CURRICULUM VITAE

Daniel A. Abrams

Clinical Associate Professor
Director, Speech and Social Neuroscience Lab
Department of Psychiatry and Behavioral Sciences, Stanford University
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Research Interests

Neural Bases of Social Communication and Language Impairments in Children with ASD Understanding the link between speech perception, social function, and auditory-based brain measures in children with autism spectrum disorders.

Neurobiology of Speech and Language in Children with Reading Impairments Understanding the relationship between speech perception impairments, brain function, and phonological and reading difficulties in children with reading disorders.

Other interests: Speech and language function in typically developing children and adults; central auditory processing of music; single and multi-unit neurophysiology in the ascending auditory system.

Education

Postdoctoral Research, Dept. of Psychiatry & Behav. Sci., Stanford University.
Completed 2013. Advisor: Vinod Menon.

Ph.D. in Communication Sciences and Disorders, Northwestern University.
Graduated 2008. Advisor: Nina Kraus. Dissertation title: “Temporal Features of Speech in the Auditory System.”

Bachelor of Fine Arts, The University of Arizona, Tucson, AZ.
Graduated 1994. Coursework and experience in applied acoustics, music production, and technical theater.

Academic Appointments

2021-present	Clinical Associate Professor, Dept. of Psychiatry & Behav. Sci., Stanford University.
2018-2021	Clinical Assistant Professor, Dept. of Psychiatry & Behav. Sci., Stanford University.
2014-2018	Instructor (Research Faculty), Dept. of Psychiatry & Behav. Sci., Stanford University.

2013-2014 Basic Life Research Scientist, Dept. of Psychiatry & Behav. Sci., Stanford University.

Industry Experience

Acoustical Engineer and Consultant, Thorburn Associates, Castro Valley, CA
1996-1998. Provided architects with acoustical services including sound system design, mechanical noise measurement, and recommendations for room acoustics.

Acoustical Engineer, Renkus-Heinz Inc., Irvine, CA
1994-1996. Measured acoustical properties of concert and commercial loudspeakers; provided technical support for acoustical modeling software, E.A.S.E.

Publications

Abrams DA, Leipold S, Odriozola P, Baker AE, Padmanabhan A, Phillips JM, and Menon V. (in press). Developmental divergence in voice-reward circuitry differentiates autistic from typically developing children and adolescents. *Proceedings of the National Academy of Sciences of the United States of America.*

Abrams DA, Leipold S, Bowling DL. (2026). A Dysfunctional Hub Model of Voice–Reward Integration in Autism. *Trends in Cognitive Science*.

Koegel LK, **Abrams DA**, Tran TN, Koegel RL. (2024). Improving Social Communication in Autistic Adolescents through a Clinic-Home-School Collaboration. *Journal of Autism and Developmental Disorders.* 6(3), 878-891.

Chen L, Liu J, Kang JB, Rosenberg-Lee M, **Abrams DA**, Menon V. (2024). Atypical pattern separation memory and its association with restricted interests and repetitive behaviors in autistic children. *Autism: The International Journal of Research and Practice.* 28(6), 1503-1518.

Liu J, Chang H, **Abrams DA**, Kang JB, Chen L, Rosenberg-Lee M, Menon V. (2023). Atypical cognitive training-induced learning and brain plasticity and their relation to insistence on sameness in children with autism. *eLife*. 12:e86035.

Liu J, Chen L, Chang H, Rudoler J, Al-Zughoul AB, Kang JB, **Abrams DA**, Menon V. (2023). Replicable patterns of memory impairments in children with autism and their links to hyperconnected brain circuits. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging;* S2451-9022(23)00121-0.

Leipold S*, **Abrams DA***, Karraker S, Menon V. (2023). Aberrant emotional prosody circuitry predicts social communication impairments in children with autism. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging.* 8(5), 531-541.
*equal contributions

Abrams DA*, Mistry P*, Baker AE, Padmanabhan P, Menon V. (2022) A neurodevelopmental shift in reward circuitry from mother's to nonfamilial voices in adolescence. *Journal of Neuroscience,* 42 (20), 4164-4173. *equal contributions

Leipold S*, **Abrams DA***, Karraker S, Menon V. (2022) Neural decoding of emotional prosody in voice-sensitive auditory cortex predicts social communication abilities in children. *Cerebral Cortex*. *equal contributions

Leipold S, **Abrams DA**, Menon V. (2022). Mothers adapt their voice during children's adolescent development. *Scientific Reports,* 12, 951.

Butwick AJ, **Abrams DA**, Wong CA. (2022). Epidural Labour Analgesia and Autism Spectrum Disorder: Is the Current Evidence Sufficient to Dismiss an Association? *British Journal of Anaesthesia,* S0007-0912(21)00806-0.

Abrams DA, Kochalka J, Bhide S, Ryali S, Menon V. (2020). Intrinsic functional architecture of the human speech processing network. *Cortex*, 129, 41-56.

Abrams DA, Padmanabhan A, Chen T, Odriozola P, Baker AE, Kochalka J, Phillips, J, Menon V (2019). Impaired voice processing in reward and salience circuits predicts social communication in children with autism. *eLife,* 8:e39906.

Chen L*, Wassermann D*, **Abrams DA*,** Kochalka J, Gallardo-Diez G, Menon V (2019). The visual word form area (VWFA) is part of both language and attention circuitry. *Nature Communications,* 10. *equal contributions

Gengoux G, **Abrams DA**, Schuck R, Millan ME, Libove R, Ardel CM, Phillips JM, Fox M, Frazier TW, Hardan AY (2019). A Pivotal Response Treatment package for children with autism spectrum disorder: An RCT. *Pediatrics,* 144 (3).

Chen L, **Abrams DA**, Rosenberg-Lee M, Iuculano T, Wakeman HN, Chen T, and Menon V (2019). Quantitative analysis of heterogeneity in academic achievement of children with autism. *Clinical Psychological Science*, 7(2), 362-380.

Skeide MA, Evans TM, Mei EZ, **Abrams DA**, Menon V. (2018). Neural signatures of co-occurring reading and mathematical deficits. *Developmental Science*. PMID: 29920856

Abrams DA, Nicol T, White-Schwoch T, Hartmann M, Zecker S, Kraus N. (2017) Population responses in primary auditory cortex simultaneously represent the temporal envelope and periodicity features in natural speech. *Hearing Research*. 348, 31-43. PMID: 28216125

White-Schwoch T, Nicol T, Warrier CM, **Abrams DA**, Kraus N. (2017) Individual differences in human auditory processing: Insights from single-trial auditory midbrain activity in an animal model. *Cerebral Cortex.* 27(11), 5095–5115. PMID: 28334187

Abrams DA, Chen T, Odriozola P, Cheng KM, Baker AE, Padmanabhan A, Ryali S, Kochalka J, Feinstein C, Menon V (2016). Neural circuits underlying mother's voice perception predict social communication abilities in children. *Proceedings of the National Academy of Sciences of the United States of America*. 113, 6295-6300. PMID: 27185915

Uddin LQ, Supekar K, Lynch CJ, Cheng KM, Odriozola P, Barth ME, Phillips J, Feinstein C, **Abrams DA**, Menon V (2015). Brain state differentiation and behavioral inflexibility in autism. *Cerebral Cortex*, 25(12), 4740-7. PMID: 25073720

Abrams DA, Kraus N. (2014) Auditory pathway representation of speech sounds in humans. In: *Handbook of Clinical Audiology*, 7th edition. Katz J, Hood L, Burkard R, Medwetsky L (eds.).

Abrams DA, Lynch CJ, Cheng KM, Phillips J, Supekar S, Ryali S, Uddin LQ, Menon V. (2013) Underconnectivity between voice-selective cortex and reward circuitry in children with autism. *Proceedings of the National Academy of Sciences*, 110(29), 12060-12065. PMID: 23776244

Abrams DA, Uddin LQ, Menon V. (2013) Reply to Brock: Renewed focus on the voice and social reward in children with autism. *Proceedings of the National Academy of Sciences*, 110(42), E3974. PMID: 24278966

Abrams DA, Ryali S, Chen T, Chordia P, Levitin DJ, Menon V. (2013) Inter-subject synchronization of brain responses during natural music listening. *European Journal of Neuroscience*, 37(9), 1458-1469. PMID: 23578016

Abrams DA, Ryali S, Chen T, Menon V. (2013) Multivariate activation and connectivity patterns discriminate speech intelligibility in Wernicke's, Broca's, and Geschwind's Areas. *Cerebral Cortex*, 23(7), 1703-1714. PMID: 22693339

Ashkenazi S, Black JM, **Abrams DA**, Hoeft F, Menon V. (2013) Neurobiological underpinnings of math and reading learning disabilities. *Journal of Learning Disabilities*. PMID: 23572008

Abrams DA, Bhatara AK, Ryali S, Balaban E, Levitin DJ, Menon V. (2011) Decoding temporal structure in music and speech relies on shared brain resources but elicits different fine-scale spatial patterns. *Cerebral Cortex*, 21(7), 1507-1518. PMID: 21071617

Warrier CM, **Abrams DA**, Nicol TG, Kraus N. (2011) Inferior colliculus contributions to phase encoding of stop consonants in an animal model. *Hearing Research*, 282(1-2), 108-118. PMID: 21945200

Abrams DA, Nicol T, Zecker S, Kraus N. (2011) A possible role for the paralemniscal auditory pathway in the coding of slow temporal information. *Hearing Research*, 272(1-2), 125-134. PMID: 21094680

Ryali S, Supekar K, **Abrams DA**, Menon V. (2010) Sparse logistic regression for whole brain classification of fMRI data. *NeuroImage*, 51(2), 752-64. PMID: 20188193

Abrams DA, Nicol T, Zecker S, Kraus N. (2010) Rapid acoustic processing in the auditory brainstem is not related to cortical asymmetry for the syllable rate of speech. *Clinical Neurophysiology*, 121(8), 1343–1350. PMID: 20378402

Abrams DA, Nicol T, Zecker S, Kraus N. (2009) Abnormal cortical processing of the syllable rate of speech in poor readers. *Journal of Neuroscience*, 29(24), 7686-7693. PMID: 19535580

Warrier C, Wong P, Penhune V, Zatorre R, Parrish T, **Abrams D**, Kraus N. (2009) Relating structure to function: Heschl's gyrus and acoustic processing. *Journal of Neuroscience*, 29(1), 61-69. PMID: 19129385

Abrams D, Kraus N. (2009) Auditory pathway representation of speech sounds in humans. In: *Handbook of Clinical Audiology*, 6th edition. Katz J, Hood L, Burkard R, Medwetsky L (eds.). pp 611-626.

Abrams DA, Nicol T, Zecker S, Kraus N. (2008) Right-hemisphere auditory cortex is dominant for coding syllable patterns in speech. *Journal of Neuroscience*, 28(15), 3958-3965. PMID: 18400895

Banai K, **Abrams D**, Kraus N. (2007) Speech evoked brainstem responses and sensory-based accounts of learning disability. *International Journal of Audiology*, 46(9), 524 – 532. PMID: 17828668

Abrams DA, Nicol T, Zecker S, Kraus N. (2006) Auditory brainstem timing predicts cerebral asymmetry for speech sounds. *Journal of Neuroscience*, 26(43), 11131-11137. PMID: 17065453

Fellowships and Grants

Awarded

Title: Social engagement via parent training: a novel intervention for examining plasticity of social reward brain circuits in high functioning and minimally verbal children with autism (PI: Abrams)

Aim: To investigate plasticity of voice-reward brain circuitry in children with ASD following a novel behavioral intervention that uses motivational teaching strategies and natural speech reinforcers to promote social interactions.
Agency: Anonymous donor gift
Dates: 01/01/21 – 12/31/25
Role: Principal Investigator (PI)

Title: Speaker-listener brain synchronization during naturalistic verbal communication in children with autism and neurotypical children (PI: Abrams)
Aim: To examine brain function in children with ASD and neurotypical children during naturalistic communication with a focus on anticipatory and integrative aspects of speech comprehension
Agency: Anonymous donor gift
Dates: 01/01/21 – 12/31/24
Role: Principal Investigator (PI)

Title: Speaker-listener coupling and brain dynamics during naturalistic verbal communication in children with autism (mPIs: Abrams, Menon)
Aim: To examine brain function in children with ASD during naturalistic communication with a focus on anticipatory and integrative aspects of speech comprehension
Agency: NIH/National Institute on Deafness and Other Communication
Grant Number: R21DC017950
Dates: 04/01/20 – 03/31/22
Role: Principal Investigator (mPI)

Title: Speaker-listener coupling and brain dynamics during naturalistic verbal communication in Alzheimer's Disease (mPIs: Abrams, Menon)
Aim: To examine brain function in individuals with Alzheimer's Disease during naturalistic communication with a focus on mnemonic, anticipatory, and integrative aspects of speech comprehension
Agency: NIH/National Institute on Deafness and Other Communication
Grant Number: R21DC017950-02S1
Dates: 04/01/20 – 03/31/22
Role: Principal Investigator (mPI)

Title: Tuning into Learner Differences in Sensory vs. Integrative Experiences of the World: Crossing Boundaries of Speech and Music (PIs: McCandliss, Abrams)
Aim: To investigate individual differences in how children's brains process sensory level details during speech and music processing and integrate this information over time to extract meaning.
Agency: Stanford Graduate School of Education Transforming Learning Accelerator
Dates: 09/01/21 – 08/31/22

Role: Principal Investigator (mPI)

Title: Sex differences in voice processing systems in autism: A brain networks approach to uncover neuroprotective signatures of social function in girls (PI: Abrams)
Aim: To examine the integrity of voice-processing brain systems in female children with ASD
Agency: Brain and Behavior Research Foundation (NARSAD)
Dates: 01/15/2019 – 01/14/2021
Role: Principal Investigator

Title: Connectivity of voice processing brain networks in female children with autism and its link to social communication abilities (PI: Abrams)
Aim: To examine the integrity of voice-processing brain systems in female children with ASD
Agency: Stanford Women and Sex Differences in Medicine (WSDM) Seed Grant
Dates: 10/01/2017 – 09/30/2018
Role: Principal Investigator

Title: Longitudinal development of brain systems underlying voice processing in children with ASD (PI: Abrams)
Aim: To examine the development of voice processing in children and adolescents with ASD
Agency: Stanford Child Health Research Institute (CHRI) Pilot Early Career Award
Dates: 02/01/2017 – 01/31/2018
Role: Principal Investigator

Title: Decoding neural systems underlying affective prosody in children with autism (PI: Abrams)
Aim: To examine the structural and functional brain bases of emotional speech perception in children with autism.
Agency: NIH/National Institute of Mental Health
Grant Number: 1K01MH102428-01A1
Dates: 07/01/14 - 06/30/17
Role: Principal Investigator

Title: Decoding affective prosody and communication circuits in autism (PI: Menon)
Aim: To examine the structural and functional brain bases of emotional speech perception in children with autism.
Agency: Simons Foundation Autism Research Initiative
Grant Number:
Dates: 07/01/14 - 06/30/17
Role: Research Scientist; Co-wrote this proposal with Dr. Menon

Title: Decoding 'what' and 'who' in the auditory system of children with autism spectrum disorders (PI: Menon)
Aim: To examine the neural basis of auditory information processing deficits in children with autism.
Agency: NIH/National Institute on Deafness and Other Communication Disorders
Grant Number: 1R21DC011095-01A1
Dates: 02/04/11 – 01/31/13
Role: Research Fellow; Co-wrote this proposal with Dr. Menon

Title: Decoding temporal features of speech in the auditory system using fMRI (PI: Abrams)
Aim: To examine brainstem and cortical decoding of two perceptually-relevant ranges of temporal modulations in speech.
Agency: NIH/National Institute on Deafness and Other Communication Disorders
Grant Number: 1F32DC010322-01A2
Dates: 07/01/10 - 06/30/12
Role: Principal Investigator

Title: Epilepsy Training Program (PI: Huguenard)
Aim: To examine the interrelationship between the medial and lateral temporal lobe structures using electrocorticography (ECoG) in patients with epilepsy.
Agency: NIH/National Institute of Neurological Disorders and Stroke
Grant Number: 5T32NS007280-25
Dates: 06/16/09 - 05/18/10
Role: Research Fellow

Title: Neural Timing to Speech Sounds: Envelope Cues (PI: Kraus)
Aim: To develop a neurophysiologic measure of speech-envelope phase-locking in the human auditory system and use this tool to examine typically-developing children and children with reading impairments.
Agency: National Organization for Hearing Research Foundation
Grant Number: 340-B208
Dates: 01/01/06 - 12/31/06
Role: Project Coordinator; Co-wrote this proposal with Dr. Kraus to fund my dissertation work

Title: Research Training in Neuroscience (PI: Peterson)
Aim: To examine the relationship between brainstem and cortical processing of rapid acoustic information in speech in typically-developing children and children with reading impairments.
Agency: NIH/National Institute on Deafness and Other Communication Disorders
Grant Number: 5T32DC000015-20
Dates: 06/01/02 - 05/31/03
Role: Research Fellow

Title: University Fellowship
Aim: To perform research on typically-developing children and children with language disorders in preparation for Predoctoral Qualifying Examination.
Agency: Northwestern University
Dates: 09/01/00 - 08/31/01
Role: Research Fellow

Presentations

Invited Lectures and Organized Symposia

Abrams DA. Helping Children with Autism Tune Into Voices: What Brain Science Reveals About Communication. Autism Research Institute Webinar, June 2026.

Abrams DA. From Sound to Social Representations: Neural Processing of Naturalistic Speech in Autism. Stanford Hearing Seminar, Stanford Center for Computer Research in Music and Acoustics (CCRMA), May 2026, Stanford, CA.

Abrams DA. Helping Children with Autism Tune into Voices. Brain and Behavior Research Foundation (BBRF), March 2026, Online webinar.

Abrams DA. Voice, social motivation, and learning differences. AI+Education Summit, Stanford Accelerator for Learning February 2026, Stanford, CA.

Abrams DA. Brain networks for voice processing and social reward in children with autism. Stanford Department of Psychiatry Retreat, May 2025, Stanford, CA.

Abrams DA. Engagement of the social brain during naturalistic communication: Implications for child development and autism. Guest Lecture, Northwestern University, March 2025, Evanston, IL.

Abrams DA. Targeting social communication in autistic adolescents: intervention and neuroscience research. Stanford Autism Update, March 2024, Stanford, CA.

Abrams DA. Voice processing brain systems: a window into social communication in children with autism. UCLA CART Distinguished Lecture Series, November 2023, Los Angeles, CA.

Abrams DA. Voice processing brain systems: a window into social communication in children with autism. Symposium for Cognitive Auditory Neuroscience, November 2022, organized by University of Pittsburgh and CMU but held virtually.

Abrams DA. Voice processing brain systems: a window into communication deficits and social cognition in children with autism. Stanford Autism Update, April 2021, Stanford, CA.

Abrams DA. Temporal processing of speech in typically developing children and children with reading difficulties. Educational Neuroscience Seminar, March 2021, Stanford University, Stanford, CA.

Abrams DA. Voice processing: a window into children's social brain. Seminar for the Youth Medical Association (YMA), January 2021, Menlo Park, CA.

Abrams DA. Inter-subject synchronization of brain responses during natural music listening. Masterclass for Western Region of the American Music Therapy Association for Students (WRAMTAS), December 2019, Stanford, CA.

Abrams DA. Voice processing brain systems: a window into communication deficits and social motivation in children and adolescents with autism. August 2019, University of Pittsburgh, Pittsburgh, PA.

Abrams DA. Voice processing brain systems: a window into communication deficits and social motivation in children and adolescents with autism. Stanford Autism Working Group, April 2019, Stanford, CA.

Abrams DA. Brain systems for human voice perception in children with autism spectrum disorders. Bing Bash, January 2017, Center for Computer Research in Music and Acoustics, Stanford University, Stanford, CA.

Abrams DA. How brain science can help improve speech perception in children with an autism spectrum disorder. February 2016, Stanford University Phonetics and Phonology Workshop, Stanford, CA.

Abrams DA. Brain systems for speech perception in children with autism spectrum disorders. NCCR SYNAPSY 4th Symposium on Autism, June 2015, Geneva, Switzerland.

Abrams DA. How brain science can help improve speech perception in children with an autism spectrum disorder. Stanford Autism Update, April 2015, Stanford, CA.

Abrams DA. Brain Systems for Speech and Language in Children with Autism Spectrum Disorders. April 2015, The MIND Institute, University of California – Davis, Davis, CA.

Abrams DA. Brain Systems for Speech and Language in Children with Autism Spectrum Disorders. March 2015, University of Michigan, Ann Arbor, MI.

Abrams DA. Brain Systems for Speech and Language in Children with Autism Spectrum Disorders. February 2015, University of Washington, Seattle, WA.

Abrams DA. Brain Systems for Speech and Language in Children with Autism Spectrum Disorders. January 2014, Columbia University, New York.

Abrams DA. Cognitive Deficits: Speech and Language in Autism. 6th Annual Autism Spectrum Disorder Update, June 2013, Packard Children's Hospital, Stanford University, Stanford, CA.

Abrams DA and Chandrasekaran B. Short and long-term neural plasticity in the auditory brainstem. Symposium organized for Association for Research in Otolaryngology Mid-Winter Meeting, February 2013, Baltimore, MD.

Abrams DA, Kaneshiro B, Berger J, Menon V. Predictive coding the human auditory brainstem: implications for neural plasticity. Association for Research in Otolaryngology Mid-Winter Meeting, February 2013, Baltimore, MD.

Abrams, DA. Brain Systems for Speech and Language. December 2012, University of Texas – Austin, Austin, TX.

Abrams DA, Ryali S, Balaban E, Levitin DK, Menon V. New evidence for a fronto-parietal network in processing intelligible speech. I-Poster presentation, Human Brain Mapping Conference, June 2011, Quebec City, Canada.

Abrams DA, Kraus N. Cognitive-sensory interaction in the neural encoding of music and speech. Stanford Music and the Brain Symposium April 2009, SiCa Center for Arts, Stanford University, Stanford, CA.

Poster and Podium Presentations

Abrams DA, Padmanabhan A, Baker AE, Karraker S, Menon V**.** Distinct neural signatures in social brain circuitry in female children with ASD, presented at The International Meeting for Autism Research, May 2019, Montreal, Quebec, Canada.

Abrams DA. Cross-sectional development of voice-processing brain systems in children and adolescents with autism, presented at Child Health Research Institute Symposium, November 2018, Stanford University, Stanford, CA.

Abrams DA, Kochalka J, Chen T, Bhide S, Evans T, Ryali S, Menon V. Intrinsic functional architecture of Wernicke's, Broca's, and Geschwind's areas of the human speech comprehension network, presented at the 6th International Conference on Auditory Cortex, September 2017, Banff, Canada.

Abrams DA, Kochalka J, Chen T, Bhide S, Evans T, Ryali S, Menon V. Intrinsic functional architecture of Wernicke's, Broca's, and Geschwind's areas of the human

speech comprehension network, presented at the Human Brain Mapping Annual Meeting, June 2017, Vancouver, Canada.

White-Schwoch T, Nicol T, **Abrams DA**, Warrier CM, Kraus N. Phase-synchronized responses to speech in the guinea pig inferior colliculus extend past 3000 Hz, presented at the Annual MidWinter Meeting of the Association for Research in Otolaryngology, February 2017, Baltimore, MD.

Baker AE, Padmanabhan A, Odriozola P, **Abrams DA**, Menon V. Social reward and voice processing brain systems in cross sectional development, presented at Flux Congress, September 2016, St. Louis, MO.

White-Schwoch T, Nicol T, Warrier CM, **Abrams DA**, Kraus N. What makes an FFR? The uncanny resemblance between inferior colliculus activity and human scalp recordings, presented at the 2nd Frequency Following Response Workshop, May 2016, Boston University. Boston, MA.

Baker AE, Padmanabhan A, Odriozola P, **Abrams DA**, Menon V. Cross-sectional development of voice processing brain systems in autism, presented at International Meeting for Autism Research, May 2016, Baltimore, MD.

White-Schwoch T, Nicol T, Warrier CM, **Abrams DA**, Kraus N. 'Unjittering' midbrain activity boosts the representation of speech formant structure, presented at ARO MidWinter Meeting, February 2016, San Diego, CA.

Abrams DA, Bhide S, Chen T, Ryali S, Kochalka J, Menon V. Intrinsic connectivity of human auditory cortex: Testing the Dual-Stream model of auditory processing, presented at the Human Brain Mapping Annual Meeting, June 2015, Honolulu, HI.

Abrams DA, Odriozola P, Chen T, Ryali S, Kochalka J, Feinstein C, Phillips J, Menon V. Rewarding speech sounds elicit reduced nucleus accumbens and amygdala activity and connectivity in children with autism, presented at the Human Brain Mapping Annual Meeting, June 2015, Honolulu, HI.

Odriozola P, **Abrams DA**, Menon V. Pragmatic language ability is related to amygdala connectivity in children with autism, presented at the Human Brain Mapping Annual Meeting, June 2015, Honolulu, HI.

Abrams DA, Chen T, Odriozola P, Cheng KM, Ryali S, Menon V. Familiar speech sounds elicit reduced brain activity in the reward circuit and amygdala in children with autism, presented at the International Meeting for Autism Research, May 2015, Salt Lake City, UT.

Rosenberg-Lee M, Uddin LQ, Qin S, **Abrams DA**, Odriozola P, Phillips J, Feinstein C, Menon V. Hippocampal-parietal hyper-connectivity predicts visual-spatial abilities

in children with autism, presented at International Meeting for Autism Research, May 2014, Atlanta, GA.

Abrams DA, Lynch CJ, Cheng KM, Phillips J, Supekar S, Ryali S, Uddin LQ, Menon V. Under-connectivity between voice-selective cortex and reward circuitry in children with autism, presented at Bay Area Autism Consortium Annual Meeting, April 2013, Palo Alto, CA.

Abrams DA, Ryali S, Balaban E, Levitin D, Menon V. New evidence for a fronto-parietal network in processing intelligible speech, presented at Human Brain Mapping Annual Meeting, June 2011, Quebec City, Quebec, Canada.

Ryali S, Chen T, Supekar K, **Abrams DA**, Menon V.Estimation of sparse partial correlation in fMRI data using elastic net penalty, presented at Human Brain Mapping Annual Meeting, June 2011, Quebec City, Quebec, Canada.

Abrams DA, Bhatara A, Ryali S, Balaban E, Levitin D, Menon V. Music and speech structure engage shared brain resources but elicit different activity patterns, presented at the 3rd International Conference on Auditory Cortex, August 2009, Madgeburg, Germany.

Abrams DA, Ryali S, Chordia P, Levitin D, Menon V. Neural synchrony across listeners during natural listening conditions, presented at the 3rd International Conference on Auditory Cortex, August 2009, Madgeburg, Germany.

Abrams DA, Bhatara A, Ryali S, Balaban E, Levitin D, Menon V. Decoding the distributed neural substrates of temporal structure in music and speech: Beyond the shared syntactic integration resource hypothesis, presented at Human Brain Mapping Annual Meeting, June 2009, San Francisco, CA.

Nicol T, **Abrams DA**, Kraus N. Low-frequency phase coherence in near- and far-field midbrain responses reveals high-frequency formant structure in consonant-vowel syllables, presented at the Mid-Winter meeting of the Association for Research in Otolaryngology, February 2009, Baltimore, MD.

Abrams DA, Nicol T, Zecker S, Hartmann M, Kraus N. Primary and non-primary cortical encoding of the speech envelope: Implications for neural representation and perception in humans, presented at the Mid-Winter meeting of the Association for Research in Otolaryngology, February 2007, Denver, CO.

Banai K, Musacchia G, **Abrams DA**, Skoe E, Kraus N. Biological markers of literacy: timing and magnitude measures of the speech-evoked brainstem response, presented at Cognitive Neuroscience Society Meeting, April 2006, San Francisco, CA.

Abrams DA, Nicol T, Kraus, N. A role for the non-primary auditory pathway in the encoding of slow temporal information: implications for speech envelope encoding, presented at the Mid-Winter meeting of the Association for Research in Otolaryngology, February 2005, New Orleans, LA.

Abrams DA, Nicol T, Kraus, N. Cortical responses to the temporal envelope of speech and speech-like stimuli in humans, presented at the International Conference on Auditory Cortex, August 2003, Madgeburg, Germany.

Hayes E, **Abrams DA**, Zecker S, Kraus N. Effects of training on lateral representation of speech sounds in learning-impaired children, presented at the Mid-Winter meeting of the Association for Research in Otolaryngology, February 2003, Daytona Beach, FL.

Hayes E, **Abrams DA**, Zecker S, Kraus N. Training of language impaired children: cognitive, perceptual and physiologic change, presented at American Speech and Hearing Association Technical Session, Chicago, IL, November 2003.

Abrams DA, Nicol TG, Kraus N. Patterns of hemispheric asymmetry in response to speech sounds in normal and learning-impaired subjects, presented at the Mid-Winter meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, FL, February 2002.

Teaching Experience

Abrams DA. Why Voices Matter: What Brain Science Reveals About Human Communication and Neurodiversity. Stanford Neurodiversity Project - Research, Education, and Advocacy Camp for High Schoolers (SNP-REACH), Stanford Department of Psychiatry, July 2026.

Abrams DA. From Sound to Social Connection: How the Brain Processes Voices. Clinical Neuroscience Immersion Experience (CNI-X), Stanford Department of Psychiatry, June, July 2026.

- Note: student evaluations available for my efforts with these classes.

Abrams DA. From Sound to Social Representations: Neural Processing of Naturalistic Speech in Autism. Laura Gwilliams Lab Presentation, Psychology Dept., May 2026, Stanford, CA.

Abrams DA. Why Voices Matter: What Brain Science Reveals About Human Communication and Neurodiversity. Nueva High School (San Mateo, CA), March 2026.

Abrams DA. Atypical development of vocal reward and salience circuits in adolescents with autism. Stanford Department of Interdisciplinary Brain Sciences, December 2025, Stanford, CA.

Abrams DA. Brain networks for social processing and reward in children with autism. University of Wisconsin at Madison, Department of Communication Sciences and Disorders, Neuroscience of Speech Language and Hearing course, Dec 2025.

Abrams DA. Engagement of the Social Brain During Naturalistic Communication. Clinical Neuroscience Immersion Experience (CNI-X), Stanford Department of Psychiatry, July 2025.

- Note: student evaluations available for my efforts with these classes.

Abrams DA. Brain networks for voice processing and social reward in children with autism. Division of Interdisciplinary Brain Sciences Summer Lecture Series, Stanford Department of Psychiatry, July 2025.

- Note: student evaluations available for my efforts with this class.

Abrams DA. Engagement of the Social Brain During Naturalistic Communication. Stanford Neurodiversity Project - Research, Education, and Advocacy Camp for High Schoolers (SNP-REACH), Stanford Department of Psychiatry, July 2025.

Assisted in teaching Human Biology 164, Stanford University, Fall semester, 2022-2025.

- Note: student evaluations available for my efforts with this class.

Topic Leader on Savant Skills in Autism Spectrum Disorders, Human Biology 164, Stanford University, October 2019-2025.

Abrams DA. Individual Differences in Human Brains and Minds. Psyc 20Q, Stanford University, Spring semester, 2023.

- Note: student evaluations available for my efforts with this class.

Abrams DA. A brief tour of the auditory system: anatomy, physiology, filtering, and prediction. Psyc 20Q, Stanford University, Spring semester, 2023.

- Note: student evaluations available for my efforts with this class.

Abrams DA. Extracting brainstem components of the EEG evoked by continuous and naturalistic speech. EEG and Educational Neuroscience Seminar, February 2023, Stanford University, Stanford, CA.

Abrams DA. Voice processing brain systems: a window into communication deficits and social cognition in children with autism. Lecture for Musical Engagement, Music 264, April 2022, Stanford University, Stanford, CA.

Abrams DA. Seminar on fMRI data analysis for auditory research. August 2019, Department of Communication Science and Disorders, University of Pittsburgh.

Abrams DA. Voice processing brain systems: a window into communication deficits and social motivation in children and adolescents with autism. April 2019, Postdoctoral Lecture Series, Stanford, CA.

Radio interview with Julie Motz on our autism research, Hot Tech - Cool Science, KWMR-FM, March 28, 2019.

Lecture on Autism Spectrum Disorder and Careers in Neuroscience to Cupertino High School Students, Stanford University, March 2019.

Lecture on Autism Spectrum Disorders, Human Biology 164, Stanford University, October 2018.

Lectures on Autism Spectrum Disorders and the Brain, Advanced Scientific Methods Course, Monta Vista High School, Cupertino, CA, November 2013, January 2015.

Lecture on Cognitive-sensory interaction in the neural encoding of music and speech, Psychophysics and Music Cognition course, Stanford University, March 2011.

Lecture on EEG methods, Topics in Cognition and Learning: Educational Neuroscience, Stanford University, September 2010.

Lecture on evolution of the mammalian auditory system, Biology, Psychology, and Evolution of Music in Humans course, Stanford University, January 2009.

Lecture on EEG methods, Neuroscience of Music course, Stanford University, January 2009.

Lecture on anatomy and physiology of the peripheral and central auditory systems, Neuroscience of Music course, Stanford University, January 2009.

Teacher's Assistant for Biological Foundations for Speech and Music class, Northwestern University, Nina Kraus, course instructor (Winter Quarter 2003-2005). Responsibilities included scheduling course lecturers, assembling readings, grading weekly quizzes and midterm/final exams, and answering students' questions on course material.

Lecture on plasticity of somatosensory cortex, Northwestern University, June 2002, June 2003, March 2004, March 2005, March 2006, March 2007, Feb 2008.

Lecture on hemispheric dominance, Central Auditory Physiology class, Northwestern University, May 2002.

Lab Instructor for Central Auditory Physiology class, Northwestern University, Nina Kraus, course instructor. Spring Quarter 2001, 2002. Responsibilities included preparing and giving biweekly lectures, designing lab assignments for measurement and analysis of evoked potential in humans, and test writing and grading. Anonymous reviews from students averaged a score of 5.2 out of a possible 6.

Mentoring Experience and Award

2022 – present: Organized mentoring and lunch sessions to discuss career paths and challenges in academia for postdoctoral researchers in the Department of Psychiatry and Behavioral Sciences at Stanford.

Mentored a high-school senior on a brain imaging project, entitled “Deconstructing the Neural Correlates of Amplitude, Tonal, and Rhythmic Structure in Beethoven's 5th Symphony.” This student was named a finalist in the 2012-13 Siemens Competition in Math, Science and Technology for this work and the Siemens Foundation recognized me for my efforts.

I have extensive experience mentoring students at all levels of education, from grade school through postdoctoral researchers.

Service

May 2026	*Ad Hoc* Reviewer for Stanford Maternal & Child Health Research Institute (MCHRI) fellowships.
2021 - present	Appointment and Promotions Committee for Clinician Educators, Department of Psychiatry and Behavioral Sciences, Stanford University
2020-present	Member of Well-being Advisory Committee, Department of Psychiatry and Behavioral Sciences, Stanford University
February 2023	*Ad Hoc* Reviewer for NIH Language and Communication (LCOM) Study Section
February 2022	*Ad Hoc* Reviewer for NIDCD Fellowship applications (F30, F31, F32) in Voice, Speech and Language
June 2021	*Ad Hoc* Reviewer for NIH Language and Communication (LCOM) Study Section

January 2021	*Ad Hoc* Reviewer for the Swiss National Science Foundation
June 2020	*Ad Hoc* Reviewer for NIH Child Psychopathology and Developmental Disabilities (CPDD) Study Section
2020-2022	Member of COVID-19 Childcare Workgroup, Department of Psychiatry and Behavioral Sciences, Stanford University
2020-2022	Member of Advisory Board for Youth Medical Association (YMA), an organization to help high school students in the Bay Area pursue their interest in medicine.

Ad hoc manuscript reviewer for: *Current Biology (July 2014; Feb 2026; April 2026; July 2026)*, *PNAS (April 2023, November 2020; May 2015)*, *Nature Communications (September 2020; October 2020; October 2023; Jan 2026)*, *Science Advances (October 2023), Annals of Neurology (August 2017)*, *eLife (May 2019), Journal of Neuroscience (July 2012; July 2014; July 2016; June 2017), Cerebral Cortex (February 2012, October 2014; February 2017) Journal of Neurophysiology (July 2010; October 2023; July 2024; May 2025), European Journal of Neuroscience (July 2025), Ear and Hearing (March 2020), Brain and Language (March 2011), Hearing Research (June 2013), Frontiers in Human Neuroscience (June 2014), Human Brain Mapping (June 2019), Imaging Neuroscience (July 2025), NeuroImage (October 2013; January 2020;* February 2022; *March 2023, July 2023), Neuropsychologia (July 2018), Neuroscience & Biobehavioral Reviews (Sept 2013), Journal of Speech, Language, and Hearing Research (July 2018; March 2025), Molecular Autism (Dec 2018); Aperture (September 2021); Journal of Autism and Developmental Disorders (October 2022 [2 papers]; November 2023; March 2026, May 2026); American Psychologist (October 2022), Autism (Jan 2023).*