting of The United States Conference of Mayors*, Dallas, TX, June, 2014.

"Early Learning and the Child's Developing Brain," *Invited Open Lecture, The Royal Swedish Academy of Sciences*, Stockholm, Sweden, September, 2014.

"Early Learning, Brain Development, and Bilingual Language Experience," *Keynote Address, Bilingual and Early Learning in Spain, Madrid Ministry of Education*, Madrid, Spain, October, 2014.

"Understanding Brain Development and Child Learning Will Advance the Future of Nations," *Keynote Speaker, Consejera De Education and Fundacion Rafael del Pino Conference*, Madrid, Spain, October, 2014.

"Speech and the Social Brain: Insights into How Children Learn and Continue to Thrive Throughout Adulthood," *Keynote Speaker, The Rockefeller University Parents and Science Lecture*, New York, NY, October, 2014.

"Bilingual Language Learning, Cognitive Flexibility, and the Future of Education," *Invited Speaker, Napa Infant-Parent Mental Health Fellowship*, Napa Valley, CA, November, 2014.

"Neural Plasticity," *The New York Academy of Sciences Panel on Neuroscience and Education*, New York, NY, November, 2014.

"Language and the Child's Developing Brain," *The New York Academy of Sciences Conference on Shaping the Developing Brain*, New York, NY, November, 2014.

"Early Learning and the Future of Our Nation," *Invited Speaker, The Ford Foundation Seminar on Science and Technology*, New York, NY, November, 2014.

"The Child's Developing Brain and Early Education," *White House Summit on Early Childhood Education*, Washington, DC, December, 2014.

"Brain Science and Early Learning," *Invited Speaker, King County Leadership Early Learning Roundtable Seattle's Town Hall*, Seattle, WA, January, 2015.

"Brain Science and How People Learn," *Invited Speaker, Washington State Academy of Science Address*, Seattle, WA, January, 2015.

"Brain Science and Early Learning," *Requested Testimony on Early Learning to the Washington State Appropriations Committee*, Olympia, WA, February, 2015.

"Brain Development and Early Learning," *Governor of Alabama's Early Childhood Education Summit*, Montgomery, AL, February, 2015.

"Why Are Younger Learners Better? Brain Development, Early Learning, and Language," *Invited Seminar Speaker, Society for Research on Child Development*, Philadelphia, PA, March, 2015.

"The Neurogenetics of Language," *George A. Miller Award Lecture*, Cognitive Neuroscience, San Francisco, CA, April, 2015.

"Ken Stevens, Analysis by Synthesis, Motor Theory, and Infants' Brain Responses to Speech," *Invited Symposium Speaker, Special Session to Honor Kenneth S. Stevens*, Pittsburgh, PA, May, 2015.

"The Social Brain and Language Learning," *Invited Speaker, International Meeting for Autism Research*, Salt Lake City, UT, May, 2015.

"The Science of Learning: Progress by the Six NSF Science of Learning Centers on How People Learn," *Congressional Briefing*, Washington, DC, June, 2015.

"Early Learning and the Child's Developing Brain," *Invited Speaker, International Symposium on Science for Education*, Rio de Janeiro, Brazil, July, 2015.

"Childhood Learning and the Developing Brain," *Keynote Speaker, Ready Nation: Conference for Business Leaders*, New York, NY, October, 2015.

"Brain Development the Early Learning," *Keynote Address, Early Learning and Federal Policy: A Debate for the Presidential Candidates*, New Hampshire, VT, October, 2015.

"Advances in Early Brain Development: Policy Implications," *National Governor's Association*, Seattle, WA, October, 2015.

"A Child's First 200 Days: Early Learning and Brain Development," *Invited Keynote, Department of Human and Human Services Grantees Meeting*, Washington, DC, November, 2015.

"Science on Children's Social and Emotional Development," *Invited Moderator, The Think Tank Event*, Los Angeles, CA, November, 2015.

"Language and the Child's Developing Brain," *Keynote Speaker, Zero to Three International Meeting*, Seattle, WA, December, 2015.

"Early Learning and Social Policy," *Invited Speaker, The Ford Foundation Gathering on Early Learning*, New York, NY, January, 2016.

"The Social Foundations of Learning," *Key Speaker, Network of Science of Learning Meeting*, Washington, DC, February, 2016.

"Building the Baby Brain," *Keynote Speaker, The World Bank Group*, Washington, DC, March, 2016.

"Early Learning and the Developing Brain," *Keynote Speaker, The Water Cooler Event*, Sacramento, CA, March, 2016. https://www.youtube.com/watch?v=RYlyVJuy630&t=11s&pp=ygUNcGF0cmljaWEga3VobA%3D%3D

"Can Baby Brain Science Affect Education and Public Policy?" *Keynote Speaker, The Montag Lecture*, Atlanta, GA, April, 2016.

"Building the Baby Brain: The Importance of the Child's First Two Thousand Days," *Keynote Speaker, Atlanta Speech School Conference on Early Learning*, Atlanta, GA, April, 2016.

"Learning and the Social Brain," *Invited Speaker, White House Conference on Early STEM Learning*, Washington, DC, April, 2016.

"What Can Babies' Brains Tell Us About What It Means to Be Human?" *Invited Speaker, Keystone Symposium: State-of-the-Brain*, Innsbruck, Austria, May, 2016.

"Babies Brains: Why Bilingualism Is an Asset," *Keynote Speaker, White House Conference on Dual Language Learners*, Miami, FL, June, 2016.

"Brain Science and Early Learning," *Keynote Speaker, United Way International Conference on the Developing Brain*, Medellin, Colombia, June, 2016.

"Imaging the Baby Brain: Imagine a Future of Improved Learning for All Children," *Invited Speaker, Paul G. Allen Brain Institute Conference on NeuroFutures*, Seattle, WA, June, 2016. https://www.youtube.com/watch?v=xKZAiTc3kDI&t=2s

"Brain Science and Early Learning: It's All About Timing!" *Keynote Speaker, Corporate Executive Conference Addressing Houston's Literacy Crisis*, Houston, TX, September, 2016.

"Baby Brain Science, Language Development, and Literacy," *Keynote Speaker, Barbara Bush Houston Literacy Foundation's Power of Literacy Luncheon*, Houston, TX, September, 2016.

"Early Learning and the Developing Brain: The Importance of the First 2000 Days," *Keynote Address, Governor's Early Learning Foundation Summit*, Richmond, VA, October, 2016.

"Social Brains, Human Minds, and Academic Learning," *Invited Address, National Commission on Social, Emotional, and Academic Development*, Washington, DC, October, 2016.

"The Big Bang in Early Learning: Brain Changes and Childhood Learning," *Keynote Address, Governor's Early Learning Summit*, Honolulu, HI, December, 2016.

"Music and the Baby Brain," *Invited Speaker, 2017 Simms-Mann Think Tank*, Los Angeles, CA, February, 2017. https://www.youtube.com/watch?v=tIQzleOmwEc&t=16s

"The Developing Brain: Increasing Human Potential," *Keynote Address, The Ounce of Prevention*, Chicago, IL, April, 2017.

"Language, Evolution, and the Developing Mind," *Invited Speaker, The Boundaries of Humanity: Humans, Animals, and Machines in the Age of Biotechnology*, The Templeton Foundation, Palo Alto, CA, April, 2017.

"Brain Development, Social Learning, and Readiness for School," *Keynote Address, Governor's Conference on Pre–K–12 Education*, Montgomery, AL, May, 2017.

"Advancing Human Potential," *Invited Speaker, The Giving Pledge*, Washington, DC, June, 2017.

"Early Learning and the Baby Brain," *Invited Speaker, Aspen Children's Forum*, Aspen, CO, July, 2017.

"Human Potential and the Impact of Early Social Learning," *Invited Speaker, Chen-Zuckerberg Initiative*, Palo Alto, CA, August, 2017.

"The Baby Brain: Language as a Model System," *Invited Speaker, The 40th Minnesota Symposium on Child Psychology—Human Communication: Origins, Mechanisms, and Functions*, Minneapolis, MN, October, 2017.

"Education and Neuroscience: Two Principles to Advance Human Potential," *Invited Speaker, The Giving Pledge*, Chen-Zuckerberg Initiative, Palo Alto, CA, October, 2017.

"Language and the Infant Brain: Nature-Nurture Revisited," *Invited Speaker, Culture and Brain Series, Nobel Forum Lecture*, Karolinska Institute, Stockholm, Sweden, November, 2017. https://www.youtube.com/watch?v=g6msI-eXOuo&t=22s

"Early Language Learning: Cracking the Speech Code," *Invited Speaker, Berzelius Symposium, The Connected Brain of the Child*, Swedish Academy of Medicine, Stockholm, Sweden, November, 2017.

"Foundational Principles of Learning: Brains, Genes, Technology, Interventions," *Invited Speaker, NSF Science of Learning: Global Convergence*, Washington, DC, February, 2018.

"Mentor Extraordinaire," *Invited Speaker, Special Session in Memory of Jams J. Jenkins*, Acoustical Society of America, Minneapolis, MN, May, 2018.

"Early Language Acquisition: Infant Brain Measures Advance Theory," *Invited Speaker Series, Center for Research on Brain, Language, and Music (CRBLM)*, Montreal, QC, May, 2018.

"The Next Generation: Lessons from Infant Development to Understand Human Nature," *Keynote Speaker, Templeton Annual Meetin*g, Banff, AB, June, 2018.

"Early Language Learning: A Focus on Mechanisms," *Keynote Address, International Conference on Infancy Studies*, Philadelphia, PA, July, 2018.

"Early Language Acquisition: A Window on the Human Mind," *American Psychological Association Distinguished Scientific Contribution Award*, San Francisco, CA, August, 2018.

"Using MEG to Understand Brain Mechanisms Underlying Language Acquisition in Infants," *Keynote Address, BioMag2018*, Philadelphia, PA, August, 2018.

"The Social Brain 'Gates' Human Language Learning," *Invited Speaker, Inaugural Conference of the Simms-Mann Chair and the Center for Developmental, Social, and Relationship Neuroscience*, Herzliya, Israel, October, 2018. https://www.youtube.com/watch?v=sSH7fUjoOxM

"The Mind of the Child: What Language Reveals About the Infant Brain and Learning," *Invited Speaker, Distinguished Cognitive Neuroscience and Bilingualism Matters Speaker Series*, UC Riverside, Riverside, CA, December, 2018.

"Brain Science: How Early Experiences Shape the Brain," *Invited Speaker, Early Care and Education Forum*, Olympia, WA, January, 2019.

"The Social Brain and Academic Learning," *Invited TED Talk at the Launch of the National Commission's Final Report on Social, Emotional, and Academic Development, From a Nation at Risk to a Nation at Hope*, Washington, DC, February, 2019.

"Early Language Acquisition and the Social Brain: An Inflection Point for the Brain's Human Language Network," *Invited speaker, MIT Simons Center Colloquium Series*, Boston, MA, March, 2019.

"Critical Periods in Development," *Invited Speaker, UNESCO Conference, Contributions of Cognitive Science to Education*, UNESCO Headquarters, Paris, France, March, 2019.

"Supporting Baby Brain Development in the First 1000 Days: Why and How?" *Invited Lecture, Jerusalem Ministry of Health*, Jerusalem, Israel, April, 2019.

"Language, Literacy, and the Baby Brain: How Parents Can Build Skills Starting on Day 1," *Invited Lecture, Municipality of Tel Aviv*, Tel Aviv, Israel, April, 2019.

"Early Language Acquisition and the Social Brain: An Inflection Point in the Brain's Human Language Network," *Invited Speaker, J. Mark Sowers Distinguished Lecture Series*, Virginia Tech, Roanoke, VA, April, 2019. https://www.youtube.com/watch?v=zqliAdmFjtk

"The Baby Brain," *Invited Speaker, BrainMind Summit*, Stanford University, Palo Alto, CA, October, 2019. https://www.youtube.com/watch?v=ErPPXfsY6a8&t=202s

"Baby Brains and our Neuro-Futures," *Invited Lecture, AAAS Annual Meeting*, Seattle, WA, February, 2020.

"Early Language Development: Connecting the Dots Between Brain Development, 'Critical Periods,' and a Child's Communicative Success," *Invited Keynote, Conference on Early Intervention for Communicative Success*, AG Bell, Hearing First, and National Center for Hearing Assessment Conference, Kansas City, MO, March, 2020.

"The Baby Brain," *Invited Speaker, National Academies of Science, Engineering and Medicine: Science & Entertainment Exchange—Science Speed Dating*, Washington, DC, Virtual, May, 2020.

"The Puzzle of Human Language Acquisition: Advancing Theory Through the Science of Learning," *Invited Speaker, The Sherman Lecture, Georgetown University*, Virtual, September, 2020.

"The Social Brain: Language, Culture, and Social Interaction in Learning," *Invited Speaker,* MIT/Harvard Conference on *Raising Resilience, Restoring Relationships, and Rebuilding Self-Regulation During COVID-19*, Virtual, November, 2020.

"The Baby Brain, Redux," *Invited Speaker, The National Academies of Science, Engineering and Medicine: Science & Entertainment Science Exchange Mixtape Event*, Washington, DC, Virtual, December, 2020.

"Developmental Speech Perception: Forging Ahead on Models and Mechanisms," *Inaugural Speaker, Webinar series on Acoustical Sciences*, Acoustical Society of America, New York, NY, Virtual, January, 2021.

"Language Wiring in the Developing Nervous System," *Invited Speaker, IAmBrain, London's Fifth Annual Course on Brain Mapping, A Worldwide Video Symposium*, London, England, Virtual, March, 2021.

"Cultural Foundations of Learning," *Invited Participant, Presidential Session at AERA*, Virtual, April, 2021.

"Early Language Development: Social Interaction, Sensorimotor Learning, and the Child's Developing Brain," *Invited Speaker, University of Florida Language and Brain Interest Group*, Virtual, April, 2021. https://www.youtube.com/watch?v=XF-RtpTOBhQ&t=2733s

"Convergence: Neuroscience and Early Childhood Education," *Invited Speaker, 9th International Skills Forum: Reimagining Education and Skills Development for a New Normal*, Yidan Foundation Symposium, Manila, Philippines, Virtual, August, 2021.

"United States' Scientific Priorities Related to the Pandemic," *Invited presentation to the G-20 Science Group Meeting on the Pandemic as representative of the National Academy of Sciences, USA*, Paris, France, Virtual, September, 2021.

"Sensorimotor Mapping for Speech: New Approaches to a Classic Problem," *Invited Speaker, Symposium for Cognitive Auditory Neuroscience,* Carnegie Mellon University, Virtual, September, 2021.

"Sensorimotor Information Flow and the Development of Speech," *Invited Speaker, Special Session on Development of Sensory-Motor Connections for Speech,* Acoustical Society of America, Seattle, WA, November, 2021.

"Growing up on Zoom: Kids in the Time of Covid," *Invited Speaker, National Academy of Sciences, The Science and Entertainment Exchange*, Washington, DC, Virtual, February, 2022.

"Information Flow in Sensorimotor Systems for Language," *Invited Speaker, IAmBrain, London's Sixth Annual Course on Brain Mapping, A Worldwide Video Symposium*, London, England, Virtual, April, 2022.

"The Pandemic and our 'Social' Brains: How Minds Adapt," *Invited Commencement Speaker, Erikson Institute*, Chicago, IL, Virtual, May, 2022.

"Early Childhood: Enable the Growth of the Whole Child by Advancing Precise Solutions," *Invited Speaker and Moderator, Energizing the Potential of All Learners: A Stanford University Transforming Learning Accelerator Summit with the Yidan Prize Foundation*, Stanford, CA, September, 2022.

"50 Years of Speech Research: How Infants Crack the Speech Code," *Invited Speaker, the UW Minifie Lecture*, Seattle, WA, January, 2023. https://www.youtube.com/watch?v=SqqFMmpLf8U

"Early Learning and Brain Development: Language, Literacy, and Bilingualism," *Invited Testimony, WA State Legislative Committee on Human Services, Youth, and Early Learning,* Olympia, WA, January, 2023. https://www.youtube.com/watch?v=6Lw45Uqxn3M

"Early Learning and Brain Development: From Cradle to Kindergarten," *Invited Seminar Speaker, Bright Horizons*, Virtual, January, 2023. https://www.brighthorizons.com/resources/webinar/language-development-early-years

"Early Learning, Brain Development, and the Importance of the Sociocultural Context," *Keynote Address, BrainMind Summit*, New York, NY, April, 2023.

"The Social Brain and Early Learning," *Plenary Address, Bright Horizons' Early Development Summit*, Boston, MA, June, 2023.

"Understanding Brian Development, Early Experience, and the Impact on Readiness for School," *Keynote Address, Vancouver Conference on the Art and Science of Development*, Vancouver, BC, July, 2023.

"Covid-19 Lockdown's Impact on the Teenage Brain," *Press Conference (one of 40 chosen out of over 12,000 papers), Society for Neuroscience*, Washington, DC, November, 2023.

"The Neuroscience of Literacy: From Cradle to Classroom," *Invited Speaker, Second International Congress on Early Literacy*, Argentina, Virtual, April, 2024.

"Half Century of Research on Early Development of Language: What Have We Learned?" *Invited Keynote Address, Society for Experimental Psychologists Annual Meeting*, Seattle, WA, May, 2024.

"Ken Stevens and Motor Theories," *Invited Speaker, Symposium in Honor of Ken Stevens, Acoustical Society of America Meeting*, Virtual, November, 2024.

"Building Blocks of ImagiNation," *Invited Keynote, ImagiNation—Triangle Learning Community*, Los Angeles, CA, Virtual, January, 2025.

"Developing Teen Minds in the Digital Age: Research and Innovation Toward a Future Science of Learning," *Invited Keynote Address, Early Learning & the Brain Conference*, New York, NY, April, 2025.

"The Developing Brain and the Impact of Federal Policy on Children's Learning," *Congressional Breakfast Keynote on Children's Brain Development, Aspen Institute Congressional Program*, Washington DC, May, 2025.

"The Social Brain, Language, and Learning," *Opening Keynote, Federal Program of the Office of Head Start*, Portland, OR, June, 2025.

STUDENTS AND POSTDOCTORAL FELLOWS TRAINED IN THE KUHL LABORATORY

GRADUATE STUDENTS

Name	Years	Dissertation Title
Ken Grant	1976–1980	Investigating a tactile speechreading aid: The transmission of prosodic information in connected-discourse and sentences
James Hillenbrand	1976–1980	Perceptual organization of speech sounds by young infants
Anne Fernald	1978–1982	Acoustic determinants of infant preference for "motherese"
DiAnne Grieser	1980–1984	The internal structure of vowel categories in infancy: The effects of stimulus "goodness"
Richard Eyraud	1994–1998	Native and non-native perception of /r/ and /l/: A cross-language comparison of American and Finnish listeners
Feng-Ming Tsao	1997–2001	The effects of language experience on the perception of affricate and fricative consonants in English-speaking and Mandarin-speaking adults and young infants
Sandra Serafini	1993–2002	Functional neuroanatomy during language processing: Correspondence of cortical stimulation mapping, fMRI, PEPSI, and ERP during a visual object naming task
Yang Zhang	1997–2002	The effects of linguistic experience as revealed by behavioral and neuromagnetic measures: A cross-language study of phonetic perception by normal adult Japanese and American listeners
Huei-Mei Liu	1999–2002	The acoustic-phonetic characteristics of infant-directed speech in Mandarin Chinese and its relation to infant speech perception in the first year of life
Jessica Pruitt	1998–2003	American-English school-age children's ability to discriminate native and non-native speech contrasts
Jo-Fu Lotus Lin	2003–2009	Mental addition in bilinguals as revealed by magnetoencephalography (MEG)
Alexis Bosseler	2003–2010	Cortical rhythms to native and non-native phonetic contrasts in infants and adults

Gina Cardillo	2003–2010	Predicting the predictors: Individual differences in longitudinal relationships between infant phonetic perception, toddler vocabulary, and preschooler language and phonological awareness
Christina Zhao	2010–2015	Short-term musical intervention enhances infants' neural processing of temporal structure in music and speech
Melanie Fish	2013–2020	Exploring the spatiotemporal dynamics of on-line sentence processing in 5-year-olds: The role of semantic context in syntactic anomaly detection and behavioral correlates of MEG-recorded brain activity
Patrick Donnelly	2016–2020	Design and implementation of digital aids to empower struggling readers
Maggie Clarke	2016–2021	Neural dynamics of the motor system and its role in the development of speech perception
Dylan Robertson	2018–	In progress
Erica Peterson	2020–	In progress

POSTDOCTORAL FELLOWS/ RESEARCH SCIENTISTS

Name	Years	Current Position
Kate Davis	1989–1991	Industry
Kerry Green	1989–1997	Deceased
Paul Iverson	1993–1999	Professor, University College London
Jan Goodsitt	1990–1993	Deceased
Gail Tomiak	1995–1997	Industry
Jean Andruski	1995–1996	Professor, Wayne State University
Michael Hall	1996–1998	Professor, James Madison University
Paula Smeele	1996–1998	Deceased
Raquel Willerman	1996–1998	Industry
Tobey Nelson	1999–2000	Utrecht University of Applied Sciences
Bart de Boer	2001–2002	Professor, Vrije Universiteit Brussels
Yue Wang	2001–2002	Professor, Simon Fraser University
Juan Silva-Pereyra	2001–2004	Professor, National Autonomous University of Mexico
Feng-Ming Tsao	2001–2003	Professor, National Taiwan University, Taipei
Maritza Rivera-Gaxiola	2001–2007	Private Practice
Huei-Mei Liu	2002–2003	Professor, National Taiwan Normal University, Taipei
Yang Zhang	2002–2005	Professor, University of Minnesota
Barbara Conboy	2002–2009	Associate Professor, University of Redlands
Jessica Pruitt	2003–2006	Private Practice
Rajeev Raizada	2003–2008	Assistant Professor, University of Rochester
Megha Sundara	2005–2007	Professor, UCLA
Yapeng Wang	2007–2009	Beijing Normal University
Adrián García-Sierra	2007–2012	Associate Professor, University of Connecticut
Cherie Percaccio	2007–2012	Private Practice
Nairán Ramírez-Esparza	2007–2012	Associate Professor, University of Connecticut
Barbara Schwanhäußer Nash	2008–2011	Industry
Jo-Fu Lotus Lin	2009–2013	Assistant Professor, National Tsing Hua University
Sarah Roseberry Lytle	2010–2013	Director, Playful Learning Landscapes Action Network
Dilara Deniz Can	2010–2015	Psychologist, Cherokee County School District
Kambiz Tavabi	2011–2022	State Department of Corrections
Naja Ferjan Ramírez	2013–2015	Assistant Professor, Linguistics, University of Washington
Jasper van den Bosch	2013–2016	University of Birmingham, Birmingham, UK
Maria Mittag	2013–2018	Private Clinical Psychology Practice
Ping Mamiya Chao	2013–2018	AI Research, Oracle Corporation
Jason Yeatman	2014–2015	Associate Professor, Stanford University
Alexis Bosseler	2014–2016	Assistant Director, MEG Center, UW I-LABS
Neva Corrigan	2015–	Research Scientist, UW I-LABS
Christina Zhao	2016–2018	Research Assistant Professor, Speech and Hearing, UW
Libby Huber	2019–	Research Scientist, UW I-LABS
Yael Weiss	2020–2022	AI Research, Walmart Corporation
Maggie Clarke	2021–2022	Director, MEG Center, Simon Fraser University
Yaara Endevelt-Shapira	2022–	Research Scientist, UW I-LABS
Margaret Whedon	2024–	Postdoctoral Fellow, UW I-LABS