

# Sergei Nirenburg

## Professor

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## Employment

August 2002 - Director, Institute for Language and Information Technologies, University of Maryland Baltimore County  
August 2002 - Professor, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County  
1994 - Director, Computing Research Laboratory, New Mexico State University, Las Cruces, NM.  
1994 - Professor, Department of Computer Science, New Mexico State University  
1991 - 94 Senior Research Computer Scientist, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA.  
1987 - 91 Research Computer Scientist, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA.  
1984 - 85 Visiting Assistant Professor, Department of Computer and Information Sciences, University of Massachusetts, Amherst, MA  
1982 - 86 Assistant Professor of Computer Science, Colgate University, Hamilton, NY  
1980 - 82 Junior Lecturer, Department of Computer Science, The Hebrew University of Jerusalem, Israel.

## Training

1980 Ph.D. in Linguistics, The Hebrew University of Jerusalem, Israel  
1974 M.Sc. (summa cum laude) in Computational Linguistics, Kharkov State University, Kharkov, USSR

## Research

**Directed** the following research projects:

HUHU A morphological and syntactic analyzer of Hebrew (The Hebrew University, 1980-82). Led a research team of 5.  
PARPAR A distributed syntactic parser for English (The Hebrew University, 1981-83). Led a research team of 3.  
POPLAR A model and testbed of an intelligent agent in a simulated environment. Extended to multiagency in Office, a model of the office world (Colgate University and University of Massachusetts, 1983-86). Led a research team of 3  
TRANSLATOR An interlingua-oriented, knowledge-based machine translation project (Colgate University, 1984-86). Led a research team of 3.

ONTOS	A knowledge acquisition and maintenance system for ontologies (Carnegie Mellon University, 1987-90). Led a research team of 6.
DIOGENES	A knowledge-based natural language generation system (Carnegie Mellon University, 1989-91). Led a research team of 5.
KBMT-89	A knowledge-based machine translation project for computer installation manuals, Japanese to English and English to Japanese (Carnegie Mellon University, 1987-89). Led a research team of 18.
DIANA	A semantic and pragmatic interpreter with opportunistic control (Carnegie Mellon University, 1989-91). Led a research team of 6.
TWS	Development of a translator's workstation (Carnegie Mellon University, 1989-1992). Led a research team of 8.
Pangloss	A machine translation project (directed the CMU and, later, NMSU teams) (Carnegie Mellon University, New Mexico State University, University of Southern California, 1991-96). Led research teams of 9 (CMU) and 16 (NMSU).
Mikrokosmos	Semantic and pragmatic microtheories for NLP: development of ontology, lexicons, grammars, semantic analyzer and text generator for processing Spanish, English, Japanese and Chinese (Carnegie Mellon University, 1993-94; New Mexico State University, 1994-99). Led a research team of up to 25.
Temple	Extensions of TWS into Arabic, Japanese and Russian (New Mexico State University, 1994-95). Led a research team of 7.
Corelli	Extended TWS (New Mexico State University, 1996-99). Led a research team of 7.
MINDS	Multilingual Information Extraction (New Mexico State University, 1997-99). Led a research team of 6.
Expedition	Environment for quick ramp-up of machine translation systems; MT system development for Turkish and two other "low-density" languages (New Mexico State University, 1997-2002). Led a research team of up to 22.
Shiraz	Persian-English MT system development (New Mexico State University, 1997-1999). Led a research team of 8.
CREST	Basic research in language technology applications (New Mexico State University, 1999-2000). Led a research team of 17.
CAMBIO	Knowledge-based cross-lingual information retrieval (New Mexico State University, 1999-2000). Led a research team of 5.
Cormole	Mikrokosmos Lite (New Mexico State University, 2000-2001). Led a research team of 7.
Essence	Knowledge-based information extraction (2001-2003). Leading a research team of 8
AQUAINT	Research in question answering (New Mexico State University, after August 2002: University of Maryland Baltimore County, 2002-03). A research team of 8.
iCASA Tools.	Tools for ontological-semantic modeling. (2001-2002). Leading a research team of 3.
ARL CTA	The CRL component of the ARL-sponsored consortium on cognitive aspects of the battlefield (2001-02). Leading a research team of 3.

### **Professional Activities, Committee Memberships, Offices Held, Etc.**

2004	Program Committee Chair, Workshop on Text Meaning, ACL-04, Barcelona, Spain, July.
2004	General Chair, Tenth Conference on Theoretical and methodological Issues in Machine Translation of Natural Languages, Baltimore, MD, October.

- 2002 Member, Program Committee, Workshop on the Semantic Web and Its Applications, AAAI-02, Edmonton, Alberta, Canada, August.
- 2002 Member, Program Committee, Annual Meeting of the Association for Machine Translation in the Americas, Tiburon, CA, October.
- 2001-2002 General Chair, Ninth Conference on Theoretical and methodological Issues in Machine Translation of Natural Languages, Nara, Japan, September.
- 2001-2002 Chair, Program Committee Area on Machine Learning, COLING-2002, Taipei, Taiwan.
- 2001 Invited Speaker, The Southwest Conference on Information Security, Albuquerque, October
- 2001 Visiting Professor, Center for Education and Research in Information Assurance and Safety, Department of Computer Science, Purdue University, January-March.
- 2000 Co-Director, The NATO Advanced Institute on Language Engineering for Less Studied Languages, Bilkent University, Ankara, Turkey, July.
- 1999 -2000 Chair, Program Committee Area on Machine Translation, COLING-2000, Saarbruecken, Germany - Luxemburg, August 2000.
- 1999 -2000 Chair, Program Committee, The Applied Natural Language Processing Conference, sponsored by the Association for Computational Linguistics. Seattle, May 2000.
- 1999-2000 Member, Scientific Committee and Program Committee, Second International Conference on Language Resources and Evaluation, Athens, Greece, June 2000.
- 1999 General Chair, Eighth Conference on Theoretical and methodological Issues in Machine Translation of Natural Languages, Chester, UK, August.
- 1999 Director, First International Summer School in Language Engineering, Las Cruces, New Mexico, June-July. 26 attendees from 11 countries.
- 1998 - Permanent Member, ICCL: The International Committee on Computational Linguistics (the organizing body for COLING conferences).
- 1997 -2000 Chair, Promotion and Tenure Committee, Department of Computer Science, New Mexico State University
- 1997 - Permanent Dean's Representative, Promotion and Tenure Committee, Department of Psychology, New Mexico State University
- 1997 General Chair, The Seventh International Conference on Theoretical and Methodological Issues in Machine Translation, Santa Fe, NM, August.
- 1997 Co-Organizer, International Interdisciplinary Symposium on Ontological and Linguistic Categories, San Marino, June.
- 1997 Program Committee Member, AAAI Spring Symposium on NLP on the WWW. Stanford, March.
- 1996 - Honorary Editor, *Machine Translation*, the archival journal in the field of machine translation
- 1996 Member, Organizing Committee, the ACL Workshop on Breadth and Depth of Semantic Lexicons, Santa Cruz, CA, June.
- 1994 - 95 Member, Program Committee, IJCAI-95 Workshop on Natural Language Generation.
- 1994 Member, Program Committee, International Conference on New Methods in Language Processing, Manchester, U.K., September.
- 1993 Chair, Organizing Committee, ACL SIGLEX Workshop on Lexicons for MT. Utrecht, The Netherlands, April.
- 1992 Program Committee Chair, Workshop on Evaluation of MT Systems. San Diego, November.
- 1990 - 92 Member, Program Committee, Third ACL Conference on Applied Computational Linguistics, Trento,

- Italy.
- 1990 - 94 First Vice President, Association for Machine Translation in the Americas.
- 1990 - 91 Chair, Program Committee, Machine Translation Summit III, Washington, D.C., June.
- 1990 - 92 Member, IFIP (International Federation for Information Processing) Working Group 12.4 on Natural Language Processing.
- 1990 Member, Organizing Committee, 5th International Workshop on Natural Language Generation. Pittsburgh, PA, June.
- 1990 Member, Program Committee, Third International Conference on Theoretical and Methodological Issues in Machine Translation. Austin, TX.
- 1988 Member, Program Committee, 5th International Conference on AI Applications.
- 1988 Program Committee Co-Chair, Workshop on Machine-Aided Translation, ASIS Annual Conference, Atlanta, October.
- 1988 Member, Organizing Committee, AAI-88 Workshop on Very Large Multifunctional Knowledge Bases, Minneapolis, August.
- 1988 - 96 Editor, *Machine Translation*, the archival journal in the field of machine translation.
- 1987 - 88 Program Committee Co-chair, Second International Conference on Theoretical and Methodological Issues in Machine Translation, Pittsburgh.
- 1987 Program Committee Chair, Workshop on Planning Natural Language Technologies, sponsored by the US Air Force. Blue Mountain Lake, NY, September.
- 1986 - 87 Member, Program Committee, The 1987 Annual Meeting of the Association of Computational Linguistics.
- 1985 - 86 Adjunct Assistant Professor, Department of Computer and Information Sciences, University of Massachusetts, Amherst, MA
- 1985 Organizer and coordinator, the 1985 Fall Research Meeting of the North-East AI Consortium. Hamilton, NY, October.
- 1985 - 93 Associate Editor, The International Journal of Computer Languages.
- 1985 - Chair, Steering Committee on the Conferences on Theoretical and Methodological Issues in MT.
- 1985 General Chair and Program Committee Chair, First International Conference on Theoretical and Methodological Issues in Machine Translation, Colgate University.
- 1985 Guest Editor, Special Section on Machine Translation in the ACM SIGART Newsletter No. 92, April 1985.
- 1984 Organizer and coordinator, the 1984 Fall Research Meeting of the Northeast Artificial Intelligence Consortium. Hamilton, NY, November.
- 1983 - 86 Coordinator, Research Reports of the Division of the Natural Sciences and Mathematics, Colgate University.
- 1983 - Reviewer for Computational Linguistics, ACM Computing Reviews, Cambridge University Press, Kluwer Academic Publishers, and other publishing houses; The National Science Foundation; The National Endowment for the Humanities; The National Institutes of Health; IJCAI, AAI, ACL, COLING and other professional meetings, conferences and workshops.

#### **Invited and Keynote Presentations, Consultancies, etc.**

- 2003 Keynote Speaker, Israeli Conference on Computational Linguistics, Haifa, December.
- 2002 Invited Lecturer, Summer Course on Machine Translation, Universitat Internacional Menéndez Pelayo, Barcelona, July.
- 2002 Invited Speaker, Army Knowledge Symposium, Overland Park, MO, April.

2001 Invited Speaker, Conference on Information Security, Albuquerque, NM, October.

2000 Consultant, Answerchase, Inc. Development of ontology-based information extraction methods

2000 Invited Speaker, the ASLIB Conference on Machine Translation, University of Exeter, UK, November.

2000 Presenter, Tutorial on Ontological Semantics, Annual Conference of the Association for Machine Translation in the Americas, Cuernavaca, Mexico, October.

2000 Invited Speaker, International Panel on Affective Computing and Humor in Human-Computer Interaction. University of Maryland, College Park, January.

1999 Invited Speaker, International Workshop on Natural Language Generation Architectures, Edinburgh University, UK, November.

1999 Invited Speaker, The SIGLEX Workshop on Multilingual Lexicons, ACL Annual Meeting, University of Maryland, College Park, June.

1999 Invited Speaker, Workshop on Computational Treatment of Inuit Languages, University of Alaska, Fairbanks, May.

1998 Invited Panelist, Annual Meeting of the Association for Machine Translation in the Americas, Langhorne, PA, October.

1998 Invited Speaker, International Workshop on Resources for Natural Language Processing, Baslow, UK, December.

1997 Invited Speaker, Workshop on Interlinguas, MT Summit VI, San Diego, November.

1997 Plenary Speaker, MT Summit VI, San Diego, November.

1997 Invited Speaker, The RANLP-97 Conference and Summer School in Computational Linguistics, Tzigrav Chark, Bulgaria, September.

1997 Invited Speaker, The Seventh International Conference on Theoretical and Methodological Issues in Machine Translation, Santa Fe, NM, August.

1997 Invited Speaker, International Interdisciplinary Symposium on Ontological Modeling, San Marino, June.

1997 Plenary Speaker, AAAI Spring Symposium on NLP on the WWW. Stanford, March.

1997 Consultant, Accent Software International, March-August.

1996 Consultant, Institute for Language, Speech and Hearing, University of Sheffield, UK, November.

1996 Invited Panelist, Panel on Methodology of MT, AMTA Conference, Montreal, October.

1996 Invited Speaker, International Symposium on Lexical Semantics, Courmayeur, Italy, September.

1996 Invited Speaker, The ACL SIGLEX Workshop on Meaning of Predicates, Toulouse, August.

1995 Invited Speaker, BISFAI-95, the Bar Ilan Symposium on Formal Methods in Artificial Intelligence, Israel, June.

1995 Plenary Speaker, Machine Translation Summit V, Luxembourg, August.

1994 Invited Speaker, The University of Pennsylvania Symposium on Computational Lexicography, November.

1994 Keynote Speaker, The European Community Conference on the Multilingual Aspects of the Information Superhighway, Santorini, Greece, September.

1994 Invited Speaker, Panel on Multilingual Text Processing, COLING-94, Kyoto, August.

1993 Invited Speaker, American Translators Association Workshop on MT Tools for Translators. Philadelphia, October.

1993 Invited Speaker, "The Third Scientific Days on MT," Montreal, Canada, September.

1993 Invited Speaker, Planning Workshop on NL Technologies. US Army Materiel Command, Alexandria, VA, August.

1993 Invited Speaker, Machine Translation Summit IV, Kobe, Japan, July.

1993 Invited Speaker, Workshop on Knowledge for Machine Translation Systems, Kobe, Japan, July.

- 1993 Invited Speaker, SIGIR Conference, Pittsburgh, June.
- 1993 Invited Speaker, Symposium on Universals in the Lexicon, Dagstuhl Castle, Germany, March-April.
- 1993 Invited Speaker, AAAI Spring Symposia, Symposium on MT Lexicons. Stanford. March.
- 1992 Invited Speaker, Workshop on Future Generation of Natural Language Processing, Manchester, U.K., August.
- 1992 Keynote Speaker, South-East Asia Conference on Computer Science, Kuala Lumpur, Malaysia, August.
- 1992 Invited Speaker, International Workshop on Meaning-Text Models, Darmstadt, Germany, August.
- 1992 Invited Speaker, Presidential Round Table on the Future of Lexicography, IX EuraLex Congress, Helsinki, August.
- 1991 Chair, Panel on Applications of Machine Translation Technology, MT Summit III, Washington, July.
- 1991 Invited Speaker, NSF Planning Workshop on High-Performance Computing, Washington, March.
- 1990 - 92 Consultant, Reuters, Ltd.
- 1990 Invited Speaker, Workshop on Constraint-Based Approaches to Natural Language Generation. Stuttgart, Germany, November.
- 1990 Consultant, BMFT (German Ministry for Science and Technology). External Evaluator for the Polygloss natural language generation project. November.
- 1990 Invited Speaker, International Symposium on Multilingual Machine Translation. Tokyo, Japan, November.
- 1990 Invited Speaker, International Workshop on Electronic Dictionaries. Oiso, Japan, November.
- 1990 Invited Speaker, International Conference on Dialog-Based MT Systems. Grenoble, France, August.
- 1990 Invited Speaker, International Workshop on MT Basic Research into the 1990s. Manchester, August
- 1990 Invited Speaker, Third Republic of China Conference in Computational Linguistics, Taipei, September. (Keynote Speaker).
- 1990 Invited Speaker, Third International Conference on Theoretical and Methodological Issues in Machine Translation. Austin. July
- 1990 Invited Speaker, DARPA Speech and Natural Language Workshop. June.
- 1989 Invited Speaker, The Fifth Oxford English Dictionary Conference. Oxford, September.
- 1989 Invited Speaker, The "Machine Translation in the 1990s" workshop, University of Manchester Institute of Science and Technology, Manchester, U.K., August.
- 1989 Invited Speaker, The First International Language Acquisition Workshop, Detroit, August.
- 1989 Invited Speaker, Machine Translation Summit II, Munich, August.
- 1989 Invited Speaker, Georgetown University Round Table in Linguistics, Washington, D.C., March.
- 1988 Consultant, ORA Corporation, Montreal, October. Evaluation of machine translation and natural language generation technology.
- 1988 Invited Panelist, Panel on Dictionary and Grammar in Machine Translation, International Conference on Computational Linguistics, COLING-88, Budapest, August.
- 1988 Consultant, BMFT (West German Ministry for Science and Technology). External Evaluator for the Semsyn natural language generation project. August.
- 1988 Invited Speaker, Fourth International Workshop on Natural Language Generation. Los Angeles, July.
- 1988 Invited Speaker, Fifteenth International Conference of the Association for Linguistic Computing, Israel, June.
- 1988 Invited Speaker, The First AAAI Workshop on Computational Lexical Semantics. Brandeis University, April.
- 1988 Invited Speaker, Symposium on Linguistic Approaches to Artificial Intelligence, Duisburg University, West Germany, March.

- 1987 Invited Speaker, Air Force Workshop on Planning Natural Language Technologies. Blue Mountain Lake, NY, September.
- 1987 Invited Speaker, The Lexicon Workshop, 1987 Summer Linguistics Institute, Stanford University, July.
- 1985 - 86 Held the John D. and Catherine T. McArthur Chair in Computer Science, Colgate University.
- 1983 Invited Participant, National Endowment for the Humanities Summer Seminar on Contextual Semantics. Purdue University, West Lafayette, Indiana, June-August.
- 1979 - Over 100 presentations at Departmental Computer Science and Computational Linguistics seminars and colloquia in North America, Europe and Asia.

## Publications

### Books

1. Nirenburg, S. (ed.) **Machine Translation: Theoretical and Methodological Issues**. The ACL Series Studies in Natural Language, Cambridge University Press, 1987.
2. Goodman, K. and S. Nirenburg (eds.) **KBMT-89: A Case Study in Knowledge-Based Machine Translation**. 250 pp. San Mateo: Morgan Kaufmann. 1992.
3. Nirenburg, S., J. Carbonell, M. Tomita and K. Goodman. **Machine Translation: A Knowledge-Based Approach**. 280 pp. San Mateo: Morgan Kaufmann. 1992. *Wrote about 85% of the book.*
4. Nirenburg, S. (ed.) **Progress in Machine Translation**. Amsterdam: IOS Press, 1993.
5. Nirenburg, S. (ed.) **Breadth and Depth of Semantic Lexicons**. Proceedings of the ACL SIGLEX Workshop. (228 pp.). University of California, Santa Cruz, CA, June 1996.
6. Nirenburg, S., H. Somers and Y. Wilks (eds.), 2002. **Readings in Machine Translation**. Cambridge, MA: MIT Press.
7. Nirenburg, S. and V. Raskin. 2004. **Ontological Semantics**. Cambridge, MA: MIT Press.

### Papers in Journals

1. Nirenburg, S. Towards the Notion of Presupposition in Russian Morphology. *Slavica Hierosolymitana*, 2, 1978, pp. 94 - 107.
2. Nirenburg, S. A Technique for Describing the Semantics of Prepositional Phrases. *Russian Linguistics*, 5, 1981, pp. 245 - 65.
3. Nirenburg, S. and Y. Ben Asher. HUUH: The Hebrew University Hebrew Understander. *The Journal of Computer Languages*, vol.9, 1984. 161-182.
4. Nirenburg, S. (ed.). 1985. Special Section on Machine Translation, ACM SIGART Newsletter 92.
5. Lozinskii, E. and S. Nirenburg. Parsing in Parallel. *The Journal of Computer Languages*, vol. 11, 1986, Issue 1. 39-51.
6. Nirenburg, S. and V. Raskin. The Subworld Concept Lexicon and the Lexicon Management System. *Computational Linguistics*, vol. 13, 1987, issue 3-4.
7. Nirenburg, S. and J. Carbonell. Integrating Discourse Pragmatics and Propositional Knowledge in Multilingual Natural Language Processing. *Computers and Translation*, vol. 2, 1987, pp. 105-116.
8. Nirenburg, S. and V. Raskin. The Analysis Lexicon and the Lexicon Management System. *Computers and Translation*, vol. 2, 1987, pp. 177-188.
9. Nirenburg, S. Knowledge-Based Machine Translation. *Machine Translation*. Vol. 4, 1989. 5 - 24.
10. Nirenburg, S. and L. Levin. Knowledge Representation Support. *Machine Translation* Vol. 4, 1989. 25 - 52.
11. Gates, D. D. Haberlach, T. Kaufmann, M. Kee, R. McCardell, T. Mitamura, I. Monarch, S. Morrisson, S. Nirenburg, E. Nyberg, K. Takeda and M. Zabłudowski. Lexicons. *Machine Translation*. Vol. 4, 1989. 67 - 112.
12. Nyberg, E. R. McCardell, D. Gates and S. Nirenburg. Generation. *Machine Translation*. Vol. 4, 1989. 149 - 168.
13. Nirenburg, S. Lexicographic Support for Knowledge-Based Machine Translation. *Journal of Linguistic and Literary Computing*, vol.4, No. 3, 1989, 185-190.

14. Nirenburg, S. Text Planning with Opportunistic Control. *Machine Translation Special Issue on Natural Language Generation*, R. Kittredge (ed.); vol. 7 No. 1-2 1992. 99-124.
15. Nirenburg, S. 1993. Tools for Machine-Aided Translation. *Meta*, vol. 37, issue 4, 709-720.
16. Nirenburg, S. 1996. The Inflexible Fickleness of Fashion. *IEEE Expert Intelligent Systems and Their Applications*, 4: 15-16.
17. Onyshkevych, B. and S. Nirenburg. 1995. A Lexicon for Knowledge-Based MT. *Machine Translation*, 10:1-2.
18. Sheremetyeva, S. and S. Nirenburg. 1996. Theoretical and Methodological Problems of Language Engineering. *Nauchno-Technicheskaja Informacija* (Scientific and Technological Information), Series 2. Issue 7, July. (In Russian).
19. Sheremetyeva, S. and S. Nirenburg. 1996. Methodology of Minimizing Effort in Language Engineering. *Nauchno-Technicheskaja Informacija* (Scientific and Technological Information), Series 2. Issue 9, September.
20. Sheremetyeva, S. and S. Nirenburg. 1996. Interactive Knowledge Elicitation in a Patent Expert's Workstation. *IEEE Computer*, July, 57-64.
21. Raskin, Victor and Sergei Nirenburg. 1998. An applied ontological semantic microtheory of adjective meaning for natural language processing. *Machine Translation* 13:1.
22. Sheremetyeva, S., S. Nirenburg and W. Jin. 1998. Rapid Deployment Morphology. *Machine Translation* 13(4): 239-268.
23. Nirenburg, S. and V. Raskin. 2001. Choices for Lexical Semantics. *Computational Intelligence*, 17:157-177.
24. Oflazer, K., M. McShane and S. Nirenburg. 2001. Bootstrapping morphological analyzers. *Computational Linguistics*.
25. Nirenburg, S. and Y. Wilks. 2001. What's in a Symbol: Ontology and the Surface of Language. *Journal of Experimental and Theoretical AI*, 13(1):9-23.
26. McShane, M., S. Nirenburg, J. Cowie and R. Zacharski. 2002. Embedding Knowledge Elicitation and MT Systems within a Single Architecture. *Machine Translation*, 17(4): 271-305.
27. McShane, Marjorie and Sergei Nirenburg. 2003. Blasting Open a Choice Space: Learning Inflectional Morphology for NLP.' *Computational Intelligence*. 19 (2): 111-135.
28. McShane, Marjorie and Sergei Nirenburg. 2003. Parameterizing and Eliciting Text Elements Across Languages for Use in Natural Language Processing Systems. *Machine Translation* 18(2): 129-165.
29. McShane, Marjorie, Sergei Nirenburg, and Ron Zacharski. 2004. Mood and modality: Out of theory and into the fray. *Natural Language Engineering*. 19(1):57-89.

### **Papers in Refereed Conference Proceedings**

1. Lozinskii, E. and S. Nirenburg. 1982. Locality in Natural Language Processing. Proceedings of VI European Conference on Cybernetics and Systems Research. Vienna. March.
2. Lozinskii, E. and S. Nirenburg. 1982. The Locality Phenomenon and Parallel Processing of Natural Language. Proceedings of COLING-82 (The Ninth International Conference on Computational Linguistics), Prague, 1982. August.
3. Lozinskii, E. and S. Nirenburg. 1982. Parallel Processing of Natural Language. Proceedings of the European Conference on Artificial Intelligence. Orsay, France. August.
4. Nirenburg, S. and H. Attiya. 1984. Towards a Data Model for Artificial Intelligence. Proceedings of the IEEE COMPDEC-84 Conference. Los Angeles. April.
5. Nirenburg, S and H. Attiya. 1984. Transition Network Parsing in Multiprocessor Environment. Proceedings of COLING-84, the Tenth International Conference on Computational Linguistics, Stanford CA. July.
6. Nirenburg, S., I. Nirenburg and J. Reynolds. 1985. The Control Structure of POPLAR: a Personality-Oriented Planner. Proceedings of 3rd Annual Conference on Intelligent Systems. Oakland University, Rochester, Michigan. June.
7. Nirenburg, S. 1985. Interlingua Design in TRANSLATOR. Proceedings of the Conference on Theoretical and Methodological Issues in Machine Translation, Hamilton, NY. July.
8. Nirenburg, S., V. Raskin and A. Tucker. 1986. On Knowledge-Based Machine Translation. Proceedings of International Conference on Computational Linguistics, COLING-86, Bonn, Germany. August.
9. Nirenburg, S., V. Raskin and A. Tucker. 1986. A Metric for Computational Analysis of Meaning: Toward an Applied Theory of Linguistic Semantics. Proceedings the International Conference on Computational Linguistics, COLING-86, Bonn, Germany. August.
10. Tucker, A., S. Nirenburg and V. Raskin. 1986. Discourse, Cohesion and Semantics of Expository Text.

- Proceedings of the International Conference on Computational Linguistics, COLING-86, Bonn, Germany. August.
11. Nirenburg, S. and V. Lesser. 1986. Providing Intelligent Assistance in Distributed Office Environments, Proceedings of the Third International ACM Conference on Office Automation Systems, Providence RI. (Reprinted in L. Gasser (ed.). Readings in Distributed AI. Morgan Kaufmann.). November.
  12. Pustejovsky, J. and S. Nirenburg. 1987. Lexical Selection in the Process of Language Generation. Proceedings of the Annual Meeting of the Association for Computational Linguistics, Stanford University. June.
  13. Nirenburg, S. and V. Raskin. 1987. Dealing with Space in Natural Language Processing. Proceedings of the Workshop on Spatial Reasoning and Multi-Sensor Fusion. Chicago. July.
  14. Monarch, I. and S. Nirenburg. 1987. The Role of Ontology in Concept Acquisition for Knowledge-Based Systems. Proceedings of the 1st International Workshop on Knowledge Acquisition, Reading, England. August.
  15. Raskin, V. and S. Nirenburg. 1987. What is there in linguistic semantics for natural language processing? Proceedings of the Natural Language Planning Workshop. Blue Mountain Lake, N.Y.
  16. Nirenburg, S. 1988. Three Types of Lexicons for a Natural Language Processing System. Proceedings of Fifteenth International Conference of the Association for Literary and Linguistic Computing. Jerusalem, Israel. July.
  17. Nirenburg, S., R. McCardell, I. Nirenburg, S. Huffman, E. Nyberg and E. Kenschaf. 1988. Issues in Lexical Selection. Proceedings of 2nd International Conference on Theoretical and Methodological Issues in Machine Translation. Pittsburgh, June.
  18. Nirenburg, S. and I. Nirenburg. 1988. A Framework for Lexical Selection in Natural Language Generation. Proceedings of COLING-88, Budapest, Hungary. August.
  19. Nirenburg, S. and J. Pustejovsky. 1988. Processing Aspectual Semantics. Proceedings of the Tenth Annual Meeting of the Cognitive Science Society. Montreal. August.
  20. Nirenburg, S., R. McCardell, S. Huffman, I. Nirenburg, E. Nyberg and E. Kenschaf. 1988. An Input Representation for Lexical Realization in a MT Generator. Proceedings of the AAAI Workshop on Text Generation. Minneapolis. October.
  21. Werner, P. and S. Nirenburg. 1988. Treatment of Pronominal Anaphora in Natural Language Generation. Proceedings of the AAAI Workshop on Text Generation. Minneapolis. October.
  22. Monarch, I. and S. Nirenburg. 1988. ONTOS: An Ontology-Based Knowledge Acquisition and Maintenance System. Proceedings of the Second Workshop on Knowledge Acquisition. Banff, Canada. August.
  23. Nirenburg, S., V. Lesser and E. Nyberg. 1989. Controlling a Natural Language Generation Planner. Proceedings of IJCAI-89, Detroit. August.
  24. Nirenburg, S. 1989. Dictionary Acquisition and Maintenance for a Knowledge-Based Machine Translation System. Proceedings of the First International Language Acquisition Workshop. Detroit. August.
  25. Nirenburg, S. 1989. Lexicons for Computer Programs and Lexicons for People. Proceedings of the Fifth OED Conference. Oxford. September.
  26. Monarch, I., S. Nirenburg and T. Mitamura. 1989. Ontology-Based Lexicon Acquisition for a Machine Translation System. Proceedings of the Fourth Workshop on Knowledge Acquisition for Knowledge-Based Systems. Banff, Canada. August.
  27. Nirenburg, S. and E. Nyberg. 1989. Resolution of Lexical Synonymy at the Word Level. Proceedings of the Sixth Annual Israel Conference on Artificial Intelligence and Computer Vision. Tel Aviv, Israel. September.
  28. Nirenburg, S. and K. Goodman. 1990. Treatment of Meaning in MT. Proceedings of the Third International Conference on Theoretical and Methodological Issues in Machine Translation. Austin, TX., July.
  29. Defrise, C. and S. Nirenburg. 1990. Meaning Representation and Text Planning. Proceedings of COLING-90, Helsinki, Finland. August.
  30. Brown, R. and S. Nirenburg. 1990. Human-Computer Interaction for Semantic Disambiguation. Proceedings of COLING-90, Helsinki, August.
  31. Defrise, C. and S. Nirenburg. 1990. Realization of Textual Relations and Speaker Attitudes. Proceedings of 5th International Workshop on Natural Language Generation, Dawson, PA.
  32. Goodman, K. and S. Nirenburg. 1990. To Save the Semantic Phenomena: Machine Translation and Interlingua Texts. Proceedings of the Fifth International Conference on Computers and Philosophy, Stanford.
  33. Defrise, C. and S. Nirenburg. 1990. TAMERLAN: A Text Meaning Representation Language. Proceedings of the TKE International Conference, Trier, West Germany.
  34. Onyshkevych, B. and S. Nirenburg. 1991. Lexicon, Ontology and Text Meaning. Proceedings of the ACL Workshop on Lexical Semantics. Berkeley, CA, June.
  35. Nirenburg, S. and L. Levin. 1991. Syntax-Driven and Ontology-Driven Lexical Semantics. Proceedings of the

- ACL Workshop on Lexical Semantics. Berkeley, CA, June.
36. Carlson, L. and S. Nirenburg. 1992. World Modeling for NLP. Proceedings of the 3rd Conference on Applied Natural Language Processing. Trento, Italy, April.
  37. Hovy, E. and S. Nirenburg. 1992. Approximating an Interlingua in a Principled Way. Proceedings of the DARPA Speech and Natural Language Workshop. Arden House, NY.
  38. Levin, L. and S. Nirenburg. 1993. Principles and Idiosyncrasies in MT Lexicons. Proceedings of the AAAI Spring Symposium on MT Lexicons. Stanford. March.
  39. Nirenburg, S., P. Shell, A. Cohen, P. Cousseau, D. Grannes and C. McNeilly. 1992. The Translator's Workstation. Proceedings of the 3rd Conference on Applied Natural Language Processing. Trento, Italy, April.
  40. Frederking, R., D. Grannes, P. Cousseau and S. Nirenburg. 1993. Integrating MT and MAT. Proceedings of the Pacling conference, Barnaby, B.C., Canada, April.
  41. Frederking, R., A. Cohen, P. Cousseau, D. Grannes and S. Nirenburg. 1993. The Pangloss Mark I MAT System. Proceedings of EACL-93, Utrecht, The Netherlands. April.
  42. Frederking, R., A. Cohen, P. Cousseau, D. Grannes and S. Nirenburg. 1993. The MAT Tool and Its Effectiveness. Proceedings of the 1993 DARPA NLP Workshop. Princeton. March.
  43. Nirenburg, S. 1993. Example-Based Machine Translation. Proceedings of the Bar Ilan Symposium on Foundations of Artificial Intelligence. Bar Ilan University, Israel. June.
  44. Nirenburg, S., D. Grannes and K. Domashnev. 1993. Two Types of Matching for Example-Based Machine Translation. Proceedings of TMIMT-93. Kyoto. July.
  45. Nirenburg, S. and R. Frederking. 1994. Toward Multi-Engine Machine Translation. Proceedings of the Human Language Technology Conference, Princeton,
  46. Levin, L. and S. Nirenburg. 1994. The Correct Place of Lexical Semantics in Interlingual MT. Proceedings of COLING-94. Kyoto, August.
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  48. Nirenburg, S., S. Beale and C. Domashnev. 1994. An Experiment in Full-Text Example-Based MT. Proceedings of the conference on New Directions in NLP Research. Manchester, September.
  49. Frederking, R. and S. Nirenburg. 1994. Three Heads Are Better than One. Proceedings of ANLP-94. Stuttgart, October.
  50. Beale, S. and S. Nirenburg. 1995. Dependency-Directed Text Planning. Proceedings of the 1995 International Joint Conference on Artificial Intelligence, Workshop on Multilingual Text Generation. Montreal, Quebec.
  51. Beale, S., S. Nirenburg, and K. Mahesh. 1995. Semantic Analysis in the Mikrokosmos Machine Translation Project. Proceedings of the 2nd Symposium on Natural Language Processing. Bangkok, Thailand.
  52. Y. Wilks and S. Nirenburg. Steps Towards Automated Knowledge Acquisition. In N.J.I. Mars, editor, Towards Very Large Knowledge Bases: Knowledge Building & Knowledge Sharing (KB&KS'95), pages 97--102, Enschede, The Netherlands, 1995. IOS Press, Amsterdam.
  53. Nirenburg, S., Raskin, V. and Onyshkevych, B. 1995. Apologiae Ontologiae. Proceedings of the Conference on Theoretical and Methodological Issues in Machine Translation. Leuven, Belgium. July.
  54. Mahesh, K. and S. Nirenburg. 1995a. A Situated Ontology for Practical NLP. Proceedings of the Workshop on Basic Ontological Issues in Knowledge Sharing, International Joint Conference on Artificial Intelligence. Montreal, Canada. August.
  55. Mahesh, K. and S. Nirenburg. 1995b. Semantic Classification for Practical Natural Language Processing. Proceedings of the 6th ASIS SIG/CR Classification Research Workshop: An Interdisciplinary Meeting. October 8. Chicago, IL.
  56. Viegas, E. and S. Nirenburg. 1995a. The Semantic Recovery of Event Ellipsis: Its Computational Treatment. Proceedings of the 14th International Joint Conference on Artificial Intelligence. Montreal, Quebec.
  57. Viegas, E. and S. Nirenburg. 1995b. Acquisition Semi-automatique du Lexique. Proceedings of the Quatriemes Journees scientifiques de Lyon, Lexicologie Langue Terminologie. Lyon, France.
  58. Nirenburg, S., K. Mahesh, and S. Beale. 1996. Measuring Semantic Coverage. Proceedings of the 17th International Conference on Computational Linguistics, COLING-96, Copenhagen.
  59. Beale, S. and S. Nirenburg. 1996. PICARD, The Next Generator. Proceedings of the 8th International Workshop on Natural Language Generation. Herstmonceux, Sussex.
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  61. Nirenburg, S., K. Mahesh, E. Viegas, S. Beale, V. Raskin, and Onyshkevych, B. 1996. Technological and Conceptual Tools for Lexical Knowledge Acquisition. Proceedings of DIALOGUE. Moscow. May.

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63. Mahesh, K., Nirenburg, S. and Beale, S. 1996. Exploiting Dynamic Contexts for Word Sense Disambiguation. In Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, July 12-15, 1996, San Diego, CA.
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65. Mahesh, K., Beale, S. and Nirenburg, S. 1996. Ontology-Based Ambiguity Resolution and Non-Literal Interpretation. In Proceedings of the International Conference on Knowledge Based Computer Systems (KBCS-96), Dec. 16-18, 1996, Bombay, India.
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67. Raskin, V. and Nirenburg, S. 1996. Adjectival modification in text meaning representation. Proceedings of the 17th International Conference on Computational Linguistics, COLING-96, Copenhagen, August.
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70. Viegas, E. and S. Nirenburg. 1996. The Ecology of Lexical Acquisition: Computational Lexicon Making Process. Proceedings of the Conference of the European Association of Lexicography (EURALEX). Goteborg University, Sweden. August 13.
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73. Nirenburg, Sergei. 1996. On Supply-Side Vs. Demand-Side Lexical Semantics. Proceedings of the ACL SIGLEX Workshop on Breadth and Depth of Semantic Lexicons, Santa Cruz, CA, June.
74. Raskin, Victor, and Sergei Nirenburg 1996. Lexical rules for deverbal adjectives. Proceedings of the ACL SIGLEX Workshop on Breadth and Depth of Semantic Lexicons, Santa Cruz, CA, June.
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79. Beale, S., S. Nirenburg, E. Viegas and L. Wanner. 1998. De-Constraining Text Generation. Proceedings of the International Workshop on Natural Language Generation (INLG-98), Niagara-on-the-Lake, Ontario, Canada.
80. Nirenburg, S., J. Cowie and R. Zajac. 1998. Natural Language Processing Technology for the Support of Aviation Communication. Aviation Information Conference, Prescott, AZ.
81. Sheremetyeva S., J. Cowie, S. Nirenburg and R. Zajac. Multilingual Onomasticon as a Multipurpose NLP Resource. 1998. Proceedings of the First International Conference on Language Resources and Evaluation, Granada, Spain.
81. Nirenburg, S. 1998. Project Boas: "A Linguist in the Box" as a Multi-Purpose Language Resource. Proceedings of the First International Conference on Language Resources and Evaluation, Granada, Spain.
82. Sheremetyeva, S. and S. Nirenburg. 1998. Two Experiments on Balancing the Acquisition Effort And Automation Levels With the Needs of an Application. Proceedings of the workshop on Minimizing the Effort for Language Resource Acquisition in conjunction with The First International Conference on Language Resources and Evaluation, Granada, Spain.
83. Viegas, E., S. Beale and S. Nirenburg. 1998. The Computational Lexical Semantics of Syntagmatic Relations. Proceedings of the 36th Annual Meeting of the Association for Computational Linguistics and the 17th International Conference on Computational Linguistics, Montreal, Quebec, Canada.

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85. Viegas, E., S. Nirenburg, B. Onyshkevych and V. Raskin. 1998. A Cost-Effective Approach to Multilingual Lexicon Acquisition. Proceedings of the Workshop on Minimizing the Effort for Language Resource Acquisition, Granada, Spain.
86. Viegas, E., A. Ruelas, S. Beale and S. Nirenburg. 1998. Extending a Core Lexicon Using On-line Language Resources with *Savoir-Faire*. Proceedings of the First International Conference on Language Resources and Evaluation, Granada, Spain, 97-104.
87. Viegas, E., A. Ruelas, J. Lonergan, J. Longwell, S. Beale and S. Nirenburg. 1999. A Cost-effective Approach to the Acquisition of a High-quality Large-scale Computational Semantic Lexicon. Proceedings of the Seventh European Workshop on Natural Language Generation, Toulouse, France.
88. Oflazer, K. and S. Nirenburg. 1999. Practical Bootstrapping of Morphological Analyzers. In Proceedings of Computational Natural Language Learning (CoNLL-99) Workshop at EACL'99, Bergen, Norway.
89. Sheremetyeva, S. and S. Nirenburg. 1999. Interactive MT As Support For Non-Native Language Authoring. Proceedings of MT Summit, Singapore.
90. Ludovik, Y., J. Cowie, H. Molina-Salgado and S. Nirenburg. 1999. Ontology-Based Information Extraction. Proceedings of MT Summit, Singapore.
91. Jim Cowie, Evgeny Ludovik, Hugo Molina Salgado, Sergei Nirenburg and Svetlana Sheremetyeva 2000. Automatic Question Answering. Proceedings of the RIAO Conference, Paris, April.
92. Sheremetyeva, S. and S. Nirenburg 2000. Towards a Universal Tool for NLP Resource Acquisition. Proceedings of Second International Conference on Language Resources and Acquisition. Athes, Greece, May-June.
93. Jim Cowie and Sergei Nirenburg 2000. Task-Oriented Dialogs. Proceedings of the Workshop on Human-Computer Dialog. Bellagio, August.
94. Sheremetyeva, S. and S. Nirenburg 2000. Acquisition of a Language Computational Model for NLP. Proceedings of COLING 2000, Saarbruecken, Germany, August.
95. Jim Cowie, Yevgeny Ludovik, Sergei Nirenburg, Hugo Molina-Salgado. 2000. The week at a glance - cross-language cross document information extraction and translation . Proceedings of COLING 2000, Saarbruecken, Germany.
96. Atallah, M.J., C. J. McDonough, S. Nirenburg, and V. Raskin 2000. Natural language processing for information assurance and security: An overview and implementations. Proceedings of ACM/SIGSAG Conference, Cork, Ireland, September.
97. Nirenburg, S. and V. Raskin. 2001. Ontological Semantics, Formal Ontology and Ambiguity. Proceedings of the Second International Conference on Formal Ontology in Information Systems. Ogunquit, ME, October, pp. 151-161.
98. Moreno Ortiz, Antonio, Victor Raskin and Sergei Nirenburg. New Developments in Ontological Semantics. Proceedings of LREC-02, Spain, June.
99. Raskin, Victor, Sergei Nirenburg, Christian F. Hempelmann, and Katrina E. Triezenberg. 2001. Ontology in Information Security: A Useful Theoretical Foundation and Methodological Tool. In: V. Raskin and C.F. Hempelmann. Eds. Proceedings: New Security Paradigms Workshop 2001. New York: ACM Press, 2002, pp. 67-73.
100. Cowie, Jim and Sergei Nirenburg. 2002. Two experiments in situated MT. Proceedings of TMI-02. Nara, Japan.
101. Beale, Stephen, Sergei Nirenburg and Marjorie McShane. 2003. Just-in-Time Grammar. Proceedings of the 2003 International Multiconference in Computer Science and Computer Engineering. Las Vegas, Nevada.
102. Nirenburg, Sergei, Marjorie McShane, and Stephen Beale. 2003. Enhancing recall in information extraction through ontological semantics. Proceedings of the Workshop on Ontologies and Information Extraction. Bucharest, Romania, August 2003.
103. Nirenburg, Sergei, Marjorie McShane and Stephen Beale. 2003. Operative strategies in ontological semantics. Proceedings of HLT-NAACL-03 Workshop on Text Meaning. Edmonton, Alberta, Canada, June 2003.
104. McShane, M., S. Beale and S. Nirenburg. 2004. OntoSem Methods for Processing Semantic Ellipsis. Proceedings of the Workshop on Computational Lexical Semantics at HLT-NAACL 2004, Boston, May.
105. Nirenburg, S., S. Beale and M. McShane 2004. Evaluating the Performance of the OntoSem Semantic Analyzer. Proceedings of the ACL-04 Workshop on Text Meaning. Barcelona, Spain, July.
106. Beale, S., B. Lavoie, M. McShane, T. Korelsky and S. Nirenburg. 2004. Question Answering Using Ontological Semantics. Proceedings of the ACL-04 Workshop on Text Meaning. Barcelona, Spain, July.
107. McShane, M., M. Zabłudowski, S. Nirenburg and S. Beale. 2004. OntoSem and SIMPLE: Two Multilingual

World Views. Proceedings of the ACL-04 Workshop on Text Meaning. Barcelona, Spain, July.

### Papers in Refereed Collections

1. Tucker, A. and S. Nirenburg. 1984. Machine Translation: a Contemporary View. in: M. Williams (ed.), **Annual Review of Information Sciences and Technologies**. vol. 19.
2. Nirenburg, S. 1986. Linguistics and Artificial Intelligence. In: P. Bjarkman and V. Raskin (eds.), **The Real-World Linguist: Linguistic Applications in the 1980's**. Norwood NJ: Ablex.
3. Nirenburg, S. 1987. Knowledge and Choices in Machine Translation. In: S. Nirenburg (ed.), **Machine Translation: Theoretical and Methodological Issues**. Cambridge University Press.
4. Nirenburg, S., V. Raskin and A. Tucker. 1987. The Structure of Interlingua in TRANSLATOR. In: S. Nirenburg (ed.), **Machine Translation: Theoretical and Methodological Issues**. Cambridge University Press.
5. Nirenburg, S. 1989. New Developments in Knowledge-Based Machine Translation. In: A. Alatis (ed.) **Georgetown University Round Table on Languages and Linguistics**. Georgetown University Press.
6. Nirenburg, S. 1990. Machine Translation. In: A. Kent and J. Williams (eds.), **Encyclopedia of Science and Technology**. New York: Marcel Dekker.
7. Nirenburg, S. 1993. Aspects of Text Meaning. In: J. Pustejovsky (ed.) **Semantics and the Lexicon**. Dordrecht, The Netherlands: Kluwer.
8. Nirenburg, S. 1993. Practical Computational Semantics. In: R. Johnson and M. Rosner (eds.) **Computational Linguistics and Formal Semantics**, Cambridge University Press.
9. Nirenburg, S. 1994. Lexicon Acquisition for NLP: A Consumer Report. In: B. Atkins and A. Zampolli (eds.) **Toward a Lexicographic Workstation**, Oxford University Press.
10. Levin, L. and S. Nirenburg. 1995. Construction-Based MT Lexicons. In: A. Zampolli, N. Calzolari and M. Palmer (eds.) **Current Issues in Computational Linguistics: In Honor of Don Walker**. Dordrecht: Kluwer.
11. Mahesh, K. and Nirenburg, S. 1997. Knowledge-Based Systems for NLP. In: A. Tucker (ed.), **Handbook of Computer Science and Engineering**. CRC Press.
12. Nirenburg, S. 1995. Aspects of a Machine Tractable Dictionary for Knowledge-Based Machine Translation. In: C-M Guo (ed.) **Machine Tractable Dictionaries**. Norwood, NJ: Ablex.
13. Nirenburg, S. 1997. Bar Hillel on Machine Translation: Then and Now. M. Caspi and E. Shamir (eds.), **In Memoriam Yehoshua Bar Hillel**.
14. Nirenburg, S. and V. Raskin. 1999. Supply-side and demand-side lexical semantics. In: Evelyne Viegas (ed.), **Depth and Breadth of Semantic Lexicons**. Dordrecht-Boston: Kluwer.
15. Raskin, V. and S. Nirenburg. 1999. Lexical Rules for Deverbal Adjectives. In: Evelyne Viegas (ed.), **Depth and Breadth of Semantic Lexicons**. Dordrecht-Boston: Kluwer.
16. Nirenburg, S. and Y. Wilks. 2000. Machine Translation at 50. In: M. Zelkowitz (ed.) **Advances in Computers**. New York: Academic Press.
17. Nirenburg, S., V. Raskin and S. Sheremetyeva. 2001. Acquisition of Semantic Lexicons. K. Oflazer (ed.), **Computational Linguistics for Lesser Studied Languages**. Springer Verlag.

Also authored or co-authored over 60 technical reports and memoranda.

### Teaching

#### Courses Taught

1. Introduction to Computer Science
2. Data Structures I and II
3. Computers in the Arts and Sciences
4. AI Programming (Lisp)
5. File Management and Databases
6. Software Engineering
7. Artificial Intelligence (undergraduate and graduate)
8. Topics in Knowledge Representation

9. Planning and Plan Recognition in AI
10. Semantic Analysis of Texts
11. Information Retrieval
12. Natural Language Processing
13. Advanced Topics in Natural Language Processing
14. Computational Linguistics
15. Machine Translation
16. Computational Lexicography
17. Cognitive Science
18. Tools for NLP

**Graduated Ph.D. Students (with present place of employment, date of defense and institution)**

1. Dr. Marie Meteer, Bolt Beranek and Newman (1987, Committee Member, UMass)
2. Dr. Eric Nyberg, Carnegie Mellon University (1991, Committee Member, CMU).
3. Dr. Rita McCardell-Doerr, Department of Defense (1991, Committee Member, Maryland).
4. Dr. Ralf Brown, Carnegie Mellon University (1992, Committee Chair, CMU).
5. Dr. Rudi Gebruers, Leuven University, Belgium (1993, Committee Member, Leuven).
6. Dr. Donalee Attardo, Youngstown University (1994, Committee Member, Purdue).
7. Dr. Rocio Guillen, California State at San Marcos (1996, Committee Chair, NMSU).
8. Dr. Boyan Onyshkevych, Department of Defense (1997, Committee Chair, CMU).
9. Dr. Stephen Beale, New Mexico State University (1997, Committee Chair, CMU).
10. Dr. Sara Shelton, Department of Defense (1997, Committee Member, Purdue University).
11. Dr. Craig McDonough, Department of Defense (2000, Committee Member, Purdue University).

Also advised twelve Masters students.

**Additional Teaching Experience**

- |        |   |
|--------|---|
| 2001   | Presenter, Tutorial on Ontological Semantics, The First International Workshop on Ontological Semantics, Granada, Spain, May-June.                                    |
| 2000   | Presenter, Tutorial on Ontological Semantics, Annual Conference of the Association for Machine Translation in the Americas, Cuernavaca, Mexico, October.              |
| 1999   | Presented a Tutorial on Knowledge Acquisition for Machine Translation at the VIII Conference on Theoretical and Methodological Issues in MT, Chester, UK, August.     |
| 1999   | Taught two courses at the First International Summer School in Language Engineering, Las Cruces, New Mexico, June-July.   |
| 1998   | Presented a tutorial on knowledge-based machine translation at the Annual Meeting of the Association for Machine Translation in the Americas, October, Langhorne, PA. |
| 1997   | Taught a course at the Summer School in Computational Linguistics, Tsigov Chark, Bulgaria, September.   |
| 1996   | Presented a tutorial on Knowledge-Based and Example-Based MT, Annual Meeting of AMTA, Montreal, October.  |
| 1995 - | Adjunct Graduate Faculty in Linguistics, Purdue University  |
| 1993   | Taught a course at the European Winter School on Natural Language Processing and Multilingualism. Bolzano, Italy, December.   |
| 1992   | Presented a tutorial on application-oriented computational semantics, Electronic Dictionary   |

- Research Institute, Japan, October.
- 1992 Presented a tutorial on Machine Translation, First Singapore Conference on Artificial Intelligence. September.
- 1991 Taught two courses at the Nordic Summer School on Machine Translation. Gothenburg, Sweden, August.
- 1991 Presented a Tutorial on Knowledge-Based Machine Translation at MT Summit III, Washington, July.
- 1990 - 94 Member, Core Faculty. Program in Computational Linguistics, Department of Philosophy, Carnegie Mellon University.
- 1990 Visiting Professor, University of Gothenburg, Sweden. Taught an intensive course in machine translation. November-December.
- 1990 Fulbright Professor, School of Translators and Interpreters, Autonomous University of Barcelona, Spain. Taught two courses. March.
- 1990 Visiting Professor, Institute for Artificial Intelligence, Lugano, Switzerland, January.
- 1988 Visiting Professor, National Center for Software Technology, Bombay, India, December. Taught an intensive course in NLP applications.
- 1988 Taught two courses at the Pisa Summer School in Computational Linguistics, Pisa, Italy, August.
- 1988 Presented a tutorial on Machine Translation at the Applied ACL Conference, Austin, TX, February.
- 1987 Visiting Professor, Facultad de Informatica, Universidad Politecnica de Madrid, Spain, June-July. Taught a course on machine translation.
- 1986 Presented a tutorial on machine translation at the 1986 Annual Meeting of the Association for Computational Linguistics, New York, June.

### **Major Funding History**

Principal investigator, grant for studies in knowledge representation from the Post-Doctoral Program, USAF, \$27,000 (1983).

Principal investigator, grant for research in building models of intelligent agency. U.S. Air Force, \$475,000 (1984-1988).

Co-principal investigator (with Allen B. Tucker), a National Science Foundation research grant for studies in knowledge-based machine translation of natural languages, \$100,000 (1984-1986).

Principal Investigator, a National Science Foundation grant on Acquisition and Maintenance of Knowledge Bases for Natural Language Processing Systems, \$205,000 (1988-1990).

Principal Investigator, a Ben Franklin Foundation grant on machine-aided translation. \$99,500 (1990-1991).

Principal Investigator (with Jaime Carbonell), The DARPA-sponsored Pangloss Machine Translation Project, CMU component; \$1,410,000 (1991-1994).

Principal Investigator, The DARPA-sponsored Pangloss Machine Translation Project, NMSU component; \$2,150,000 (1994 - 96).

Principal Investigator, The DoD-sponsored Mikrokosmos/Temple/Corelli Project, \$4,800,000 (1993 - 99)

Principal Investigator, The U.S. Government-sponsored MINDS project, \$350,000 (1997-98).

Principal Investigator, the DoD-sponsored Expedition Project, \$2,100,000 (1997-2001).

Principal Investigator, the U.S. Government-sponsored Persian MT project, \$950,000 (1997-99).

Principal Investigator, the DARPA-sponsored CREST project, \$3,500,000 (1999-2004).

Principal Investigator, the DoD-sponsored CAMBIO project, \$450,000 (1999-2000).

Principal Investigator, the DoD-sponsored CORMOLE project, \$420,000 (2000-2001).

Principal Investigator, the DoD-sponsored project on complex additive systems, \$130,000 (2001-2002).

Principal Investigator, the DoD-sponsored project on knowledge-based question answering, \$1,700,000 (2002-2003).

Principal Investigator, the DoD-sponsored project on procedural attachments to ontological-semantic lexicons, \$200,000 (2003-2004).

Principal Investigator, the DoD-sponsored project on knowledge acquisition for lesser-studied languages \$150,000 (2003-2004).

Principal Investigator, The NIMA Postdoctoral Scholarship, \$200,000 (2003-2005).