

# Alexandra Carstensen

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## RESEARCH

I am interested broadly in how humans abstract away from limited sensory information to create, structure, and communicate higher-level representations. My research addresses the cognitive processes responsible for constructing these representations and the influences of language, culture, and the environment in determining how we think. To this end, my current work focuses on the nature of category systems across languages: how these semantic structures vary, evolve, and influence thought.

I am part of the Evolution of Semantic Systems project, a research initiative of the Max Planck Institute for Psycholinguistics, studying linguistic structure and semantic change in the domains of space, color, body parts, and artifacts across Indo-European languages from Iceland to India.

## EDUCATION & TRAINING

2016- **Postdoctoral Researcher**, Radboud University, Nijmegen, The Netherlands  
Meaning, Culture, and Cognition Lab, Advisor: Asifa Majid

2016 **Ph.D. in Psychology**, University of California, Berkeley  
Language and Cognition Lab, Advisor: Terry Regier

2011 **B.A. in Psychology**, UC Berkeley, with Highest Honors & Departmental Citation  
**B.A. in Linguistics**, UC Berkeley, with (Highest) Honors & Departmental Citation  
(Departmental Citation recognizes one student per department for excellence in the field of study.)  
Advisors: Richard Ivry and Terry Regier

## SELECTED AWARDS

Glushko Dissertation Prize in Cognitive Science, 2017  
National Science Foundation Graduate Research Fellowship, 2013-2016  
Institute of Cognitive and Brain Sciences Research Grant, UC Berkeley, 2013  
Foreign Language and Area Studies Fellowship in African Studies, US Dept. of Education, 2010  
Regents' and Chancellor's Scholarship, UC Berkeley, 2007-2011

## PUBLICATIONS

1. Carstensen, A. and Walker, C. (2017). The paradox of relational development is not universal: Abstract reasoning develops differently across cultures. In G. Gunzelmann et al. (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
2. Carstensen, A. (2016). Universals and variation in language and thought: Concepts, communication, and semantic structure. (PhD thesis). University of California, Berkeley.
3. Tseng, C., Carstensen, A., Regier, T., and Xu, Y. (2016). A computational investigation of the Sapir-Whorf hypothesis: The case of spatial relations. In A. Papafragou et al. (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
4. Regier, T., Carstensen, A., and Kemp, C. (2016). Languages support efficient communication about the environment: Words for snow revisited. *PLOS ONE 11(4)*: e0151138.
5. Carstensen, A., Xu, J., Smith, C., and Regier, T. (2015). Language evolution in the lab tends toward informative communication. In D. Noelle et al. (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society* (pp. 303-308). Austin, TX: Cognitive Science Society.
6. Carstensen, A., Kon, E., and Regier, T. (2014). Testing a rational account of pragmatic reasoning: The case of spatial language. In P. Bello et al. (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2009-2013). Austin, TX: Cognitive Science Society.

7. Carstensen, A. and Regier, T. (2013). Individuals recapitulate the proposed evolutionary development of spatial lexicons. In M. Knauff et al. (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 293-298). Austin, TX: Cognitive Science Society.
8. Carstensen, A., Pacer, M., and Regier, T. (2012). Grounding spatial language in non-linguistic cognition: Evidence for universal *and* relative spatial semantics in thought. In N. Miyake, D. Peebles, and R.P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society* (pp. 827-832). Austin, TX: Cognitive Science Society.
9. Carstensen, A. (2011). Universals and variation in spatial language and cognition. Thesis in linguistics, University of California, Berkeley.
10. Carstensen, A. (2011). Mind the time: Attention mediates cross-domain mappings in time and space. Thesis in psychology, University of California, Berkeley.

#### MANUSCRIPTS IN PREPARATION

- Carstensen, A., Khetarpal, N., Majid, A., Malt, B., Sloman, S., and Regier, T. (under revision). Cross-language universals and variation in cognition: The cases of space and artifacts.
- Carstensen, A. and Regier, T. (under revision). Individuals recapitulate the proposed evolutionary development of spatial lexicons.
- Carstensen, A., Xu, J., Smith, C., and Regier, T. (in preparation). Language evolution in the lab tends toward informative communication.
- Carstensen, A., Bridgers, S., and Regier, T., (in preparation). Language and spatial frames of reference: The effect of verbal interference.

#### CONFERENCE PRESENTATIONS

1. Carstensen, A. & Walker, C. (2017, July). *The paradox of relational development is not universal: Abstract reasoning develops differently across cultures*. Paper to be presented at the 39<sup>th</sup> Annual Conference of the Cognitive Science Society, London, UK.
2. Tseng, C., Carstensen, A., Regier, T., & Xu, Y. (2016, August 13). *A computational investigation of the Sapir-Whorf hypothesis: The case of spatial relations*. Paper presented at the 38<sup>th</sup> Annual Conference of the Cognitive Science Society, Philadelphia, Pennsylvania.
3. Carstensen, A. & Walker, C. (2016, August 10). *The role of language in relational reasoning: Evidence from Mandarin Chinese*. Poster presented at the workshop on Emergent Meaning: Neural, Social, and Computational Perspectives, Bethlehem, Pennsylvania.
4. Shibata, A., Carstensen, A., & Regier, T. (2016, April 30). *Gestured word order is not always universal: Insights from efficient communication*. Poster presented at the 8<sup>th</sup> Annual California Cognitive Science Conference, Berkeley, California.
5. Regier, T., Carstensen, A., & Kemp, C. (2016, March 22). Languages support efficient communication about the environment: Words for snow revisited. Talk presented at the 11<sup>th</sup> International Conference on the Evolution of Language, New Orleans, Louisiana.
6. Carstensen, A., Xu, J., Smith, C., & Regier, T. (2015, July 24). *Language evolution in the lab tends toward informative communication*. Paper presented at the 37<sup>th</sup> Annual Conference of the Cognitive Science Society, Pasadena, California.
7. Carstensen, A., Xu, Y., Kemp, C., & Regier, T. (2015, July 24). *The space of spatial relations: An extended stimulus set*. Poster presented at the 37<sup>th</sup> Annual Conference of the Cognitive Science Society, Pasadena, California.
8. Carstensen, A., Kon, E., & Regier, T. (2014, July 24). *Testing a rational account of pragmatic reasoning: The case of spatial language*. Paper presented at the 36<sup>th</sup> Annual Conference of the Cognitive Science Society, Quebec City, Canada.
9. Carstensen, A., Holmes, K., van der Meer, A., & Regier, T. (2014, July 24). *Locomotion language in the wild: Biomechanical constraints and caveats*. Poster presented at the 36<sup>th</sup> Annual Conference of the Cognitive Science Society, Quebec City, Canada.
10. Carstensen, A., Neveu, G., Michael, L., & Regier, T. (2013, August 3). *Thinking in ways we don't speak: Evidence for a universal preference in semantic granularity*. Poster presented at the 35<sup>th</sup> Annual Conference of the Cognitive Science Society, Berlin, Germany.

11. Carstensen, A. & Regier, T. (2013, August 2). *Individuals recapitulate the proposed evolutionary development of spatial lexicons*. Paper presented at the 35<sup>th</sup> Annual Conference of the Cognitive Science Society, Berlin, Germany.
12. Carstensen, A., Abbott, J., Ivry, R., & Griffiths, T. (2013, July 7). *Using Bayesian models to discriminate theories of magnitude and metaphor*. Talk presented at the Embodied and Situated Language Processing Conference, Potsdam, Germany.
13. Carstensen, A., Pacer, M., & Regier, T. (2012, August 4). *Grounding spatial language in non-linguistic cognition: Evidence for universal and relative spatial semantics in thought*. Paper presented at the 34<sup>th</sup> Annual Conference of the Cognitive Science Society, Sapporo, Japan.
14. Carstensen, A., Khetarpal, N., Majid, A., & Regier, T. (2011, July 22). *Universals and variation in spatial language and cognition: Evidence from Chichewa*. Poster presented at the 33<sup>rd</sup> Annual Conference of the Cognitive Science Society, Boston, Massachusetts.
15. Carstensen, A. & Ivry, R. (2010, September 18). *Time in the mind: Is space an obligatory influence on temporal judgments?* Poster presented at the joint meeting of the Conceptual Structure, Discourse and Language (CSDL) and Embodied and Situated Language Processing (ESLP) Associations, San Diego, California.
16. Carstensen, A., Wallace, D., Miyakawa, A., Nomura, E., Vytlačil, J., Fegan, D., and D'Esposito, M. (2010, April 23). *Effects of dopamine on cognitive efficiency: A pharmacological fMRI study*. Poster presented in the Psi Chi Poster Session at the 90<sup>th</sup> Annual Western Psychological Association Convention, Cancún, Mexico.

## INVITED TALKS

- 2017 Nijmegen Gesture Centre, MPI Psycholinguistics, Nijmegen, The Netherlands
- 2016 Diversity in Language, Culture, and Cognition Colloquium, Max Planck Institute for Psycholinguistics
- 2016 NightLife, California Academy of Sciences, San Francisco
- 2016 Cognition and Neuroscience Seminar (FriSem), Stanford University
- 2016 Cognition Colloquium, Psychology Department, UC Berkeley
- 2016 CogSci 98/198 (Berkeley Review of Cognitive Science Articles), UC Berkeley
- 2015 CogNetwork Forum, Linguistics Department, UC Berkeley
- 2015 Berkeley-Stanford Cognition Conference, Psychology Department, UC Berkeley
- 2015 Cognitive Science Student Association, Cognitive Science Program, UC Berkeley
- 2014 CogSci 98/198 (Berkeley Review of Cognitive Science Articles), UC Berkeley
- 2014 Cognition Coalition Cognitive Science Day, Psychology Department, UC Berkeley
- 2013 CogNetwork Forum, Linguistics Department, UC Berkeley
- 2013 Institute of Cognitive and Brain Science Colloquium, UC Berkeley
- 2013 Cognition, Brain, and Behavior Colloquium, Psychology Department, UC Berkeley
- 2013 Cognition Coalition Cognitive Science Day, Psychology Department, UC Berkeley
- 2012 Berkeley-Stanford Cognition Conference, Psychology Department, UC Berkeley
- 2012 Cognition Coalition Cognitive Science Day, Psychology Department, UC Berkeley
- 2011 Institute of Cognitive and Brain Science Colloquium, UC Berkeley
- 2011 Cognition, Brain, and Behavior Colloquium, Psychology Department, UC Berkeley
- 2010 California Cognitive Science Conference, Cognitive Science Program, UC Berkeley

## TEACHING

- Lecturer, Language and Thought  
University of California, Berkeley: Summer 2016
- Graduate Student Instructor, Language and Thought  
University of California, Berkeley: Spring 2015
- Graduate Student Instructor, Introduction to Cognitive Science  
University of California, Berkeley: Fall 2012
- Graduate Student Instructor, Psychology of Sleep  
University of California, Berkeley: Fall 2011

Course Designer and Facilitator, Psychology Publications DeCal  
(DeCals are officially registered student-led courses at UC Berkeley)  
University of California, Berkeley: Spring 2010, Fall 2010, Spring 2011

Volunteer Teacher, Health and Environmental Conservation  
World Camp for Kids, Lilongwe, Malawi: Summer 2009

## **ADVISING**

Elizabeth Kon, Research Assistant and Honors Thesis Student  
Thesis awarded the Glushko Prize for Distinguished Undergraduate Research in Cognitive Science  
Departmental Citation as the top graduating student in the Cognitive Science Program and Linguistics Department  
University of California, Berkeley: 2013-2016

## **MENTORSHIP**

Graduate student mentor, Language and Cognition Lab  
University of California, Berkeley: 2011-2016  
*Mentored and supervised over 40 undergraduate and graduate researchers conducting fieldwork and behavioral experiments locally and internationally in more than 10 languages.*

Graduate Diversity Program: Getting into Graduate School (GiGS)  
University of California, Berkeley: 2015-2016  
*Advised first-generation college students from underrepresented backgrounds on graduate school selection, application development, and the interview and negotiation process.*

Native American Student Development: Pathways to Success  
University of California, Berkeley: 2014-2016  
*Mentored and supported Native American undergraduates in academic and personal contexts.*

## **PROFESSIONAL SERVICE**

Ad Hoc Reviewer: Cognition, Journal of Experimental Psychology: General, Cognitive Science, Journal of Neurophysiology, Experimental Brain Research, Journal of Cross-Cultural Psychology, Cognitive Science Conference, Evolution of Language Conference

Co-Organizer, Evolution of Semantic Systems Consortium Workshop on Romance Languages  
A research initiative of the Max Planck Institute for Psycholinguistics & Radboud University; Paris, France: 2017

Co-Organizer, Kletsoppen Language Festival for Children  
Nijmegen, The Netherlands: 2017

Psychology Faculty Search Committee Student Representative  
University of California, Berkeley: 2014

Co-Organizer, Berkeley-Stanford Cognition Conference  
Stanford University and University of California, Berkeley: 2011-2013

Editor-In-Chief, Undergraduate Journal of Psychology at Berkeley  
University of California, Berkeley: 2009-2011

College of Letters and Science Student Representative, Student Advisory Council on Undergraduate Education  
University of California, Berkeley: 2009-2011

Founding Director, Psychology Undergraduate Research Conference  
University of California, Berkeley: 2009

## **POSTGRADUATE SCHOOLS**

Postgraduate Spring School: Quantitative Methods in Linguistic and Cultural Evolution  
Max Planck Institute for the Science of Human History  
Jena, Germany, 2017

Graduate Summer School: Probabilistic Models of Cognition, Graduate Summer School  
Institute for Pure and Applied Mathematics  
University of California, Los Angeles, 2011

## **SCHOLARSHIPS & AWARDS**

Psychology Travel Award, UC Berkeley, 2016  
Graduate Division Conference Travel Grant, UC Berkeley, 2015  
Graduate Assembly Travel Award, UC Berkeley, 2014  
Graduate Division Conference Travel Grant, UC Berkeley, 2014  
Psychology Travel Award, UC Berkeley, 2013  
Honorable Mention, Ford Foundation Fellowship Program, 2012  
Psychology Travel Award, UC Berkeley, 2012  
Honorable Mention, National Science Foundation Graduate Research Fellowship Program, 2011  
Institute for Pure and Applied Mathematics Travel Scholarship, UCLA, 2011  
Western Psychological Foundation Student Scholarship, 2010  
Psi Chi Regional Research Award, 2010  
Conceptual Structure, Discourse, and Language (and ESLP) Conference Travel Scholarship, 2010  
Phi Beta Kappa, 2010  
Letters & Science Undergraduate Research Fellowship, UC Berkeley, 2010  
Swan Undergraduate Research Award in Psychology, UC Berkeley Psychology, 2009 & 2010  
Mortar Board National College Senior Honor Society, 2009  
National Society of Collegiate Scholars, 2009  
Psi Chi International Society in Psychology, 2008  
National Merit Scholarship, UC Berkeley, 2007-2011