

# Michael N. Jones

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## **1. Education**

Ph.D. Psychology (Queen's University) January, 2005  
Sun Microsystems Levels I and II Certification in High Performance Scientific Computing (2001/2004)  
M.A. Psychology (Queen's University) August, 2001  
B.A. (Hon) Psychology (Nipissing University) April, 1999

## **2. Research Interests**

Computational models of memory and language learning  
Dynamics of knowledge and language acquisition/degradation  
Knowledge-based intelligent systems  
Attention in reading and visual processing  
Incorporating human intelligence into machine intelligence

## **3. Professional Experience**

2006-Present: Assistant Professor of Cognitive Science; Assistant Professor of Psychology; Adjunct Professor of Informatics and Computing; Indiana University

2005-2006: NSERC Postdoctoral Research Fellow at the Institute of Cognitive Science, University of Colorado, Boulder

## **4. Funding and Awards**

### 4.1 Research Funding

- Under Review: "Large-Scale Automated Synthesis of Human Functional Neuroimaging Data" (Co-PI), NIMH Neurotechnology program, \$2,538,022 (NIH-R01).
- Under Review: "The Role of Statistical Diversity in Lexical Access and Organization" (PI), NSF-BCS, \$253,342.
- Under Review: "The Effects of Bilingualism on Language Performance in Aging and Cognitive Impairment" (Consultant; PI: V. Taler), Canadian Institute of Health Research (CIHR), \$166,707 CAD.
- 2011-2016 "Integrating Perceptual and Linguistic Information in Models of Semantic Representation" (PI), NSF-CAREER, \$453,674 (BCS-1056744).
- 2010: "Exploring Perceptually Grounded Vector Space Models of Semantic Representation" (PI) Google Research Award, \$50,000.
- 2009-2010: "Network Models of Semantic Degradation" (PI). NIH-CTSI, \$65,178 (NIH-RR025761)
- 2008-2009: "Developing Cognitive Models for Early Identification of Alzheimer's Disease from Semantic Data" (PI). IU FRSP grant, \$65,615.
- 2006-2007: "Mechanisms of Cognitive Search in Humans" (Co-PI). IU FRSP grant, \$67,746.

### 4.2 Academic Awards

- 2008: Honorable Mention: Microsoft Young Investigator Award
- 2005-2007: Natural Sciences and Engineering Research Canada Postdoctoral Research Fellowship (\$80,000)
- 2003-2004: Sun Microsystems/HPCVL Scholarship in Computational Science (\$5,000)
- 2002-2004: Natural Sciences and Engineering Research Canada Post-Graduate Scholarship (\$42,000)
- 2002-2003: Sun Microsystems/HPCVL Scholarship in Computational Science (\$5,000)

- 2003: Castellan Award for Best Student Paper; *Society for Computers in Psychology*  
 2003: Donald O. Hebb Award for Best Student Paper; *CSBBCS*  
 2002-2003: Queen's University Graduate Award (\$1,100)  
 2002-2003: Ontario Graduate Scholarship (\$16,800; Declined)  
 2000-2002: Natural Sciences and Engineering Research Canada Payette Research Scholarship (\$50,000)  
 2001: Canadian Psychological Association Certificate of Academic Excellence for best Master's thesis  
 2000-2001: Ontario Graduate Scholarship (\$15,800; Declined)  
 2000: Christopher Knapper Award for Excellence in Teaching  
 1999-2000: Queen's University Graduate Award (\$1,000)  
 1999-2000: OGS Science and Technology Top Up Award (\$3,800)  
 1999-2000: Ontario Graduate Scholarship (\$15,800)  
 1999: President's Gold Medal Award

## **5. Research Dissemination**

\* I am **bold**, graduate students/postdocs working in my lab are *italicized*.

### 5.1 Refereed Publications

Hills, T. T., **Jones, M. N.**, & Todd, P. T. (in press). Retrieval from semantic memory adheres to optimal foraging theory. *Psychological Review*.

*Johns, B. T.*, & **Jones, M. N.** (in press). Perceptual inference from global lexical similarity. *Topics in Cognitive Science*.

**Jones, M. N.**, *Johns, B. T.*, *Recchia, G. L.* (in press). The role of semantic diversity in lexical organization. *Canadian Journal of Experimental Psychology*.

McRae, K., & **Jones, M. N.** (in press). Semantic memory. In D. Reisberg (Ed.) *The Oxford Handbook of Cognitive Psychology*.

*Cox, G.*, *Kachergis, G.*, *Recchia, G.*, & **Jones, M. N.** (2011). Towards a scalable holographic representation of word form. *Behavior Research Methods*, 43, 602-615.

Holtzman, N. S., Schott, J. P., **Jones, M. N.**, Balota, D. A., & Yarkoni, T. (2011). Exploring media bias with semantic space models. *Behavior Research Methods*, 43, 193-200.

**Jones, M. N.**, Gruenenfelder, T. M., & *Recchia, G.* (2011). In defense of spatial models of lexical semantics. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 3444-3449). Austin, TX: Cognitive Science Society.

*Kievit-Kylar, B.*, & **Jones, M. N.** (2011). The semantic Pictionary project. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 2229-2234). Austin, TX: Cognitive Science Society.

*Johns, B. T.*, & **Jones, M. N.** (2011). Construction in semantic memory: Generating perceptual representations with global lexical similarity. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 767-772). Austin, TX: Cognitive Science Society. **Winner of Marr Award for Best Student Paper.**

*Riordan, B.*, & **Jones, M. N.** (2011). Redundancy in linguistic and perceptual experience: Comparing distributional and feature-based models of semantic representation. *Topics in Cognitive Science*, 3:2, 303-345.

*Kachergis, G.*, *Cox, G. E.*, & **Jones, M. N.** (2011). OrBEAGLE: Integrating orthography into a holographic model of the lexicon. In E. Oja (Ed.), *Proceedings of the International Conference on Artificial Neural Networks*. Springer: Lecture Notes in Computer Science.

Zotov, V., **Jones, M. N.**, & Mewhort, D. J. K. (2011). Contrast and assimilation in categorization and exemplar production. *Attention, Perception, & Psychophysics*, 73, 621-639.

- Johns, B. T., & Jones, M. N. (2010). Evaluating the random representation assumption of lexical semantics in cognitive models. *Psychonomic Bulletin & Review*, 17, 662-672.
- Mozer, M. C., Pashler, H., Wilder, M., Lindsey, R., Jones, M. C., & Jones, M. N. (2010). Decontaminating human judgments by removing sequential dependencies. In J. Lafferty, C. K. I. Williams, J. Shawe-Taylor, R. S. Zemel, & A. Culota (Eds.), *Advances in Neural Information Processing Systems 23* (pp. 1705-1713). Cambridge, MA: MIT Press.
- Jones, M. N., & Recchia, G. L. (2010). You can't wear a coat rack: A binding framework to avoid illusory feature migrations in perceptually grounded semantic models. In S. Ohlsson and R. Catrambone (Eds.) *Proceedings of the 32nd Annual Cognitive Science Society*, (pp. 877-882). Austin TX: CSS.
- Recchia, G. L., Jones, M. N., Sahlgren, M., & Kanerva, P. (2010). Encoding sequential information in vector space models of semantics: Comparing holographic reduced representation and random permutation. In S. Ohlsson and R. Catrambone (Eds.) *Proceedings of the 32nd Annual Cognitive Science Society*, (pp. 865-870). Austin TX: CSS.
- Johns, B. T., & Jones, M. N. (2010). Are random representations accurate approximations of lexical semantics? In S. Ohlsson and R. Catrambone (Eds.) *Proceedings of the 32nd Annual Cognitive Science Society*, (pp. 55-60). Austin TX: CSS.
- Hare, M., Jones, M. N., Thomson, C., Kelly, S., & McRae, K. (2009). Activating event knowledge. *Cognition*, 111 (2), 151-167.
- Recchia, G. L., & Jones, M. N. (2009). More data trumps smarter algorithms: Comparing pointwise mutual information with latent semantic analysis. *Behavior Research Methods*, 41, 657-663.
- Johns, B. T., & Jones, M. N. (2009). False recognition through semantic amplification. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Cognitive Science Society*, (pp. 2795-2800). Austin TX: CSS.
- Hills, T. T., Todd, P. M., & Jones, M. N. (2009). Optimal foraging in semantic memory. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Cognitive Science Society*, (pp. 66-72). Austin TX: CSS.
- Johns, B. T., & Jones, M. N. (2009). Simulating false recall as an integration of semantic search and recognition. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Cognitive Science Society*, (pp. 2511-2516). Austin TX: CSS.
- Johns, B. T., & Jones, M. N. (2008). Predicting word-naming and lexical decision times from a semantic space model. In V. Sloutsky, K. McRae, & B. Love (Eds.), *Proceedings of the 30<sup>th</sup> Cognitive Science Society Meeting*, 279-284.
- Recchia, G., Johns, B. T., & Jones, M. N. (2008). Context repetition benefits are dependent on context redundancy. In V. Sloutsky, K. McRae, & B. Love (Eds.), *Proceedings of the 30<sup>th</sup> Cognitive Science Society Meeting*, 267-272.
- Landy, D. L., Jones, M. N., & Goldstone, R. L. (2008). How the appearance of an operator affects its formal precedence. In V. Sloutsky, K. McRae, & B. Love (Eds.), *Proceedings of the 30<sup>th</sup> Cognitive Science Society Meeting*, 2109-2114.
- Jones, M. N. & Mewhort, D. J. K. (2007). Representing word meaning and order information in a composite holographic lexicon. *Psychological Review*, 114, 1-37.
- Riordan, B., & Jones, M. N. (2007). Comparing semantic space models using child-directed speech. In D. S. MacNamara & J. G. Trafton (Eds.), *Proceedings of the 29th Cognitive Science Society Meeting*, 599-604.
- Mozer, M. C., Jones, M. N., & Shettel, M. (2006). Context effects in category learning: An investigation of four probabilistic models. *Advances in Neural Information Processing Systems*, 19. Cambridge, MA: MIT Press.
- Jones, M. N., Kintsch, W., & Mewhort, D. J. K. (2006). High-dimensional semantic space accounts of priming. *Journal of Memory and Language*, 55, 534-552.
- Jones, M. N. (2005). *Learning semantics and word order from statistical redundancies in language: A computational approach*. Unpublished Doctoral Dissertation, Queen's University.

Mills, J. F., **Jones, M. N.**, & Kroner, D. G. (2005). An examination of the generalizability of the LSI-R and VRAG probability bins. *Criminal Justice and Behavior*, *32*, 565-585.

**Jones, M. N.**, & Mewhort, D. J. K. (2004). Case-sensitive letter and bigram frequency counts from large-scale English corpora. *Behavior Research Methods, Instruments, and Computers*, *36*, 388-396.

**Jones, M. N.**, & Mewhort, D. J. K. (2004). Tracking attention with the focus-window technique: The information filter must be calibrated. *Behavior Research Methods, Instruments, and Computers*, *36*, 270-276.

Chow, P., **Jones, M. N.**, & Loerke, D. R. B. (2002). The psychometric benefits of soft-linked items: A reply to Pope and Harley. *Journal of Instructional Psychology*, *29*, 222-225.

**Jones, M. N.**, Thorn, C. R., Chow, P., Thompson, I. S., & Wilde, C. (2002). Equifinality: Parents' and students' attitudes towards a student-centered approach to integration. *Education*, *122*, 624-635.

Loerke, D. R. B., **Jones, M. N.**, & Chow, P. (1999). Psychometric benefits of soft linked scoring algorithms in achievement testing. *Education*, *120*, 273-280.

### 5.2 Papers Under Review

Taler, V., Risacher, S. L., West, J. D., Shen, L., Kim, S., **Jones, M. N.**, Petersen, R. C., Jack, C. R., Weiner, M. W., Saykin, A. J., and the Alzheimer's Disease Neuroimaging Initiative (ADNI) (revised). Differential neuroanatomical substrates of language performance by diagnostic group and task in the ADNI cohort.

*Johns, B. T.*, **Jones, M. N.**, & Mewhort, D. J. K. (revised). A synchronization account of false recognition. *Cognitive Psychology*.

**Jones, M. N.**, *Recchia, G. L.*, Sahlgren, M., & Kanerva, P. (in prep). Encoding sequential information in vector space models of semantics: Comparing holographic reduced representation and random permutation. *Cognitive Science*.

Taler, V., *Johns, B. T.*, Young, K., Sheppard, C., & **Jones, M. N.** (under review). A computational analysis of semantic structure in bilingual verbal fluency performance. *Bilingualism: Language and Cognition*.

*Kievit-Kylar, B.*, & **Jones, M. N.** (under review). Visualizing multiple word similarity measures. *Behavior Research Methods*.

**Jones, M. N.** (in prep). Mechanisms of semantic organization. *Current Directions in Psychological Science*.

### 5.3 Invited Colloquia

**Jones, M. N.** (2011). Crowdsourcing perceptual features at multiple levels: The Semantic Pictionary Project. Invited colloquium: University of Memphis and the Institute for Intelligent Systems.

**Jones, M. N.** (2010). Translating cognitive modeling into the Alzheimer's clinic. NIH Clinical Translational Sciences Initiative Retreat.

**Jones, M. N.** (2009). The myth of semantic features. Invited talk at President's Symposium. Joint meeting of the Canadian BBCS and British EPS, York, UK.

**Jones, M. N.** (2009). Putting the blood, sweat, and tears back into cognitive modeling. Invited panel talk at the NSF Future of Cognitive Science Workshop, UC Merced.

**Jones, M. N.** (2009). Integrating process and structure in models of semantic cognition. Invited colloquium: The Ohio State University.

**Jones, M. N.** (2008). Computational models of semantic learning and representation. Invited colloquium: University of Miami at Ohio.

### 5.4 Conference Presentations

- Kent, J., Matthews, S. C., **Jones, M. N.**, Bolbecker, M., Rass, O., O'Donnell, B. F., & Hetrick, W. P. (2012). Possible cerebellar contributions to semantic fluency. Poster presented at the Cognitive Neuroscience Society Annual Meeting.
- Jones, M. N.**, & *Kievit-Kylar, B.* (2011). The semantic Pictionary project. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Matthews, S. C.*, **Jones, M. N.**, Rass, O., Hetrick, W. P., & O'Donnell, B. F. (2011). Semantic effects in letter fluency. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Johns, B. T.*, & **Jones, M. N.** (2011). Grounding the lexicon: Inferring perceptual representations from global lexical similarity. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Recchia, G.*, *Kievit-Kylar, B.*, **Jones, M. N.**, & McRae, K. (2011). Using web games to elicit associative and feature-based conceptual representations. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Johns, B. T.*, Taler, V., Young, K., Sheppard, C., & **Jones, M. N.** (2011). A computational analysis of semantic structure in bilingual verbal fluency tasks. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Kievit-Kylar, B.*, & **Jones, M. N.** (2011). Word2Word: A visualization tool for high-dimensional semantic data. Poster presented at the 41<sup>st</sup> Meeting of the Society for Computers in Psychology. Seattle, WA.
- Jones, M. N.**, *Johns, B. T.*, & *Recchia, G. L.* (2011). The role of semantic diversity in lexical organization. Paper presented at the meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science. Winnipeg: Canada.
- Kent, J., Matthews, S. C., **Jones, M. N.**, Bolbecker, M., Rass, O., O'Donnell, B. F., & Hetrick, W. P. (2011). Possible cerebellar contributions to semantic memory. Poster presented at the 17th meeting of the European Society for Cognitive Psychology.
- Jones, M. N.**, Gruenenfelder, T. M., & *Recchia, G.* (2011). In defense of spatial models of lexical semantics. Poster presented at the 33rd Annual Conference of the Cognitive Science Society. Boston, MA.
- Kievit-Kylar, B.*, & **Jones, M. N.** (2011). The semantic Pictionary project. Poster presented at the 33rd Annual Conference of the Cognitive Science Society. Boston, MA.
- Johns, B. T.*, & **Jones, M. N.** (2011). Construction in semantic memory: Generating perceptual representations with global lexical similarity. Paper presented at the 33rd Annual Conference of the Cognitive Science Society. Boston, MA.
- Kachergis, G.*, *Cox, G. E.*, & **Jones, M. N.** (2011). OrBEAGLE: Integrating orthography into a holographic model of the lexicon. In E. Oja (Ed.), Paper presented at the International Conference on Artificial Neural Networks. Espoo, Finland.
- Recchia, G.*, & **Jones, M. N.** (2011). Crowdsourcing a large database of semantic features. Paper presented at the Midwest Cognitive Science Conference; Michigan State University.
- Mozer, M. C., Pashler, H., Wilder, M., Lindsey, R. O., Jones, M., & **Jones, M. N.** (2010). Decontaminating human judgments by removing sequential dependencies. Paper presented at *NIPS*: Vancouver, Canada.
- Holtzman, N. S., Schott, J. P., **Jones, M. N.**, Balota, D. A., & Yarkoni, T. (2010). Exploring media bias with semantic space models. Poster presented at the 51<sup>st</sup> Meeting of the Psychonomic Society.
- Johns, B. T.*, & **Jones, M. N.** (2010). Exploring the use of feedback in models of semantic acquisition. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Cox, G. E.*, *Kachergis, G.*, *Recchia, G. L.*, & **Jones, M. N.** (2010). Towards a scalable holographic word-form representation. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Carter, A.*, *Matthews, S.*, Riordan, B., & **Jones, M. N.** (2010). Measuring grammatical number prediction using a visual world paradigm. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.

- Recchia, G. L., & Jones, M. N.* (2010). Modeling semantic feature effects without features. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Matthews, S., & Jones, M. N.,* Rass, O., Hetrick, W. P., & O'Donnell, B. F. (2010). Semantic organization in schizophrenia: A discriminant analysis. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Johns, B. T., Jones, M. N., & Mewhort, D. J. K.* (2010). A synchronization account of false recognition. Paper presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Kievit-Kylar, B., & Jones, M. N.* (2010). 3-D geon encoding: A platform to explore shape semantics. Poster presented at the 40<sup>th</sup> Meeting of the Society for Computers in Psychology.
- Cox, G. E., Shiffrin, R. M., Jones, M. N., & Johns, B. T.* (2010). Developing knowledge from incidental associations. Paper presented at the Society for Mathematical Psychology.
- Jones, M. N., & Recchia, G. L.** (2010). You can't wear a coat rack: A binding framework to avoid illusory feature migrations in perceptually grounded semantic models. Paper presented at the 32nd Meeting of the Cognitive Science Society.
- Recchia, G. L., Jones, M. N., Sahlgren, M., & Kanerva, P.* (2010). Encoding sequential information in vector space models of semantics: Comparing holographic reduced representation and random permutation. Paper presented at the 32nd Meeting of the Cognitive Science Society.
- Johns, B. T., & Jones, M. N.* (2010). Are random representations accurate approximations of lexical semantics? Paper presented at the 32nd Meeting of the Cognitive Science Society.
- Jones, M. N.,** McRae, K., & Hare, M. (2009). Activating event knowledge in semantic vector spaces. Paper presented at the Society for Computers in Psychology.
- Matthews, S., Jones, M. N.,* Rass, O., Hetrick, W. P., & O'Donnell, B. F. (2009). Modeling semantic fluency deficiencies in schizophrenia. Poster presented at the Society for Computers in Psychology.
- Riordan, B., & **Jones, M. N.** (2009). Redundancy in perceptual and linguistic experience: Exploring feature-based and distributional models of semantic representation. Paper presented at the Society for Computers in Psychology.
- Johns, B. T., & Jones, M. N.* (2009). Using automated semantic measures to test the assumptions of memory models: Do random representations reflect the organization of semantic memory? Paper presented at the Society for Computers in Psychology. **Won Best Student Paper Award.**
- Recchia, G. L., & Jones, M. N.* (2009). Encoding sequential information in vector space models of semantics: Comparing circular convolution and random permutations. Paper presented at the Society for Computers in Psychology.
- Johns, B. T., & Jones, M. N.* (2009). Simulating false recall as an integration of semantic search and recognition. Paper presented at the 31<sup>st</sup> Cognitive Science Society Meeting, Amsterdam.
- Hills, T. T., Todd, P. M., & **Jones, M. N.** (2009). Optimal foraging in semantic memory. Poster presented at the 31<sup>st</sup> Cognitive Science Society Meeting, Amsterdam.
- Johns, B. T., & Jones, M. N.* (2009). False recognition through semantic amplification. Poster presented at the 31<sup>st</sup> Cognitive Science Society Meeting, Amsterdam.
- Todd, P. M., Hills, T. T., & **Jones, M. N.** (2009). Optimal foraging in semantic memory. Paper presented at the Human Behavior and Evolution Society, Los Angeles.
- Sabbagh, M. A., Callanan, M. A., & **Jones, M. N.** (2009). Conversational experience and mutual exclusivity in 2-year-old children. Paper Presented at the Biennial Meeting of the Society for Research in Child Development.
- Hare, M., **Jones, M. N.,** & McRae, K. (2008). Activating event knowledge. Paper presented at the 49<sup>th</sup> Meeting of the Psychonomic Society. Chicago, IL.

- Hills, T., Jones, M. N., & Todd, P. M. (2008). Search in semantic space: Evaluating models of category fluency. Poster presented at the 49<sup>th</sup> Meeting of the Psychonomic Society. Chicago, IL.
- Riordan, B., & Jones, M. N. (2008). Eye movements and the processing of morphosyntax in the Visual World: Evaluating a linking hypothesis. Poster presented at the 49<sup>th</sup> Meeting of the Psychonomic Society. Chicago, IL.
- Hills, T., Jones, M. N., & Todd, P. M. (2008). Evaluating the marginal value theorem in category fluency. Poster presented at the Society for Judgment and Decision Making, Chicago, IL.
- Recchia, G., & Jones, M. N. (2008). More data trumps smarter algorithms: Training computational models of semantics on very large corpora. Paper presented at the Society for Computers in Psychology. **Won Best Student Paper Award.**
- Johns, B. T., & Jones, M. N. (2008). Using a semantic distinctiveness count to calibrate retrieval times: A large-scale corpus analysis. Paper presented at the Society for Computers in Psychology.
- Riordan, B., & Jones, M. N. (2008). Modeling the space of children's word meanings: Feature vectors versus distributional models. Paper presented at the Society for Computers in Psychology.
- Jones, M. N., Hills, T., Recchia, G., Dawson, J. D., & Todd, P. M. (2008). Modeling transition latency in the semantic fluency task. Paper presented at the Society for Computers in Psychology.
- Jones, M. N. (2008). Active vs. passive category learning and retention. Paper presented at 18<sup>th</sup> Meeting of CSBBCS.
- Johns, B. T., Jones, M. N., Johns, E. E., & Mewhort, D. J. K. (2008). Using a contextual co-occurrence learning model to predict item-specific retrieval and recognition effects. Paper presented at the 18<sup>th</sup> Meeting of CSBBCS.
- Johns, B. T., & Jones, M. N. (2008). The organization of meaning in memory: evaluating computational mechanisms. Paper presented at the North American Computing and Philosophy Conference (NA-CAP).
- Johns, B. T., & Jones, M. N. (2008). Predicting word-naming and lexical decision times from a semantic space model. Paper Presented at the 30<sup>th</sup> Cognitive Science Society Meeting.
- Recchia, G., Johns, B. T., & Jones, M. N. (2008). Context repetition benefits are dependent on context redundancy. Paper Presented at the 30<sup>th</sup> Cognitive Science Society Meeting.
- Landy, D. L., Jones, M. N., & Goldstone, R. L. (2008). How the appearance of an operator affects its mathematical precedence. Poster Presented at the 30<sup>th</sup> Cognitive Science Society Meeting.
- Riordan, B. & Jones, M. N. (2008). The influence of grammatical number on anticipatory eye-movements in spoken language comprehension. Paper presented at the *Redhawk Mental Life Conference*.
- Jones, M. N. (2007). Holographic neural networks. Poster presented at the 48<sup>th</sup> Meeting of the Psychonomic Society. Long Beach, CA
- Jones, M. N. (2007). Compositional semantics from convolution-based encoding of natural language. Paper presented at the Invited Symposium on *Co-occurrence Models of Lexical Semantics*; 37<sup>th</sup> Meeting of the Society for Computers in Psychology. Long Beach, CA.
- Jones, M. N. (2007). Using holographic backpropagation to improve sequential dependency learning from natural language. Paper presented at the 37<sup>th</sup> Meeting of the Society for Computers in Psychology. Long Beach, CA.
- Jones, M. N. (2007). Bridging semantic representation and associative memory theory. Paper presented at the Invited Symposium on *Computational Models of Language*; 40<sup>th</sup> Annual Meeting of the Society for Mathematical Psychology, Irvine, CA.
- Riordan, B., & Jones, M. N. (2007). Comparing semantic space models using child-directed speech. Paper presented at the 29<sup>th</sup> Annual Cognitive Science Society. Nashville, TN.
- Mozer, M. C., Jones, M. N., & Shettel, M. (2006). Context effects in category learning: An investigation of four probabilistic models. Paper presented at NIPS: Vancouver, Canada.

- Jones, M. N., & Kintsch, W. (2006).** Asymmetric similarity in a self-organizing lexicon. Poster presented at the 47<sup>th</sup> Meeting of the Psychonomic Society: Houston, Texas.
- Mozer, M. C., **Jones, M. N., & Shettel, M. (2006).** Context effects in category learning: An exploration of Bayesian models. Paper presented at the 47<sup>th</sup> Meeting of the Psychonomic Society: Houston, Texas.
- Jones, M. N.,** Oliver, W. L., Kintsch, W., & Mewhort, D. J. K. (2006). Exploring the roles of context and algorithm in co-occurrence learning. Paper presented at the 36<sup>th</sup> Meeting of the Society for Computers in Psychology: Houston, Texas.
- Jones, M. N., & Kintsch, W. (2005).** Expanding on n-grams: Generativity from structured binding. Poster presented at the NSF Symbols, Embodiment, and Meaning Workshop/Debate, Tennerife, Canary Islands.
- Jones, M. N.,** Mangalath, P., & Kintsch, W. (2005). Automatic scoring of open-ended inference questions. Paper presented at the 35<sup>th</sup> Meeting of the Society for Computers in Psychology, Toronto, Ontario.
- Jones, M. N.,** Kintsch, W., & Mewhort, D. J. K. (2005). Incorporating syntax into a high-dimensional semantic space model using holographic reduced representation. Paper presented at the 38<sup>th</sup> Meeting of the Society for Mathematical Psychology, Memphis, Tennessee.
- Mangalath, P., **Jones, M. N., & Kintsch, W. (2005).** Identifying meaningful structure in semantic models with independent components analysis. Paper presented at the 38<sup>th</sup> Meeting of the Society for Mathematical Psychology, Memphis, Tennessee.
- Jones, M. N.,** Mewhort, D. J. K., & Kintsch, W. (2005). Modelling grammatical word class from unsupervised learning of natural language. Paper presented at the 15<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Montreal, Quebec.
- Zotov, V., **Jones, M. N., & Mewhort, D. J. K. (2005).** Trial-to-trial representation shifts in categorization. Poster presented at the 15<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Montreal, Quebec.
- Jones, M. N., & Mewhort, D. J. K. (2004).** Learning syntax and semantics from redundancies in text. Poster presented at the 45<sup>th</sup> Meeting of the Psychonomic Society: Minneapolis, Minnesota.
- Jones, M. N.,** Jamieson, R. K., & Mewhort, D. J. K. (2004). Quantifying word transitions in sentences by coding statistical properties of text corpora. Paper presented at the 34<sup>th</sup> Meeting of the Society for Computers in Psychology: Minneapolis, Minnesota.
- Jones, M. N., & Buchan, J. N. (2004).** Comparing methods of tracking visual attention. Paper presented at the 34<sup>th</sup> Meeting of the Society for Computers in Psychology: Minneapolis, Minnesota.
- Jones, M. N., & Mewhort, D. J. K. (2004).** Semantic and syntactic coding in a hyperspace model. Paper presented at the 14<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: St. John's, Newfoundland.
- Jones, M. N., & Mewhort, D. J. K. (2003).** Sequential contrast and assimilation effects in categorization of perceptual stimuli. Poster presented at the 44<sup>th</sup> Meeting of the Psychonomic Society: Vancouver, B.C.
- Jones, M. N., & Mewhort, D. J. K. (2003).** Calibrating information filters in the focus-window tracking paradigm. Paper presented at the 33<sup>rd</sup> Meeting of the Society for Computers in Psychology: Vancouver, B.C.
- Jones, M. N., & Mewhort, D. J. K. (2003).** A simple context co-occurrence hyperspace model of semantic memory. Poster presented at the 13<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: Hamilton, Ontario.
- Jones, M. N.,** Zotov, V., & Mewhort, D. J. K. (2003). Follow the floating representation: Category sequence effects in an exemplar-production task. Paper presented at the 13<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: Hamilton, Ontario.

Zotov, V., **Jones, M. N.**, & Mewhort, D. J. K. (2003). Can an exemplar-based model predict contrast effects in classification tasks? Paper presented at the 13<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: Hamilton, Ontario.

DiClemente, M. R., **Jones, M. N.**, Franklin, D. R. J., Zotov, V., & Butler, B. E. (2002). Limiting the flexibility of attention: Location selectivity in non-contiguous regions. Poster presented at the 12<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: Vancouver, B.C.

Mills, J. F., Kroner, D. G., & **Jones, M. N.** (2002). Exploring optimal binning procedures and the use of multiple instruments in risk prediction. Paper presented at the 63<sup>rd</sup> Meeting of the Canadian Psychological Association: Vancouver, B.C.

**Jones, M. N.** & Mewhort, D. J. K. (2001). Resurrecting template theory: Modeling single letter recognition with template deblurring. Paper presented at the 34<sup>th</sup> Meeting of the Society for Mathematical Psychology: Providence, RI.

**Jones, M. N.** & Mewhort, D. J. K. (2001). A new approach to letter identification: Learning and deblurring dynamic templates. Paper presented at the 11<sup>th</sup> Meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science: Laval, Quebec.

## **6.0 Related Activities**

### **6.1 Professional Affiliations**

Psychonomic Society

Cognitive Science Society

Society for Mathematical Psychology

Canadian Society for Brain, Behaviour, and Cognitive Science

Society for Computers in Psychology (Steering Committee 2008-2011; Secretary-Treasurer 2009-2012; President: 2013)

### **6.2 Journal Reviewing**

*Psychological Review*

*Cognitive Science*

*Topics in Cognitive Science*

*Cognition*

*Psychonomic Bulletin and Review*

*Journal of Experimental Psychology: Learning, Memory, and Cognition*

*Journal of Memory and Language*

*Cognitive Psychology*

*Psychological Science*

*Journal of Mathematical Psychology*

*Behavior Research Methods*

### **6.3 Grant Reviewing**

*National Science Foundation*

*Air Force Office of Scientific Research*

*Natural Sciences and Engineering Council of Canada*

### **6.4 Courses Taught**

PSY-K300: Statistical Techniques for Psychology (Undergraduate)

PSY-P553: Advanced Statistical Techniques (Graduate)

COG-Q270: Experiments and Models in Cognitive Science (Undergraduate)

COG-Q550: Computational Models in Cognitive Science (Graduate)

COG-Q560: Experimental Methods in Cognitive Science (Graduate)

COG-Q733: Cognitive Science Graduate Colloquium Series (Graduate)