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Dave F. Kleinschmidt

Research interests

Sensation and perception in a non-stationary world. My work uses behavioral, computational, and neural approaches to understand how sensory systems deal with semi-predictable variability across contexts.

Education

2010–present **Ph.D. Brain and Cogntive Sciences**, *University of Rochester*, Rochester, NY.
Advisors: T. Florian Jaeger (primary), Rajeev Raizada

2005–2009 **BA Mathematics, concentration Cognitive Science**, *Williams College*, Williamstown, MA, *Summa cum laude*, highest honors in Cognitive Science.
Senior thesis advisor: Safa Zaki

Publications

Papers

Kleinschmidt, D. F., Jaeger, T. F., Robust speech perception: Recognize the familiar, generalize to the similar, and adapt to the novel. *Psychological Review*.

2014 Salverda, A. P.**, Kleinschmidt, D. F.**, Tanenhaus, M. K., Immediate effects of anticipatory coarticulation in spoken-word recognition. *Journal of Memory and Language*, *71*(1), 145–163. doi:10.1016/j.jml.2013.11.002

Zaki, S. R.**, Kleinschmidt, D. F.,** Procedural memory effects in categorization: Evidence for multiple systems or task complexity? *Memory & cognition*, *42*(3), 508–24. doi:10.3758/s13421-013-0375-9

2011 Croft, W., Bhattacharya, T.**, Kleinschmidt, D. F.**, Smith, D. E., Jaeger, T. F., Greenbergian universals, diachrony, and statistical analyses. *Linguistic Typology*, *15*(2), 433–453. doi:10.1515/LITY.2011.029

Conference Proceedings Papers

2012 **Kleinschmidt, D. F.**, Fine, A. B., Jaeger, T. F., A belief-updating model of adaptation and cue combination in syntactic comprehension. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34th annual conference of the cognitive science society* (pp. 599–604). Austin, TX: Cognitive Science Society.

Kleinschmidt, D. F., Jaeger, T. F., A continuum of phonetic adaptation: Evaluating an incremental belief-updating model of recalibration and selective adaptation. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34th annual conference of the cognitive science society* (pp. 605–10). Austin, TX: Cognitive Science Society.

2011 **Kleinschmidt, D. F.**, Jaeger, T. F., A Bayesian belief updating model of phonetic recalibration and selective adaptation. In *Proceedings of the 2nd ACL workshop on cognitive modeling and computational linguistics*. Stroudsburg, PA: Association for Computational Linguistics.

Submitted and in preparation

submitted **Kleinschmidt, D. F.**, Raizada, R., Jaeger, T. F., *Supervised and unsupervised learning in phonetic adaptation*.

Pajak, B., Fine, A. B., **Kleinschmidt, D. F.**, Jaeger, T. F., *Learning additional languages as hierarchical inference: Insights from L1 processing*. Manuscript submitted for publication.

in prep. **Kleinschmidt, D. F.**, Jaeger, T. F., *A re-evaluation of selective adaptation*.

Presentations

2014 Jaeger, T. F., **Kleinschmidt, D. F.**, *Efficient language understanding in a variable world: prediction and adaptation*. Talk jointly presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.

Jaeger, T. F., **Kleinschmidt, D. F.**, *Speech perception and adaptation as inference under uncertainty*. Plenary talk jointly presented at the 15th Australasian International Speech Science and Technology Conference, Christchurch, NZ.

2013 **Kleinschmidt, D. F.**, Jaeger, T. F., *Speech perception, the lack of invariance, and adaptation: a computational level analysis*. Poster presented at the Workshop on Current Issues and Methods in Speaker Adaptation, Columbus, OH.

Kleinschmidt, D. F., Jaeger, T. F., *Speech perception, the lack of invariance, and adaptation: a computational level analysis*. Poster presented at the LSA Institute 2013 Workshop: How the brain accommodates variability in linguistic representations, Columbus, OH.

2012 **Kleinschmidt, D. F.**, Fine, A. B., Jaeger, T. F., *A Bayesian belief-updating model of syntactic expectation adaptation*. Poster presented at the 25th CUNY Sentence Processing Conference, New York, NY.

Kleinschmidt, D. F., Jaeger, T. F., *Evaluation of a Bayesian belief-updating model for the time course of linguistic adaptation*. Poster presented at the 25th CUNY Sentence Processing Conference, New York, NY.

2010 **Kleinschmidt, D. F.**, *Efficient coding of speech in the auditory cortex*. Poster presented at the 2nd Annual Neurobiology of Language Conference, San Diego, CA.

Honors and Awards

- **NIH F31 Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship**, 2015–2016.
- **Best student presentation**, 2013 LSA Summer Institute Workshop: "How the brain accommodates variability in linguistic representations".
- **Best student talk**, 2011 Architectures and Mechanisms of Language Processing (AMLaP) Conference.
- **National Science Foundation, Graduate Research Fellowship**, 2010–2014.
- **Sproull Fellowship**, University of Rochester, 2010–2015.
- **Baggett Fellowship**, University of Maryland Linguistics Department post-bac. research fellowship, 2009–2010.
- Member, **Phi Beta Kappa** honors society, inducted 2008.
- **Dean's List**, Williams College, 2005–2009.
- **Tyng Scholarship**, Williams College, 2005–2009.
- **National Merit Scholar**, 2005.
- Maine Educational Association **Clyde Russel Scholarship**, 2005.

Research Appointments

2009–2010 **Baggett Fellow**, *University of Maryland, Linguistics Department*.
Post-baccalaureate research fellowship. Advised by Bill Idsardi.

Teaching

February 2014 **Guest Lecturer: Introduction to Cognitive Science**, *Tufts University*.
Presented lecture on computational modeling in the cognitive sciences, with an emphasis on statistical (Bayesian) models.

Spring 2013 **Teaching assistant: Foundations of Cognitive Science**, *University of Rochester*.
Lectured, conducted recitations, designed assessments, and graded for large introductory class for the Brain and Cognitive Science Department.

Spring 2012 **Teaching assistant: Cognition**, *University of Rochester*.
Lectured, designed assessments, and graded for introductory cognitive neuroscience course.

Spring 2011 **Teaching assistant: Cognition**, *University of Rochester*.
Lectured, designed assessments, and graded for introductory cognitive neuroscience course.

Spring 2009 **Teaching assistant: Ergodic Theory**, *Williams College*.
Graded problem sets and conducted group work sessions for senior seminar.