

# Graeme Hirst

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## Education

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**1979–83:** Department of Computer Science, Brown University, Providence, Rhode Island.

- PhD degree; Thesis: *Semantic interpretation against ambiguity*. (Supervisor: Eugene Charniak.)

**1975–79:** Department of Engineering Physics, Research School of Physical Sciences, Australian National University, Canberra, A.C.T., Australia *and* Department of Computer Science, University of British Columbia, Vancouver, B.C., Canada.

- MSc degree (ANU); Thesis: *Anaphora in natural language understanding*. Thesis written partly at ANU (supervisors: Stephen Kaneff and Iain Macleod) and partly at UBC (supervisor: Richard Rosenberg).

**1970–73:** Monash University, Clayton, Victoria, Australia.

- Majors in Information Science and Pure Mathematics; minor in Psychology. BSc degree with First-Class Honours in Information Science, 1974. BA degree, 1973.

## Other qualifications

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**2007** University of Toronto, Certificate of Continuing Studies in Dispute Resolution. [7-course sequence, 196 hours.]

## Employment

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**1984–2022:** University of Toronto: Department of Computer Science; also (from January 1986) University of Toronto, Scarborough: Department of Computer and Mathematical Sciences (formerly, Division of Mathematical Sciences; formerly, Division of Physical Sciences).

- Professor Emeritus (2020–); Professor (1995–2020); Associate Professor [with tenure] (1990–95); Assistant Professor (1984–90). Member, School of Graduate Studies (from November 1987).
- Faculty affiliate, Schwartz Reisman Institute for Technology and Society (2023–).
- Associate Chair, Graduate Studies, 2019–2022.
- Gastprofessor, Universität Mannheim, Fakultät für Wirtschafts-informatik und -mathematik (Data and Web Science Group), and Gastwissenschaftler, Universität Heidelberg, Institut für Computerlinguistik, March 2019.
- Faculty affiliate (2018–20), Vector Institute.
- Visiting Professor (2005–06), University of Colorado at Boulder, Center for Spoken Language Research.
- Adjunct Professor (1995–98), University of Waterloo, Department of Computer Science.
- Visiting Professor (1990–91), University of Rochester, Department of Computer Science.

## **Awards and honours**

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Distinguished Service Award, Association for Computational Linguistics, 2020.

Fellow of the Association for Computational Linguistics, 2019.

Lifetime Achievement Award, Canadian Artificial Intelligence Association, 2017.

Distinguished Service Award and Fellow, Canadian Society for Computational Studies of Intelligence [now the Canadian Artificial Intelligence Association], 2008.

Awards for excellence in teaching, Computer Science Students' Union, University of Toronto, September 1988 and October 1994.

Publisher's Prize, Best paper by student or recent student, National Conference on Artificial Intelligence (AAAI-84), Austin, Texas, August 1984.

## **Research interests**

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Computational linguistics; natural language processing; machine translation; knowledge representation; cognitive science; computer models of language and cognition; semantics; lexical semantics; pragmatics; linguistic style; artificial intelligence; applications of computational linguistics and natural language processing in writing, in health and medicine, and in the humanities.

## **Research grants and contracts**

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Ontario Institute for Cancer Research and Cancer Care Ontario Health Services Research Network, 2019–2021, "Building an artificial intelligent system to enhance online support groups in cancer." \$299,923 [Principal investigators: Yvonne Leung and Mary Jane Epstein; co-investigators: Graeme Hirst and 10 others].

Social Sciences and Humanities Research Council of Canada, Insight Grant, 2018–2022, "Text as image, image as text: charter integrity and topic modelling". \$286,050 [Principal investigator: Michael Gervers; co-investigator: Graeme Hirst.]

Connaught Fund, Global Challenge Award, 2017–2019, "Innovations to close the global mortality divide". \$250,000 [Lead applicant: Prabhat Jha; Co-applicants: Marie-Josée Fortin, Graeme Hirst, Anita McGahan, John McLaughlin, Erica di Ruggiero.]

Canadian Institutes of Health Research, Collaborative Health Research Projects grant, 2017–2019, "Automatic remote screening of speech features associated with Alzheimer's disease", \$437,664 [Lead applicant: Frank Rudzicz; Principal applicants: Graeme Hirst, Regina Jokel; Co-applicants: Carmela Tartaglia, Khai Truong; Knowledge users: Sandra Black, Sheila Dunn, Alex Mihailidis.]

Canadian Cancer Society, 2017–2019, "Can online physician ratings be used to provide meaningful and actionable patient feedback? A mixed methods feasibility study", \$188,895 [Primary applicant: Jill Tinmouth, Sunnybrook Research Institute; other co-applicants: Nancy Baxter, Caroline Bravo, Caitlin Crystoja, Graeme Hirst, Diego Llovet, David Urbach.]

Google, Faculty Research Award, 2016–2017, "Natural language processing to determine causes of death in developing countries", US\$41,500 [in collaboration with Prabhat Jha, Centre for Global Health Research].

Riksbankens Jubileumsfond (Sweden), 2016-01-01 to 2019-12-31, “Språkliga och extra-lingvistiska parametrar för tidig upptäckt av kognitiv svikt [Linguistic and extra-linguistic parameters for early detection of cognitive impairment]”, SEK 10,460,000 (approx \$1,660,000). [Primary applicant: Dimitrios Kokkinakis, University of Gothenburg; other co-applicants: Simon Dobnik, Christos Koniaris, Arto Nordlund (University of Gothenburg).]

NSERC, Engage grant, 2015-03-01 to 2015-08-31, “Automatically categorizing forum posts”, \$24,904.

Vetenskapsrådet (Swedish Research Council), 2015-01-01 to 2018-12-31, “The advantage of country comparisons — Towards a new method for estimating language effects in cross-cultural surveys”, SEK 9,200,000 (approx \$1,400,000). [Primary applicant: Stefan Dahlberg, University of Gothenburg; other co-applicants: Sören Holmberg (University of Gothenburg), Magnus Sahlgren (Gavagai AB, Stockholm), Jonas Linde (University of Bergen).]

NSERC Discovery Grant, 2014–2020, “Applied computational models of discourse, argument, and text”, \$54,000 p.a. × 6 years.

NSERC, Discovery Frontiers — Digging Into Data, 2014–2015, “Digging into linked parliamentary data”, \$39,250 + \$41,000. A component of a multi-agency multinational award totalling approximately \$580,000 to 6 PIs.

U.S. DARPA, 2012–2013, “Explorations on semantic equivalence”, US\$220,058.

NSERC, Research Tools and Instruments Grant, 2010, “Massively parallel computing in natural language technology”, \$140,843 [co-applicant with Gerald Penn and Suzanne Stevenson].

Google Research Award, 2009, “Natural language processing methods for the early detection of Alzheimer’s disease in patients’ on-line writing”, US\$36,000 [with Ian Lancashire and Regina Jokel].

NSERC, Discovery Grant, 2009–2014, “Nuances of meaning, paraphrase, and argument identification in applications of natural language processing”, \$50,000 p.a. × 5 years.

NSERC, Collaborative Research and Development Grant, 2008–09, 2009–10, “Towards articulatory-based adaptation in recognition of dysarthric speech”, \$47,713 + 129,820 = 177,533 [with Fraser Shein, Gerald Penn, Pascal van Lieshout, and Willy Wong, co-applicants].

Bell University Laboratories, 2007–2008, “Towards articulatory-based adaptation in recognition of dysarthric speech”, \$75,000 [with Fraser Shein, Gerald Penn, and Pascal van Lieshout, co-applicants].

NSERC, Research Tools and Instruments Grant, 2005, “Compute server for research in computational linguistics and natural language Processing”, \$73,011 [with Suzanne Stevenson and Gerald Penn, co-applicants].

NSERC, Discovery Grant, 2004–2009, “Paraphrase and semantic distance in applications of natural language processing”, \$59,000 p.a. × 5 years.

SSHRC, Major Collaborative Research Initiative, 2002–2006, “International Research on Permanent Authentic Records in Electronic Systems 2: Experiential, Interactive, and Dynamic Records”, \$2,499,400. [P.I., Luciana Duranti, UBC; 24 co-investigators.]

Bell University Laboratories, 2001–2003, \$199,640 p.a. × 2 years [P.I., John Mylopoulos; 5 other co-investigators]; renewed 2003–04, \$215,000.

Bell University Laboratories, 2001–2003, \$114,582 [P.I., monica schraefel].

Bell University Laboratories, 2000–2001, \$86,250 [P.I., monica schraefel].

NSERC, Discovery Grant, 2000–2004, “The determination of nuances of meaning and style and of semantic distance for applications of computational linguistics”, \$54,000 p.a. × 4 years.

CITO, “Applications of computational linguistics to communication aids for people with disabilities”, 2000–2002, \$100,500 [co-investigator, Fraser Shein].

Bell Canada University Laboratories, 1999–2000, \$55,200.

Bell Canada University Laboratories [with Robert Wright, P.I., Jutta Treviranus, and Mark Chignell], 1999–2000, \$50,000.

CITO, “Computational measures of semantic distance and the intelligent disambiguation, summarization, filtering, linking, indexing, retrieval, and searching of documents and text”, 1998–2000, \$100,000, *declined*.

NSERC, research grant, “Representation and use of nuances of meaning and style in applications of computational linguistics”, 1996–2000, \$46,500 + 46,500 + 51,150 + 53,708.

Technology Ontario [with Chrysanne DiMarco, P.I.], 1995–98, \$666,667.

NSERC, research grant, “Natural language understanding: Representation and repair”, 1992–96, \$35,000 p.a. × 4 years.

NSERC, strategic grant [with Ronald Baecker, Marilyn Mantei, and Marlene Scardamalia], 1992–95, \$120,000 p.a. × 3 years.

ITRC [with Chrysanne DiMarco], 1991–93, \$90,000

NSERC, operating grant, 1989–92: \$30,590 p.a. × 3 years.

ITRC [with Stephen Regoczei, through John Mylopoulos, P.I.] 1989–91, \$21,000.

Visiting fellowship, April 1988, £2509 from SERC, for three-month visit to the Department of Artificial Intelligence, University of Edinburgh.

NSERC, operating grant, 1986–89: \$23,732 p.a. × 3 years.

NSERC, operating grant, 1985–86: \$24,773.

IBM Canada Ltd, contract, 1985–86: \$30,300.

NSERC, strategic grant and strategic equipment grant [with John Mylopoulos, John Tsotsos, and Hector Levesque], 1984–87, \$1,495,000.

NSERC, operating grant, 1984–85: \$15,030.

Connaught Fund, University of Toronto, 1984: \$24,000.

## Patents

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———; Jokel, Regina; Lancashire, Ian; and Le, Xuan. Method and system of longitudinal detection of dementia though lexical and syntactic changes in writing. U.S. patent US 9514281 B2, 6 December 2016; Canadian patent CA2776140C, 19 June 2018.

## Publications

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### Refereed papers

Vishnubhotla, Krishnapriya; Hammond, Adam; ———; and Mohammad, Saif M. “The emotion dynamics of literary novels.” *Findings of the Association for Computational Linguistics: ACL-2024*, August 2024, ???–???

Vishnubhotla, Krishnapriya; Rudzicz, Frank; ———; and Hammond, Adam. “Improving automatic quotation attribution in literary novels.” *Proceedings, 61st Annual Meeting of the Association for Computational Linguistics, Volume 2: Short Papers*, Toronto, July 2023, 737–746.

Leung, Yvonne; Ng, Steve, Duan, Lauren; Lam, Claire; Chan, Kenith; Gancarz, Mathew; Rennie, Heather; Trachtenberg, Lianne; Chan, Kai P., Adikari, Achini; Fang, Lin; Gratzer, David; ———; Wong, Jiahui; and Esplen, Mary Jane. “Therapist feedback and implications on adoption of an artificial intelligence–based co-facilitator for online cancer support groups: Mixed methods single-arm usability study.” *JMIR Cancer*, 2023;9:e40113.

Hammond, Adam; Vishnubhotla, Krishnapriya; Mohammad, Saif M.; ———. “Voices speaking to and about one another: Introducing the Project Dialogism Novel Corpus.” *Book of Abstracts, Digital Humanities Conference 2022*, 220–223.

Leung, Yvonne W; Park, Bomi; Heo, Rachel; Adikari, Achini; Chackochan, Suja; Wong, Jiahui; Alie, Elyse; Gancarz, Mathew; Kacala, Martyna; ———; de Silva, Daswin; French, Leon; Bender, Jacqueline; Mishna, Faye; Gratzer, David; Alahakoon, Daminda; Esplen, Mary Jane. “Providing care beyond therapy sessions with a natural language processing–based recommender system that identifies cancer patients who experience psychosocial challenges and provides self-care support: Pilot study”, *JMIR Cancer*, 8(3), 29 July 2022, e35893.

Vishnubhotla, Krishnapriya; Hammond, Adam; and ———. “The Project Dialogism Novel Corpus: A dataset for quotation attribution in literary texts.” *Proceedings, 13th Conference on Language Resources and Evaluation*, Marseille, June 2022, 5838–5848.

Vishnubhotla, Krishnapriya; ———; and Rudzicz, Frank. “An evaluation of disentangled representation learning for texts.” *Findings of the Association for Computational Linguistics: ACL-IJCNLP 2021*, August 2021, 1939–1951.

Leung, Yvonne; Wouterloot, Elise; Adikari, Achini; ———; de Silva, Daswin; Wong, Jiahui; Bender, Jacqueline; Gancarz, Mathew; Gratzer, David; Alahakoon, Daminda; Esplen, Mary Jane. “Natural language processing–based virtual cofacilitator for online cancer support groups: Protocol for an algorithm development and validation study.” *JMIR Research Protocols*, 10(1), January 2021, e21453.

Hulpuş, Ioana; Kobbe, Jonathan; Stuckenschmidt, Heiner; and ———. “Knowledge graphs meet moral values.” *Proceedings, 9th Joint Conference on Lexical and Computational Semantics (\*SEM-2020)*, December 2020, 71–80.

Paul, Debjit; Optiz, Juri; Becker, Maria; Kobbe, Jonathan; ———; and Frank, Anette. “Argumentative relation classification with background knowledge.” In: Prakken, Henry; Bistarelli, Stefano; Santini, Francesco; and Taticchi, Carlo (editors), *Computational Models of Argument; Proceedings of COMMA-2020*, IOP Press (Frontiers in Artificial Intelligence and Applications, volume 326), September 2020, 319–330.

Abdalla, Mohamed; Abdalla, Moustafa; ———; and Rudzicz, Frank. “Exploring the privacy-preserving properties of word embeddings: Algorithmic validation.” *Journal of Medical Internet*

*Research*, 22(7), July 2020, e18055.

Abdalla, Mohamed; Abdalla, Moustafa; Rudzicz, Frank; and ———. “Using word embeddings to improve the privacy of clinical notes.” *Journal of the American Medical Informatics Association*, 27(6), 2020, 901–907.

Xie, Jing Yi; Pinto, Renato Ferreira Jr; ———; and Xu, Yang. “Text-based inference of moral sentiment change.” *Proceedings, Conference on Empirical Methods in Natural Language Processing*, Hong Kong, November 2019, 4653–4662.

Hulpuş, Ioana; Kobbe, Jonathan; Becker, Maria; Opitz, Juri; ———; Meilicke, Christian; Nastase, Vivi; Stuckenschmidt, Heiner; and Frank, Anette. “Towards explaining natural language arguments with background knowledge.” *Joint Proceedings of the 6th International Workshop on Dataset Profiling and Search and the 1st Workshop on Semantic Explainability*, Auckland, 27 October 2019, 62–77. [CEUR Workshop Proceedings, volume 2465.]

Yan, Zhaodong; Jeblee, Serena; ———. “Can character embeddings improve cause-of-death classification for verbal autopsy narratives?” *Proceedings, BioNLP Workshop*, Florence, August 2019, 234–239.

Ethayarajh, Kawin; Duvenaud, David; and ———. “Understanding undesirable word embedding associations.” *Proceedings, 57th Annual Meeting of the Association for Computational Linguistics*, Florence, July 2019, 1696–1705.

Ethayarajh, Kawin; Duvenaud, David; and ———. “Towards understanding linear word analogies.” *Proceedings, 57th Annual Meeting of the Association for Computational Linguistics*, Florence, July 2019, 3253–3262.

Jeblee, Serena; Gomes, Mireille; Jha, Prabhat; Rudzicz, Frank; and ———. “Automatically determining cause of death from verbal autopsy narratives.” *BMC Medical Informatics and Decision Making*, 2019:127, 9 July 2019.

Vishnubhotla, Krishnapriya; Hammond, Adam; and ———. “Are fictional voices distinguishable? Classifying character voices in modern drama.” *Proceedings, 3rd Joint SIGHUM Workshop on Computational Linguistics for Cultural Heritage, Social Sciences, Humanities and Literature*, Minneapolis, June 2019, 29–34.

Abdalla, Mohamed; Sahlgren, Magnus; and ———. “Enriching word embeddings with a regressor instead of labeled corpora.” *Proceedings, 33rd AAAI Conference on Artificial Intelligence (AAAI-19)*, Honolulu, January 2019, 6188–6195.

Jeblee, Serena and ———. “Listwise temporal ordering of events in clinical notes.” *Proceedings, LOUHI 2018: The Ninth International Workshop on Health Text Mining and Information Analysis*, Brussels, October 2018, 177–182.

Naderi, Nona and ———. “Using context to identify the language of face-saving.” *Proceedings, 5th Workshop on Argument Mining*, Brussels, November 2018, 111–120.

Naderi, Nona and ———. “Automated fact-checking of claims in argumentative parliamentary debates.” *Proceedings of the First Workshop on Fact Extraction and Verification (FEVER)*, Brussels, November 2018, 60–65.

Jeblee, Serena; Budhkar, Akshay; Milić, Saša; Pinto, Jeff; Pou-Prom, Chloé; Vishnubhotla, Krishnapriya; ———; and Rudzicz, Frank. “Toronto CL at the CLEF 2018 eHealth Challenge Task 1”. *CLEF 2018 Evaluation Labs and Workshop: Online Working Notes*, CEUR-WS, September 2018.

Jeblee, Serena; Gomes, Mireille; and ———. “Multi-task learning for interpretable cause-of-

death classification using key phrase prediction." *Proceedings, BioNLP 2018*, Melbourne, July 2018, 12–17.

Marinho, Vanessa Q.; ———; and Amancio, Diego R. "Labelled network motifs reveal stylistic subtleties in written texts." *Journal of Complex Networks*, 6(4), 1 August 2018, 620–638 [published online 10 October 2017].

Tricco, Andrea; Zarin, Wasifa; Lillie, Erin; Jeeblee, Serena; Warren, Rachel; Khan, Paul A.; Robson, Reid, Pham, Ba'; ———; Straus, Sharon E. "Utility of social media and crowd-intelligence data for pharmacovigilance: A scoping review." *BMC Medical Informatics and Decision Making*, 18:38, 14 June 2018.

Naderi, Nona and ———. "Automatically labeled data generation for classification of reputation defence strategies." In: Fišer, Darja; Eskevich, Maria; and de Jong, Franciska (eds). *Proceedings of LREC2018 Workshop ParlaCLARIN: Creating and Using Parliamentary Corpora*, Miyazaki, Japan, May 2018, 48–54.

Abdalla, Mohamed; Rudzicz, Frank; and ———. "Rhetorical structure and Alzheimer's disease." *Aphasiology*, 32(1), 2018, 41–60.

Abdalla, Mohamed and ———. "Cross-lingual sentiment analysis without (good) translation." *Proceedings, 8th International Joint Conference on Natural Language Processing (IJCNLP 2017)*, Taipei, December 2017, 506–515.

Naderi, Nona and ———. "Recognizing reputation defence strategies in critical political exchanges." *Proceedings, 11th Conference on Recent Advances in Natural Language Processing*, Varna, September 2017, 527–535.

Naderi, Nona and ———. "Classifying frames at the sentence level in news." *Proceedings, 11th Conference on Recent Advances in Natural Language Processing*, Varna, September 2017, 536–542.

Wachsmuth, Henning; Naderi, Nona; Habernal, Ivan; Hou, Yufang; ———; Gurevych, Iryna; and Stein, Benno. "Argumentation quality assessment: Theory vs. practice." *Proceedings, 55th Annual Meeting of the Association for Computational Linguistics*, Vancouver, August 2017, volume 2, 250–255.

Wachsmuth, Henning; Naderi, Nona; Hou, Yufang; Bilu, Yonatan; Prabhakaran, Vinod; Alberdingk Thijm, Timothy; ———; and Stein, Benno. "Computational argumentation quality assessment in natural language." *Proceedings, 15th Conference of the European Chapter of the Association for Computational Linguistics*, Valencia, April 2017, 176–187.

Beelen, Kaspar; Alberdingk Thijm, Timothy; Cochrane, Christopher; Halvemaan, Kees; ———; Kimmins, Michael; Lijbrink, Sander; Marx, Maarten; Naderi, Nona; Rheault, Ludovic; Polyanovsky, Roman; Whyte, Tanya. "Digitization of the Canadian parliamentary debates". *Canadian Journal of Political Science*, 50(3), September 2017, 849–864 [published online, 2017-01-18].

Naderi, Nona and ———. "Argumentation mining in parliamentary discourse." In: Baldoni, Matteo; Baroglio, Cristina; Bex, Floris; Grasso, Floriana; Green, Nancy; Namazi-Rad, Mohammad-Reza; Numao, Masayuki; Suarez, Merlin Teodosia (editors), *Principles and Practice of Multi-Agent Systems*, Lecture Notes in Computer Science, volume 9935, 2016, 16–25.

Rheault, Ludovic; Beelen, Kaspar; Cochrane, Christopher; and ———. "Measuring emotion in parliamentary debates with automated textual analysis." *PLoS ONE*, 2016, 11(12): e0168843.

Marinho, Vanessa Queiroz; Amancio, Diego Raphael; and ———. "Authorship attribution

via network motifs identification". *Proceedings, 5th Brazilian Conference on Intelligent Systems (BRACIS)*, Recife, Brazil, October 2016, 355–360.

Fraser, Kathleen C.; Rudzicz, Frank; and ———. "Detecting late-life depression in Alzheimer's disease through analysis of speech and language." *Proceedings, 3rd Workshop on Computational Linguistics and Clinical Psychology*, San Diego, June 2016, 1–11.

Perumal, Krish and ———. "Semi-supervised and unsupervised categorization of posts in Web discussion forums using part-of-speech information and minimal features." *Proceedings, 7th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis*, San Diego, June 2016, 100–108.

Fraser, Kathleen C. and ———. "Detecting semantic changes in Alzheimer's disease with vector space models." *Proceedings, Workshop on Resources and Processing of Linguistic and Extra-Linguistic Data from People with Various Forms of Cognitive/Psychiatric Impairments (Linköping Electronic Conference Proceedings vol. 128)*, Portorož, May 2016, 1–8.

Brooke, Julian; Hammond, Adam; and ———. "Using models of lexical style to quantify free indirect discourse in modernist fiction." *Digital Scholarship in the Humanities*, 32(2), 2017, 234–250 [online advance access 2016-02-03].

Brooke, Julian; Hammond, Adam; and ———. "Distinguishing voices in *The Waste Land* using computational stylistics." *Linguistic Issues in Language Technology*, 12(2), 2015.

Maziero, Erick Galani; ———; and Pardo, Thiago Alexandre Salgueiro. "Adaptation of discourse parsing models for Portuguese language." *Proceedings, 4th Brazilian Conference on Intelligent Systems (BRACIS)*, Natal, Brazil, November 2015, 140–145.

Maziero, Erick Galani; ———; and Pardo, Thiago Alexandre Salgueiro. "Semi-supervised never-ending learning in discourse parsing." *Proceedings, Recent Advances in Natural Language Processing (RANLP)*, Hissar, Bulgaria, September 2015, 436–442.

Wang, Tong; Mohamed, Abdel-rahman; and ———. "Learning lexical embeddings with syntactic and lexicographic knowledge." *Proceedings, 53rd Annual Meeting of the Association for Computational Linguistics*, Beijing, July 2015, volume 2, 458–463.

Zhang, Muyu; Qin, Bing; Zheng, Mao; ———; and Liu, Ting. "Encoding distributional semantics into triple-based knowledge ranking for document enrichment." *Proceedings, 53rd Annual Meeting of the Association for Computational Linguistics*, Beijing, July 2015, volume 1, 524–533.

Brooke, Julian; Hammond, Adam; Jacob, David; Tsang, Vivian; ———; and Shein, Fraser. "Building a lexicon of formulaic language for language learners." *Proceedings, 11th Workshop on Multiword Expressions*, Denver, June 2015, 96–104.

Brooke, Julian; Hammond, Adam; and ———. "GutenTag: An NLP-driven tool for digital humanities research in the Project Gutenberg Corpus." *Proceedings, Fourth Workshop on Computational Linguistics for Literature*, Denver, June 2015, 42–47.

Fraser, Kathleen C.; Ben-David, Naama; ———; Graham, Naida L.; and Rochon, Elizabeth. "Sentence segmentation of aphasic speech." *Proceedings, 2015 Conference of the North American Chapter of the Association for Computational Linguistics — Human Language Technologies*, Denver, June 2015, 862–871.

Zhang, Muyu; Feng, Vanessa Wei; Qin, Bing; ———; Liu, Ting; Huang, Jingwen. "Encoding world knowledge in the evaluation of local coherence." *Proceedings, 2015 Conference of the North American Chapter of the Association for Computational Linguistics — Human Language Technologies*,



Denver, June 2015, 1087–1096.

———. “Overcoming linguistic barriers to the Multilingual Semantic Web.” In: Paul Buitelaar and Philipp Cimiano (editors), *Towards the Multilingual Semantic Web*, Springer, 2015, 1–14.

Kolhatkar, Varada and ———. “Resolving shell nouns.” *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP-2014)*, Doha, Qatar, October 2014, 499–510.

Brooke, Julian and ———. “Supervised ranking of co-occurrence profiles for acquisition of continuous lexical attributes.” *Proceedings, 25th International Conference on Computational Linguistics (COLING-2014)*, Dublin, August 2014, 2172–2183.

Brooke, Julian; Tsang, Vivian; ———; and Shein, Fraser. “Unsupervised multiword segmentation of large corpora using prediction-driven decomposition of n-grams.” *Proceedings, 25th International Conference on Computational Linguistics (COLING-2014)*, Dublin, August 2014, 753–761.

Feng, Vanessa Wei; Lin, Ziheng; and ———. “The impact of deep hierarchical discourse structures in the evaluation of text coherence.” *Proceedings, 25th International Conference on Computational Linguistics (COLING-2014)*, Dublin, August 2014, 940–949.

Feng, Vanessa Wei and ———. “Patterns of local discourse coherence as a feature for authorship attribution.” *Literary and Linguistic Computing*, 29(2), 2014, 191–198 [advance publication online, 9 April 2013].

Fraser, Kathleen C.; Meltzer, Jed A.; Graham, Naida L.; Leonard, Carol; ———; Black, Sandra E.; and Rochon, Elizabeth. “Automated classification of primary progressive aphasia subtypes from narrative speech transcripts.” *Cortex*, 55, June 2014, 43–60 [advance publication online, 21 Dec 2012].

———; Riabinin, Yaroslav; Graham, Jory; Boizot-Roche, Magali; and Morris, Colin. “Text to ideology or text to party status?” In: Kaal, Bertie; Maks, E. Isa; and van Elfrinkhof, Annemarie M.E. (editors), *From Text to Political Positions: Text analysis across disciplines*, Amsterdam: John Benjamins, 2014, 93–115.

Fraser, Kathleen C.; ———; Meltzer, Jed A.; Mack, Jennifer E.; and Thompson, Cynthia K. “Using statistical parsing to detect agrammatic aphasia.” *Proceedings, BioNLP 2014 Workshop*, Baltimore, June 2014, 134–142.

Fraser, Kathleen C.; ———; Graham, Naida L.; Meltzer, Jed A.; Black, Sandra E.; and Rochon, Elizabeth. “Comparison of different feature sets for identification of variants in progressive aphasia.” *Proceedings, Workshop on Computational Linguistics and Clinical Psychology*, Baltimore, June 2014, 17–26.

Wang, Tong and ———. “Applying a naive Bayes similarity measure to word sense disambiguation.” *Proceedings, 52nd Annual Meeting of the Association for Computational Linguistics*, Baltimore, June 2014, 531–537.

Feng, Vanessa Wei and ———. “A linear-time bottom-up discourse parser with constraints and post-editing.” *Proceedings, 52nd Annual Meeting of the Association for Computational Linguistics*, Baltimore, June 2014, 511–521.

Kolhatkar, Varada; Zinsmeister, Heike; and ———. “Interpreting anaphoric shell nouns using cataphoric shell nouns as training data.” *Proceedings, 2013 Conference on Empirical Methods in Natural Language Processing*, Seattle, October 2013, 300–310.

Brooke, Julian and ———. “Hybrid models for lexical acquisition of correlated styles.” *Proceedings, 6th International Joint Conference on Natural Language Processing*, Nagoya, October 2013, 82–90.

Feng, Vanessa and ———. “Detecting deceptive opinions with profile compatibility.” *Proceedings, 6th International Joint Conference on Natural Language Processing*, Nagoya, October 2013, 338–346.

Mohammad, Saif; Dorr, Bonnie; ———; Turney, Peter. “Computing lexical contrast.” *Computational Linguistics*, 39(3), September 2013, 555–590.

Feng, Vanessa Wei and ———. “Authorship verification with entity coherence and other rich linguistic features.” *Proceedings, PAN 2013 Lab: Uncovering Plagiarism, Authorship and Social Software Misuse — at the CLEF 2013 Conference and Labs of the Evaluation Forum: Information Access Evaluation meets Multilinguality, Multimodality, and Visualization*, Valencia, September 2013 [refereed by extended abstract only].

Kolhatkar, Varada; Zinsmeister, Heike; and ———. “Annotating anaphoric shell nouns with their antecedents.” *Proceedings, The 7th Linguistic Annotation Workshop & Interoperability with Discourse*, Sofia, August 2013, 112–121.

Strauss, John; Martínez Peguero, Arturo; and ———. “Machine learning methods for clinical forms analysis in mental health.” *Proceedings, 14th World Congress on Medical and Health Informatics (MEDINFO 2013)*, edited by Christoph Ulrich Lehmann, Elske Ammenwerth, and Christian Nøhr, Copenhagen, August 2013, IOS Press, page 1024. [1-page refereed abstract of poster presentation.]

Cook, Paul and ———. “Automatically assessing whether a text is clichéd, with applications to literary analysis.” *Proceedings, 9th Workshop on Multiword Expressions (MWE 2013)*, Atlanta, June 2013, 52–57.

Brooke, Julian and ———. “Using other learner corpora in the 2013 NLI shared task.” *Proceedings, 8th Workshop on Innovative Use of NLP for Building Educational Applications*, Atlanta, June 2013, 188–196.

Hammond, Adam; Brooke, Julian; and ———. “A tale of two cultures: Bringing literary analysis and computational linguistics together.” *Proceedings, Second ACL Workshop on Computational Linguistics for Literature*, Atlanta, June 2013, 1–8.

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- . "Discourse-oriented anaphora resolution in natural language understanding: A review". *American Journal of Computational Linguistics*, **7**(2), April–June 1981, 85–98.
- and Talent, Nadia. "What should Computer Scientists read?" *Proceedings of the Eighth Australian Computer Conference*, Canberra, August 1978, 1707–1716.
- . "Discipline impact factors: A method for determining core journal lists". *Journal of the American Society for Information Science*, **29**(4), July 1978, 171–172.
- and Talent, Nadia. "Computer Science journals—An iterated citation analysis". *IEEE Transactions on Professional Communication*, **PC-20**(4), December 1977, 233–238.

### Unrefereed publications

- Ethayarajh, Kawin; Duvenaud, David; and ———. "Towards understanding linear word analogies." *arXiv:1810.04882*, 11 October 2018 (v5, 24 December 2018).
- Hammond, Adam; Brooke, Julian; and ———. "Modeling modernist dialogism: Close reading with big data." *Reading Modernism with Machines: Digital humanities and modernist literature*, edited by Shawna Ross and James O'Sullivan. London: Palgrave Macmillan, 2016, 49–77.
- and Feng, Vanessa Wei. "Automatic exploration of argument and ideology in political texts." In: Mohammed, Dima and Lewiński, Marcin (editors), *Argumentation and Reasoned Action: Proceedings of the First European Conference on Argumentation, Lisbon, 9–12 June 2015*, volume II, College Publications (Studies in Logic and Argumentation, volume 52), 2016, 493–504.
- ; Feng, Vanessa Wei; Cochrane, Christopher; and Naderi, Nona. "Argumentation, ideology, and issue framing in parliamentary discourse." *Proceedings of the Workshop on Frontiers and Connections between Argumentation Theory and Natural Language Processing*, Forlì-Cesena, Italy, July 2014. CEUR Workshop Proceedings, volume 1341.
- . "Computational Linguistics." In: Allan, Keith (editor), *The Oxford Handbook of the History of Linguistics*, Oxford University Press, 2013, 707–726.
- . "Overcoming linguistic barriers to the multilingual Semantic Web" [extended abstract]. In: Paul Buitelaar, Key-Sun Choi, Philipp Cimiano, and Eduard H. Hovy (editors), *The Multilingual Semantic Web (Dagstuhl Seminar 12362)*, *Dagstuhl Reports*, **2**(9), 2013. 44–45.
- Brooke, Julian and ———. "Lexicalizing computational stylistics for language learner feedback." *Proceedings, Conference on Stylistics Across Disciplines*, Leiden, June 2011. [Reviewed by extended abstract.]
- and Mohammad, Saif. "Semantic distance measures with distributional profiles of coarse-grained concepts." In: Mehler, Alexander; Kühnberger, Kai-Uwe; Lobin, Henning; Lungen, Harald; Storrer, Angelika; and Witt, Andreas (editors), *Modeling, Learning, and Processing of Text Technological Data Structures*. Springer (Studies in Computational Intelligence series, vol. 370), 2011, 61–79 [Invited book chapter].
- Niu, Yun and ———. "Analyzing the text of clinical literature for question answering." In: Prince, Violaine and Roche, Mathieu (editors), *Information Retrieval in Biomedicine*, IGI Global, 2009, 190–220 [Invited book chapter].

———. “The future of text-meaning in computational linguistics.” In: Sojka, Petr; Horák, Aleš; Kopeček, Ivan; and Pala, Karel (editors), *Proceedings, 11th International Conference on Text, Speech and Dialogue (TSD 2008)* [Brno, Czech Republic, September 2008], (Lecture Notes in Artificial Intelligence 5246), Berlin: Springer-Verlag, 2008, 1–9. [Paper to accompany invited keynote presentation]

———. Foreword to *Word Sense Disambiguation*, edited by Eneko Agirre and Philip Edmonds, Springer, 2006. [Invited]

———. “Association for Computational Linguistics.” In: Brown, Keith (editor-in-chief); Anderson, Anne H.; Bauer, Laurie; Berns, Margie; Hirst, Graeme; and Miller, Jim (coordinating editors). *Encyclopedia of Language and Linguistics* (second edition), Elsevier Science, December 2005.

———. “Human language technology.” In: Brown, Keith (editor-in-chief); Anderson, Anne H.; Bauer, Laurie; Berns, Margie; Hirst, Graeme; and Miller, Jim (coordinating editors). *Encyclopedia of Language and Linguistics* (second edition), Elsevier Science, December 2005.

Morris, Jane; Beghtol, Clare; and ———. “Term relationships and their contribution to text semantics and information literacy through lexical cohesion.” *Proceedings of the 31st Annual Conference of the Canadian Association for Information Science*, Halifax, Nova Scotia, 30 May – 1 June 2003, 153–168.

DiMarco, Chrysanne; ———; Wanner, Leo; and Wilkinson, John. “HealthDoc: Customizing patient information and health education by medical condition and personal characteristics.” *Workshop on Artificial Intelligence in Patient Education*, Glasgow, August 1995.

———. “Natural-language processing.” In: Bitter, Gary G. (editor). *The Macmillan Encyclopedia of Computers*. New York: Macmillan, 1992, 699–703.

Ryan, Mark; DiMarco, Chrysanne; and ———. “Focus shifts as indicators of style in paragraphs.” In DiMarco, Chrysanne *et al*, *Four Papers on Computational Stylistics*. Research report CS-92-35, Department of Computer Science, University of Waterloo, June 1992.

Regoczei, Stephen and ———. “Knowledge and knowledge acquisition in the computational context.” In: Hoffmann, Robert R. (editor). *The Psychology of Expertise: Cognitive research and empirical AI*. New York: Springer-Verlag, 1992, 12–25.

———. “Planning the future of natural language research (even in Canada).” *Canadian Artificial Intelligence*, number 26, February 1991, 10–13.

———. “Computational models of ambiguity resolution.” In: Gorfein, David S. (editor). *Resolving Semantic Ambiguity* (Cognitive science series), Springer-Verlag, 1989, 255–275.

Regoczei, Stephen and ———. “Knowledge acquisition as knowledge explication by conceptual analysis.” Technical report CSRI-205, Computer Systems Research Institute, University of Toronto, January 1988.

Levesque, Hector. *Functional Programming in Lisp* (revised and edited by Graeme Hirst). Department of Computer Science, University of Toronto, April 1987.

Horton, Diane and ———. “Presuppositions as beliefs: A new approach.” In: Geller, James and Bettinger, Keith (editors). *UBGCSS-87: Proceedings of the Second UB Graduate-Conference on Computer Science*. Technical report 87-04, Department of Computer Science, State University of New York at Buffalo, March 1987, 30–38.

**Edited books**

Brown, Keith (editor-in-chief); Anderson, Anne H.; Bauer, Laurie; Berns, Margie; ———; and Miller, Jim (coordinating editors). *Encyclopedia of Language and Linguistics* (second edition), (14 vols.), Elsevier Science, December 2005.

**Monographs**

———. *Semantic Interpretation and the Resolution of Ambiguity* (Studies in natural language processing). Cambridge, England: Cambridge University Press, 1987. (Reprinted 1992.)

———. *Anaphora in Natural Language Understanding: A survey* (Lecture Notes in Computer Science 119). Berlin: Springer-Verlag, 1981.

**Databases**

Rudzicz, Frank; ———; Van Lieshout, Pascal; Penn, Gerald; Shein, Fraser; Namasivayam, Aravind Kumar; Wolff, Talya. The TORGO database of dysarthric articulation. Catalog number LDC2012S02, Linguistic Data Consortium, 2012.

**Review articles**

———. "Does Conversation Analysis have a role in computational linguistics?" *Computational linguistics*, 17(2), June 1991, 211–227. [Review of: Luff, Paul; Gilbert, Nigel; and Frohlich, David (editors). *Computers and Conversation*. London: Academic Press, 1990]. [semi-refereed]

**Book reviews, etc.**

———. Review of: Clark, Alexander; Fox, Chris; and Lappin, Shalom (editors), *The Handbook of Computational Linguistics and Natural Language Processing*, Malden, MA: Wiley-Blackwell, 2010. In: *Language*, 87(4), December 2011, 897–899.

———. Review of: Scott, Mike and Thompson, Geoff (editors), *Patterns of Text: In Honour of Michael Hoey*, Amsterdam: John Benjamins, 2001. In: *Computational Linguistics*, 28(4), December 2002, 560–564.

———. Review of: Biber, Douglas; Johansson, Stig; Leech, Geoffrey; Conrad, Susan; and Finegan, Edward, *Longman Grammar of Spoken and Written English*, Harlow, Essex: Pearson Education Ltd, 1999. In: *Computational Linguistics*, 27(1), March 2001, 132–139.

———. Review of: Vossen, Piek (editor). *EuroWordNet: A Multilingual Database with Lexical Semantic Networks*, Dordrecht: Kluwer Academic Publishers, 1998. In: *Computational Linguistics*, 25(4), December 1999, 628–630.

———. Review of: Cottrell, Garrison W. *A Connectionist Approach to Word Sense Disambiguation* (Research notes in artificial intelligence). London: Pitman and San Mateo, CA: Morgan Kaufmann, 1989. In: *Computational Linguistics*, 16(4), December 1990, 241–242.

———. Review of: Bátor, István S.; Lenders, Winfried; and Putschke, Wolfgang (editors). *Computational Linguistics: An International Handbook on Computer Oriented Language Research and Applications / Computerlinguistik: Ein internationales Handbuch zur computergestützten Sprachforschung und ihrer Anwendungen* (Handbooks of linguistics and communication science 4 / Handbücher zur Sprach- und Kommunikationswissenschaft). Berlin: Walter de Gruyter, 1989. In: *Computational Linguistics*, 16(2), June 1990, 121–123.

———. Review of: Butler, Christopher. *Computers in Linguistics*. Oxford: Blackwell, 1985.

*Computational Linguistics*, 13(3–4), July–September 1987, 335–336.

———. Review of: van Bakel, Jan. *Automatic Semantic Interpretation: A Computer Model of Understanding Natural Language*, Dordrecht: Foris Publications, 1984. *Computational Linguistics*, 11(2–3), April–September 1985, 185–186.

Many short reviews in *Computational Linguistics*, 1988–2014.

Many short reviews in *Computing Reviews*, 1982–2000.

Many short reviews in *Canadian Artificial Intelligence*, 1985–1996.

### Unpublished conference and workshop presentations

Leung, Yvonne; Wong, Jiahui; Gancarz, Mathew; Gratzner, David; ——; Da Silva, Daswin; Alahakoon, Damminda; Bender, Jackie; French, Leon; and Esplen, Mary Jane. “Building an artificial intelligent system to enhance online support groups in cancer.” 22nd World Congress of Psycho-Oncology, Online, May 2021.

Hammond, Adam; Vishnubhotla, Krishnapriya; and ———. “The words themselves: A content-based approach to quote attribution.” Digital Humanities Conference, Ottawa, July 2020.

Naderi, Nona and ———. “Reputation management strategies in argumentative political exchanges.” Second European Conference on Argumentation, Fribourg, 20–23 June 2017.

———, “Automatic exploration of argument and ideology in political texts.” First European Conference on Argumentation, Lisbon, 9–12 June 2015.

Rheault, Ludovic; Beelen, Kaspar; Cochrane, Christopher; ———. “Measuring emotion in parliamentary debates using natural language processing”, Annual Conference of the Canadian Political Science Association, 2-4 June 2015, Ottawa. [Refereed by abstract only; presentation by Rheault.]

Brooke, Julian and ———. “Investigating the influence of multi-L1 learner corpora variables on native language identification.” Learner Corpus Research Conference, Bergen, Norway, 27–29 September 2013. [Refereed by abstract only; presentation by Brooke.]

———. “Usability — a neglected dimension.” *Beyond the PDF 2* Conference, Amsterdam, March 2013.

——— and Talent, Nadia. “NLP methods for discovering precedent research in the legacy literature.” *Beyond the PDF 2* Conference, Amsterdam, March 2013.

Brooke, Julian and ———. “Multidimensional analysis versus latent semantic analysis for constructing a register space: Are hand-coded features needed or is bags-of-words enough?” Presented at the Linguistic Society of Belgium conference on Genre- and Register-related Text and Discourse Features in Multilingual Corpora, Brussels, January 2013. [Refereed by abstract only; presentation by Brooke.]

———. “Overcoming linguistic barriers to the multilingual Semantic Web.” Dagstuhl Seminar on the Multilingual Semantic Web, Leibniz-Zentrum für Informatik, Schloss Dagstuhl, Germany, September 2012. [Invited]

Brooke, Julian and ———. “Factors of formality: A dimension of register in a sociolinguistic corpus.” Poster at the Georgetown University Round Table on Languages and Linguistics 2012: Measured Language: Quantitative Approaches to Acquisition, Assessment, Processing and Variation, Washington D.C., March 2012. [Refereed by abstract only; presentation by Brooke.]

Brooke, Julian and ———. "Native language detection with 'cheap' learner corpora" *LCR 2011: 20 years of learner corpus research: Looking back, moving ahead*, Louvain-la-Neuve, Belgium, September 2011. [Refereed by abstract only; presentation by Brooke.]

Wang, Tong and ———. "Associating difficulty in near-synonymy choice with types of nuance using core vocabulary." Symposium on Re-thinking Synonymy, Helsinki, October 2010. [Reviewed by extended abstract; presentation by Hirst.]

———; Riabinin, Yaroslav; Graham, Jory; and Boizot-Roche, Magali. "Text to Ideology or Text to Party Status?" From Text to Political Positions workshop, University of Amsterdam, 8–9 April 2010. [Reviewed by full paper submission; presentation by Hirst.]

Lancashire, Ian and ———. "Vocabulary changes in Agatha Christie's mysteries as an indication of dementia: A case study." 19th Annual Rotman Research Institute Conference, Cognitive Aging: Research and Practice, 8–10 March 2009, Toronto. [Poster; reviewed by extended abstract.]

Feiguina, Ol'ga and ———. "Forensic authorship attribution for small texts." 8th Biennial Conference on Forensic Linguistics / Language and Law, Seattle, July 2007 [reviewed by abstract; presentation by Hirst].

———. "Views of text-meaning in computational linguistics." European Conference on Computing and Philosophy (E-CAP 2005), Västerås, Sweden, June 2005. [refereed by extended abstract]

Morris, Jane and ———. "Readers' perceptions of lexical cohesion and lexical semantic relations in text." *14th annual meeting of the Society for Text and Discourse*. Chicago, August 2004. [refereed by abstract; presentation by Morris]

Fazli, Afsaneh; ———; Shein, Fraser, and Nantais, Tom. "Word prediction as a writing aid." *CITO Research Review*, Kingston, May 2001.

Baljko, Melanie and ———. "Subjectivity in stylistic assessment: Helping computer-supported collaborative writers." *Writing and Computers 10*, Brighton, September 1997.

———. "The conceptual and subconceptual differentiation of near-synonyms." Second Conference on Conceptual Structure, Discourse, and Language, Buffalo, April 1996.

Glover, Angela and ———. "Automatically detecting stylistic inconsistencies in collaborative writing." European Conference on Writing and Computers, Utrecht, October 1994.

———. "Conceptual and sub-conceptual differentiation." Presented at the Workshop on cognitive and ontological foundations of knowledge engineering, First International Summer Institute in Cognitive Science, State University of New York at Buffalo, July 1994.

Ryan, Mark; DiMarco, Chrysanne; and ———. "Focus shifts as indicators of style in text." Presented at the second annual meeting of the Society for Text and Discourse, San Diego, June 1992.

DiMarco, Chrysanne and ———. "Linguistic style as constituent order." Presented at the 20th Annual University of Wisconsin-Milwaukee Linguistics Symposium, Milwaukee, Wisconsin, April 1991.

———. "Focus in reference resolution and natural language understanding." Language and Speech Conference, University of Melbourne, November 1977.

Collins, Anthony and ———. "Computer-assisted teaching of music." 46th Congress of the Aus-



tralian and New Zealand Association for the Advancement of Science, Canberra, January 1975.

### Professional tutorials, summer schools, etc

“Lexical similarity based on lexicographic resources”, class at the ACL/HCSNet Advanced Program in Natural Language Processing, University of Melbourne, 10–14 July 2006.

“Introduction to non-statistical natural language processing”, tutorial at the combined Human Language Technology Conference and 3rd Meeting of the North American Chapter of the Association for Computational Linguistics, Edmonton, May 2003.

Lecturer, Euroalan Summer Institute, Iași, Romania, July–August 2001.

“Natural language understanding and computational linguistics”, a credit course of eight 100-minute lectures at the First International Summer Institute in Cognitive Science, State University of New York at Buffalo, July 1994.

[With Chrysanne DiMarco] Tutorial on current approaches to natural language semantics, National Conference on Artificial Intelligence (AAAI-90), Boston, July 1990.

Workshop “Introduction to computational linguistics”, sponsored by the Centre for Computing in the Humanities at the Ninth International Summer Institute for Semiotic and Structural Studies, Toronto, June 1987.

Tutorial on current approaches to natural language semantics, 24th annual meeting, Association for Computational Linguistics, New York, June 1986.

### Invited lectures, talks, colloquia, etc.

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#### Invited or keynote conference speaker

Responsible AI Summit, Montreal, 24 October 2019. “Ethics in Natural Language Processing”.

Conference on Ethics in Artificial Intelligence, Ottawa, 21 February 2019. “Ethics in Natural Language Processing”.

Workshop on Ethics in Natural Language Processing, 15th Conference of the European Chapter of the Association for Computational Linguistics, Valencia, 4 April 2017. “NLP Ethics in a Dangerous Time.”

Workshop on Semantic Technologies for Research in the Humanities and Social Sciences (STRiX), University of Gothenburg, 24 November 2014. “Automatically identifying ideology, argumentation schemes, and discourse structure in parliamentary text.”

World Affairs Conference, Upper Canada College, 4 February 2014. “Surveillance for security.”

ExPoSe project inaugural meeting, Tweede Kamer, The Hague, 23 Oct 2013. “Finding positions in parliamentary text.”

Workshop on Lexical Semantic Resources for NLP, NoDaLiDa 2013 (19th Nordic Conference on Computational Linguistics, Northern European Association for Language Technology), Oslo, 22 May 2013. “Lexicons versus ontologies.”

7th International Conference on Natural Language Processing (ICON 2009), University of Hyderabad, Hyderabad, India, 16 December 2009. “Who decides what a text means?”.

2009 Conference of die Gesellschaft für Sprachtechnologie und Computerlinguistik (German Society for Computational Linguistics), Potsdam, 30 September 2009. "Who decides what a text means?"

International Conference on Text, Speech and Dialogue (TSD 2008), Brno, Czech Republic, 12 September 2008. "The future of text-meaning in computational linguistics."

Conference on Processing Text-Technological Resources, University of Bielefeld, 14 March 2008. "Semantic distance measures with distributional profiles of coarse-grained concepts." [co-authored with Saif Mohammad]

Second International Workshop on Paraphrasing, Sapporo, Japan, July 2003. "Paraphrasing paraphrased."

Inauguration Symposium, Human Language Technology Research Institute, University of Texas at Dallas, March 2002. "Context as a spurious concept."

Third conference on Recent Advances in Natural Language Processing, Tzigrav Chark, Bulgaria, September 2001. "Measures of semantic relatedness and the detection and correction of real-word spelling errors".

Second International Conference on Computational Linguistics and Intelligent Text Processing, Mexico City, February 2001, "Measures of semantic relatedness: Problems in semantic distance and intelligent spelling checking".

Japan Electronic Industry Development Association, Natural Language Processing Seminar, Kyoto, November 1998, "Near-synonymy and semantic distance: Problems in lexical choice and intelligent spelling checking".

AAAI Fall Symposium on Context in Knowledge Representation and Natural Language, Cambridge, MA, November 1997. "Context as a spurious concept".

Conference on Ontological and Linguistic Categories, University of San Marino, June 1997. "Near-synonymy and the structure of lexical knowledge".

The tenth biennial conference on AI and Cognitive Science, Society for the Study of Artificial Intelligence and the Simulation of Behaviour, Sheffield, April 1995. "Repairing conversational misunderstandings and non-understandings".

International Symposium on Spoken Dialogue, Waseda University, Tokyo, November 1993. "Repairing conversational misunderstandings and non-understandings".

ATR International Workshop on Speech Translation, Kyoto, November 1993. "Repairing conversational misunderstandings and non-understandings".

Symposium on Symbol Manipulation, Connectionism, and the Semantics of Natural Language, Helsinki, November 1991. "Ontological assumptions in knowledge representation" and "Repairing conversational misunderstandings and non-understandings".

Conference of the Canadian Society for Computational Studies of Intelligence, Ottawa, May 1990. "Planning the future of natural language research (even in Canada)".

### Other invited conference participation

Discussant, 7th Conference on New Directions in Analyzing Text as Data, Boston, October 2016.

“Competitor”, NLP Idol panel [discussing old research papers that should be “plucked from obscurity”] at the 2012 Conference of the North American Chapter of the Association for Computational Linguistics, June 2012.

Panelist, Workshop on Semantic Search, at Human Language Technologies: The 11th Annual Conference of the North American Chapter of the Association for Computational Linguistics, Los Angeles, June 2010.

Panelist, Translation Technology Showcase, Multilingual Translation Technology Centre, University of Toronto, January 2001.

Panelist, AAAI Symposium on Intelligent Text Summarization, Stanford, March 1998.

Invited respondent, Workshop on “Views on pragmatics: From the conventional to the computational”, University of Western Ontario, October 1991.

Discussant, Workshop on Formal Aspects of Semantic Networks, Santa Catalina, February 1989.

### Invited seminars and colloquia

“Classifying verbal autopsy records by cause of death using neural networks and temporal reasoning.”

Österreichisches Forschungsinstitut für Artificial Intelligence (Austrian Research Institute for Artificial Intelligence), 3 July 2019.  
Cluster of Excellence Cognitive Interactive Technology, Universität Bielefeld, 18 March 2019.  
Fachbereich Informatik, Technische Universität Darmstadt, 14 March 2019.  
Web and Data Science Group, Universität Mannheim, 12 March 2019.  
Department of Linguistics and Philology, Uppsala University, 19 January 2018.

“Digitization of the Canadian Parliamentary Proceedings.”

Big Data Workshop, Department of Comparative Politics, University of Bergen, 24 February 2017.

“Is the singularity near?”

Ideas for the World, Victoria University, 22 March 2016.

“Who decides what a text means? (and what the answer implies for computational linguistics)”

Institut für Computerlinguistik, Universität Heidelberg, 13 March 2019.  
Department of Computing and Information Systems, University of Melbourne, May 2017.  
Language Technologies Institute, Carnegie Mellon University, February 2016.  
Centre for Linguistic Theory and Studies in Probability, University of Gothenburg, March 2016.

“Automatically identifying ideology, argumentation schemes, and discourse structure in parliamentary text.”

Department of Linguistics, University of Uppsala, November 2014.

“Natural language processing methods for the detection of symptoms of Alzheimer’s disease in writing.”

Språkbanken, University of Gothenburg, May 2013.  
Department of Computer Science, University of Illinois, November 2012.  
Deutsche Forschungszentrum für Künstliche Intelligenz, Berlin, September 2012.  
Department of Linguistics, University of Potsdam, September 2012.  
Linguistic Computing Laboratory, Sapienza University of Rome, September 2012.  
College of Information Science and Technology, Nanjing University of Aeronautics and Astronautics, July 2012.  
Faculty of Information Technology, Monash University, August 2011.  
Department of Computer Science and Software Engineering, University of Melbourne, August 2011.  
Google Research, July 2010.

“Who decides what a text means?”

Språkbanken, University of Gothenburg, May 2013.  
Faculty of Computer Science and Information Technology, University of Malaysia, Sarawak, August 2009.

“Understanding text from both the user’s and the writer’s perspective”

KMDI@13 lecture series, Knowledge Media Design Institute, University of Toronto, April 2009.

“Semantic distance measures with distributional profiles of coarse-grained concepts” [co-authored with Saif Mohammad].

Faculty of Computer Science and Information Technology, University of Malaysia, Sarawak, August 2009.  
Department of Systems Engineering and Engineering Management, Chinese University of Hong Kong, May 2009.  
Centre for Research in Intelligent Systems, Faculty of Information Technology, Monash University, April 2009.  
Center for Cognitive Science, University at Buffalo, November 2008.

“Lexical chains and semantic distance, within and across languages” [co-authored with Saif Mohammad].

Division of Chinese, Nanyang Technological University, April 2008.

“Fine-grained differences and similarities in meanings”.

Ubiquitous Knowledge Processing Lab, Department of Computer Science, Technical University of Darmstadt, May 2009.  
Institut für Maschinelle Sprachverarbeitung, University of Stuttgart, May 2009.  
European Media Lab, Heidelberg, March 2008.  
Computer Laboratory, University of Cambridge, January 2008.  
Department of Computer Science, University of Maryland, College Park, April 2007.  
Department of Computer Science, National University of Singapore, February 2007.  
Division of Information Studies, Nanyang Technological University, February 2007.  
Department of Computer Science, University of Colorado at Boulder, March 2006.  
Information Sciences Institute, University of Southern California, January 2006.  
Department of Computing, Macquarie University, November 2005.  
School of Computer Science and Software Engineering, Monash University, November 2005.  
Department of Computer Science and Software Engineering, University of Melbourne, November 2005.  
Simon Fraser University, March 2005.

“Academic publishing in computer science”.

University of Toronto, Department of Computer Science, Research skills seminar series, March 2007.

“Analyzing medical text to answer clinicians’ questions”.

Computational Pharmacology Group, University of Colorado Health Sciences Center, February 2006.

“Views of text-meaning in computational linguistics: Past, present, and future”.

Department of Linguistics, University of Colorado at Boulder, October 2005.

“Measures of semantic relatedness and the detection and correction of real-word spelling errors”.

School of Informatics, University of Edinburgh, August 2003.  
Sharp Laboratories Europe, Oxford, August 2003.  
Computational Linguistics Laboratory, Nara Institute of Science and Technology, July 2003.  
Department of Computer Science, Concordia University, October 2002.  
Department of General Linguistics, University of Helsinki, August 2002.  
Department of Computer Science, University of Minnesota, Duluth, April 2002.  
Department of Computer Science, University of Pittsburgh, February 2002.  
Department of Computing Science, University of Alberta, November 2001.

“Semantic things to do to text”.

Artificial Intelligence in Medicine, Inc., Symposium, Toronto, November 2002.

“Near-synonymy and the structure of lexical knowledge”.

IBM T.J. Watson Research Center, Hawthorne, NY, May 2000.  
Department of Computer Science, University of Colorado at Boulder, April 2000.  
Center for Language and Speech Processing, Johns Hopkins University, April 1999.  
Department of Computer Science, University of Rochester, March 1999.  
Department of Electrical Engineering and Computer Science, University of Wisconsin–Milwaukee, February 1999.  
Natural Language Group, Department of Computer Science, Columbia University, February 1999.  
Center for Cognitive Science, State University of New York at Buffalo, January 1999.  
Microsoft Research Institute, Macquarie University, April 1998.  
Department of Computer Science, Monash University, April 1998.  
Cognitive Science “Distinguished Lecturer” Series, Carleton University, February 1998.

“Repairing conversational misunderstandings and non-understandings”

Department of Computer Science, University of Manitoba, January 1997.  
Department of Computer Science, Monash University, May 1996.  
Microsoft Research Institute, Macquarie University, May 1996.  
Department of Linguistics, The Ohio State University, March 1996.  
Center for Cognitive Science, State University of New York at Buffalo, February 1994.  
Computing Research Laboratory and Department of Computer Science, New Mexico State University, March 1993.

“Research in computational models of style” (with Chrysanne DiMarco)

Gesellschaft für Mathematik und Datenverarbeitung, Institut für integrierte Publikations- und Informationssysteme, Darmstadt, November 1994.  
 Forschungsinstitut für anwendungsorientierte Wissensverarbeitung, Ulm, November 1994.  
 Microsoft Corporation, Redmond, Washington, July 1993

“Writing and publishing in computer science”.

University of Waterloo, Department of Computer Science, Research skills seminar series, November 1992; repeated November 1993, November 1994, November 1995, November 1997.

“Ontological assumptions in knowledge representation”.

Cognitive Science colloquium, University of Waterloo, April 1995.  
 Department of Computer Science, Monash University, May 1993.  
 Department of Computer Science, Carleton University, March 1992.  
 Cognitive Science Group, Scarborough College, University of Toronto, February 1992.  
 Department of Computer Science, University of Chicago, February 1992.  
 Computing Laboratory, University of Cambridge, November 1991.  
 Corporate Research and Development Center, General Electric Company, Schenectady, NY, March 1991.  
 Department of Computer Science, State University of New York at Buffalo, October 1990.  
 Department of Computer Science, Virginia Polytechnic Institute and State University, April 1990.  
 Department of Computer Science, University of Rochester, January 1990.  
 Department of Computer Science, Carnegie Mellon University, December 1989.  
 Department of Computer Science, Brown University, October 1989.

“Knowledge representation problems for natural language understanding”.

IBM T.J. Watson Research Center, Hawthorne, NY, September 1989.  
 Institut für Wissensbasierte Systeme, IBM Deutschland, Stuttgart, July 1989.  
 MCC (Microelectronics and Computer Technology Corporation), Austin, Texas, March 1989.  
 Information Sciences Institute, University of Southern California, February 1989.  
 Department of Computer Science, New York University, November 1988.  
 Wiener Workshop Wissensbasierte Sprachverarbeitung, Österreichische Gesellschaft für Artificial Intelligence, August 1988.

“Presuppositions as beliefs”.

School of Cognitive Studies, University of Sussex, May 1988.

“Computational models of ambiguity resolution”.

Department of Computer Science, University of Glasgow, June 1988.  
 School of Cognitive Studies, University of Sussex, May 1988.  
 Department of Computer Science, University of Essex, May 1988.  
 Computing Laboratory, University of Cambridge, May 1988  
 Centre for Cognitive Science, University of Edinburgh, April 1988  
 Conference on semantic ambiguity, Adelphi University, April 1988.  
 Division of Life Sciences, Scarborough College, University of Toronto, March 1988.

“The resolution of natural language ambiguity”.

Department of Artificial Intelligence, University of Edinburgh, April 1988.  
 Department of Computer Science, State University of New York at Buffalo, February 1988.

“Where parsing preferences come from”.

Annual meeting of the Artificial Intelligence and Robotics Programme, Canadian Institute for Advanced Research, Banff, September 1986.

“Computational ambiguity resolution”.

Computing Research Laboratory, New Mexico State University, September 1985.  
 Department of Psychology, University of Rochester, March 1985.  
 Department of Computer Science, University of Toronto, March 1985.

“Semantic interpretation against ambiguity”.

Department of Electrical Engineering and Computer Science, Northwestern University, February 1987.  
 Department of Computer Science, Australian National University, June 1985.  
 Department of Psychology, Monash University, June 1985.  
 Department of Computer Science, Monash University, June 1985.  
 IBM T.J. Watson Research Center, Yorktown Heights, April 1985.  
 Bell Communications Research, April 1985.  
 AT&T Bell Laboratories, April 1985.  
 Department of Computing and Information Science, Queen’s University, February 1985.  
 Linguistics Programme and Department of Computer Science, University of Manitoba, November 1984.  
 Department of Computer Science, Indiana University, November 1984.  
 Artificial Intelligence Symposium, Department of Computer Science, Columbia University, November 1984.  
 Department of Computer Science, University of Waterloo, June 1984.  
 McLuhan Centre for Culture and Technology, University of Toronto, April 1984.

“Word sense and case slot disambiguation in formal semantics for natural language understanding”.

Department of Computer Science, Carnegie-Mellon University, April 1983.

Department of Computer Science, University of Toronto, January 1983.

Department of Computer Science, University of Rochester, December 1982.

## **Other professional activities**

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### **Industry involvement**

Adviser, Sonic Boomerang Inc., Toronto, 2000–04.

Commercialized technology for determining sentiment towards stocks in chat and message boards.

Co-founder, Inkpot Software Inc., Toronto and Waterloo, 1997–99.

Commercialized technology that used natural-language generation techniques for personalizing health information for individual consumers and patients.

### **Editorships**

Series Editor, Synthesis Lectures on Human Language Technologies, Morgan & Claypool Publishers, 2007–2022; Springer Nature 2022– .

Book review editor and editorial board member, *Computational Linguistics*, 1985–2014.

Editor, *Canadian Artificial Intelligence*, 1984–1987. Editor emeritus and book review editor, 1988–1999.

### **Associate editor or editorial board member**

*Computational Intelligence*, 2003–10.

*IEEE Expert*, 1992–96.

*Machine Translation*, 1989–2007.

### **Offices in professional organizations, etc**

Co-chair, Professional Conduct Committee, Association for Computational Linguistics, 2018–2022; Past Chair, 2023.

Treasurer [elected, international level], Association for Computational Linguistics, 2008–2017 [two five-year terms]. Past Treasurer, 2018.

Past Chair, Executive Board, North American Chapter of the Association for Computational Linguistics (NAACL), 2006–2009. Previously, elected chair, 2004–2005; elected member 2001–2002, re-elected 2003–2004.

Chair, Human Language Technology Advisory Board [oversees the Human Language Technology conference series], 2002–2009.

Information Officer, Association for Computational Linguistics Special Interest Group on the Lexicon (ACL SIGLEX), 2000–2003.

**Conference or workshop organizer or organizing committee member**

Co-organizer, Dagstuhl seminar “Natural Language Argumentation: Mining, Processing, and Reasoning over Textual Arguments”, 18–22 April 2016.

Co-organizer, 2nd Workshop on Argumentation Mining, Denver, June 2015.

Area Chair, \*SEM 2015: The 4th Joint Conference on Lexical and Computational Semantics, Denver, June 2015 [coordinated reviews by 11 reviewers of 13 papers, and made final decisions].

Organizer, Workshop on Computational Approaches to Synonymy, at the Symposium on Rethinking Synonymy (organized by SKY, the Linguistic Association of Finland), Helsinki, October 2010.

Organizer, Second Workshop on Text Meaning and Interpretation, at the 42nd Meeting of the Association for Computational Linguistics, Barcelona, July 2004 (with Sergei Nirenburg).

Organizer, Workshop on Text Meaning, at the combined Human Language Technology Conference and 3rd Meeting of the North American Chapter of the Association for Computational Linguistics, Edmonton, May 2003 (with Sergei Nirenburg).

Program committee member and area chair, First meeting of the North American Chapter of the Association for Computational Linguistics, Seattle, April 2000.

Organizer, 9th International Workshop on Natural Language Generation, Niagara-on-the-Lake, Ontario, August 1998 (with Chrysanne DiMarco and Eduard Hovy).

Committee member, Canadian Society for Computational Studies of Intelligence, Conference, Toronto, May 1998.

Sub-chair, 15th International Conference on Computational Linguistics, Kyoto, August 1994.

Co-chair, Natural language sub-committee, American Association for Artificial Intelligence, National Conference, 1991.

Program committee member, Sixth annual conference, University of Waterloo Centre for the *New Oxford English Dictionary*, 1990

Member, Natural language sub-committee, American Association for Artificial Intelligence, National Conference, 1990.

Program committee, International Conference on Computers and the Humanities and conference of the Association for Literary and Linguistic Computing, Toronto, June 1989.

Program committee, Computers in the Humanities: Today’s Research, Tomorrow’s Teaching, Toronto, April 1986.

Program committee, Canadian Society for Computational Studies of Intelligence, Conference, 1986.

Program committee, Workshop on Theoretical Approaches to Natural Language, Halifax, May 1985.

**Other major activities**

Member, Discovery Grant Evaluation Group 1507 (Computer Science), Natural Sciences and Engineering Research Council of Canada, 2014–2017.

Project advisor, *Data Mining the 1918 Influenza Pandemic*, Virginia Polytechnic Institute and State University, 2012–14.

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