

Sasha Devore

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Research Interests

Sensory neurophysiology and the neural basis for perception. In particular, the neural basis of audition. Computational models of neural processing.

Academic Experience

2003-	Candidate for Ph.D.	Harvard-MIT Division of Health Science and Technology
	Thesis Advisor: Bertrand Delgutte, Ph.D.	
	Thesis (working title): <i>Effects of Reverberation on Neural Sensitivity to Interaural Time Differences in the Mammalian Auditory Midbrain</i>	
2004	M.Eng., Electrical Engineering	Massachusetts Institute of Technology
2001	S.B., Electrical Engineering	Massachusetts Institute of Technology

Research Experience

2004-	Neural Coding Laboratory	Eaton-Peabody Laboratory
	Advisor: <i>Bertrand Delgutte, Ph.D.</i>	
	<ul style="list-style-type: none">▪ Developed awake dutch-belted rabbit (<i>Oryctolagus cuniculus</i>) preparation for auditory neurophysiological experiments▪ Single-unit extracellular recordings in auditory midbrain of small mammals using virtual auditory space simulation techniques▪ Computational modeling to relate neuronal responses to human perception	
2001-	Auditory Neuroscience Laboratory	Boston University
	Advisors: <i>Barbara G. Shinn-Cunningham, Ph.D. and Nathaniel I. Durlach</i>	
	Human behavioral experiments examining	
	<ul style="list-style-type: none">▪ role of spatial cues in sound source detection and identification in reverberation▪ sound localization in reverberation▪ temporal factors influencing sound localization in reverberation	
1999-2001	Speech Communication Group	Massachusetts Institute of Technology
	Advisor: <i>Stefanie Shattuck-Hufnagel, Ph.D.</i>	
	<ul style="list-style-type: none">▪ Comparative analysis of acoustic landmarks in conversational and clean speech	

Awards

- Helen Carr Peake Graduate Research Fellowship (2007-2008)

Publications

1. **Devore, S**, A. Ihlefeld, B.G. Shinn-Cunningham, and B. Delgutte (2007). "Neural and behavioral sensitivities to azimuth degrade similarly with distance in reverberant environments." *Hearing – From Basic Research to Applications*. Kollmeier et al. (eds). Springer Verlag: New York, pp. 505-516.
2. J Ahveninen, Jääskeläinen IP, Rajj T, Bonmassar G, **Devore S**, Hämäläinen M, Levänen S, Lin FH, Sams M, Shinn-Cunningham B, Witzel T, and Belliveau JW (2006). "Task-Modulated "what" and "where" pathways in human auditory cortex." *Proc. Natl. Acad. Sci.*, 103(39): 14608-13.
3. **Devore, S** and BG Shinn-Cunningham (2003). "Perceptual consequences of including reverberation in spatial auditory displays." *Proc. of the International Conf. on Auditory Display*, Boston, MA, 6-9 July, 2003, 75-78.

Conference Abstracts

1. **Devore, S.** and B. Delgutte (2008). "Effects of reverberation on neuronal sensitivity to fine time structure and envelope ITD in the inferior colliculus of awake rabbit." *Association for Research in Otolaryngology MidWinter Meeting*, Phoenix, AZ.
2. **Devore, S.** and B. Delgutte (2007). "Neural Sensitivity to ITD in Reverberant Environments," *Eastern Auditory Retreat*, New York, NY.
3. Delgutte, B., B.G. Shinn-Cunningham, K.E. Hancock, **S. Devore**, and A. Ihlefeld (2007). "Neural and Psychophysical Studies of Spatial Hearing in Realistic Acoustic Environments." *Association for Research in Otolaryngology MidWinter Meeting*, Denver, CO.
4. **Devore, S** and B. Delgutte (2006). "Robustness to reverberation of directionally-sensitive neurons in the inferior colliculus." *Computational and Systems Neuroscience*, March 5-8, 2006; Salt Lake City, Utah.
5. **Devore, S** and BG Shinn-Cunningham (2004). "Can Reverberation Be Modeled as Statistical Interaural Decorrelation?" *Assoc. for Research in Otolaryngology MidWinter Meeting*, Daytona Beach, FL.
6. Zhalehdoust Sani, **S, Devore, S** and BG Shinn-Cunningham (2003). "Spatial Unmasking of Pure Tones in Simulated Anechoic and Reverberant Environments." *Annual Meeting of the National Bio. Eng. Soc.*
7. **Devore, S**, BG Shinn-Cunningham and NI Durlach (2003). "Binaural and Monaural Contributions to the Spatial Release from Masking in Reverberant and Anechoic Space." *Association for Research in Otolaryngology MidWinter Meeting*, Daytona Beach, FL.
8. **Devore, S**, BG Shinn-Cunningham, NI Durlach, and HS Colburn (2002). "The influence of reverberation on spatial release of masking in consonant identification." *J Acoust Soc Am*, Pittsburgh, PA.

Talks

1. Devore, S. "Neural basis of sound localization in reverberant environments," *Cold Spring Harbor Laboratory*. June 11, 2008; Cold Spring Harbor, NY.
2. Devore, S. "Neural basis of sound localization in reverberant environments," *University of Rochester*. May 30, 2008; Rochester, NY.
3. Devore, S. "Neural basis of sound localization in reverberant environments," *University of Maryland*. May 13, 2008; College Park, MD.
4. Devore, S. "Neural and behavioral sensitivity to ITD in reverberant environments," *Eaton-Peabody Laboratory*. January 11, 2008; Boston, MA

Teaching Experience

Teaching Assistantships

<i>Fall 2004-07</i>	HST.991 – Basic Topics in Science and Engineering for Research in Speech and Hearing	Harvard-MIT HST
<i>Fall 2004</i>	HST.721 – The Peripheral Auditory System	Harvard-MIT HST
<i>Spring 2003</i>	6.541J – Speech Communication	MIT

Undergraduate Theses Supervised

2003	Sanaz Zhaledoust Sani	Dept. of Biomedical Eng., Boston University
	Thesis: <i>Spatial unmasking of pure tones in anechoic and reverberant space</i>	
2004	Sona Patel	Dept. of Elec. And Comp. Eng., Boston University
	Thesis: <i>Spatial unmasking of conversational speech in anechoic and realistic rooms</i>	

Professional Service

- Co-founder and member of Steering Committee, Student, Postdoc, and Medical Resident Chapter of the Association for Research in Otolaryngology (spARO)
- Member of the Association for Research in Otolaryngology, Society for Neuroscience
- Ad Hoc reviewer for *The Journal of the Acoustical Society of America, Ear and Hearing*.

Academic Service

- Distinguished Lecture in Speech and Hearing Science Lectures Series Committee (2005-2007), HST Faculty Awards Committee (2006-2007), HST Admissions Committee (2008)