# Sean T. Trott

Assistant Teaching Professor | University of California, San Diego
Ambiguity | Language and cultural evolution | Large language models
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## PROFESSIONAL EXPERIENCE

**Assistant Teaching Professor**                                                                  *2022-Present*
Department of Cognitive Science, University of California, San Diego
Joint Appointment in Computational Social Science

## EDUCATION

**Ph.D.  Student in Cognitive Science**                                                         *2016-2022*
*University of California, San Diego*
         Advisor: Benjamin Bergen

**B.A. in Cognitive Science, High Honors**                                                   *2010-2014*
*University of California, Berkeley*
         Thesis advisor: Terry Regier

## TEACHING AND MENTORSHIP

**Primary Instructor**                                                                                   *2021-Present*
COGS 153: Language Comprehension [Fall, 2023]
CSS 1: Introductory Programming for Computational Social Science [Fall, 2022]
COGS 14A: Introduction to Research Methods [Spring, 2023]
COGS 101C: Language [Winter, 2023]
CSS 2: Data and Model Programming for Computational Social Science [Winter, 2023]
CSS 1: Introductory Programming for Computational Social Science [Fall, 2022]
COGS 101C: Language [Spring, 2022]
COGS 14B: Introduction to Statistical Analysis [Summer 2021]

COGS 14B: Introduction to Statistical Analysis [Summer 2020]

**Teaching Assistant** *2016-2022*
COGS 101C: Language [Winter, 2022]
COGS 137: Practical Data Science in R [Fall 2021]
COGS 101B: Learning, Memory, and Attention [Winter 2021]
COGS 109: Data Analysis and Modeling [Spring 2021]
COGS 153: Language Comprehension [Spring 2021]
COGS 14B: Introduction to Statistical Analysis [Fall 2020]
COGS 14B: Introduction to Statistical Analysis [Winter 2020]
COGS 14A: Introduction to Research Methods [Winter 2018]
COGS 100: Cyborgs Now and in the Future [Fall 2017]
COGS 101C: Language [Spring 2017]
COGS 3: Introduction to Computing [Winter 2017]

**Mentorship**
2023: Sidney Ma, Kai Bian
2021: Monica Van
2020: Alex Liebscher
2019: Stefanie Reed

**Mentee-led Presentations and Publications**

Liebscher, A., Trott, S., & Bergen, B. (2020). Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients. In *CogSci*.


# ADDITIONAL TRAINING

*2020*: **Course Design Workshop**: Teaching and Learning Hub, UC San Diego

# HONORS AND AWARDS

**Chancellor's Research Excellence Scholarship** (CRES) *2018-2019*
*Why are some people better at inferring what others mean?*
*Mentors*: Benjamin Bergen (Cognitive Science); James Hollan (Cognitive Science, CSE)

**UC San Diego Teaching Awards** (*Nominated by department*) *2021*

## Journal Articles

**Trott, S.,** Jones, C., Chang, T., Michaelov, J., & Bergen, B. (2023). Do Large Language Models know what humans know? *Cognitive Science*, *47*(7), e13309. [**IF**: 2.5]

**Trott, S.,** & Bergen, B. (2023.) Word meaning is both categorical and continuous. *Psychological Review*. [**IF**: 8.247]

Ruytenbeek, N., Bergen, B., & **Trott, S.** (2023). Prosody and speech act interpretation: The case of French indirect requests. *Journal of French Language Studies*. [**IF:** 0.27]

DeLong, K., **Trott, S.,** Kutas, M. (2022). Offline dominance and zeugmatic similarity normings of variably ambiguous words assessed against a neural language model (BERT). *Behavior Research Methods*. [**IF:** 6.08]

**Trott, S.,** Bergen, B., & Wittenberg, E. (2022). Spontaneous, controlled acts of reference between friends and strangers. *Language Resources and Evaluation*, 1-25. [**IF**: 1.358]

Morey, R. D., Kaschak, M. P., Díez-Álamo, A. M., Glenberg, A. M., Zwaan, R. A., Lakens, D., … **Trott, S.** ... & Ziv-Crispel, N. (2022). A pre-registered, multi-lab non-replication of the action-sentence compatibility effect (ACE). *Psychonomic bulletin & review*, *29*(2), 613-626. [**IF**: 4.41]

**Trott, S.,** Reed, S., Kaliblotzky, D., Ferreira, V., & Bergen, B. (2022). The Role of Prosody in Disambiguating English Indirect Requests. *Language and Speech*, 00238309221087715. [**IF**: 1.47]

**Trott, S**., & Bergen, B. (2022). Languages are efficient, but for whom? *Cognition*, *225*, 105094.

**Trott, S.,** & Bergen, B. (2020). Why do human languages have homophones? *Cognition*, *205*, 104449.

**Trott, S.,** & Bergen, B. (2020). When Do Comprehenders Mentalize for Pragmatic Inference?. *Discourse Processes*, 1-21.

**Trott, S.,** & Rossano, F. (2020). The Role of Entitlement in Formatting Preferences Across Requesters and Recipients. *Discourse Processes*, 1-22.

**Trott, S.,** & Bergen, B. (2018). Individual Differences in Mentalizing Capacity Predict Indirect Request Comprehension. *Discourse Processes*, 1-33.

## High-Impact Conference Proceedings[1]

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[1] In computational research (e.g., computational linguistics), conferences are the highest-impact venue for cutting-edge work.

Jones, C. R., **Trott**, S., & Bergen, B. (2023, June). EPITOME: Experimental Protocol Inventory for Theory Of Mind Evaluation. In *First Workshop on Theory of Mind in Communicating Agents*.

Jones, C. R., Chang, T. A., Coulson, S., Michaelov, J. A., **Trott, S.**, & Bergen, B. (2022). Distributional Semantics Still Can't Account for Affordances. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

**Trott, S.,** & Bergen, B. (2022). Can a pressure against homophones explain phonological neighborhoods?. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

**Trott, S.,** & Bergen, B. (2021). RAW-C: Relatedness of Ambiguous Words—in Context (A New Lexical Resource for English). *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th Joint International Conference on Natural Language Processing.* (Acceptance rate: 21.3%)

**Trott, S.,** Torrent, T. T., Chang, N., & Schneider, N. (2020). (Re) construing Meaning in NLP. *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics.* (Acceptance rate: 25.2%)

Liebscher, A., Trott, S., & Bergen, B. (2020). Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients. In *CogSci*. (Acceptance rate: ~20.4%)

**Trott, S**., Reed, S., Ferreira, V., Bergen, B. (2019). Prosodic cues signal the intent of potential indirect requests. *Proceedings of the 41st annual meeting of the Cognitive Science Society*. Montreal, Cognitive Science Society. (Acceptance rate: 18.2%)

## Pending Articles

**Trott, S.** (Under Review). Can Large Language Models Help Augment English Psycholinguistic Datasets?

## WORKSHOP PUBLICATIONS AND PRESENTATIONS

## Workshop Publications

**Trott, S**., Rossano, F. (2017). Theoretical Concerns for the Integration of Repair. *AAAI Fall Symposia Series: AI for Human-Robot Interaction.*

**Trott, S**., Bergen, B. (2017). A Theoretical Model of Indirect Request Comprehension. *AAAI Fall Symposia Series: AI for Human-Robot Interaction.*

Raghuram, V., Shen, K., Goldberg, E., Oderberg, S., & **Trott, S**. (2017). Semantically-Driven Coreference Resolution with Embodied Construction Grammar. *AAAI Workshop: Computational construction grammar and language understanding.*

Dodge, E., **Trott, S.,** Gilardi, L., & Stickles, E. (2017). *Grammar Scaling: Leveraging FrameNet Data to Increase Embodied Construction Grammar Coverage.* Technical report, AAAI SS-17-02.

Doubleday, **S. Trott**, S. Feldman, J. (2016). Processing Natural Language About Ongoing Actions. Published on arxiv.org ([http://arxiv.org/abs/1607.06875](http://arxiv.org/abs/1607.06875)).

Eppe, M., **Trott, S**., Raghuram, V., Feldman, J., & Janin, A. (2016). Application-Independent and Integration-Friendly Natural Language Understanding. *EPiC Series in Computing*, *41*(GCAI 2016. 2nd Global Conference on Artificial Intelligence), 340–352.

**Trott, S**., Eppe, M., & Feldman, J. (2016). Recognizing Intention from Natural Language : Clarification Dialog and Construction Grammar. *Workshop on Communicating Intentions in Human-Robot Interaction*.

**Trott, S**., Appriou, A., Feldman, J., & Janin, A. (2015). Natural Language Understanding and Communication for Multi-Agent Systems. *AAAI Fall Symposium*, 137–141.

Feldman, J., **Trott, S.,** Khayrallah, H. (2015). Natural Language for Human Robot Interaction. Proceedings of the Workshop on Human-Robot Teaming at the 10th ACM/IEEE International Conference on Human-Robot Interaction, Portland, Oregon.

## Presentations

**Trott, S.,** & Bergen, B. (2022). Can a pressure against homophones explain phonological neighborhoods?. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

**Trott, S.,** & Bergen, B. (2021). RAW-C: Relatedness of Ambiguous Words—in Context (A New Lexical Resource for English). *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th Joint International Conference on Natural Language Processing.* (Acceptance rate: 21.3%)

**Trott, S.,** Torrent, T. T., Chang, N., & Schneider, N. (2020). (Re) construing Meaning in NLP. *Proceedings of the 58ᵗʰ Annual Meeting of the Association for Computational Linguistics.* (Acceptance rate: 25.2%)

**Trott, S**., Bergen, B. (2018). Mentalizing predicts perspective-taking during indirect request comprehension. *Center for Research in Language,* UC San Diego.

**Trott, S**., Rossano, F. (2017). Theoretical Concerns for the Integration of Repair. *AAAI Fall Symposia Series: AI for Human-Robot Interaction.*

**Trott, S**., Bergen, B. (2017). A Theoretical Model of Indirect Request Comprehension. *AAAI Fall Symposia Series: AI for Human-Robot Interaction.*

**Trott, S**., Bergen, B. (2017). The Role of Mentalizing in Pragmatic Inference. *Ad Astra*, UC San Diego.

**Trott, S**., Eppe, M., & Feldman, J. (2016). Recognizing Intention from Natural Language : Clarification Dialog and Construction Grammar. *Workshop on Communicating Intentions in Human-Robot Interaction*.

**Trott, S**., Appriou, A., Feldman, J., & Janin, A. (2015). Natural Language Understanding and Communication for Multi-Agent Systems. *AAAI Fall Symposium*, 137–141.

## SERVICE AND PROFESSIONAL ACTIVITIES

**Department Service:**
CSS M.S. Admissions Committee [Winter, 2023]
*Statistics Training Assistant* [2019 – 2021]
*Co-organizer of COGS 200 seminar* [Spring, 2019]
*Undergraduate Liaison* [2018 – 2019]

**Ad-Hoc Journal Reviewer**
Natural Language Engineering
Proceedings of the National Academy of Sciences
Cognitive Science
Mind and Language
Linguistics Vanguard
Behavior Research Methods

## OTHER WORK EXPERIENCE

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**Google**
*Research Intern* (6/10/2019 – 9/10/2019)
- Proposed and implemented a system to analyze non-literal language use (e.g., metaphor, construal).
- Probed state-of-the-art language models (BERT) for evidence of construal.
- Wrote a paper for eventual publication in *ACL* (Trott et al, 2020).

**Classy**
*Data Science Intern* (6/20/2018 – 9/15/2019)
- Constructed a feature extraction pipeline (e.g., sentiment analysis, topic modeling) for charity campaigns.
- Conducted statistical analyses to predict measures of campaign success.

**International Computer Science Institute**
*Research Assistant* (6/2/2014 – 7/16/2016)
- Built an end-to-end system for Natural Language Understanding in a restricted domain.
- Created documentation and published papers about the NLU system in academic conferences (e.g., Trott et al., 2016).