

david reitter

Assistant Professor of Information Sciences and Technology

Applied Cognitive Science Lab and Center for Language Science

The Pennsylvania State University, University Park

reitter@psu.edu

EDUCATION

| | |
|--|-----------|
| Postdoc (Psychology), Carnegie Mellon University, Pittsburgh, PA | 2008-2012 |
| PhD (Cognitive Science), School of Informatics, University of Edinburgh, UK | 2008 |
| MSc (Computer Science), University College Dublin, Ireland | 2005 |
| Diplom (Computational Linguistics), University of Potsdam, Germany | 2003 |

EMPLOYMENT

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|--|-----------|
| Assistant Professor, College of Information Sciences and Technology, Penn State Co-Director, Applied Cognitive Science Lab. Affiliated Faculty: Center for Language Science, Penn State | 2012- |
| Special Faculty (Intro Cognitive Psychology), Carnegie Mellon University | 2011-2012 |
| Research Fellow, MIT Media Lab Europe, Dublin, Ireland | 2002-2004 |
| Computational Linguist, Agentscape AG, Berlin, Germany | 2000-2001 |
| Radio journalist (freelance, desk editor) for RadioEINS, Berlin, and ARD, Germany | 1999-2002 |

March 15, 2018

Publications

MANUSCRIPTS

Moojan Ghafurian* and David Reitter
Impatience in Dynamic Decision Making.
In review.

Moojan Ghafurian*, Frank E. Ritter, and David Reitter
Countdown timer speed: a trade-off between delay duration perception and recall
In review.

Moojan Ghafurian* and David Reitter
Moral decision-making about time: How appropriate is it to save time by taking it from others?
In review.

David Reitter, Yafei Wang*, and John Yen
Linguistic alignment as temporal-causal factor for sentiment change
In preparation.

David Reitter and Jens Grossklags
Timing decisions: How individual differences and task perception affect choices.
In revision.

*Asterisks indicate advisees.
Publications are available at
www.david-reitter.com/pub

JOURNAL ARTICLES AND ARCHIVAL PREMIER-TIER CONFERENCE PAPERS

Jeremy R. Cole*, and David Reitter.
The Timing of Lexical Memory Retrievals in Language Production.
In *Proceedings of the 16th Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*. New Orleans, LA, to appear 2018.

Yang Xu* and David Reitter.
Information density converges in dialogue: Towards an information-theoretic model.
Cognition 170, 147-163, <https://doi.org/10.1016/j.cognition.2017.09.018>, 2018.

Michael T. Putnam, Matthew Carlson, and David Reitter.
Integrated, not isolated: Defining typological proximity in an integrated multilingual architecture.
Frontiers in Psychology, <https://doi.org/10.3389/fpsyg.2017.02212>, 2018.

Alexander G. Ororbia II*, Tomas Mikolov, and David Reitter.
Learning Simpler Language Models with the Delta Recurrent Neural Network Framework.
Neural Computation 29(12), 3327-3352, https://doi.org/10.1162/neco_a_01017, 2017.

Bill McDowell*, Nathaniel Chambers, Alexander Ororbia II*, and David Reitter.
Event Ordering with a Generalized Model for Sieve Prediction Ranking.
In *2017 International Joint Conference in Natural Language Processing (IJCNLP)*, 843-853.
<http://www.aclweb.org/anthology/I17-1085>, Taipei, Taiwan, 2017.

Yang Xu* and David Reitter.

Spectral Analysis of Information Density in Dialogue Predicts Collaborative Task Performance.

In *Proc. 55th Annual Mtg. of the Association for Computational Linguistics (ACL)*, 147-163.

<http://aclweb.org/anthology/P17-1058>, Vancouver, Canada, 2017.

Margreet Vogelzang, Anne C. Mills, David Reitter, Jacolien Van Rij, Petra Hendriks, and Hedderik Van Rijn.

Toward cognitively constrained models of language processing: A review.

Frontiers in Communication, 2(11), <https://doi.org/10.3389/fcomm.2017.00011>, 2017.

Vito D'Orazio, Michael Kenwick, Matthew Lane, G. Palmer, and David Reitter.

Crowdsourcing the measurement of interstate conflict.

PLOS ONE, 11(6), <https://doi.org/10.1371/journal.pone.0156527>, 2016.

Yang Xu* and David Reitter.

Entropy converges between dialogue participants: Explanations from an information-theoretic perspective.

In *Proc. 54th Annual Mtg. Association for Computational Linguistics (ACL)*, Vol. 1 (Long Papers), 537-546,

<http://anthology.aclweb.org/P16-1051>, Berlin, Germany, 2016.

Yang Xu* and David Reitter.

Convergence of Syntactic Complexity in Conversation

In *Proc. 54th Annual Mtg. Association for Computational Linguistics (ACL)*, Vol. 2 (Short Papers), 443-448,

<http://anthology.aclweb.org/P16-2072>, Berlin, Germany, 2016.

Jeyon Paik, Jong Kim, Frank E. Ritter, and David Reitter

Predicting User Performance and Learning in Human-Computer Interaction with the Herbal Compiler.

ACM Transactions on Computer-Human Interaction 22 (5), <https://doi.org/10.1145/2776891>, 2015.

Alexander G. Ororbia II*, C. Lee Giles, and David Reitter.

Learning a Deep Hybrid Model for Semi-Supervised Text Classification.

In *Proc. Empirical Methods in Natural Language Processing (EMNLP)*, 471-481,

<http://anthology.aclweb.org/D15-1053>, Lisbon, Portugal, 2015.

Alexander G. Ororbia II*, David Reitter, Jian Wu, and C. Lee Giles.

Online Learning of Deep Hybrid Architectures for Semi-Supervised Categorization.

In *Machine Learning and Knowledge Discovery in Databases. Proc. European Conference, ECML PKDD*

2015. Lecture Notes in Computer Science, vol 9284. pp 516-532. Porto, Portugal: Springer, 2015.

David Reitter and Johanna D. Moore.

Alignment and Task Success in Spoken Dialogue.

Journal of Memory and Language, 76, 29-46, <https://doi.org/10.1016/j.jml.2014.05.008>, 2014.

Jens Grossklags and David Reitter.

How Task Familiarity and Cognitive Predispositions Impact Behavior in a Security Game of Timing.

In *Proc. 27th IEEE Computer Security Foundations Symposium (CSF)*. Vienna, Austria: IEEE, 2014.

David Reitter and Christian Lebiere.

Social cognition: Memory decay and adaptive information filtering for robust information maintenance.
In Proc. *Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI)*, Toronto, Ontario, 2012.

David Reitter, Frank Keller, and Johanna D. Moore.

A computational cognitive model of syntactic priming.

Cognitive Science, 35(4):587-637, <http://doi.org/10.1111/j.1551-6709.2010.01165.x>, 2011.

David Reitter and Christian Lebiere.

How groups develop a specialized domain vocabulary: A cognitive multi-agent model.

Cognitive Systems Research, 12(2):175-185, 2011.

David Reitter and Christian Lebiere.

A cognitive model of spatial path planning.

Computational and Mathematical Organization Theory, 16(3):220-245, 2010.

David Reitter.

Metacognition and multiple strategies in a cognitive model of online control.

Journal of Artificial General Intelligence, 2(2):20-37, 2010.

Kevin A. Gluck, Clayton T. Stanley, Jr., L. Richard Moore, David Reitter, and Marc Halbrügge.

Exploration for understanding in cognitive modeling.

Journal of Artificial General Intelligence, 2(2):88-107, 2010.

David Reitter and Johanna D. Moore.

Predicting success in dialogue.

In Proc. *45th Annual Meeting of the Association of Computational Linguistics (ACL)*, pp. 808-815, Prague, Czech Republic, 2007.

David Reitter, Julia Hockenmaier, and Frank Keller.

Priming effects in Combinatory Categorical Grammar.

In: Proc. *2006 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 308-316, Sydney, Australia, 2006.

David Reitter, Frank Keller, and Johanna D. Moore.

Computational modelling of structural priming in dialogue.

In Proc. *Human Language Technology conference - North American chapter of the Association for Computational Linguistics annual meeting (HLT-NAACL)*, pp. 121-124, New York, 2006.

David Reitter.

Simple signals for complex rhetorics: On rhetorical analysis with rich-feature support vector models.

LDV-Forum, Journal for Computational Linguistics and Language Technology, 18(1/2):38-52, 2003.

ARCHIVAL REFEREED CONFERENCE ARTICLES AND BOOK CHAPTERS

Yafei Wang*, David Reitter, John Yen

How emotional support and informational support relate to linguistic alignment.

In: *Social, Cultural, and Behavioral Modeling (SBP)*, pp. 25-34, Washington, DC: Springer, 2017.

Jeremy Cole*, Moojan Ghafurian*, David Reitter

Is word adoption a grassroots process? An analysis of Reddit communities.

In: *Social, Cultural, and Behavioral Modeling (SBP)*, pp. 236-241, Washington, DC: Springer, 2017.

David Reitter

Who aligns with whom in web forum dialogue: Studies in big-data computational psycholinguistics
In M. N. Jones (Ed.), *Big Data in Cognitive Science*, pp. 246-269, Routledge Psychology Press. 2017.

Moojan Ghafurian*, David Reitter

Impatience induced by waiting: An Effect moderated by the speed of countdowns
In *Proc. Designing Interactive Systems (DIS)*, 556-564, Brisbane, Australia, 2016.

Jeremy Cole*, Ying Xu, and David Reitter

How people talk about armed conflicts
In *Social, Cultural, and Behavioral Modeling (SBP-BRiMS)*. Lecture Notes in Computer Science, vol 9708.
pages 366-376. Washington, DC: Springer, 2016.

Alexander G. Ororbia II*, Yang Xu*, David Reitter, and Vito D'Orazio

Error-correction and aggregation in crowd-sourcing of geopolitical incident information.
In *Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP)*. Lecture Notes in Computer
Science vol 9021. pp 381-387. Washington DC:Springer, 2015.

David Reitter

Hungry wolves, creepy sheepies: The gamification of the programmer's classroom.
In J. M. Carroll (Ed.), *Innovative practices in teaching information sciences and technology* (pp. 19-29).
Springer, 2014.

NON-ARCHIVAL REFEREED PAPERS

Matthew A. Kelly*, and David Reitter.

Holographic declarative memory: Using distributional semantics within ACT-R.
In *Proceedings of the AAAI Fall Symposium on A Standard Model of the Mind*. Arlington, VA, 2017.

Jeremy Cole*, Moojan Ghafurian*, and David Reitter

Linking memory Activation and Word Adoption in Social Language Use via Rational Analysis.
In: *Proceedings of the 15th International Conference on Cognitive Modeling (ICCM)*. London, UK, 2017.

Jeremy Cole* and David Reitter

Examining working memory during sentence construction with an ACT-R model of grammatical encoding.
In *Proceedings of the 15th International Conference on Cognitive Modeling (ICCM)*. London, UK, 2017.

Matthew A. Kelly*, David Reitter, and Robert L. West

Degrees of separation in semantic and syntactic relationships.
In *Proceedings of the 15th International Conference on Cognitive Modeling (ICCM)*. London, UK, 2017.

Moojan Ghafurian*, David Reitter

Gender differences in the effect of impatience on men and women's timing decisions
In *Proc. 38th Annual Conference of the Cognitive Science Society (CogSci)*, Philadelphia, PA, 2016.

Yang Xu* and David Reitter

An evaluation and comparison of linguistic alignment measures.

In *Proc. Cognitive Modeling and Computational Linguistics (CMCL)*. Denver, CO: Association for Computational Linguistics. 2015.

Yafei Wang*, John Yen, and David Reitter

Pragmatic alignment on social support type in health forum conversations.

In *Proc. Cognitive Modeling and Computational Linguistics (CMCL)*. Denver, CO: Association for Computational Linguistics, 2015.

Moojan Ghafurian* and David Reitter

Impatience, risk propensity and rationality in timing games.

In *Proc. 36th Annual Conference of the Cognitive Science Society (CogSci)*. Quebec City, Quebec, 2014.

Yafei Wang*, David Reitter, and John Yen.

Linguistic adaptation in online conversation threads: Analyzing alignment in online health communities.

In *Proc. Cognitive Modeling and Computational Linguistics (CMCL)*. Workshop at the Mtg. of the Association for Computational Linguistics, 2014.

David Reitter, Jens Grossklags, and Alan Nochenson.

Risk-seeking in a continuous game of timing.

In R. West and T. Stewart, editors, *Proc. 12th International Conference on Cognitive Modelling (ICCM)*, pages 397-403, Ottawa, Canada, 2013.

David Reitter and Paul Scerri.

Smooth dynamics, good performance in cognitive-agent congestion problems.

In *Proc. 35th Annual Mtg. of the Cognitive Science Society (CogSci)*, pages 3269-3274, Berlin, Germany, 2013.

Paul Scerri and David Reitter

Cognitive instance-based learning agents in a multi-agent congestion game.

In *Workshop on Information Sharing in Large Scale Multi-Agent Systems*, at AAMAS, 2013.

David Reitter and Christian Lebiere.

Towards cognitive models of communication and group intelligence.

In *Proc. 33rd Annual Meeting of the Cognitive Science Society (CogSci)*, pp. 734-739, Boston, MA, 2011.

David Reitter, Katia Sycara, Christian Lebiere, Yury Vinokurov, Antonio Juarez, and Michael Lewis.

How teams benefit from communication policies: information flow in human peer-to-peer networks.

In *Proc. 20th Behavior Representation in Modeling & Simulation (BRiMS)*, 8 p., 2011.

David Reitter and Christian Lebiere.

Accountable modeling in ACT-UP, a scalable, rapid-prototyping ACT-R implementation.

In *Proc. 10th International Conference on Cognitive Modeling (ICCM)*, pp. 199-204, Philadelphia, PA, 2010.

David Reitter, Ion Juvina, Andrea Stocco, and Christian Lebiere.
Resistance is futile: Winning lemonade market share through metacognitive reasoning in a three-agent cooperative game.
In *Proc. 19th Behavior Representation in Modeling & Simulation (BRIMS)*, 9 p., Charleston, SC, 2010.

David Reitter and Christian Lebiere.
On the influence of network structure on language evolution.
In Ron Sun, editor, *Proc. CogSci Workshop on Cognitive Social Sciences: Grounding the Social Sciences in the Cognitive Sciences*, Portland, Oregon, 2010.

David Reitter and Christian Lebiere.
Did social networks shape language evolution? A multi-agent cognitive simulation.
In *Proc. Cognitive Modeling and Computational Linguistics Workshop (CMCL)*, pp. 9-17, ACL, Uppsala, Sweden, 2010.

Christian Lebiere, Andrea Stocco, David Reitter, and Ion Juvina.
High-fidelity cognitive modeling to real-world applications.
In *Proc. NATO Workshop on Human Modeling for Military Application*, 19 p., Amsterdam, NL, 2010.

David Reitter, Christian Lebiere, Michael Lewis, Huadong Wang, and Zheng Ma.
A cognitive model of visual path planning in a multi-robot control system.
In *Proc. Systems Man Cybernetics 2009 (IEEE-SMC)*, 7 p., San Antonio, TX, 2009.

David Reitter and Christian Lebiere.
Towards explaining the evolution of domain languages with cognitive simulation.
In *Proc. 9th International Conference on Cognitive Modeling (ICCM)*, 8 p., Manchester, UK, 2009.

David Reitter and Christian Lebiere.
A subsymbolic and visual model of spatial path planning.
In *Proc. Behavior Representation in Modeling and Simulation (BRIMS)*. 8 p., 2009.
Best paper award BRIMS 2009.

David Reitter and Frank Keller.
Against sequence priming: Evidence from constituents and distituent in corpus data.
In *Proc. 29th Annual Conference of the Cognitive Science Society (CogSci)*, pp. 1421-1426, 2007.

Ben Hachey, Gabriel Murray, and David Reitter.
Dimensionality reduction aids term co-occurrence based multi-document summarization.
In *Proc. COLING-ACL Workshop Task-Focused Summarization and Question Answering 2006*, pp. 1-7, Sydney, Australia, 2006.

Myroslava O. Dzikovska, David Reitter, Johanna D. Moore, and Claus Zinn.
Data-driven modelling of human tutoring in calculus.
In *Proc. ECAI 2006 Workshop on Language-enabled Educational Technology*, pp. 22-28, Riva del Garda, Italy, 2006.

David Reitter, Johanna D. Moore, and Frank Keller.

Priming of syntactic rules in task-oriented dialogue and spontaneous conversation.

In *Proc. 28th Annual Conference of the Cognitive Science Society (CogSci)*, pp. 685-690, Vancouver, Canada, 2006.

Ben Hachey, Gabriel Murray, and David Reitter.

The Embra system: Query-oriented multi-document summarization with a very large latent semantic space.

In *Document Understanding Conference (DUC)*, 6 p., Vancouver, Canada, 2005.

Hans Dolfing, David Reitter, Luis Almeida, Nuno Beires, Michael Cody, Rui Gomes, Kerry Robinson, and R. Zielinski. The FASiL speech and multimodal corpora.

In *Proc. INTER/EUROSPEECH 2005*. 4 p., Lisbon, Portugal.

Erin Panttaja, David Reitter, and Fred Cummins.

The evaluation of adaptable multimodal system outputs.

In *Proc. DUMAS Workshop on Robust and Adaptive Information Processing for Mobile Speech Interfaces*, pp. 69-76, 2004.

David Reitter.

A development environment for multimodal functional unification generation grammars.

In *Third International Conference on Natural Language Generation (INLG). 2nd Volume, posters*. 4 p., 2004.

David Reitter, Erin Panttaja, and Fred Cummins.

UI on the fly: Generating a multimodal user interface.

In *Proc. Human Language Technology Conference 2004 / North American Chapter of the Association for Computational Linguistics (HLT/NAACL)*, pp. 45-48, 2004.

David Reitter and Manfred Stede.

Step by step: underspecified markup in incremental rhetorical analysis.

In *Proc. 4th International Workshop on Linguistically Interpreted Corpora (LINC) at EACL*, pp. 77-84, Budapest, 2003.

David Reitter. Statistical part-of-speech guessing for German: Support vector classifiers versus voting.

In *Proc. 12th Student Conference on Computational Linguistics (TaCoS)*, 8 p., Potsdam, Germany, 2002.

Daniela Berger, David Reitter, and Manfred Stede.

XML / XSL in the dictionary: The case of discourse markers.

In *Proc. 2nd Workshop on NLP and XML (NLPXMP) at COLING*, pp. 1-8, Taipei, Taiwan, 2002.

David Reitter, Stefan Covaci, Florin Oltean, Catalin Bacanu, and Traian Serbanuta.

Hybrid natural language processing in a customer-care environment.

In *Proc. 11th Student Conference on Computational Linguistics (TaCoS)*, 8 p., Heidelberg, Germany, 2001.

EDITED VOLUMES

David Reitter and Frank E. Ritter

Introduction to the Issue on Computational Models of Memory: Selected Papers From the International Conference on Cognitive Modeling. *Topics in Cognitive Science, Issue on Computational Models of Memory* 9(1), 48-50, 2017.

William G. Kennedy, Robert St. Amant, and David Reitter
Behavior representation in modeling and simulation: introduction to CMOT special issue: BRiMS 2013.
Computational and Mathematical Organization Theory, 22(1), 1-3, 2016.

Kevin S. Xu, David Reitter, Dongwon, Lee, and Nathaniel Osgood (Eds.)
Social, Cultural, and Behavioral Modeling. 9th International Conference, SBP-BRiMS 2016. LNCS, 9708.
Springer, Switzerland.

David Reitter, E. Webb Stacy, Elizabeth Mezzacappa (Eds.)
Proceedings of the 24th Annual Conference on Behavior Representation in Modeling and Simulation.
Washington, DC: BRiMS Society, 2015.

Robert St. Amant, David Reitter, E. Webb Stacy (Eds.)
Proceedings of the 23rd Annual Conference on Behavior Representation in Modeling and Simulation.
Washington, DC: BRiMS Society, 2014.

William G. Kennedy, David Reitter, Robert St. Amant (Eds.).
Proceedings of the 22rd Annual Conference on Behavior Representation in Modeling and Simulation.
Ottawa, Canada: BRiMS Society, 2013.

John Hale and David Reitter (Eds.)
Issue on Computational Models of Natural Language.
Topics in Cognitive Science, 5(3), (11 papers). 2013.

THESES

Context effects in language production: Models of syntactic priming in dialogue corpora.
PhD thesis, University of Edinburgh, 177 p., 2008.

Hybrid planning and realization of coherent utterances for multimodal natural language dialogue systems.
Master's thesis, University College Dublin, 115 p., 2004.

Rhetorical analysis with rich-feature support vector models.
Master's thesis, University of Potsdam, 94 p., 2003.

ABSTRACT-BASED CONFERENCE TALKS AND POSTERS

Sherice Clarke, and David Reitter
Leveraging alignment to support engagement and understanding in learning dialogues
Presented at the CLIEDE 2017 workshop: Connecting Language, Interaction and Education in Digital
Environments, University Park, PA, 2017.

David Reitter, Jeremy Cole, Matthew A. Kelly, and Yang Xu
Cracking language with ACT-R: How does language mix with cognition? Challenges for the modeling
community.
Presented at the 24th ACT-R Workshop, London, UK, 2017.

David Reitter, Alexander G. Ororbia II, Tomas Mikolov, and Matthew A. Kelly
Distributed language models with the Delta-RNN and Deep BEAGLE
Invited Talk at the Symposium on Distributed Cognition, MathPsych/ICCM 2017, Warwick, UK, 2017.

Vito D’Orazio, David Reitter, Glenn Palmer, Matthew A. Kelly, Michael Kenwick, Zhanna Terechshenko, and Dennis Okyere: An efficient system for conflict data production
Presented at the 2017 Conference of the Society for Political Methodology (PolMeth), Madison, WI, 2017.

Alexander G. Ororbia II*, David Reitter, and C. Lee Giles
The temporal neural coding network: towards lifelong language learning.
Presented at the 11th Annual Machine Learning Symposium, The New York Academy of Sciences, New York, NY, 2017.

Yanxi Liu, J. Cole*, and David Reitter
Human visual perception of the 17 wallpaper-group patterns using timed trials.
Oral presentation at the Vision Sciences Society Sixteenth Annual Meeting, Florida, 2016.

Moojan Ghafurian*, Jens Grossklags, and David Reitter
Systematic, individual and situational biases in timing decisions.
Oral Presentation at the International Meeting of the Psychonomic Society, Granada, Spain, 2016

Jeremy Cole*, David Reitter, and Yanxi Liu
Symmetry features and group hierarchy model human symmetry perception.
Poster at the International Meeting of the Psychonomic Society, Granada, Spain, 2016

D. Reitter, Y. Xu*, P. Craven, A. Sándor, R.C. Garrett, E.V. Cross, and J. L. Franke
Cognitive models predicting surprisal in robot operators.
Poster and Abstract presented at the International Conference for Cognitive Modeling, Groningen, Netherlands, 2015

David Reitter, Coty Gonzalez, Christian Lebiere and Joachim Meyer
Cognitive security.
Panel presented at the 13th Annual Workshop on the Economics of Information Security, University Park, PA, 2014.

David Reitter
Computational and underspecified approaches to standardization.
In: “Methods for Communicating the Structure and Content of a Cognitive Model”, a discussion panel at Human Factors and Ergonomics Society International Annual Meeting. San Diego, CA, 2013.

Stefan Schaffer (TU Berlin), and David Reitter
Modeling efficiency-guided modality choice in voice and graphical user interfaces.
Poster at the 2012 International Conference on Cognitive Modeling.
Berlin, Germany, 2012.

Alin Coman, Winter Mason, David Reitter, and Bill Hirst:
Cognition and social dynamics: a new approach to emergent phenomena.
Symposium at the 23rd Annual Convention of the Association for Psychological Science, Washington, DC, 2011.

David Reitter
The Geo Game: Information propagation and collaboration in large human networks.
Talk at *Scaling Individual Decision Making Models to Models of Social Networks*, a Symposium at the 20th Behavior Representation in Modeling & Simulation Conference, Provo, UT, 2011.

David Reitter and Christian Lebiere
ACT-UP: A cognitive modeling toolkit for composition, reuse and integration.
Talk at MODSIM World Conference and Expo, Hampton, VA, 2010.

David Reitter, Walter Warwick, Varun Dutt, Kevin A. Gluck
Results and lessons learned from the 2009 DSF model comparison challenge.
Symposium at the 19th Behavior Representation in Modeling & Simulation Conference, 2010.

David Reitter and Frank Keller
Structural priming in language production as the result of learning and spreading activation in ACT-R.
Presentation at 21st CUNY Conference on Human Sentence Processing. Chapel Hill, NC, 2008.

David Reitter
The repetition of general lexical material boosts structural priming in language production.
Poster at 21st CUNY Conference on Human Sentence Processing. Chapel Hill, NC, 2008.

David Reitter and Johanna D. Moore
Successful dialogue requires syntactic alignment.
Poster at 20th CUNY Conference on Human Sentence Processing. San Diego, CA, 2007

David Reitter, Frank Keller, and Julia Hockenmaier
Corpus-based evidence against sequence priming.
Poster at 20th CUNY Conference on Human Sentence Processing. San Diego, CA, 2007

David Reitter, Johanna D. Moore and Frank Keller
Corpus-based evidence for syntactic priming as rule repetition.
Presentation at 12th Annual Conference on Architectures and Mechanisms for Language Processing (AMLaP), Nijmegen, Netherlands, 2006

GRANTS, CONTRACTS AND FELLOWSHIPS

Major External Support:

Sum of external funding as PI/Co-PI/Co-I: \$1,454,000 to David Reitter; \$4,339,000 total.

Co-I (with: Ogan (PI, CMU), Clarke (PI, UCSD), Zimmerman (CMU), Millstone (UCSD), Alvarez (UCSD)). 2017
ClassInSight: Insight on Teacher Learning by Scaffolding Noticing and Reflection.

McDonnell Foundation. ~\$270k. total: \$2.5M (phase I+II pending mid-term review).

PI. CompCog: Computational, distributed accounts of human memory: improving cognitive models 2017

National Science Foundation (Perception, Action, & Cognition, co-funded: Robust Intelligence).

\$500k. (Single PI.)

Co-PI (with G. Palmer and V. D’Orazio, UT Dallas). 2015

Updating the militarized dispute data through crowdsourcing: MID5, 2011-2017.

National Science Foundation (Political Science). \$345k, total: \$1 Million.

PI. Modeling syntactic priming in language production according to corpus data. 2015

National Science Foundation (Linguistics). \$75k. (Single PI.)

PI. Alignment in web-forum discourse: computational models of adaptation and language change. 2015

CISE Research Initiation Initiative grant (CRII)

National Science Foundation (Computer Science/Robust Intelligence). \$174k. (Single PI.)

PI. Evaluating the impact of explanation-based transparency approaches on human trust in autonomous unmanned systems. 2014

Air Force Research Laboratory. Prime: SRA; Super: Lockheed Martin Corp. \$90k. (Single PI.)

GRANTS, CONTRACTS AND FELLOWSHIPS (CONT'D)

Other External Support / Support as Co-I / Internal Seed Grants and Contracts:

| | |
|--|------|
| PI (with F. E. Ritter). ICCM 2016: International Conference on Cognitive Modeling. Conference Support. National Science Foundation (SBE PAC, CISE IIS). \$15k | 2016 |
| Co-PI (with M. Putnam and M. Carlson). Competition, conflict, and optimization: Toward a dynamic model of multilingualism. SSRI Faculty Fellows Program. \$22.5k. | 2016 |
| Co-PI (with J. Yen and S. Haynes). Teaching innovation for developing an undergraduate course on human-robot interaction using a humanoid robot. College of IST. \$10k. | 2015 |
| Consultant . Voice-enabled agent for realistic integrated combat operations training. Small Business Innovation Grant to ORION Int'l; Air Force Office of Scientific Research. | 2014 |
| Co-PI (with J. Grossklags). Once bitten, twice shy: Controlled experiments and cognitive modeling of online marketing scams. Seed grant funded by the College of IST. \$8.5k. | 2013 |
| PI (with Co-PIs J. Yen and P. Mitra). Interactive linguistic alignment in large social networks of health online forums. Seed grant funded by the College of IST. \$8k. | 2013 |
| Co-I (with G. Palmer et al.). Using crowdsourcing to measure complex social concepts. Seed grant funded by the Social Science Research Institute. \$20k. | 2013 |
| Co-I (with C. Lebiere). Learning and modeling for human performance and readiness. Air Force Research Lab, Human Effectiveness Dir. Prime: Ball Aerospace. ~\$500k. Reduced to ~\$50k due to sponsor budget cuts. | 2011 |
| Postdoc . Fellowship, German Academic Exchange Service. Awarded, but not used, ~\$100k. | 2008 |

AWARDS (SELECTION)

| | |
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| Best Model . Predicting Cognitive Performance in Open-ended Dynamic Tasks - A Modeling Comparison Challenge. International Conference on Cognitive Modeling | 2009 |
| Best Paper . Behavior Representation in Modeling and Simulation Conference | 2009 |
| Best Thesis Award . German Society for Computational Linguistics & Language Technology | 2003 |

ADVISING AND TEACHING

Former and Current Students

- PhD: Dr. Yafei Wang, Web-Forum Discourse, 2013–2017, now: IBM Research
(with J. Yen)
Dr. Moojan Ghafurian, Timing Decision-Making, 2013–2017, next: U Waterloo
Yang Xu, Alignment in Web-Forum Discourse, 2013–
Alexander G. Ororbia II, Deep Learning with Restricted Boltzmann Machines, 2013–
(with C. L. Giles)
Jeremy R. Cole, Unsupervised Cognitive Modeling of Language Processing, 2014–
- PhD committee: Dr. Michael Kenwick (Political Science), 2017, now: Harvard
Dr. Siddhartha Banerjee (IST: Natural Lang. Processing), 2016, now: Yahoo! Research
Dr. Kyle Williams (IST: Information Retrieval), 2016, now: Microsoft Research
Christopher Funk (CS: Computational Cognition), 2016–
- MSc: Sadegh Farhang, MSc, 2016–2017 (with J. Grossklags; now: PhD, Penn State)
Saranya Venkatraman, 2017–
Chenrong Qin, 2017–
- Grad Assistant: Bill McDowell, 2016 (now: MSc, Stanford)

Teaching at Penn State

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| Computational Models of Language - Graduate Seminar | 2016 |
| Cognitive Science: Introduction (400-level) | 2013, 2017 |
| Emerging Issues in Cognitive Science (Graduate) | 2015 |
| Intro. and intermediate Object-Oriented Programming (Java and Python) (200-level) | 2012–2015 |

Teaching at Sungkyunkwan University, International Summer Semester, Seoul, Korea

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| Data Science and Management | 2016 |
| How the Mind Works - A Big Data Approach | 2015, 2016 |

Teaching at Carnegie Mellon University

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| Cognitive Psychology, a 200-level lecture (140-180 students, 9 units) Department of Psychology, Carnegie Mellon University | 2011, 2012 |
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ACTIVITIES AND EXTERNAL SERVICE (SELECTION)

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| Founder and project lead, <u>Aquamacs Emacs</u> , a software project for science and engineering. More than 13,000 regular users world-wide, primarily in academia | 2005- |
| Inventor/Developer, <u>Zot bib web</u> , a tool to create interactive, explorable web bibliographies | 2016- |
| Senior program committee member, <i>CogSci: Annual Mtg. of the Cognitive Science Society</i> | 2017 |
| Co-editor, Issue on Computational Models of Memory, <i>Topics in Cognitive Science</i> | 2017 |
| Program co-chair, <i>International Conference on Cognitive Modeling</i> | 2016 |
| Area chair in Cognitive Modeling and Psycholinguistics, <i>ACL: Assoc. Computational Linguistics</i> | 2016 |
| General and program co-chair, <i>ICCM: International Conference on Cognitive Modeling</i> | 2016 |
| Program co-chair, <i>SBP-BRiMS: Social, Cultural, and Behavioral Modeling</i> | 2016 |
| Program co-chair, <i>Behavioral Representation in Modeling and Simulation Conference</i> | 2013, 2014, 2015 |
| Co-editor, Issue on Behavior Representation, <i>Computational and Mathematical Organization Theory</i> | 2015 |
| Co-editor, Issue on Computational Models in Linguistics, <i>Topics in Cognitive Science</i> | 2012 |
| Co-chair, 2nd and 3rd Workshops on <i>Cognitive Modeling and Computational Linguistics</i> | 2011, 2012 |
| Board member, ACL SIG Natural Language Generation | 2005, 2006 |

Reviewing

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| Editorial review board member: <i>Frontiers in Psychology</i> | 2015- |
| Proposal review panel member, <i>National Science Foundation</i> | 2015 |
| Ad-hoc reviewer for Cognition, Cognitive Science, Topics in Cog.Sci., Psychonomic Bulletin & Review, J Cog. Sci., Cognitive Science Research, Engineering and Physical Sc. Research Council (EPSRC), Netherlands Organisation for Scientific Research (NWO). Intl. J. Human Computer Studies, J of Cognitive Engineering and Decision-Making, and others. | |
| Program Committee Member: Mtg. Association Computational Linguistics (ACL); Mtg. North- American ACL (NAACL); Cognitive Modeling and Computational Linguistics (CMCL); Social Computing, Behavioral-Cultural Modeling and Prediction Conference (SBP); Mtg. Cognitive Science Soc. (CogSci, EuroCogSci); previous years: ACM CHI, ACM UIST, INLG, etc. | 2015 |

Visiting

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| Visiting Research Scientist, Center for Research in Language, Cognitive Science, University of California, San Diego | 2017- |
| Speech Interfaces Group, Media Laboratory, MIT | 2004 |
| Dept. of Computer Science, Macquarie University, Australia | 2003 |

SERVICE TO PENN STATE

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| Graduate faculty representative (university level) | 2017- |
| Member, Search Committee, Data Science | 2017- |
| Faculty Area Representative, Data Science, College of IST | 2017- |
| Graduate Advisory Committee, College of IST | 2015-2017 |
| Initiator/Director, Exchange Program with Sungkyunkwan University, Korea | 2015- |
| Faculty Advisor, Penn State Soaring Club | 2012- |
| Task-Force: Global Engagement Network, PSU / National Taiwan Normal University | 2015 |
| Data Science Major development (Course Committee), College of IST, Penn State | 2015 |
| Graduate Recruiting Committee, College of IST, Penn State | 2013-2015 |
| Assessment Committee, College of IST, Penn State | 2012-2014 |

LANGUAGES AND SKILLS

Native/near native: English, German; conversational: French

Python, Java, C++, C, shell scripting, Prolog, Common Lisp, Emacs Lisp, LaTeX. basic: Perl, assembly, etc.

Commercial and private pilot (airplane, glider), instrument rated, US (FAA), also: glider, UK (CAA).

INVITED LECTURES

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| Information density converges in dialogue. School of Informatics, University of Edinburgh | 2017 |
| Panelist, Intelligent Cognitive Assistants Workshop, Semiconductor Research Corp., IBM Almaden | 2017 |
| Computational approaches to modeling dialogue, Dept. of Linguistics, U. of California, San Diego | 2016 |
| Alignment and Information in Dialogue: How contributions of ideas are reflected in language Korea Advanced Institute of Science and Technology (KAIST), Korea | 2016 |
| Alignment in Dialogue: Beyond Syntax. Invited talk, Linguistics Dept., Georgetown University | 2015 |
| Window into the mind: Syntactic priming and what it reveals about the psychology of dialogue Department of Psychology, Seoul National University, Korea | 2015 |
| Large-scale language data as window into the mind, Distinguished Lecture Series, Department of Library & Information Sciences, Sungkyunkwan University, Korea | 2015 |
| How the Mind Works: How Big Data Cognitive Science Unlocks the Mystery of the Human Mind, Invited 3-day lecture, King Abdullah University of Science & Technology, Saudi Arabia | 2015 |
| Big-data insights into cognitive representations of language processing, International Workshop on Advanced Learning Sciences, Taipei, Taiwan | 2014 |
| Social cognition, on the benefits of forgetting. School of Information Sciences & Tech, Penn State, PA | 2012 |
| Measuring and Modeling Language Convergence in Networks. TU Berlin, Germany | 2011 |
| Adaptation to conversation partners: On alignment in dialogue. IST, Penn State, PA | 2010 |
| Two-level, multi-strategy memory based control. Dynamic Stocks and Flows Modeling Challenge Symposium, Int'l Conf. on Cognitive Modeling, Manchester, UK | 2009 |
| Cognitive Models of Alignment in Dialogue. Bielefeld University, Germany | 2008 |
| Structural Priming: Studies of Syntax and Alignment in Dialogue Corpora. U. Paris 7, France | 2007 |
| Statistics tutorial: Linear mixed models. Dept. of Psychology, U. of Dundee, UK | 2007 |
| FASiL: A multimodal dialogue system for E-Mail. Institute of Linguistics, U. Potsdam, Germany | 2005 |
| Aspects of a situationalized multimodal human-computer interface. School of Computer Science, Carnegie Mellon University, Pittsburgh, PA | 2004 |
| Media Laboratory, Massachusetts Institute of Technology, Cambridge, MA | 2004 |
| School of Informatics, University of Edinburgh, UK | 2004 |
| UI on the Fly: Generating a multimodal user interface with functional unification grammar. Computer Science Department, Macquarie University, Sydney, Australia | 2003 |