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
SparkLing™ Bilingual: Teacher Training Program for 0–5 Educators, 2024–2026
P. K. Kuhl, Principal Investigator, Bezos Family Foundation
Support for Succession Planning, 2025–2028
P. K. Kuhl, Principal Investigator, Jerry Paros
Paros Brain Research Initiative, 2026–2031

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 B. Lindblom & S. Öhman (Eds.), *Proceedings of the IXth International Congress of Phonetic Sciences* (pp. 162–168). Institute of Phonetics, University of Copenhagen.

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

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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. *Proceedings of the First International Conference on Spoken Language Processing* (pp. 745–748). Acoustical Society of Japan. https://doi.org/10.21437/ICSLP.1990

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 1992 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 1992 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, 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). 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. 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 S. Shimojo, T. Matsuzawa, & Y. Itakura (Eds.), *Brain and Communication: 1994 Yakult International Symposium* (pp. 1–22). Yakult Honsha.

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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. *Proceedings of the International Conference on Spoken Language Processing* (pp. 539–542). Acoustical Society of Japan. https://doi.org/10.21437/ICSLP.1994-137

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. In K. Elenius & P. Branderud (Eds.), *Proceedings of the XIIIth International Congress on Phonetic Sciences* (Vol. 2, pp. 132–139). Stockholm University.

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. In K. Elenius & P. Branderud (Eds.), *Proceedings of the XIIIth International Congress on Phonetic Sciences* (Vol. 1, pp. 146–149). Stockholm University.

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

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"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.

"An AI Robot Will Never Raise Your Child," *Keynote Speaker, Spencer Foundation and Bezos Family Foundation Convening on AI and Early Child Development*, Seattle, WA, September, 2025.

"Wearable Brain Imaging? Progress on MEG Technology," *Panel Convenor and Moderator, UW I-LABS and Nottingham University Conference on the Future of 'Wearables' for Brain Science*, Seattle, WA, October, 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
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