

Robert X.D. Hawkins

CONTACT INFORMATION Stanford University *Cell:* (217)-549-6923
450 Serra Mall *E-mail:* rxdh@stanford.edu
Stanford, CA 94305 *WWW:* <http://rxdhawkins.wordpress.com/>

EDUCATION **Stanford University**, 2014 – Present

&
ACADEMIC PhD Student, Psychology

APPOINTMENTS **Santa Fe Institute**, Summers 2012 & 2013

Edward A. Knapp Undergraduate Fellow, Complex Systems

Indiana University, 2010 – 2014

BS with Highest Distinction, Mathematics and Cognitive Science

JOURNAL PUBLICATIONS **Hawkins, R.X.D.**, Frank, M.C., Goodman, N.D. (in prep). Convention-formation in a communication model.

Hawkins, R.X.D., Goodman, N.D. (in prep). Why do you ask? Good questions provoke informative answers.

Degen, J., Graf, C., **Hawkins, R.X.D.**, Goodman, N.D. (in prep). Over 'over-informativeness': rational redundant referring expressions.

Hawkins, R.X.D., Smith, E., Psych 254 Students, Frank, M.C. (under review). Improving the Replicability of Psychological Science Through Pedagogy.

Monroe, W., **Hawkins, R.X.D.**, Goodman, N.D., Potts, C. (Accepted). Colors in Context: A Pragmatic Neural Model for Grounded Language Understanding. *Transactions of the Association for Computational Linguistics*.

Avena-Koenigsberger, A, Masic, B., **Hawkins, R.X.D.**, Griffa, A., Hagmann, P., Goñi, J., and Sporns, O. (2017). Path ensembles and a tradeoff between communication efficiency and resilience in the human connectome. *Brain Structure and Function*, 222 (1), 603-618

Hawkins, R.X.D., Goldstone, R. L. (2016). The formation of social conventions in real-time environments. *PLoS ONE*, 11 (3), e0151670.

Hawkins, R.X.D., Hout, J.W., Eidels, A., Townsend, J.T. (2016). Can two dots form a Gestalt? Measuring emergent features with the capacity coefficient. *Vision Research*, 126, 19–33.

Silbert, N. H., **Hawkins, R.X.D.** (2016). A tutorial on general recognition theory. *Journal of Mathematical Psychology*, 73, 94-109.

Hawkins, R.X.D. (2015). Conducting real-time multiplayer experiments on the web. *Behavior Research Methods*, 47 (4), 966-976

DeDeo, S., **Hawkins, R.X.D.**, Klingenstein, S., Hitchcock, T. (2013). Bootstrap methods for the empirical study of decision-making and information flows in social systems. *Entropy*, 15 (6), 2246-2276.

PEER-
REVIEWED
CONFERENCE
PROCEEDINGS

Hawkins, R.X.D., Frank, M.C., Goodman, N.D. (Accepted). Convention-formation in iterated reference games. *Proceedings of the Thirty-Ninth Annual Conference of the Cognitive Science Society*.

C. Graf, J. Degen, **Hawkins, R.X.D.**, N.D. Goodman (2016). Animal, dog, or dalmatian? Level of abstraction in nominal referring expressions. *Proceedings of the Thirty-Eighth Annual Conference of the Cognitive Science Society*.

Hawkins, R.X.D., N.D. Goodman (2016). Conversational expectations account for apparent limits on theory of mind use. *Proceedings of the Thirty-Eighth Annual Conference of the Cognitive Science Society*.

Hawkins, R.X.D., A. Stuhlmüller, J. Degen, N.D. Goodman (2015). Why do you ask? Good questions provoke informative answers. *Proceedings of the Thirty-Seventh Annual Conference of the Cognitive Science Society*.

P.M. Krafft, **Hawkins, R.X.D.**, A.S. Pentland, N.D. Goodman, J.B. Tenenbaum (2015). Emergent collective sensing in human groups. *Proceedings of the Thirty-Seventh Annual Conference of the Cognitive Science Society*.

BOOK
CHAPTERS

D. Algom, A. Eidels, **Hawkins, R.X.D.**, B. Jefferson, J.T. Townsend, (2015). Features of response times: Identification of cognitive mechanisms through mathematical modeling. In *The Oxford Handbook of Computational and Mathematical Psychology*.

TECHNICAL
REPORTS

A. Stuhlmüller, **R. X. D. Hawkins**, S. Narayanaswamy, N.D. Goodman (2015). Coarse-to-fine sequential Monte Carlo for probabilistic programs. arXiv:1509.02962.

OTHER
PRESENTATIONS

Hawkins, R.X.D., N.D. Goodman (2016). Conventionalization in communication games. FriSem; Stanford, CA; April 22, 2016.

Hawkins, R.X.D., N.D. Goodman (2015). Why do you ask? Good questions provoke informative answers. Talk at 14th Annual Summer Interdisciplinary Conference, Mammoth Lakes, CA, July 11, 2015.

Hawkins, R.X.D. (2015). The formation of lexical conventions in communication games. Invited seminar for CSLI Summer Internship program, Stanford, CA, June 26, 2015.

Hawkins, R.X.D., R.L. Goldstone (2014). Efficiency, fairness, and stability in a real-time, asynchronous game. Talk presented at 4th Annual Midwest Cognitive Science Conference, Dayton, OH, May 31, 2014.

Hawkins, R.X.D. (2014). The contribution of configuration to visual perception. Invited platform talk at STARS Research Symposium, Bloomington, IN, March 29, 2014.

Hawkins, R.X.D. (2013). Applications of information theory in cognitive science. Invited talk at 'Grey Matters' graduate student colloquium, Bloomington, IN, November 18, 2013.

- Hawkins, R.X.D.**, R.L. Goldstone. (2013). Real-time strategy: Multi-level group dynamics in an uncertain environment. Poster at 35th Annual Conference of the Cognitive Science Society; Berlin, Germany, August 2, 2013.
- Hawkins, R.X.D.**, S. DeDeo (2012). The emergence of insurgency in Afghanistan. NSF REU Final Presentation at Santa Fe Institute, Santa Fe, NM, August, 8, 2012.
- Hawkins, R.X.D.**, J.W. Houpt, A. Eidels, J.T. Townsend (2012). Fundamental properties of simple emergent feature processing. Poster at 12th VSS; Naples, FL, May 14, 2012.
- Hawkins, R.X.D.** (2012). Quantifying emergence in perceptual organization. Talk presented at Midwest Undergraduate Cognitive Science Conference; Bloomington, IN, April 15, 2012. [**Winner of Best Paper Award**]
- Hawkins, R.X.D.**, J.W. Houpt, A. Eidels, J.T. Townsend, M.J. Wenger (2011). Fundamental properties of simple emergent feature processing. Poster at Object Perception, Attention, and Memory; Seattle, WA, November 3, 2011.
- Hawkins, R.X.D.**, J.W. Houpt (2011). Basic features in visual perception. Talk presented at Midwest Undergraduate Cognitive Science Conference; Bloomington, IN, April 2, 2011.

AWARDS AND
HONORS

- Cognitive Science Society travel grant, 2016
 Cognitive Science Society prize for computational modeling in Applied Cognition, 2015
 E.K. Potter Fellow, Stanford Graduate Fellowship, 2014
 NSF Graduate Research Fellowship, 2014
 Phi Beta Kappa, 2013
 Sigma Xi Outstanding Undergraduate Research Award, 2013
Indiana University
- Cognitive Science Program Award for Outstanding Achievement, 2013
 - Cognitive Science Program Award for Outstanding Contribution, 2012
 - Hutton Honors College: Research Partnership Grant, 2011
 - Arthur R. Metz Scholarship, 2010
 - Science, Technology, and Research Scholar, 2010

TEACHING
EXPERIENCE

- Graduate Teaching Assistant*, Stanford University
- Computation and Cognition: the Probabilistic Approach, Fall 2016
 - Bayesian Statistics for Psychologists, Summer 2016
 - Lab in Experimental Methods, Winter 2016
 - Statistical Methods for Behavioral and Social Sciences, Fall 2015
- Undergraduate Teaching Assistant*, Indiana University
- Programming Languages, Fall 2012, Spring 2013
 - Philosophical Foundations of Cognitive Science, Spring 2012

PROFESSIONAL
SERVICE

Ad Hoc Reviewer

- *Journal of Experimental Psychology: Human Perception and Performance*
- *Behavior Research Methods*
- *Cognitive Science*
- *Cognitive Science Society conference proceedings*

Conference Service

- Co-organizer for “Emergence of Conventions” symposium at the 38th Annual Meeting of the Cognitive Science Society, Philadelphia, PA, 2016
- Co-organizer for Stanford-Berkeley Cognitive Area Meetup, Berkeley, CA, 2015
- Co-organizer for 5th Annual Midwest Undergraduate Cognitive Science Conference, Bloomington, IN, 2013

President, Student Organization for Cognitive Science at Indiana University, 2011 - 2012

Member, Vice Provost for Undergraduate Education Advisory Board, 2011 - 2012