

# Benjamin Zinszer

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## Employment

- present      Research Associate, SoundBrain Lab  
Department of Communication Sciences and Disorders, University of Texas at Austin
- 2014-17      Postdoctoral Associate, Rochester Baby Lab & Raizada Lab  
Department of Brain and Cognitive Sciences, University of Rochester

## Education

- 2014      Ph.D., Psychology, Pennsylvania State University  
2014      M.A.S., Applied Statistics, Pennsylvania State University  
2012      M.S., Psychology, Pennsylvania State University  
2008      B.A., Psychology, Wheaton College (IL)

## Fellowships & Grant Funding

- in prep      NIH NIDCD R21 – *Continuous speech processing in normal aging and primary progressive aphasia*
- under review      Open Project Grant, Beijing Normal University – *Effects of immersion and aging on continuous speech encoding of L1 and L2 in Chinese-English bilinguals*
- 2013-14      Pennsylvania Space Grant Consortium Graduate Fellow – \$10,000
- 2012      NSF East Asia and Pacific Summer Institutes Fellow to Beijing, China
- 2012      Confucius Institute Scholarship – \$1000
- 2011      Center for Language Science PIRE Graduate Fellow to Beijing, China
- 2009-12      University Graduate Fellowship, Pennsylvania State University

## Not funded

- 2016      NIH NICHD K99 – *How semantic representations unfold in the developing brain: Computational innovations to transform infant and child neuroimaging with fMRI, fNIRS, and EEG*
- 2015      Open Project Grant, Beijing Normal University – *Aligning neural semantic spaces of Chinese and English: Using multivariate neuroimaging methods to compare semantic representations across languages*
- 2015      NIH NICHD F32 – *Discovering the changes in neural representations of words for language learners using fNIRS+EEG decoding*

## Papers Published

- Zinszer, B. D., Rolotti, S. V., Li, F. Li, P. (in press). Bayesian word learning in multiple language environments. *Cognitive Science*. doi:10.1111/cogs.12567
- Zinszer, B. D., Bayet, L., Emberson, L. E., Raizada, R. D. S., & Aslin, R. N. (2018). Decoding semantic representations from fNIRS signals. *Neurophotonics*, 5(1), 011003. doi:10.1117/1.NPh.5.1.011003
- Emberson, L. \*, Zinszer, B. D. \*, Raizada, R. D. S., & Aslin, R. (2017). Decoding the infant mind: Multivariate pattern analysis (MVPA) using fNIRS. *PLoS ONE*, 12(4): e0172500. doi:10.1371/journal.pone.0172500 (\*co-first authors)
- Wu, R., Pruitt, Z., Zinszer, B. D., & Cheung, O. S. (2017). Increased experience amplifies the activation of task-irrelevant category representations. *Attention, Perception, & Psychophysics*, 79(2), 522-532. doi: 10.3758/s13414-016-1254-9

- Zinszer, B. D.**, Anderson, A. J., Kang, O., Wheatley, T., & Raizada, R.D.S. (2016). Semantic structural alignment of neural representational spaces enables translation between English and Chinese words. *Journal of Cognitive Neuroscience*, 28(11), 1749-1759. doi:10.1162/jocn\_a\_01000.
- Karuza, E., Li, P., Weiss, D. J., Bulgarelli, F., **Zinszer, B. D.**, & Aslin, R. (2016). Sampling over non-uniform distributions: A neural efficiency account of the primacy effect in statistical learning. *Journal of Cognitive Neuroscience*, 28(10), 1484-1500. doi:10.1162/jocn\_a\_00990.
- Fang, S., **Zinszer, B. D.**, Malt, B.C., & Li, P. (2016). Bilingual object naming: A connectionist model. *Frontiers in Psychology: Cognitive Science*. doi:10.3389/fpsyg.2016.00644
- Anderson, A. J., **Zinszer, B. D.**, & Raizada, R. (2015). Representational similarity encoding for fMRI: Pattern-based synthesis to predict brain activity using stimulus-model-similarities. *Neuroimage*, 128, 44-53. doi:10.1016/j.neuroimage.2015.12.035
- Zinszer, B. D.**, Chen, P., Wu, H., Shu, H., & Li, P. (2015). Second language experience modulates neural specialization for L1 lexical tones. *Journal of Neurolinguistics*, 33, 50-66. doi:10.1016/j.jneuroling.2014.09.005
- Zinszer, B. D.**, Malt, B., Ameel, E., Li, P. (2014). Native-likeness in second language lexical categorization reflects individual language history and linguistic community norms. *Frontiers in Psychology*, 5(01203). doi:10.3389/fpsyg.2014.01203.
- Zou, L., Abutalebi, J., **Zinszer, B.**, Yan, X., Shu, H., Peng, D., Ding, G. (2012). Second language experience modulates functional brain network for the native language production in bimodal bilinguals. *Neuroimage*, 62(3), 1367-75.

### **Papers Under Review or Revision**

- Bayet, L., **Zinszer, B. D.**, Pruitt, Z., Aslin, R. N., & Wu, R. Perceptual narrowing of neural representations, but not target selection, when searching for faces.
- Weiss, D. J., **Zinszer, B. D.**, Poepsel, T. J., & Aslin, R. N. Stay or switch: The impact of consistency on statistical learning of multiple structures.
- Wu, R., McGee, B., Ecchiveri, C., & **Zinszer, B. D.** Prior knowledge of category scope impacts visual search.

### **Refereed Conference Papers**

- Chen, D., Jew, C. A., **Zinszer, B. D.**, & Raizada, R.D.S. (2017). Anticipation effect after implicit distributional learning. *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.
- Zinszer, B. D.**, Anderson, A. J., Raizada, R.D.S. (2016). Chinese and English speakers' neural representations of word meaning offer a different picture of cross-language semantics than corpus and behavioral measures. *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
- Zinszer, B. D.**, Anderson, A. J., Kang, O., Wheatley, T., & Raizada, R.D.S. (2015). You say potato, I say tudou: How speakers of different languages can share the same concept. *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
- Fang, S., **Zinszer, B. D.**, Malt, B.C., & Li, P. (2015). A computational model of object naming convergence in the bilingual lexicon. *Proceedings of the 37th Annual Conference of the Cognitive Science Society*.
- Zinszer, B. D.** & Weiss, D. J. (2013). When to hold and when to fold: Detecting structural changes in statistical learning. *Proceedings of the 35th Annual Conference of the Cognitive Science Society*.
- Zinszer, B. D.** & Li, P. (2010). A SOM model of first language lexical attrition. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

## **Refereed Presentations**

- McHaney, J. R., **Zinszer, B. D.**, Smayda, K. E., & Chandrasekaran, B. Effect of listening environment on cortical entrainment to continuous speech in older adults. Abstract submitted to Cognitive Neuroscience Society.
- Shay, E. A., **Zinszer, B. D.**, & Raizada, R. D. S. Between-subjects neural decoding of phrase representations outperforms Word2Vec decoding. Poster presented at the Cognitive Computational Neuroscience conference, September 6, 2017, New York, NY.
- McGee, B., Ecchiveri, C., **Zinszer, B.**, & Wu, R. Prior knowledge of category size impacts search. Poster presented at the Cognitive Neuroscience Society, March 2017, San Francisco, CA.
- Zinszer, B. D.**, Bayet, L., Emberson, L., & Aslin, R. Decoding semantic representations from fNIRS signals. Poster presented at the Society for Functional Near-Infrared Spectroscopy, Oct 13-16, 2016.
- Emberson, L., **Zinszer, B. D.**, Raizada, R.D.S., & Aslin, R. Decoding the infant mind: Multichannel pattern analysis (MCPA) using fNIRS. Poster presented at the Society for Functional Near-infrared Spectroscopy, Oct 13-16, 2016.
- Zinszer, B. D.**, Emberson, L., Raizada, R. D. S., & Aslin, R. Decoding the infant mind: Multichannel pattern analysis (MCPA) using fNIRS. Poster presented at the Cognitive Neuroscience Society, April 4, 2016.
- Zinszer, B. D.**, Anderson, A. J., Kang, O., Wheatley, T., & Raizada, R.D.S. Chinese and English speakers share representations for word-elicited concepts, but semantic models struggle to capture this similarity. Poster presented at the Society for the Neurobiology of Language, October 16, 2015.
- Zinszer, B. D.**, Wang, R., & Li, P. Bilingual categorization reveals cross-language lexical semantic competition in naming. Talk presented at the 10<sup>th</sup> International Symposium on Bilingualism, May 2015.
- Zhang, T., **Zinszer, B. D.**, Wang, R., & Li, P. Bilinguals' anterior cingulate and *pars triangularis* reflect both native and second language norms during native language production. Poster presented at the 22<sup>nd</sup> annual meeting of the Cognitive Neuroscience Society, March 2015.
- Zinszer, B. D.**, Poepsel, T., Aslin, R., & Weiss, D. J. When to hold and when to fold: Detecting structural changes in statistical learning. Poster presented at the 39<sup>th</sup> annual Boston University Conference on Language Development, November 7, 2014.
- Zinszer, B. D.**, Malt, B., Ameel, E., & Li, P. What is a cup? Effects of immersion, language, and learner variables on lexical category convergence. Poster presented at Psychonomic Society 54<sup>th</sup> Annual Meeting, November 26, 2013.
- Zinszer, B. D.**, Holt, T., Han, W., Shu, H., & Li, P. Age of L2 onset modulates left MTG specialization for L1 lexical tones. Society for the Neurobiology of Language, November 6, 2013.
- Zinszer, B. D.** & Weiss, D. J. When to hold and when to fold: Detecting structural changes in statistical learning. Poster presented at the 35<sup>th</sup> Annual Conference of the Cognitive Science Society, August 3, 2013.
- Rolotti, S. V., **Zinszer, B. D.**, Carlson, E. A. & Li, P. Bayesian Word Learning in Multiple Languages. Poster presented at the 35<sup>th</sup> Annual Conference of the Cognitive Science Society, August 3, 2013.
- Zinszer, B. D.**, Malt, B., Ameel, E., & Li, P. Effects of immersion, language, and learner variables on lexical category convergence. Talk presented at the 9<sup>th</sup> International Symposium of Bilingualism, June 13, 2013.
- Weiss, D.J., Poepsel, T., & **Zinszer, B.** Know when to hold 'em: Detecting structural changes in statistical learning. Talk presented at the Association for Psychological Science, Washington, D.C., May 23-26, 2013.
- Rolotti, S. V., **Zinszer, B. D.**, & Li, P. Bayesian Inference for Bilingual Word Learning. Poster presented at The Society for Computers in Psychology, November 14, 2012.
- Zinszer, B. D.** & Li, P. Predictors of native-like categorization in Chinese learners of English. Talk presented at Second Language Research Forum, October 21, 2012.

**Zinszer, B. D. & Li, P.** Bilingual categorization behavior: internally or externally emergent? Talk presented at the 8<sup>th</sup> International Symposium of Bilingualism, June 15-18, 2011.

**Zinszer, B. D. & Li, P.** Cross-Language Lexical Interaction in Object Naming. Poster presented at Psychonomic Society 51<sup>st</sup> Annual Meeting, November 20, 2010.

**Zinszer, B. D. & Li, P.** Modeling age of onset in first language lexical attrition. Talk presented at Society for Computers in Psychology 40<sup>th</sup> Annual Meeting, November 18, 2010.

**Zinszer, B. & Li, P.** A SOM model of first language lexical attrition. Talk presented at the 32<sup>nd</sup> Annual Conference of the Cognitive Science Society, Portland, Oregon, August, 2010.

**Zinszer, B. D. & Phinney, R. E.** Effects of mask-to-target energy ratio on cyclopean metacontrast masking. Poster presented Vision Sciences Society 9<sup>th</sup> Annual Meeting, May 13-18 2009.

### **Teaching Experience**

Language and the Brain (BCS 265), University of Rochester  
Psychology of Language (PSYCH/LING 457), Penn State University  
Introductory Statistics (PSYCH 200), Penn State University World Campus  
Basic Research Methods in Psychology (PSYCH 301W; Lab instructor), Penn State University

### **Computational & Technical Experience**

Matlab (incl. SPM8, SOM Toolbox, HomER/HomER2); Python; Statistical computing (R/R-Studio, SPSS); Functional near-infrared spectroscopy (Hitachi ETG-4000, Shimadzu LABNIRS, NIRx Scout); Multivariate pattern analysis (MVPA) for fMRI & fNIRS; Effective connectivity modeling of functional neuroimaging data

### **Reviewer**

Behavior Research Methods; Bilingualism: Language and Cognition, Brain & Language; Cerebral Cortex; Developmental Cognitive Neuroscience; Frontiers in Communication; Journal of Neurolinguistics; The Modern Language Journal; Neuropsychologia; Journal of Speech, Language, and Hearing Research

### **Professional Service**

- Communications Team, UT Multimodal Neuroimaging Initiative, Fall 2017
- Workshop co-organizer, Introduction to fNIRS, Univ. of Texas at Austin, Oct 2017
- Brain Awareness Week, presenter in 2<sup>nd</sup> - 6<sup>th</sup> grades (Rochester, NY, USA), 2016 & 2017
- Brain & Language workshop instructor on MVPA methods, Jiangsu Normal University (Xuzhou, Jiangsu province, China), Summer 2015
- Statistical consultant to Guangwai Brain and Language Lab, Guangdong University of Foreign Studies (Guangzhou, China), Summer & Fall 2013
- Statistical Consulting Center consultant (Penn State Univ.), Spring 2013
- Delegate to The 2<sup>nd</sup> Young Scientist Forum, US-China Consultation on People-to-People Exchange (Beijing, China), Summer 2012
- Judge for Pennsylvania Junior Science and Humanities Symposium (State College, PA), 2011