

Curriculum Vitae

Adrian KC Lee

Professor

Department of Speech and Hearing Sciences

Institute for Learning & Brain Sciences

1715 NE Columbia Road,

Seattle, WA 98195, USA

Email: akclee@uw.edu

Phone: 206-616-0102

Website: www.akclee.com

EDUCATION AND PROFESSIONAL HISTORY

Education

ScD Health Sciences and Technology (2003 – 2007)
Harvard-MIT Division of Health Sciences and Technology
Massachusetts Institute of Technology
Cambridge, MA, USA

BEng Electrical Engineering (1998 – 2002)
The University of New South Wales
Sydney, NSW, Australia

Doctoral Dissertation Title

Influence of spatial cues on the identification and the localization of objects in the auditory foreground

Supervisor: Barbara Shinn-Cunningham

Employment / Professional Experience

2020 – present Department Chair of Speech & Hearing Sciences
University of Washington, Seattle, WA

2019 – present Professor of Speech & Hearing Sciences, Institute for Learning & Brain Sciences
University of Washington, Seattle, WA

2019 – present Adjunct Professor of Electrical Engineering
University of Washington, Seattle, WA

2019 Brain-Computer Interface Research Consultant
Microsoft Research, Redmond, WA

2016 – present Research Affiliate, Center on Human Development and Disability
University of Washington, Seattle, WA

2015 – 2019 Associate Professor of Speech & Hearing Sciences, Institute for Learning & Brain Sciences
University of Washington, Seattle, WA

2015 – 2019 Adjunct Associate Professor of Electrical Engineering
University of Washington, Seattle, WA

2014 – present Affiliate Faculty, Institute of Neuroengineering
University of Washington, Seattle, WA

2012 – present Affiliate Faculty, Computational Neuroscience Training Program
University of Washington, Seattle, WA

2011 – present Faculty member, Graduate Program in Neuroscience
University of Washington, Seattle, WA

- 2011 – present Faculty member, NSF Engineering Research Center for Sensorimotor Neural Engineering
University of Washington, Seattle, WA
- 2011 – present Affiliate Faculty, Virginia Merrill Bloedel Hearing Research Center
University of Washington, Seattle, WA
- 2011 – 2015 Assistant Professor of Speech & Hearing Sciences, Institute for Learning & Brain Sciences
University of Washington, Seattle, WA
- 2011 – 2015 Adjunct Assistant Professor of Electrical Engineering
University of Washington, Seattle, WA
- 2011 – 2015 Visiting Faculty
Harvard-MIT Martinos Center for Biomedical Imaging, Charlestown, MA
- 2009 – 2010 Director of Boston Area Machine-Brain Interface consortium, NSF-CELEST
Boston University, Boston, MA
- 2009 – 2010 Research Fellow, Department of Radiology
Harvard Medical School & Massachusetts General Hospital, Boston, MA
- 2007 – 2009 Research Fellow, Department of Psychiatry
Harvard Medical School & Massachusetts General Hospital, Boston, MA
- 2007 – 2010 Research Associate, Cognitive and Neural Systems
Boston University, Boston, MA
- 2005 Visiting Scholar
Medical Research Council Cognition and Brain Sciences Unit, Cambridge, UK
- 2003 – 2007 Research Assistant, Cognitive and Neural Systems,
Boston University, Boston, MA
- 2003 Research Assistant, Electrical Engineering & Telecommunications
The University of New South Wales, Sydney, Australia
- 2002 Visiting Scholar
The Bionic Ear Institute, Melbourne, Australia

UW Committees / Courses / Other Duties

Department / Center Directorship

- 2020 – present Chair of Speech & Hearing Sciences
- 2018 – present Transpacific Hearing Center, Director
- 2013 – 2018 Center for Auditory Neuroimaging, Director

University Committees

- 2020 – present Board of Trustees for the Virginia Merrill Bloedel Hearing Research Center, Member
- 2018 – 2019 Research Advisory Board, Committee member

Departmental Committees

- 2018 – 2020 Director of Research, Speech & Hearing Sciences
- 2018 – 2020 Director of PhD program, Speech & Hearing Sciences
- 2015 – 2017 Head of Interest Group (Fundamental Mechanisms), Speech & Hearing Sciences
- 2015 – 2017 Executive Committee, Speech & Hearing Sciences
- 2015 – 2016 Development Committee, Speech & Hearing Sciences
- 2015 Search Committee for professorial position (Matthew Winn, PhD)
- 2013 – 2017 PhD Admission Committee, Speech & Hearing Sciences
- 2013 – 2015 Peer Teaching Evaluation Committee, Speech & Hearing Sciences
- 2011 – 2012 PhD Admission Committee, Neuroscience Graduate Program

Faculty Committees

- 2018 – present Sara Kover (tenure-track), Speech & Hearing Sciences; role: member
- 2016 – present Jill Locke, PhD (research-track), Speech & Hearing Sciences; role: chair
- 2015 – 2019 Jason Yeatman, PhD (tenure-track), Speech & Hearing Sciences; role: member

2015 – 2018 Matthew Winn, PhD (tenure-track), Speech & Hearing Sciences; role: member

Other Services

2012 – 2013 Biomedical Research Integrity Series, Group Leader
2013 Panelist in Future Faculty Fellows Workshop, UW School of Medicine
2017 – present Coordinator, Collaborative Research Area on Learning Disabilities, UW-CHDD
2018 (Fall) Committee Member, Royalty Research Fund

Training Grant Preceptorship

2016 – present NIH-T32NS099578: Graduate Training in Neuroscience (PI: Jane Sullivan)
2015 – present NIH-T32CA206089: Big Data in Genomics and Neuroscience (PI: Noble)
2011 – present NIH-T32DC005361: Auditory Neuroscience Training Grant (PI: Lee starting 2019)
2011 – present NIH-T32DC000018: Research Training in Otolaryngology (PI: Stone)
2012 – 2017 NIH-T90DA032436: Computing and the Brain: Training the next generation of neuroscientists (PI: Fairhall)
2011 – 2016 NIH-T32DC000033: Research Training in Speech and Hearing Sciences (PI: Werner)

Undergraduate Courses

2014 – 2019 SPHSC 425: Speech, Language, Hearing and the Brain
2012 – 2017 SPHSC 261: Nature of Sound
2019 – 2020 SPHSC 461: Introduction to Hearing Science

Graduate Courses

2016 SPHSC593: Electrophysiology II
2015 – 2018 SPHSC561: Studies in Hearing Sciences and Disorders
2013 – 2016 NEURO 503: Cognitive and Integrative Neurobiology (*team-taught, instructor for 20% of the course*)
2013 – 2020 SPHSC 568: Grant Writing in Hearing, Language, and Speech Science. Co-listed with ANTG program, open to postdoctoral trainees
2011 – present SPHSC 594: Capturing Brain Dynamics—a Combined Neuroscience and Engineering Approach. Cross-listed in the following departments: Linguistics, Psychology.

Postdoctoral Fellows Mentorship

04/15 – 06/20 Bonnie Lau, PhD *in Speech & Hearing Sciences (University of Washington)*
08/16 – 07/19 Sarah Baum Miller, PhD *in Neuroscience (University of Texas Health Science Center)*
06/13 – 01/19 Dan McCloy, PhD *in Linguistics (University of Washington)*
10/13 – 09/18 Susan McLaughlin, PhD *in Speech & Hearing Sciences (University of Washington)*
04/15 – 08/17 Nicholas Foti, PhD *in Computer Science (Dartmouth College); co-supervised with Emily Fox in Statistics*
10/14 – 07/17 Majid Mirbagheri, PhD *in Electrical Engineering (University of Maryland)*
06/11 – 08/16 Ross Maddox, PhD *in Biomedical Engineering (Boston University)*
01/11 – 12/14 Eric Larson, PhD *in Biomedical Engineering (Boston University)*

Other Postdoctoral Trainee Mentorship / Advisory Committee

07/20 – 06/23 Gavriel Kohlberg, MD *member of mentoring committee, AOS CSA (PI: Gavriel Kohlberg)*
07/16 – 07/17 Brent Wilkerson, PhD *member of mentoring committee, ANTG T32 (PI: Olivia Bermingham-McDonogh)*
07/16 – 08/17 Kaylah Lalonde, PhD *co-mentor in F32/NRSA grant (PI: Lynne Werner)*

Doctoral Supervisory / Thesis Committee / Project supervisor

01/20 – present	Jordan Drew,	<i>Electrical Engineering</i>	Role: PhD advisor
09/14 – 03/20	Lindsey Kishline,	<i>Speech & Hearing Sciences (NSF GRFP scholar)</i>	Role: PhD advisor
		<i>Title: Investigating the effects of audio-visual spatial congruence on multisensory integration</i>	
09/12 – 03/17	Mark Wronkiewicz,	<i>Neuroscience (NSF GRFP scholar)</i>	Role: PhD advisor
		<i>Title: Incorporating neuroscience methods and knowledge into brain-computer interfaces</i>	
06/17 – 11/19	Elle O'Brien,	<i>Speech & Hearing Sciences</i>	Role: PhD co-advisor (Primary: Yeatman)
11/17 – present	Kelly Chang,	<i>Psychology</i>	Role: PhD dissertation committee member
06/17 – present	Gabriel Obregon-Henao,	<i>Neuroscience</i>	Role: PhD dissertation committee member
11/18 – present	Tristram Savage,	<i>Psychology</i>	Role: PhD dissertation committee member
01/17 – 07/18	Elliot Saba,	<i>Electrical Engineering</i>	Role: PhD dissertation committee member
08/16 – 07/18	Alex Tank,	<i>Statistics</i>	Role: PhD dissertation committee member
02/15 – 03/20	Melanie Fish,	<i>Speech & Hearing Sciences</i>	Role: PhD dissertation committee member
01/14 – 08/18	Mona Oster,	<i>Speech & Hearing Sciences</i>	Role: PhD dissertation committee member

03/14 – 01/17	Mishaela DiNino,	<i>Speech & Hearing Sciences</i>	Role: PhD dissertation committee member
09/13 – 03/16	Elizabeth Huber,	<i>Psychology</i> <i>Title: Auditory perception and cortical plasticity after long-term blindness</i>	Role: PhD dissertation committee member
10/12 – 04/15	Christina Zhao,	<i>Speech & Hearing Sciences</i> <i>Title: The effects of early musical training</i>	Role: PhD dissertation committee member
02/11 – 06/13	Susan A McLaughlin,	<i>Speech & Hearing Science</i> <i>Title: Functional magnetic resonance imaging of human auditory cortical tuning to interaural level and time difference</i>	Role: PhD dissertation committee member
06/16 – 08/17	Nicole Whittle,	<i>Speech & Hearing Sciences</i>	Role: AuD capstone project advisor
09/12 – 07/14	Mihwa Kim,	<i>Speech & Hearing Sciences</i> <i>Title: Using pupillometry to measure increases in effort when switching attention between competing streams of degraded speech</i>	Role: AuD capstone project advisor
09/12 – 07/14	Sara Chai,	<i>Speech & Hearing Sciences</i> <i>Title: A historical survey of central auditory processing disorder test battery</i>	Role: AuD capstone project advisor
08/11 – 04/14	Elliot Saba,	<i>Electrical Engineering</i> <i>Title: A fresh look at functional connectivity analysis</i>	Role: Master thesis supervisor
07/14 – 08/14	Allison Stewart	<i>Speech & Hearing Sciences</i> <i>Title: Neurofeedback as a potential treatment for stuttering</i>	Role: Master thesis reader (SLP)
07/15 – 06/16	Bradley Ekin,	<i>Electrical Engineering</i> <i>Title: Optimized decoding for auditory attention detection</i>	Role: Master thesis committee member
01/15 – 06/18	Jason Webster,	<i>Psychology</i>	Role: Graduate School Representative
04/14 – 06/16	Dae Han Won,	<i>Industrial and Systems Engineering</i> <i>Title: Optimization and machine learning frameworks for complex network analysis</i>	Role: Graduate School Representative
01/14 – 06/15	Jessica Thomas,	<i>Psychology</i> <i>Title: Encoding and decoding models of functional MRI responses in human visual and auditory cortex</i>	Role: Graduate School Representative
06/12 – 06/14	Brad Pierson,	<i>Music</i> <i>Title: Hugo Distler (1908-1942): Recontextualizing Distler's music for performance in the twenty-first century</i>	Role: Graduate School Representative
02/11 – 06/13	Xing Li,	<i>Electrical Engineering</i> <i>Title: Temporal fine structure and applications to cochlear implants</i>	Role: Graduate School Representative
01/11 – 12/12	Brian J King,	<i>Electrical Engineering</i> <i>Title: A framework for complex probabilistic latent semantic analysis and its application to single-channel source separation</i>	Role: Graduate School Representative
04/14 – 06/14	Kaitlyn Casimo,	<i>Neuroscience</i>	Role: Rotation supervisor

Outside UW Mentorship / Thesis Supervisory

Graduate students

09/12 – 09/14	Golbarg Mehraei	<i>at Harvard-MIT HST, SHBT Program</i>
07/10 – 04/14	Hari Bharadwaj	<i>at Department of Biomedical Engineering, Boston University</i>
07/09 – 12/13	Siddharth Rajaram	<i>at Boston University Hearing Research Center</i>

Other professional mentorship

02/16	Invited Faculty, Mentoring program at <i>39th Mid-Winter Meeting of the Association for Research in Otolaryngology</i> , San Diego, USA, February 20-24, 2016
07/15	Invited Faculty, <i>2nd Frederick Jelinek Memorial Summer Workshop</i> on “Probabilistic Transcription of Languages with no Native-Language Transcribers” (biosignal processing component), University of Washington, Seattle, June 22-Aug14, 2015
02/14	Invited Faculty, Mentoring program at <i>37th Mid-Winter Meeting of the Association for Research in Otolaryngology</i> , San Diego, USA, February 22-26, 2014
02/13	Invited Faculty, Mentoring program at <i>36th Mid-Winter Meeting of the Association for Research in Otolaryngology</i> , Baltimore, USA, February 16-20, 2013
07/12	Invited Faculty at <i>Telluride Neuromorphic Cognition Engineering Workshop</i> , Telluride, Colorado

RESEARCH

Research Projects / Grants

Active (2)

Amazon Web Services Machine Learning Research Awards program. “Inferring functional connectivity from MEG using interpretable deep dynamical models.” PIs: Emily Fox, AKC Lee (unrestricted gift; \$225,000)

National Science Foundation, Collaborative Research in Computational Neuroscience. NSF-IIS-1607468 “CRCNS: Bayesian modeling of interacting time series to discover cortical networks associated with auditory processing dysfunction.” PI: AKC Lee (09/01/16-08/31/20; \$800,000)

Completed (8)

National Institute on Deafness and Other Communication Disorders. R01 DC013260 “Cortical dynamics of auditory attention,” PI: AKC Lee (09/17/13-08/31/19; \$1,931,250)

Department of Defense, Office of Naval Research Young Investigator Research Program Award. N00014-15-1-2124 “Capturing neural biomarkers of auditory attention.” PI: AKC Lee (02/24/15-09/30/18; \$510,000)

Department of Defense, Air Force Office of Scientific Research Young Investigator Research Program Award. FA9550-12-1-0466 “An integrated neuroscience and engineering approach to classifying human brain-states.” PI: AKC Lee (09/15/12-09/14/15; \$360,000)

UW-Center for Sensorimotor Neural Engineering (CSNE) project grant. “Modern High-Bandwidth Communications Theory Can Revolutionize Neural Engineering.” Co-PIs: L Atlas; AKC Lee (04/15/12-04/14/14; \$93,085)

National Institute on Deafness and Other Communication Disorders. R01 DC013260-02S1 “Supplement: Cortical dynamics of auditory attention,” PI: AKC Lee (09/01/14-06/29/15; \$60,866)

The Royal Society, International Exchanges Scheme award. “Determining neural mechanisms of audio-visual integration: a multiscale approach.” Co-PIs: AKC Lee (USA); J Bizley (UK) (03/30/2012-03/30/2015; £12,000)

Wyss Institute for Biologically Inspired Engineering at Harvard University. Seed funding “Neuroimaging Biomarkers for Depression Protocol,” Co-PIs: AKC Lee, T Raji (01/01/10-12/31/12; \$121,948)

National Institute on Deafness and Other Communication Disorders. K99/R00 DC010196 “Spatiotemporal Mapping of Auditory Attention using Multimodal Imaging,” PI: AKC Lee (09/01/09-01/31/15; \$858,446)

Mass. General Hospital Fund for Medical Discovery. “Investigation of Inter-trial Neural Plasticity using Multimodal Imaging Techniques,” PI: AKC Lee (06/01/08-05/31/09; \$35,000)

Completed — Serving as mentor (14)

National Institute on Deafness and Other Communication Disorders. K99DC016640 “Development of neural processing of sound in infancy,” PI: B Lau. Mentors: AKC Lee, P Kuhl (07/18-06/20; \$256,000)

University of Washington Alcohol & Drug Abuse Institute Small Grant Program. “Characterizing auditory processing in individuals with fetal alcohol spectrum disorder,” PI: Susan McLaughlin, Mentors: AKC Lee, S Astley (07/16-06/18; \$29,597)

Autism Speaks, Meixner Translational Postdoctoral Fellowship. “Behavioral and neural variability in autism spectrum disorder,” PI: S Baum, Mentors: AKC Lee, W Stone (08/16-08/18; \$173,500)

University of Washington Institute for Neuroengineering / Washington Research Fund Innovation Postdoctoral Fellowship. PI: Nicholas Foti. Mentors: AKC Lee, E Fox (07/15-06/18)

National Institute on Deafness and Other Communication Disorders. F31 DC016209 “Infants’ use of temporal cues in the segregation of concurrent sounds,” PI: M Oster. Mentor: L Werner; Co-mentor: AKC Lee (07/17-05/18; \$40,855)

University of Washington Clinical Translation Core funds, PI: Sarah Baum, Adrian KC Lee (10/17-03/18; \$1,500)

National Institute on Deafness and Other Communication Disorders. F32 DC015387 “The interaction of auditory and visual detection, discrimination, and recognition in infants’ real-world listening environments,” PI: K Lalonde. Mentor: L Werner; Co-mentor: AKC Lee (07/16-06/17)

- National Institute on Deafness and Other Communication Disorders. K99DC014288 “Visual and auditory perceptual factors affecting spatial release from masking,” PI: R Maddox. Mentor: AKC Lee (12/1/14-8/31/16)
- National Institute on Deafness and Other Communication Disorders. Loan Repayment Program “Decoupling the linguistic and intentional aspects of auditory processing deficits,” PI: D McCloy. Mentor: AKC Lee (8/12/14-8/11/16)
- 2014 Center for Sensorimotor Neural Engineering / Brain-Links-BrainTools Summer Exchange Program (UW and University of Freiburg, Germany). Student: Karl Marrett (CompNeuro). Mentors: AKC Lee and M Tangermann.
- Hearing Health Foundation, Emerging Research Grant. “Relating behavior to brain in an audio-visual scene,” PI: R Maddox. Co-PI / Mentor: AKC Lee (7/1/13-6/30/14; \$24,992)
- National Institute on Deafness and Other Communication Disorders. F32DC012456 “Cortical dynamics of orientation and switching of non-spatial auditory attention,” PI: E Larson. Mentor: AKC Lee (1/16/13-1/15/15; \$102,496)
- National Institute on Deafness and Other Communication Disorders. Loan Repayment Program “How selective attention interacts with bottom-up speech segregation in difficult listening situations,” PI: E Larson. Mentor: AKC Lee (7/1/13-6/30/15)
- UW-Center for Sensorimotor Neural Engineering (CSNE) project grant. “Novel Auditory BCI Design.” PIs: E Larson. Mentor: AKC Lee (9/15/11-9/14/13; \$12,000)

Professional service / awards

Service

Association for Research in Otolaryngology (ARO)

- Evaluator, ARO Poster Blitz (students and postdocs), 2017-2018
- Web Editor, 2015-2018
- Long Range Planning Committee, Member, 2013-2018
- External Relations Committee, Member, 2011-2013
- spARO (student, postdoctoral and medical trainees of ARO) Steering Committee, Founding member, 2008-2010
 - Long Range Planning Committee, spARO representative, 2008-2009
 - Government Relations Committee, spARO representative, 2010

Acoustical Society of America (ASA)

- Strategic Group Task 3 (Dissemination of Information and Knowledge), Chair (from 2018), 2016-2019
- Committee on Education in Acoustics, Member, 2015-2016
- Technical Committee, Physiological and Psychological Acoustics, Member, 2013-2016
- International Liaison Committee, Member, 2018-2020

Editorial Board

- The Journal of the Acoustical Society of America*
 - Coordinating Editor and Associated Editor, 2016-2019
- Journal of Brain-Computer Interfaces*
 - Associate Editor, 2013-present
- Frontiers in Brain Imaging Methods*
 - Review Editor, 2013-2017

Ad-hoc Reviewer

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| <i>Acta Acustica united with Acustica</i> | <i>Hearing Research</i> |
| <i>Brain & Language</i> | <i>Human Brain Mapping</i> |
| <i>Brain Research</i> | <i>IEEE Access</i> |
| <i>Brain Structure & Function</i> | <i>JARO - Journal of the Assoc. for Research in Otolaryngology</i> |
| <i>Cerebral Cortex</i> | <i>Journal of the Acoustical Society of America</i> |
| <i>Clinical Neurophysiology</i> | <i>Journal of Computer Science and Technology</i> |
| <i>Cortex</i> | <i>Journal of Experimental Psychology: Humans Perception & Performance</i> |
| <i>Current Biology</i> | <i>Journal of Neurophysiology</i> |
| <i>Ear and Hearing</i> | <i>Journal of Neuroscience</i> |
| <i>eLife</i> | <i>Learning & Perception</i> |
| <i>Frontiers in Behavioral Neuroscience</i> | <i>Nature</i> |
| <i>Frontiers in Auditory Cognitive Neuroscience</i> | |
| <i>Frontiers in Human Neuroscience</i> | |

Nature Neuroscience

NeuroImage

Neuron

Neuroscience

Neuropsychiatric Disease and Treatment

Neuropsychologia; Philosophical Transactions B

PLOS Biology

PLOS ONE

Proceedings of the IEEE (Signal Processing)

Proceedings of the National Academy of Sciences of USA (PNAS)

Psychological Research

Psychophysiology

Scientific Reports

Ad-hoc Conference Reviewer

8th International Brain-Computer Interface Conference, Asilomar, CA, May 30-June 3, 2016

6th International Brain-Computer Interface Conference, Graz, Austria, Sept 16-19, 2014

Society for the Neurobiology of Language, San Diego, Nov 6-8 2013

5th International Brain-Computer Interface Conference, Graz, Austria, Sept 22-24, 2011

Ad-hoc Grant Reviewer

University

Royalty Research Fund (RRF)

National

Department of Defense

Air Force Office of Scientific Research

United States Army Medical Research and Materiel Command Congressionally Directed Medical Research Programs (Neurosensory Research)

National Institutes of Health, Center for Scientific Review:

Communication Disorders Review Committee (CDRC)

Hearing and Balance Fellowship Review

Mechanisms of Sensory, Perceptual and Cognitive Processes Study Section (SPC)

Special Emphasis Panels: P50 review

Translational R01

National Science Foundation

Collaborative Research in Computational Neuroscience panel

Other foundations / funding mechanisms

Hearing Health Foundation

University of Texas, San Antonio; Oak Ridge Associated Universities internal grant review

International

Action on Hearing Loss (UK)

European Research Council

French National Research Agency

Hong Kong SAR Government Innovation and Technology Fund

Israel Science Foundation

Wellcome Trust (UK), *Sir Henry Wellcome Postdoctoral fellowship*

Conference Organization

Organizer and co-chair, workshop on “Auditory Attention and Scene Analysis,” Hanse Institute for Advanced Study (HWK), Delmenhorst, Germany, July 21-23, 2014.

Local Organizing Committee, Organization for Human Brain Mapping, Seattle, June 16-20, 2013.

Meeting Session Organization

Special session on “Acoustics Outreach to Budding Scientists: Planting Seeds for Future Clinical and Physiological Collaborations,” *Acoustics '17 Boston*, Boston, June 25-29, 2017.

Special session on “Neuroimaging Techniques,” *Acoustics '17 Boston*, Boston, June 25-29, 2017.

Special session on “Linking Human Physiology with Psychoacoustics – from Brainstem to Cortical Measurements and Beyond,” *172nd Meeting of the Acoustical Society of America*, Honolulu, Nov 28-Dec 2, 2016.

Special session on “Acoustics Outreach to Budding Scientists: Planting Seeds for Future Clinical and Physiological Collaborations,” *171st Meeting of the Acoustical Society of America*, Salt Lake City, May 23-27, 2016. Tutorial co-organizer, “Biosignal acquisition and analysis for speech production and perception: electromyography, electroencephalography and magnetoencephalography (EMG, EEG and MEG),” *Interspeech 2015*, Dresden, Germany, September 6-10, 2015.

- Special session on “Physiological and Psychological Aspects of Central Auditory Processing Dysfunction,” *168th Meeting of the Acoustical Society of America*, Indianapolis, Oct 27-31, 2014.
- Session on “Neural Engineering in Speech and Hearing,” *35th Annual International IEEE EMBS Conference, Osaka, Japan*, July 3-7, 2013.
- Special session on “Investigating the Cortical Involvement in Auditory Perception and Cognition using different Neuroimaging Techniques,” *Acoustics 2012*, Hong Kong, May 13-18 2012.
- “Encoding for Auditory Representations Workshop,” University of Washington, Aug 22-23, 2011.
- Symposium on “The Auditory Brain beyond A1,” *34th Mid-Winter Meeting of the ARO*, Baltimore, USA, February 19-23, 2011.

Media / Outreach

- An Evening with Neuroscience 2020 moderator, University of Washington, April 17, 2020
- Brains on! American Public Media, 2019
- An Evening with Neuroscience 2019 panelist, University of Washington, April 12, 2019
- Hearing, Speech & Deaf Center, Seattle, WA
- Board Member, 2015 – 2018
- Audiology Workgroup, 2018
- Chair of Education Committee, 2016 – 2018
- King 5, New Day Northwest, July 2, 2015
- Interschool Robotics Challenge (India) neuroscience outreach at I-LABS, June 6, 2015
- The New York Times, “Where sounds have no barrier,” March 1, 2014
- German National Radio (deutschlandfunk), May 17, 2012
- Science Daily, “Scientists tuning in to how you tune out noise,” May 8, 2012
- Medical XPress, “The error-correcting brain: New insights into the neurobiology of adaptive behavior,” October 27, 2011
- Boston.com, “A lost sense sparked scientific quest,” November 5, 2007

Membership

- 2020- Member, Sigma Xi – The Scientific Research Honors Society
- 2013- Member, IEEE
- 2008- Member, Society for Neuroscience
- 2005- Member, Acoustical Society of America
- 2004- Member, Association for Research in Otolaryngology

Awards

- 2017 Bloedel Center Traveling Scientist Award, University of Washington, WA
- 2014 Department of Defense, Office of Naval Research Young Investigator Program award
- 2012 The Royal Society International Exchanges program award, United Kingdom
- 2012 Department of Defense, Air Force Office of Scientific Research Young Investigator Program award
- 2009 National Institutes of Health Pathway to Independence Award (NIDCD: K99/R00)
- 2008 Postdoctoral Fellowship Award, Mass. General Hospital Fund for Medical Discovery, Boston, MA
- 2007 Advanced Multimodal Neuroimaging Training Program fellowship, Martinos Center for Biomedical Imaging, Charlestown, MA
- 2007 Association for Research in Otolaryngology Graduate Student Travel Award
- 1998 – 2002 Academic Excellence and Co-op Scholarship University of New South Wales, Australia

Papers / Talks

Invited Talks

- [T49] Microsoft Research, Redmond, WA, April 4, 2019.
- [T48] Formal Seminar, Neuroscience Graduate Program, UCSF, San Francisco, CA, March 14, 2019.
- [T47] MEG Workshop, Department of Linguistics, Macquarie University, Sydney, Australia, March 23, 2018.
- [T46] Department of Communication Sciences & Disorders, University of South Florida, January 8, 2018.
- [T45] Australian Research Council Laureate Workshop, “Creating a Sense of Auditory Space,” Macquarie University, Sydney, Australia October 23-24, 2017.
- [T44] NSW The Children’s Hospital at Westmead, Sydney, Australia, October 16, 2017.
- [T43] Center for Research in Sensory Communication & Emerging Neural Technology & Hearing Research Center, Boston University, MA, October 6, 2017.

- [T42] Harvard Center for Brain Science, Cambridge, MA, October 5, 2017.
[T41] Baylor College of Medicine, Neuroscience Seminar Series, TX, September 22, 2017.
[T40] Oculus (from Facebook), Redmond, WA, July 18, 2017.
[T39] Starkey Hearing Research Center, Berkeley, CA, December 15, 2016.
[T38] Australian Hearing Hub, Macquarie University, Sydney, Australia, July 11, 2016.
[T37] *Keynote*: 22nd Annual International Conference on Auditory Display, Canberra, Australia, July 3-7, 2016.
[T36] Brain and Mind Institute, The Chinese University of Hong Kong, Hong Kong SAR, China, May 9, 2016.
[T35] Center for Hearing Research, UC Irvine, CA, April 19, 2016 (to be rescheduled).
[T34] Behavioral Neuroscience Program and Department of Communication Sciences and Disorders, Western Washington University, Bellingham, WA, Feb 29, 2016.
[T33] Multisensory Summit, Boston University, Boston, WA, December 11-12, 2014.
[T32] Invited Lecturer, Joint Research Academy in Biomedical Engineering and Science of Hearing and Sensory Systems, 2nd annual summer school, Lüneburg, Germany, July 23-24, 2014.
[T31] Gordon Research Conferences: Auditory System, Lewiston, ME, July 13-18, 2014.
[T30] NeuroFutures Conference, Seattle, WA, June 17-18, 2014.
[T29] *Keynote*: 1st International Symposium on Innovative Paediatric Hearing Science, Lake Como, Italy, June 4, 2014.
[T28] Kavli Brain Coffee Hour, UW CSNE, WA, April 16, 2014.
[T27] The Ear Club (organized by Erv Hafter), UC Berkeley, CA, March 31, 2014.
[T26] Center for Computer Research in Music and Acoustics, Stanford University, CA, December 6, 2013.
[T25] National Center for Rehabilitative Auditory Research, VA Rehab. Research & Development, Portland, OR, May 17, 2013
[T24] International Symposium on Cognitive Neuroscience Robotics, Seattle, WA, Jan 31- Feb 1, 2013.
[T23] NW Auditory and Vestibular Research Meeting, Oregon Health & Science University, Portland, OR, October 26, 2012.
[T22] 18th International Conference on Biomagnetism, Paris, France, August 26-30, 2012.
[T21] Microsoft Research, Redmond, WA, June 12, 2012.
[T20] NeuroTalk 2012, Beijing, China, May 18-20, 2012.
[T19] The Acoustics 2012 Hong Kong, Hong Kong SAR, China, May 13-18, 2012.
[T18] Department of Physiology and Biophysics Seminar, University of Washington, WA, March 29, 2012.
[T17] Neuroscience Department Seminar, University of Connecticut Health Center, CT, November 22, 2011.
[T16] Audiology and Speech Center, Walter Reed National Military Medical Center, MD, November 10, 2011.
[T15] Oxford Auditory Neuroscience Group, University of Oxford, UK, September 19, 2011.
[T14] EAR Institute external seminar series, University College London, London, UK, September 16, 2011.
[T13] Queensland Brain Institute, University of Queensland, Australia, as part of the NSF-Australian Science of Learning meeting and the Symposium on Attention and Learning, Brisbane, Australia, July 20-21, 2011.
[T12] Virginia Merrill Bloedel Hearing Research Center Board of Trustees meeting, Seattle, WA, July 8, 2011.
[T11] UW Linguistics Colloquium, Seattle, WA, May 6, 2011.
[T10] Osaka-UW Joint Workshop on Cognitive Robotics and Brain-Computer Interfaces, Seattle, WA, March 17-18, 2011.
[T09] Session co-chair: "The Auditory Brain Beyond A1," 34th Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, MD, February 19-23, 2011.
[T08] Workshop: Research Techniques & Approaches, 34th Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, MD, February 19-23, 2011.
[T07] NSF-CELEST Workshop on the Hardware and Software of Functional Connections, Boston University, MA, Oct. 22, 2010.
[T06] Multimodal Imaging Laboratory, Departments of Neurosciences and Radiology, UCSD, CA, June 21, 2010.
[T05] Institute for Learning and Brain Sciences, University of Washington, WA, March 17, 2010.
[T04] Center for Biodynamics, Boston University, MA, May 27, 2009.
[T03] Hearing Research Center, Boston University, MA, October 12, 2007.
[T02] Research in progress – interdisciplinary dialogues @ MIT, Cambridge, MA, April 14, 2006.
[T01] EAR Institute, University College London, London, UK, November 15, 2004.

Contributions indicated as follows

- | | |
|---|-------------------------------------|
| * <i>senior author / major contribution</i> | + <i>postdoctoral fellow author</i> |
| ** <i>secondary contribution</i> | ++ <i>graduate student author</i> |
| *** <i>minor contribution</i> | +++ <i>undergraduate autho</i> |

Patents / Patent Applications

- [P01] ⁺Mirbagheri M, L Atlas, *AKC Lee. "Fast continuous sampling of head related impulse responses," *US Provisional Patent Application: 62/538,473*.

Invited Articles (non-refereed)

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- [I04] *Lee AKC (2017). “Imaging the Listening Brain,” *Acoustics Today*, **13**(3): 35-42.
- [I03] Lynch JF, **AKC Lee (2017). “The Need for Speed: Tuning the Publication Engine,” *Acoustics Today*, **13**(2): 52-55.
- [I02] *Lee AKC, +++M Drews, +RK Maddox, +E Larson (2013). “Brain Imaging, Neural Engineering Research, and Next-Generation Hearing Aid Design,” *Audiology Today*, **25**(1): 40-47.
- [I01] *Lee AKC (2012). “Brain attending a cocktail party: A special session discussing cortical neuroimaging techniques,” *Acoustical Society of America ECHOES*, **22**(4): 4-5.

Book Chapters (Refereed)

- [B04] *Lee AKC, MT Wallace (2019). “Visual Influence on Auditory Perception,” in Lee *et al* (Eds) *Multisensory Processing: The Auditory Perspective*, Springer Handbook of Auditory Research, Springer-Verlag, New York.
- [B03] *Lee AKC, RK Maddox, JK Bizley (2019). “An Object-based Interpretation of Audiovisual Processing,” in Lee *et al* (Eds) *Multisensory Processing: The Auditory Perspective*, Springer Handbook of Auditory Research, Springer-Verlag, New York.
- [B02] ++Wronkiewicz M, +E Larson, *AKC Lee (2018). “Facilitating the Integration of Modern Neuroscience into Noninvasive BCIs,” in Nam *et al* (Eds) *Brain-Computer Interfaces Handbook*, Taylor & Francis Group, Boca Raton, Florida.
- [B01] Shinn-Cunningham BG, V Best, **AKC Lee (2017). “Auditory Object Formation and Selection,” in Middlebrooks *et al* (Eds) *The Auditory System at the Cocktail Party*, Springer Handbook of Auditory Research, Springer-Verlag, New York.

Book Volumes (Refereed)

- [V01] *Lee AKC, MT Wallace, A Coffin, AN Popper, RR Fay (2019). *Multisensory Processes: The Auditory Perspective*, Springer Handbook of Auditory Research, Springer-Verlag, New York.

Journal Articles (Refereed)

- [J42] Jirikowic, T, J Thorne, S McLaughlin, T Waddington, **AKC Lee, S Astley Hemingway (2020). “Prevalence and patterns of sensory processing behaviors in a large clinical sample of children with prenatal alcohol exposure,” *Research in Developmental Disabilities*, **100**:103617
- [J41] McLaughlin S, J Thorne, T Jirikowic, *AKC Lee, S Astley Hemingway (2019). “Listening difficulties in children with fetal alcohol spectrum disorders: More than a problem of audibility,” *Journal of Speech, Language, and Hearing Research*, **62**: 1532-1548. doi: 10.1044/2018_JSLHR-H-18-0359
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- [J39] +McCloy D, *AKC Lee (2019). “EEG-derived phoneme confusion matrices show the fit between phonological feature systems and brain responses to speech,” *Language, Cognition and Neuroscience*, **34**(5): 662-676.
- [J38] +McCloy D, E Larson, *AKC Lee (2018). “Auditory attention switching with listening difficulty: Behavioral and pupillometric measures,” *The Journal of the Acoustical Society of America*, **144**(5): 2764-2771. doi: 10.1121/1.5078618
- [J37] *Lee AKC, E Larson, CW Miller (2018). “Effects of hearing loss on maintaining and switching attention,” *Acta Acustica united with Acustica*, **104**: 787-791. doi: 10.3813/AAA.919224
- [J36] +Maddox RK, *AKC Lee (2018). “Auditory brainstem responses to continuous natural speech in human listeners,” *eNeuro* : ENEURO.0441-17.2018. PMC5806592. doi:10.1523/ENEURO.0441-17.2018
- [J35] Atilgan H, SM Town, KC Wood, GP Jones, RK Maddox, ***AKC Lee, JK Bizley (2018). “Integration of visual information in auditory cortex promotes auditory scene analysis through multisensory binding,” *Neuron*, **97**(3): 640-655. PMC5814679. doi: 10.1016/j.neuron.2017.12.034
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- [J33] +McCloy D, +BK Lau, E Larson, KAI Pratt, *AKC Lee (2017). “Pupillometry shows the effort of auditory attention switching,” *Journal of the Acoustical Society of America*, **141**(4): 2440-2451. PMC5848839. doi: 10.1121/1.4979340
- [J32] Hasegawa-Johnson M, P Jyothi, +D McCloy, M Mirbagheri, G di Liberto, A Das, B Ekin, C Liu, V Manohar, H Tang, EC Lalor, N Chen, P Hager, T Kekona, R Sloan, **AKC Lee, (2017). “ASR for under-resourced languages from probabilistic transcription,” *IEEE/ACM Transactions on Audio, Speech and Language Processing*, **25**(1): 50-63. doi: 10.1109/TASLP.2016.2621659

- [J31] ⁺⁺Wronkiewicz M, E Larson, *[AKC Lee](#) (2016). "Incorporating modern neuroscience findings to improve brain-computer interfaces: tracking auditory attention." *Journal of Neural Engineering*, **13**:056017. doi:10.1088/1741-2560/13/5/056017
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- [J29] Bizley J, ⁺RK Maddox, *[AKC Lee](#) (2016). "Defining Auditory-Visual Objects: Behavioral Tests and Physiological Mechanisms." *Trends in Neuroscience*, **39**(2): 74-85. PMC4738154. doi: 10.1016/j.tins.2015.12.007
- [J28] ⁺McCloy D, *[AKC Lee](#) (2015). "Auditory attention strategy depends on target linguistic properties and spatial configuration." *The Journal of the Acoustical Society of America*, **138**(1): 97-114. PMC4499044. doi: 10.1121/1.4922328
- [J27] ⁺Wronkiewicz M, E Larson, *[AKC Lee](#) (2015). "Leveraging anatomical information to improve transfer learning in brain-computer interfaces." *Journal of Neural Engineering*, **12**: 046027. PMC4527978. doi: 10.1088/1741-2560/12/4/046027
- [J26] ⁺Maddox RK, H Atilgan, J Bizley, *[AKC Lee](#) (2015). "Auditory selective attention is enhanced by a task-irrelevant temporally coherent visual stimulus in human listeners." *eLife*, **4**: e04995. PMC4337603. doi: 10.7554/eLife.04995
- [J25] Sacchet M, R LaPlante, Q Wan, D Pritchett, ***[AKC Lee](#), M Hämäläinen, C Moore, C Kerr, and S R Jones (2015). "Attention Drives Synchronization of Alpha and Beta Rhythms Between Right Inferior Frontal and Primary Sensory Neocortex." *Journal of Neuroscience*, **35**: 2074-2082. PMC4315835. doi: 10.1523/JNEUROSCI.1292-14.2015
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- [J17] ⁺Larson E, *[AKC Lee](#) (2013). "Influence of preparation time and pitch separation in switching of auditory attention between streams." *The Journal of the Acoustical Society of America—Express Letters*, **134**(2): EL165-171. PMC3724725. doi: 10.1121/1.4812439
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- [J12] *[Lee AKC](#), ⁺E Larson, ⁺RK Maddox (2012). "Mapping the cortical dynamics involved in auditory attention using simultaneous MEG/EEG and anatomically-constrained minimum-norm estimates." *Journal of Visualized Experiments*: e4262. PMC3490313. doi: 10.3791/4262
- [J11] Bizley J, B Shinn-Cunningham, **[AKC Lee](#) (2012). "Nothing is irrelevant in a noisy world: Sensory illusions reveal obligatory within-and across-modality integration." *Journal of Neuroscience*, **32**(39): 13402-10. PMC3489264. doi: 10.1523/JNEUROSCI.2495-12.2012

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- [J01] Shinn-Cunningham BG, *[AKC Lee](#), AJ Oxenham (2007). "A sound element gets lost in perceptual competition," *Proceedings of the National Academy of Science*, **104** (29): 12223-27. PMC1924568. doi: 10.1073/pnas.0704641104

Conference Papers / Proceedings (Refereed)

- [C85] [Lee AKC](#), D McAlpine (2020). "Opportunities and Challenges in Establishing International Collaboration – a Transpacific Story," *179th Meeting of the Acoustical Society of America*, Chicago, May 11-15, 2020 (cancelled due to COVID-19).
- [C84] [Lee AKC](#) (2020). "Framing undergraduate education approaches in speech and hearing sciences – liberal arts, vocational, or skill-set oriented," *179th Meeting of the Acoustical Society of America*, Chicago, May 11-15, 2020 (cancelled due to COVID-19).
- [C83] Emmons KA, BK Lau, E Larson, S Dager, A Estes, [AKC Lee](#) (2020). "Auditory attention switching difficulty in individuals with autism spectrum disorder," *International Society for Autism Research 2020 Annual Meeting*, Seattle, May 6-9, 2020. (e-poster presentation due to COVID-19).
- [C82] Mamiya PC, T Richards, ERA Edden, [AKC Lee](#), MA Stein, PK Kuhl (2020). "Strength of neural pathways connecting caudate nucleus and anterior cingulate cortex predicts GABA concentrations in Attention-Deficit/Hyperactivity Disorder," *Basal Ganglia – Gordon Research Conference*, Ventura, CA, March 8-13, 2020.
- [C81] An, WW, H Si-Mmohammed, N Huang, H Gamper, [AKC Lee](#), C Holtz, D Johnston, M Jalobeanu, D Emmanouilidou, E Cutrell, A Wilson, I Tashev (2020). "Decoding auditory and tactile attention for use in an EEG-based brain computer interface," *8th International Winter Conference on Brain-Computer Interface*, Korea, Feb 26-28, 2020.
- [C80] Lau, BK, S Taulu, PK Kuhl, [AKC Lee](#) (2020). "The Neural Processing of Sound at 3 Months," *43rd Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Jose, USA, January 25-29, 2020.
- [C79] Lau, BK, S Taulu, PK Kuhl, [AKC Lee](#) (2019). "Infant neural response to speech and tones," *Advances and Perspectives in Auditory Neuroscience*, Chicago, October 18, 2019.
- [C78] Nadkarni R, N Foti, E Larson, E Fox, [AKC Lee](#) (2019). "Inferring Functional Connectivity via a time-varying state-space modeling approach: an Auditory Attention Task Example," *CRCNS PI meeting*, Austin, TX, Sept 2-4, 2019.
- [C77] Lau, BK, A Estes, S Dager, [AKC Lee](#) (2019). "Auditory processing in autism spectrum disorder: probing individual differences with behavioral, audiological, and neurophysiological measures," *International Symposium for Autism Research*, Montreal, Canada, May 6-9, 2019
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- [C74] Ainsworth S, NJ Foti, [AKC Lee](#), EB Fox (2018). “Interpretable VAEs for nonlinear group factor analysis,” *International Conference on Machine Learning (ICML)*, Stockholm, Sweden, July 10-15, 2018.
- [C73] McLaughlin SA, JC Thorne, B Lau [AKC Lee](#) (2018). “Listening Difficulties, Social Reciprocity, and Social Communication Abilities in Adolescents and Adults with FASD,” *International Research Conference on Adolescents and Adults with Fetal Alcohol Spectrum Disorder*, Vancouver, Canada, April 18-21, 2018.
- [C72] Baum S, RK Maddox, E Larson, [AKC Lee](#) (2018). “Temporally Coherent Audiovisual Signals Enhance Auditory Target Processing,” *41st Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 9-14, 2018.
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- [C69] Foti N, R Nadkarni, E Larson, E Fox, [AKC Lee](#) (2017). “Inferring Functional Connectivity with Sparse plus Low-rank Graphical Model: an Auditory Attention Task Example,” *CRCNS PI meeting*, Providence, June 14-16, 2017.
- [C68] McLaughlin SA, JC Thorne, S Astley, [AKC Lee](#) (2017). “Characterizing Central Auditory Processing and Sound-in-Noise Listening Deficits in Individuals with FASD,” *7th International Conference on FASD*, Vancouver, Mar 2-4, 2017.
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- [C61] Nadkarni R., Foti, N. J., Lee, A. K. C. and Fox, E. B. (2016). “Sparse plus low-rank graphical models of time series for functional connectivity in MEG.” *2nd Knowledge Discovery and Data Mining Workshop on Mining and Learning from Time Series*, San Francisco, Aug 14, 2016.
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- [C59] Marrett K, M Wronkiewicz, M Tangermann, [AKC Lee](#) (2016). “A User-Centered Approach for an Auditory P300 Brain-Computer Interface,” *6th International BCI Meeting*, Asilomar, USA, May 30-June 3, 2016.
- [C58] Lau BK, SA McLaughlin, RK Maddox, [AKC Lee](#) (2016). “Assessing Auditory Processing in Adolescents with Behavioral and Electrophysiological Measures,” *Frequency Following Response Workshop*, Boston, USA, May 19-20, 2016.
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- [C56] McLaughlin SA, JC Thorne, [AKC Lee](#) (2016). “Characterizing Auditory Processing in Adolescents and Adults with FASD,” *7th National Biennial Conference on Adolescents and Adults with FASD: Research on Adolescents and Adults: If Not Now, When?* Vancouver, Canada, April 7-9, 2016.
- [C55] Maddox RK, [AKC Lee](#) (2016). “Relating Measured and Self-Assessed Selective Listening Abilities to Behavioral and Electrophysiological Assays of Spatial Coding,” *39th Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 20-24, 2016.
- [C54] Kishline LR, [AKC Lee](#), RK Maddox (2016). “Manipulating the spatial relationship of visual and competing auditory stimuli in the sound-induced flash illusion,” *39th Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 20-24, 2016.
- [C53] Mirbagheri M, B Ekin, L Atlas, [AKC Lee](#) (2015). “Flexible tracking of auditory attention,” *Interspeech 2015*, Dresden, Germany, September 6-10, 2015.

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- [C51] Maddox R, E Larson, [AKC Lee](#) (2015). "In search of neural correlates of audio-visual binding," *16th International Multisensory Research Forum*, Pisa, Italy, June 13-16, 2015.
- [C50] Maddox R, [AKC Lee](#) (2015). "Relating behavioral and electrophysiological measures to spatial release from masking in individual subjects," *38th Mid-Winter Meeting of the Association for Research in Otolaryngology*, Baltimore, USA, February 21-25, 2015.
- [C49] Wronkiewicz M, E Larson, [AKC Lee](#) (2014). "Applying source imaging to advance non-invasive brain-computer interfaces," *IEEE EMBS BRAIN Grand Challenges Conference, Washington DC*, November 13-14, 2014.
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- [C47] Atilgan H, R Maddox, [AKC Lee](#), J Bizley (2014). "Temporal Coherence Leads to the Formation of Auditory-Visual Objects II: Detection of Auditory Timbre Deviants," *37th Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 22-26, 2014.
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- [C44] Ingle K, E Larson, [AKC Lee](#) (2014). "Effects of Reverberation During Attention Switching in Normal Hearing Listeners," *37th Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 22-26, 2014.
- [C43] Larson E, M Kim, [AKC Lee](#) (2014). "Using Pupillometry to Measure Increases in Effort When Switching Attention Between Competing Streams of Degraded Speech," *37th Mid-Winter Meeting of the Association for Research in Otolaryngology*, San Diego, USA, February 22-26, 2014.
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