Colin Wilson

Curriculum Vitae (04/2014)

ADDRESS

Department of Cognitive Science, Johns Hopkins University

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EDUCATION

EDUCATION	
1995–2000	Ph.D., Department of Cognitive Science, Johns Hopkins University
	Dissertation: "Targeted constraints: An approach to contextual neutralization in Optimality Theory." (chair: Luigi Burzio)
	Research interests: Theoretical and experimental phonology, phonetics, cross-language perception and production, computational modeling
1991–1995	B.A. with Honors in Linguistics, University of Colorado, Boulder, CO

ACADEMIC EMPLOYMENT

2008-present	Associate Professor, Cognitive Science Department, Johns Hopkins University Director of Graduate Studies 2011-present
2007-2008	Visiting Assistant Professor, Cognitive Science Department, Johns Hopkins University Associate Professor, Department of Linguistics, UCLA
2000–2007	Assistant Professor, Department of Linguistics, UCLA

Undergraduate courses

Cognition (JHU 050.101): Fall 2009 – 2013

Phonology I (JHU 050.325/625): Spring 2008, Spring 2010 – 2012

Formal Methods: Inference (JHU AS.050.371/671): Spring 2013

Introduction to Linguistics (UCLA Ling 20): Fall 2002, Spring 2003, Spring 2006

Phonology I (UCLA Ling 120A): Winter 2003, Fall 2006

Phonology II (UCLA Ling 165A): Spring 2002, Spring 2006

Language Development (UCLA Ling 130*, with Nina Hyams): Fall 2001, Winter 2003

Language Processing (UCLA Ling 132): Fall 2001 (with Carson Schütze), Spring 2003 (with Prof. Carson Schütze), Winter 2007

Neurolinguistics (UCLA Ling 135*, with Susie Curtiss): Winter 2002, Spring 2003 *Ling 130, 132, and 135 were cross-listed graduate courses Fall 2001–Spring 2003.

Graduate courses

Research Seminar in Bayesian Statistics (JHU 050.825): Fall 2012

Research Seminar in Phonology (JHU 050.825): Fall and Spring 2010-213

Phonological Theory I (UCLA Ling 200A): Fall 2002, Fall 2003, Fall 2006

Phonological Theory II (UCLA Ling 201): Winter 2005

Experiment Phonology (UCLA Ling 217): Fall 2000 (as Ling 251), Winter 2002, Spring 2004, Fall 2005 (with Patricia Keating), Winter 2007

Seminar on Targeted Constraints (UCLA Ling 251): Spring 2001

Seminar on Phonotactics (UCLA Ling 251): Spring 2005 (with Bruce Hayes)

External teaching

Analytic Bias in Phonology (4 week course, with Donca Steriade), Linguistic Society of America (LSA) 2007 Summer Institute, July 5-27, 2007

Introduction to Phonology (4 class sessions), EALing (Fall School in Linguistics), Département d'études cognitives, École Normale Supérieure, Paris, 2003

1995–1999 Teaching Assistant, Department of Cognitive Science, Johns Hopkins University

Courses assisted

Sound Structure in Natural Language (050.325/625), Luigi Burzio and Paul Smolensky

Foundations of Cognitive Science (050.326/626), Paul Smolensky

Introduction to Optimality-theoretic Syntax (050.321/621), Géraldine Legendre

Language and Mind (050.102), William Badecker

Cognition (050.101), Brenda Rapp

MANUSCRIPTS

Davidson, L., Martin, S., Wilson, C. Acoustic variability stabilizes the interpretation of phonetic detail in cross-language speech production. Manuscript in preparation.

Wilson, C. Davidson, L., Martin, S. Language-specific phonetic detail constrains cross-language speech production. Manuscript under revision for *Journal of Memory and Language*.

Chodroff, E., Wilson, C. Initial burst spectrum as a cue to voicing in English. Manuscript in preparation.

Kirov, C., Wilson, C., On the relationship between contextual competition and phonetic variation. Manuscript in preparation.

Ferrara, K., Silva, M., Wilson, C., Landau, B. Spatial language and the embedded listener model in parents' input to children. Manuscript in preparation.

Johannes, K., Wilson, C., Landau, B. Lexical verb knowledge in the development of complex spatial language. Manuscript in preparation.

Bae, G. Y., Wilson, C., Holland, P., Flombaum, J. I. Correspondence computations limit spatial working memory performance. Manuscript in preparation.

Zhong, S., Ma, Z., Wilson, C., Liu, Y., Flombaum, J. I. What is the marginal advantage of extrapolating during multiple object tracking? Insights from a Kalman filter model. Manuscript under revision for *Journal of Vision*.

Wolmetz, M., Wilson, C., Rapp, B. Investigating neural predictions of exemplar accounts of speech recognition. Manuscript submitted for publication.

PUBLICATIONS

Bae, G.-Y., Olkkonen, M., Allred, S.R., Wilson, C., Flombaum, J. The role of color in the study of color working memory with delayed estimation: technical and perceptual challenges. *Journal of Vision*.

Kirov, C., Wilson, C. 2013. Bayesian speech production: evidence from latency and hyperarticulation. In M. Knauff, M. Pauen, N. Sebanz, and I. Wachsmuth (eds.), *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*, pp. 788-793. Cognitive Science Society, Austin, TX.

Culbertson, J., Wilson, C. 2013. Artificial grammar learning of shape-based noun classification. In M. Knauff, M. Pauen, N. Sebanz, and I. Wachsmuth (eds.), *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*, pp. 2118–2123. Cognitive Science Society, Austin, TX.

Culbertson, J., Smolensky, P., Wilson, C. 2013. Cognitive biases, linguistic universals, and constraint-based grammar learning, *Topics in Cognitive Science*, 5(3):392–424.

Kirov, C., Wilson, C. The Specificity of Online Variation in Speech Production. In N. Miyake, D. Peebles, and R. P. Cooper (eds.), Proceedings of the 34th Annual Meeting of the Cognitive Science Society. Austin, TX: Cognitive Science Society, pp. 587-592.

Hayes, B., Wilson, C., Shisko, A. Maxent Grammars for the Metrics of Shakespeare and Milton, *Language* 88(4), 691-731. doi: 10.1353/lan.2012.0089. Best Paper in *Language* Award (2012).

Supporting information, including software by CW, available on-line at: http://www.linguistics.ucla.edu/people/hayes/ShakespeareAndMilton/

Berent, I., Wilson, C., Marcus, G.F., Bemis, D.K. On the Role of Variables in Phonology: Remarks on Hayes and Wilson 2008. *Linguistic Inquiry* 43.1, 97-119, doi: 10.1162/LING_a_00075.

- to appear Wilson, C. A Targeted Spreading Imperative for Nasal Place Assimilation. In Y. Fainleib, N. LaCara, and Y. Park (eds.), *Proceedings of the 41st Annual Meeting of the North East Linguistic Society*, GLSA Publications.
 - Wilson, C., Davidson, L. Bayesian Analysis of Non-native Cluster Production. In S. Kan, C. Moore-Cantwell, and R. Staubs (eds.), *Proceedings of the 40th Annual Meeting of the North East Linguistic Society*, GLSA Publications.
 - Hayes, B., Wilson, C. A Maximum Entropy Model of Phonotactics and Phonotactic Learning. *Linguistic Inquiry* 39.3, 379-440.
 - Wilson, C., Learning Phonology with Substantive Bias: An Experimental and Computational Study of Velar Palatalization. *Cognitive Science* 30(5): 945-982. [Draft version in *UCLA Working Papers in Linguistics 11: Working Papers in Phonology 6*, ed. Jeffrey Heinz, Andy Martin, and Katya Pertsova, pp. 93-134.]
 - Riggle, J., Wilson, C. Local Optionality. In L. Bateman and C. Ussery (eds.), *Proceedings of the 35th Annual Meeting of the North East Linguistic Society*, vol. 2. Charleston, SC: BookSurge.
 - Wilson, C. Experimental Investigation of Phonological Naturalness. In G. Garding and M. Tsujimura (eds.), *Proceedings of the 22nd West Coast Conference on Formal Linguistics*, pp. 533-546. Somerville, MA: Cascadilla Press.
 - Wilson, C. Consonant Cluster Neutralization and Targeted Constraints. *Phonology* 18, 147-197.
 - Wilson, C., Bidirectional Optimization and the Theory of Anaphora. In G. Legendre, J. Grimshaw, and S. Vikner (eds.), *Optimality-Theoretic Syntax*, pp. 465-508. Cambridge, MA: MIT Press.
 - Straub, K., Wilson, C., McCollum, C., Badecker, W. Prosodic Structure and wh-Questions. *Journal of Psycholinguistic Research*, 30(4):379-394.
 - Bakovic, E., Wilson, C. Transparency, Strict Locality, and Targeted Constraints. In R. Billerey and B.D. Lillehaugen (eds.), *Proceedings of the*

	19th West Coast Conference on Formal Linguistics, pp. 43-56. Somerville, MA: Cascadilla Press.
1998	Legendre, G., Wilson, C., Smolensky, P. When is Less More? Faithfulness and Minimal Links in <i>wh</i> -Chains. In P. Barbosa, D. Fox, P. Hagstrom, M. McGinnis, and D. Pesetsky (eds.), <i>Is the Best Good Enough? Optimality and Competition in Syntax</i> , pp. 249-289. Cambridge, MA: MIT Press.
1995	Legendre, G., Smolensky, P., Homer, K., Raymond, W., Wilson, C. Optimality in <i>wh</i> -Chains. In Beckman, J., Urbanczyk, S., and Walsh, L. <i>University of Massachusetts Occasional Papers in Linguistics 18: Papers in Optimality Theory</i> , pp. 607-636. Amherst: GLSA.
INVITED TALKS	
2013	Phonetic and phonological factors in coronal-to-dorsal perceptual assimilation, New York University, April 18 (with Eleanor Chodroff)
2012	Acoustic-phonetic predictors of non-native consonant cluster modification, Stony Brook University, November 16 (with Lisa Davidson).
2011	Bayesian Inference for constraint-based phonology, University of Massachusetts, Amherst, December 2.
	Bayesian modeling of cross-language speech processing, University of Pennsylvania, March 24.
2010	Acoustic-phonetic predictors of non-native consonant cluster modification, University of Pennsylvania, November 17 (with Lisa Davidson).
	Bayesian modeling of cross-linguistic speech processing, University of Delaware, September 3.
2008	Tutorial and commentary for session "How the Cognitive System Shapes Phonology", Hopkins Workshop on Language 4, Johns Hopkins University, October 12–14.
2007	Learning constraint rankings in the presence of noise, University of Chicago, April 26.
	Artificial grammar and implicational universals, Workshop: Towards an Artificial Grammar Learning Paradigm in Phonology, Annual Meeting of the Linguistic Society of America (LSA), Anaheim, January 6.

Unbounded spreading is myopic, Workshop on Current Perspectives in Phonology, University of Indiana, Bloomington, June 23.

Ranking as recursive choice, MIT, December 1.

Similarity and bias in phonological learning, Rumelhart Prize Symposium, XXVII Annual Conference of the Cognitive Science Society, Stresa, Italy, July 22.

Asymmetric generalization of velar palatalization: Experimental evidence for substance in phonology, NYU, October 25, 2004 and UC Santa Barbara, January 20.

Localizing constraint violation: Theoretical consequences of myopic spreading, Hopkins Workshop on Language 3, Johns Hopkins University, January 14.

2003 Experimental Phonology and Phonological Naturalness: Nasal Assimilation and Dissimilation vs. Random Alternations, UC Santa Cruz, May 2, and Johns Hopkins University, April 3.

Unbounded Spreading in OT (or, Unbounded Spreading is Local Spreading Iterated Unboundedly), Southwest Optimality Theory Workshop, University of Arizona, Tucson, April 24-26.

Analytic Bias in Artificial Phonology Learning: Consonant Harmony vs. Random Alternation, Workshop on Markedness and the Lexicon, MIT, January 25.

- Unbounded Spreading is Local Spreading Iterated Unboundedly, USC, May 7.
- The Theory of Targeted Constraints: Typology, Opacity, and Learnability, UC Santa Cruz, December 7.

The Targeted Constraint Approach to Phonological Opacity, UC Irvine, June 8.

Learning Phonotactic Distributions with Targeted Constraints, UCSD, May 18, and Southwest Optimality Theory Workshop, USC, April 22.

Targeted Constraints, Contextual Neutralization and Phonological Opacity, UCLA, February 8.

Recoverability, Violability and Ineffability in Syntax and Phonology (presented by Paul Smolensky), Conference on the Optimization of Interpretation, UiL OTS, Utrecht University, January 5.

- 1999 Consonant Cluster Neutralization and Targeted Constraint, Workshop on the Lexicon in Phonetics and Phonology, University of Alberta, June 13.
- Two Arguments for Bidirectional Optimization (November 13) and two invited lectures on bidirectional optimization and anaphora, Workshop on Optimality Theory Syntax, Universität Stuttgart, November 15-16.
- Absolute Harmony, Relativized Minimality, and Blocking, Hopkins Optimality Theory Workshop / University of Maryland Mayfest, Johns Hopkins University, May 9.
- Bidirectional Optimization for the Binding Theory, Workshop on Optimality Theory and Cognition, Stanford University, December 7.
- When is Less More? Faithfulness and Minimal Links in *wh*-Chains (with Géraldine Legendre and Paul Smolensky), Is the Best Good Enough? Workshop on Optimality in Syntax, MIT, May 19.

REFERREED CONFERENCE TALKS AND POSTERS

2014 Chodroff, E., Wilson, C. Phonetic and phonological factors in coronal-todorsal perceptual assimilation. Talk to presented at LabPhon 14 - The 14th Conference on Laboratory Phonology, Tokyo, July 25-27.

Davidson, L., Martin, S., Wilson, C. Acoustic variability aids the interpretation of phonetic detail in cross-language speech production. Talk to be presented at LabPhon 14 - The 14th Conference on Laboratory Phonology, Tokyo, July 25-27.

Chodroff, E., Wilson, C. An acoustic-phonetic account of phonotactic perceptual assimilation. Poster to be presented at the 167th Meeting of the Acoustical Society of America, Providence, May 5-9.

Chodroff, E., Wilson, C. Burst spectrum as a cue to stop consonant voicing: English production and perception results. Talk presented at the 88th Annual Meeting of the Linguistic Society of America, Minneapolis, January 2-5.

Culbertson, J., Wilson, C. Rapid learning of semantic noun classification in artificial grammar. Talk presented at the 88th Annual Meeting of the Linguistic Society of America, Minneapolis, January 2-5.

- Johannes, K., Wilson, C., Landau, B. Lexical verb knowledge in the development of complex spatial language. Poster presented at the 2013 Psychonomic Society Annual Meeting, Toronto, November 14-17.
 - Menendez, J., Bae, G.-Y., Wilson, C., Flombaum, J. A computational basis for configuration effects in spatial working memory. Poster presented at the 21st Annual Conference of Object Perception, Attention, & Memory, Toronto, November 14.
 - Ferrara, K., Wilson, C., Kelliher, K., Silva, M., Landau, B. Do parents adapt descriptions of spatial relationships to child knowledge? Poster presented at the 35th Annual Meeting of the Cognitive Science Society, Berlin, July 31-August 3.
 - Johannes, K., Landau, B., Wilson, C. Modeling spatial language acquisition as a function of lexical verb development. Poster presented at the 35th Annual Meeting of the Cognitive Science Society, Berlin, July 31-August 3.
 - Martin, S., Davidson, L., Wilson, C. Variability attenuates sensitivity to acoustic detail in cross-language speech production. Poster presented at the ASA Meeting in Montreal, June 2-7.
 - Bae, G.-Y., Wilson, C., Flombaum, J. Variability in color working memory precision reflects inherent stimulus properties. Talk presented at the 14th Annual Meeting of the Vision Sciences Society, Naples, May 10-15.
 - Flombaum, J., Zhong, S-h., Ma., Z., Wilson, C., Liu, Y. What is the marginal advantage of extrapolation during multiple object tracking? Insights from a Kalman filter model. Talk presented at the 14th Annual Meeting of the Vision Sciences Society, Naples, May 10-15.
 - Johannes, K., Wilson, C., Landau, B. Uncovering complex mappings in the acquisition of spatial language. Poster presented at the Biennial Meeting of the Society for Research on Child Development (SRCD), Seattle, April 18-20.
 - Ferrara, K., Kelliher, K., Silva, M., Wilson, C., Landau, B. Do parents adapt descriptions of spatial relationships to child knowledge? Poster presented at the Biennial Meeting of the Society for Research on Child Development (SRCD), Seattle, April 18-20.
- Johannes, K., Wilson, C., Landau, B. Modeling verb choice in spatial language: Refining the learning problem for English. Talk presented at the

Boston University Conference on Language Development 37, November 2-4.

Kirov, C., Wilson, C. How phonological context affects phonetic realization. Poster presented at Laboratory Phonology 13, Stuttgart, Germany, July 27-29.

Davidson, L., Wilson, C., Martin, S. Phonological bias, phonetic likelihood: a Bayesian model of non-native cluster production errors. Poster presented at Laboratory Phonology 13, Stuttgart, July 27-29.

Wilson, C., Davidson, L., Martin S. Bayesian interaction of phonetics and phonotactics in cluster production. Talk presented at the 86th Annual Meeting of the Linguistic Society of America, Portland, January 5.

Kirov, C., Wilson, C. Specificity of online variation in speech production. Talk presented at the 86th Annual Meeting of the Linguistic Society of America, Portland, January 6.

Wolmetz, M., Wilson, C., Rapp, B. How we store the sounds of words: Testing the neurocognitive predictions of abstractionist and exemplar theories of spoken word recognition. Neurobiology of Language Conference, Annapolis, November 10.

McCloskey, M., Fischer-Baum, S., Wilson, C., Mathis, D., Glasser, A., Ghodasara, S. Form and functions of orthotactic knowledge. Talk presented at the Psychonomic Society, Seattle, November 4.

Fischer-Baum, S., McCloskey, M., Mathis, D., Wilson, C. Letter position representations in reading: evidence from acquired dyslexia. Academy of Aphasia, October 17.

Hayes, B., Shisko, A., Wilson, C. Maxent grammars for the metrics of Shakespeare and Milton. Talk presented at the 84th Annual Meeting of the Linguistic Society of America, Chicago, January 8.

Goldberg, A.M., Wilson, C., Miozzo, M., Rapp, B. Experimental evidence for gradient heteromorphemic phonotactic restrictions. 84th Annual Meeting of the Linguistic Society of America (LSA), Chicago, January 8.

Wolmetz, M., Wilson, C., Smolensky, P. Replicator dynamics of speech perception and categorization. Poster presented at Laboratory Phonology 11, Wellington, New Zealand, June 30 – July 2.

- Hayes, B., Wilson, C. A maximum entropy model of phonotactics and phonotactic learning. Talk presented at the Annual Meeting of the Linguistic Society of America, Anaheim, January 4-7.
 - Wilson, C. Artifical grammar and implicational universals. Talk presented at the Annual Meeting of the Linguistic Society of America, Anaheim, January 4-7.
- "Local Optionality" (with Jason Riggle), North East Linguistic Society (NELS) 35 (poster session), Storrs, Connecticut, October 22.
- "Laryngeal markedness and the typology of repair" (presented by Eric Bakovic), Annual Meeting of the Linguistic Society of America (LSA), Boston, January 9.
- 2003 "Experimental Phonology and Phonological Naturalness: Nasal Assimilation and Dissimilation vs. Random Alternations," West Coast Conference on Formal Linguistics (WCCFL) 21, UCSD, April 3.
- 2001 "Phonotactic Learning with Targeted Constraints," North East Linguistic Society (NELS) 32, CUNY Graduate Center and NYU, October 21.
- 2000 "Transparency, Strict Locality, and Targeted Constraints" (with Eric Bakovic), West Coast Conference on Formal Linguistics (WCCFL) 19, UCLA, February 4-6.
- 2000 "Targeted Constraints and Contextual Neutralization in Optimality Theory," Meeting of the Linguistic Society of America, Chicago, January 6-9.
- "Consonant Cluster Neutralization, Harmonic Ordering, and Targeted Constraints," GLOW Workshop on Phonetics in Phonology, University of Potsdam, April 1.
- "Bidirectional Optimization for the Binding Theory," NELS 29 (poster session), University of Delaware, October 16-18.
- "Prosodic Cues and *wh*-Constructions" (with Courtney McCollum, Kathleen Straub, William Badecker), CUNY 11 (poster session), Rutgers University, March 19-21.

RESEARCH GRANTS AND AWARDS

NSF BCS-1344269: Smolensky, P., P.I.; Legendre, G., Omaki, A., Rawlins, K., Van Durme, B., Wilson, C., co-P.I.s. Gradient Symbolic Computation. Integrated NSF Support Promoting Interdisciplinary

Research and Education (INSPIRE) Program (Track 1), 9/15/13 – 2/28/18. \$999,997.

NSF BCS-1052784: A Bayesian model of phonetic and phonotactic effects in cross-language speech production, National Science Foundation, 09/01/11–02/28/15, \$163,817.

Collaborative research with Lisa Davidson, NYU.

2005 "Infant Learning of Natural and Unnatural Phonology" (\$3000), UCLA Faculty Grants Program

2004 UCLA Career Development Award (1-quarter sabbatical)

"Phonological Naturalness and Artificial Grammar" (\$2800), UCLA Faculty Grants Program

2003 "Phonological Naturalness and Artificial Grammar" (\$1500), UCLA Faculty Grants Program

2001 "Experimental Investigation of Phonological Markednss" (\$2,190), UCLA Faculty Grants Program

RESEARCH SOFTWARE

UCLA Phonotactic Learner (Java implementation of the learner described in Hayes & Wilson, to appear)

Perl scripts for calculating phonotactic probability, lexical neighborhood density, and similar lexical statistics

GRADUATE STUDENTS ADVISED

At JHU

Ph.D.

Christo Kirov (defended 2013, now Postdoctoral fellow / Adjunct Lecturer, Linguistics Department, Georgetown University)

M.A.

Ian Coffman, Rachael Richardson

1st/2nd research projects

Eleanor Chodroff, Emily Atkinson, Ozge Gurcanli, Kristen Johannes, Deepti Ramadoss

At UCLA

Ph.D. (non-chair member of committee unless otherwise indicated)

Kuniko Nielsen (2008, co-chair with Pat Keating), Jeffrey Heinz (2007), Andrew Martin (2007), Katya Pertsova (2007), Shabnam Shademan (2007), Greg Kobele (2006),

Shigeko Sekine (2006, co-chair with Nina Hyams), Daniel Albro (2005), Heidi Fleischhacker (2005), Sahyang Kim (2004), Jason Riggle (2004), Alex MacBride (2003)

M.A. (non-chair member of committee unless otherwise indicated)

Victoria Thatte (2007, chair), Sameer Khan (2006), Molly Shilman (2005), Kuniko Nielsen (2004), Katya Pertsova (2004), Jason Riggle (2002), Shabnam Shademan (2002), Rebecca Scarborough (Brown) (2001, co-chair with Patricia Keating)

PROFESSIONAL ASSOCIATIONS/ACTIVITIES

Ad-hoc reviewer for Cognitive Psychology, Cognitive Science, Journal of Linguistics,
Laboratory Phonology, Lingua, Linguistic Inquiry, Language, Natural
Language & Linguistic Theory, NELS

2003	Revised the <i>Phonology</i> chapter of Fromkin, Rodman & Hyams 2003, <i>An</i>
	Introduction to Language, 7th ed., Boston, MA: Heinle.

Reviewer for *Optimality-Theoretic Syntax*, ed. Géraldine Legendre, Jane Grimshaw, and Sten Vikner, Cambridge, MA: MIT Press.

1999-present Member of the Linguistic Society of America

UNIVERSITY COMMITTEE SERVICE

2010-present Director of Graduate Studies, Department of Cognitive Scien
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2005–2007 UCLA Committee on Diversity and Equal Opportunity (CODEO), chair Jody Kreiman)

COMMUNITY SERVICE

2005–2006 Appalachia Service Project (1 week each summer)