William D. Lewis Linguistics Tel: (206) 399-7623 Email: wlewis2@uw.edu

University of Washington

Seattle, WA 98125

Research Areas

Language Technologies for Crisis Preparedness and Response (LT4CPR)

NLP/MT in Classroom Scenarios

Machine Translation, especially of Under-Resourced Languages

Education

Ph.D. – Computational Linguistics (2002)

Minor – Cognitive Science

University of Arizona, Tucson, AZ

Dissertation: "A Distributional and Theoretic Study of Clitic Cluster Changes in South Slavic"

(involved the design of a Web crawler to collect linguistically relevant data from

Web sites in Serbia, Croatia, Slovenia, and Macedonia)

Dissertation Committee: Professor D. Terence Langendoen, Chair

Professor Thomas Bever

Professor Joan Bresnan (Stanford University)

Professor Michael Hammond

Visiting Scholar (2001)

Center for the Study of Language and Information, hosted by Ivan Sag Stanford University, Palo Alto, CA

Winter, Spring and Summer Quarters 2001

M.A. – **Linguistics** (1999)

University of Arizona, Tucson, AZ

B.A. – Linguistics (1996) – Magna Cum Laude

University of California, Davis, CA

Undergraduate thesis: Testing Grammaticality using an Artificial Neural Network

Employment

2007-Present Affiliate Assistant Professor

University of Washington

2007-2020 Principal PM Architect

Microsoft Research, Machine Translation

Duties:

Lead team focused on

- -Acquisition of Data and Resources to Improve MT quality
- -Experimentation related to improving MT quality
- -Language Modeling
- -Expansion of Number of Language Pairs (Ling. Diversity)
- -Frequent engagement with industry and academic partners (including NSF)
- -Use of MT in Crisis Response Scenarios

2005-2007 Visiting Assistant Professor

Professional Master's in Computational Linguistics Program

University of Washington

Duties:

Developed and taught Shallow Methods in NLP course

Developed and teaching NLP Sytems and Applications course

Taught Graduate Seminar on Lexical Ambiguity

Taught Graduate Seminar on Knowledge Discovery on the Web

Promoting program through outreach, contacts with local industry

Assisting students in securing summer internships in industry

Meeting regularly with students regarding thesis projects

2002-2005 Assistant Professor

Department of Linguistics, California State University, Fresno

2002-2005 Courses

Introduction to Language, Ling 10

Graduate Natural Language Processing Seminar, Ling 230T

Undergraduate Computational Linguistics, Ling 152

Undergraduate Seminar on Cognitive Science, Ling 140T

Average student evaluation for all courses taught: 4.75 (out of 5)

1998, 2000 <u>Graduate Teaching Assistant</u>

Ling 438/538 Computational Linguistics, University of Arizona

Instructor: D. Terence Langendoen

Designed syllabus, and assisted in teaching the course, teaching many

of the sessions.

President and Founder (1983-1997)

SFL Services, Inc. Sacramento, CA

Focused on systems' integration, with a specialization in the design of interfaces across platforms (mainframes and PC's) and data conversion. Wrote the materials for over 50 classes, which were taught by staff and me. Clients included United Parcel Service, Fidelity National Financial, Pacific Gas and Electric, Enron, and numerous State of California agencies and departments.

Publications

Pending

Lewis, William and Jan Niehues (pending). "Automatic Speech Translation in the Classroom and Lecture Setting: Challenges, Approaches, and Future Directions." *IVITRA Research in Linguistics and Literature*.

arXiv Preprints

- Anastasopoulos, Antonios, Alessandro Cattelan, Zi-Yi Dou, Marcello Federico, Christian Federman, Dmitriy Genzel, Francisco Guzmán, Junjie Hu, Macduff Hughes, Philipp Koehn, Rosie Lazar, Will Lewis, Graham Neubig, Mengmeng Niu, Alp Öktem, Eric Paquin, Grace Tang, and Sylwia Tur (2020). *TICO-19: the Translation Initiative for COVID-19*. arXiv 2007.01788.
- Hassan, Hany, Anthony Aue, Chang Chen, Vishal Chowdhary, Jonathan Clark, Christian Federmann, Xuedong Huang, Marcin Junczys-Dowmunt, William Lewis, Mu Li, Shujie Liu, Tie-Yan Liu, Renqian Luo, Arul Menezes, Tao Qin, Frank Seide, Xu Tan, Fei Tian, Lijun Wu, Shuangzhi Wu, Yingce Xia, Dongdong Zhang, Zhirui Zhang, and Ming Zhou (2018). Achieving Human Parity on Automatic Chinese to English News Translation. arXiv:1803.05567.

Refereed Journal Publications

- Xia, Fei, William Lewis, Michael Goodman, Glenn Slayden, Ryan Georgi, Joshua Crowley, and Emily Bender (2016). "Enriching a Massively Multilingual Database of Interlinear Glossed Text." *Language Resources and Evaluation* 50(2), 321-349.
- Eetemadi, Sauleh, William Lewis, Kristina Toutanova, and Hayder Radha (2015). "Survey of Data-Selection Methods in Statistical Machine Translation." *Journal of Machine Translation*. 29(3), 189-223.
- Georgi, Ryan, Fei Xia and William Lewis (2014). "Capturing Divergence in Dependency Trees to Improve Syntactic Projection." *Language Resources and Evaluation*. 48, 709-739.

- Lewis, William and Fei Xia. (2010). "Developing ODIN: A Multilingual Repository of Annotated Language Data for Hundreds of the World's Languages." *Literary and Linguistic Computing*. 25(3), 303-319.
- Farrar, Scott and William Lewis. (2007) "The GOLD Community of Practice: An Infrastructure for Linguistic Data on the Web." *Language Resources and Evaluation* 41(1), 45-60.
- Gerken, LouAnn, Rachel Wilson, and William Lewis (2005). "17-Month-Olds Can Use Distributional Cues to Form Syntactic Categories." *Journal of Child Language* 32, 249-268.
- Vigliocco, Gabriella, David Vinson, William Lewis, and Merrill Garrett (2004). "Representing the Meaning of Object and Action Words: The Featural and Unitary Semantic Space (FUSS) Hypothesis." *Cognitive Psychology* 48(4), 422-488.

Refereed Conference Publications

- Dandapat, Sandipan and William Lewis (2018). "Training Deployable General Domain MT for a Low Resource Language Pair: English–Bangla." *Proceedings of the European Association for Machine Translation*. May 2018.
- Federmann, Christian and William Lewis (2016). "Microsoft Speech Language Translation (MSLT) Corpus: The IWSLT 2016 Release for English, French and German." Proceedings of the 13th International Workshop on Spoken Language Translation (IWSLT). December 2016.
- Lewis, William, Chris Quirk, and Qin Gao (2016). "Controlled Ascent: Imbuing Statistical MT with Linguistic Knowledge." Workshop on Hybrid Approaches to Machine Translation. August 2016.
- Lewis, William and Christian Federmann (2015). "Applying Cross-Entropy Difference for Selecting Parallel Training Data from Publicly Available Sources for Conversational Machine Translation." *Proceedings of the 12th International Workshop on Spoken Language Translation (IWSLT)*. December 2015.
- Lewis, William (2015). "Skype Translator: Breaking Down Language and Hearing Barriers." Proceedings of Translating and the Computer 37 (TC37). November 2015.

- Georgi, Ryan, Fei Xia and William Lewis (2015). "Enriching Interlinear Text using Automatically Constructed Annotators." *Proceedings of the 9th SIGHUM Workshop on Language Technology for Cultural Heritage, Social Sciences, and Humanities*. July 2015.
- Xia, Fei, Michael Goodman, Ryan Georgi, Glenn Slayden and William Lewis (2015). "Enriching, Editing, and Representing Interlinear Glossed Text." *Proceedings of the Internal Conference on Intelligent Text Processing and Computational Linguistics*. April 2015.
- Ruiz, Nick, Qin Gao, William Lewis and Marcello Federico (2015). "Adapting Machine Translation Models toward Misrecognized Speech with Text-to-Speech Pronunciation Rules and Acoustic Confusability." *Proceedings of Interspeech* September 2015.
- Eetemadi, Saleh and William Lewis (2013). "Dramatically Reducing Training Data Size through Vocabulary Saturation." *Proceedings of the Eighth Workshop on Statistical Machine Translation*. August 2013.
- Georgi, Ryan, Fei Xia and William Lewis (2013). "Enhanced and Portable Dependency Projection Algorithms Using Interlinear Glossed Text." *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (ACL)*. August 2013.
- Georgi, Ryan, Fei Xia, and William Lewis (2012). "Improving Dependency Parsing with Interlinear Glossed Text and Syntactic Projection." *Proceedings of COLING 2012*. December 2012.
- Axelrod, Amittai, Qin Gao, and William Lewis (2012). "Applications of Data Selection via Cross-Entropy Difference for Real-World Statistical Machine Translation." *Proceedings of the 9th International Workshop on Spoken Language Translation (IWSLT)*. December 2012.
- Lewis, William and Phong Yang (2012). "Building MT for a Severely Under-Resourced language: White Hmong." *Proceedings of the 10th Conference of the Association for Machine Translation in the Americas (AMTA)*. October 2012.
- Georgi, Ryan, Fei Xia, and William Lewis (2012). "Measuring the Divergence of Dependency Structures Cross-Linguistically to Improve Syntactic Projection Algorithms." Proceedings of the Eight International Conference on Language Resources and Evaluation (LREC'12), European Language Resources Association, May 2012.

- Gao, Qin, William Lewis, Chris Quirk, and Mei-Yuh Hwang, Incremental Training and Intentional Over-fitting of Word Alignment (2011). *Proceedings of MT Summit XIII, Asia-Pacific Association for Machine Translation*, September 2011.
- Rarrick, Spencer, Chris Quirk, and William Lewis (2011). "MT Detection in Web-Scraped Parallel Corpora". *Proceedings of MT Summit XIII, Asia-Pacific Association for Machine Translation*, September 2011.
- Georgi, Ryan, Fei Xia, and William Lewis (2010). "Comparing Language Similarity Across Genetic and Typologically-Based Groupings." *Proceedings of the 23rd International Conference on Computational Linguistics (COLING 2010)*, International Conference on Computational Linguistics, August 2010.
- Moore, Robert C. and William Lewis (2010). "Intelligent Selection of Language Model Training Data." *Proceedings of the ACL 2010 Conference Short Papers*, Association for Computational Linguistics, Uppsala, Sweden, July 2010
- Lewis, William, Chris Wendt, and David Bullock (2010). "Achieving Domain Specificity in SMT without Overt Siloing." *Proceedings of the 7th International Conference on Language Resources and Evaluation (LREC 2010)*, European Language Resources Association, May 2010.
- Xia, Fei, Carrie Lewis, and William Lewis (2010). "The Problems of Automated Language ID within Hugely Multilingual Data Sets." *Proceedings of the 7th International Conference on Language Resources and Evaluation (LREC 2010)*, European Language Resources Association, May 2010.
- Lewis, William (2010). "Haitian Creole: How to Build and Ship an MT Engine from Scratch in 4 Days, 17 Hours, & 30 Minutes." EAMT 2010: Proceedings of the 14th Annual conference of the European Association for Machine Translation, European Association for Machine Translation, May 2010.
- Xia, Fei, William Lewis, and Hoifung Poon (2009). "Language ID in the Context of Harvesting Language Data off the Web", in *Proceedings of The 12th Conference of the European Chapter of the Association of Computational Linguistics (EACL)*, Athens, Greece, March 2009.
- Lewis, William and Fei Xia (2009). "Parsing, Projecting & Prototypes: Repurposing Linguistic Data on the Web", in *Proceedings of The 12th Conference of the European Chapter of the Association of Computational Linguistics (EACL)*, Athens, Greece, March 2009.

- Xia, Fei and William Lewis (2009). "Applying NLP Technologies to the Collection and Enrichment of Language Data on the Web to Aid Linguistic Research", in *Proceedings of The 12th Conference of the European Chapter of the Association of Computational Linguistics (EACL)*, Athens, Greece, March 2009.
- Lewis, William and Fei Xia. (2008). "Automatically Identifying Computationally Relevant Typological Features", in *Proceedings of The Third International Joint Conference on Natural Language Processing (IJCNLP)*. Hyderabad, January 2008.
- Xia, Fei and William Lewis (2008). 'Repurposing Theoretical Linguistic Data for Tool Development and Search', in *Proceedings of The Third International Joint Conference on Natural Language Processing (IJCNLP)*. Hyderabad, January 2008.
- Xia, Fei and William Lewis (2007). "Multilingual Structural Projection across Interlinearized Text", in Proceedings of the Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT 2007), Rochester, NY, April 22-27, 2007.
- Lewis, William D. (2006). "ODIN: A Model for Adapting and Enriching Legacy Infrastructure," in Proceedings of the e-Humanities Workshop, e-Science 2006, Amsterdam.
- Simons, Gary, William Lewis, Scott Farrar, D. Terence Langendoen, Brian Fitzsimons, and Hector Gonzalez (2004). "The Semantics of Markup: Mapping Legacy Markup Schemes to a Common Semantics", in Proceedings of the XMLNLP Workshop, held with ACL 2004, Barcelona, Spain, July 2004.
- Lewis, William, Scott Farrar, and D. Terence Langendoen (2001). "Building a Knowledge Base of Morphosyntactic Terminology." In S. Bird, P. Buneman, and M. Liberman (Eds.) Proceedings of the IRCS Workshop on Linguistic Databases, 11-13 December 2001, pp. 150-156.

Other Publications (Conference Proceedings, etc.)

- Jinguji, Dan, William Lewis, Efthimis N. Efthimiadis, Joshua Minor, Albert Bertram, Shauna Eggers, Joshua Johanson, Brian Nisonger, Ping Yu, and Zhengbo Zhou (2006). "The University of Washington's UW_{CLMA}QA System", in *Proceedings of the Text Retrieval Conference (TREC)* 2006, Gaithersburg, Maryland.
- Lewis, William, Fei Xia, and Dan Jinguji (2006). "Enriching Language Data through Projected Structures", in *Proceedings of the Texas Linguistics Society 10: Computational Linguistics for Less-Studied Languages*.
- Lewis, William, Scott Farrar and D. Terence Langendoen (2006). "Linguistics in the Internet Age: Tools and Fair Use", in *Proceedings of the EMELD'06 Workshop on Digital Language Documentation: Tools and Standards: The State of the Art*, Lansing, MI, June 20-22, 2006.
- Farrar, Scott and William D. Lewis (2005). "The GOLD Community of Practice: An Infrastructure of Linguistics Data on the Web", in *Proceedings of the EMELD Workshop on Linguistic Ontologies and Data Categories for Language Resources*, Cambridge, Mass., July 2005.
- Simons, Gary, Brian Fitzsimons, D. Terence Langendoen, William Lewis, Scott Farrar, Alexis Lanham, Ruby Basham, and Hector Gonzalez (2004). "A Model for Interoperability: XML Documents as an RDF Database", in *Proceedings of the EMELD Workshop on Linguistic Databases and Best Practice*, Detroit, Michigan, July 2004.
- Lewis, William (2003). "Mining and Migrating Interlinear Glossed Text", in Proceedings of the EMELD Workshop on Digitizing & Annotating Texts and Field Recordings, LSA Institute, Michigan State University, July 11th-13th, 2003.
- Farrar, Scott, William Lewis, and D. Terence Langendoen (2002). "A Common Ontology for Linguistic Concepts", in *Proceedings of the Knowledge Technologies Conference*, March 10-13, Seattle.

- Lewis, William. (2002). "Measuring Conceptual Distance Using WordNet: The Design of a Metric for Measuring Semantic Similarity." In R. Hayes, W. Lewis, E. O'Bryan, and T. Zamuner (Eds.), *The University of Arizona Working Papers in Linguistics*. Tucson: University of Arizona.
- Lewis, William (2000). "Clitics, Scrambling and Parsing." In J. Weinberg, E. O'Bryan, L. Moll, and J. Haugen (Eds.), *Coyote Papers: The University of Arizona Working Papers in Linguistics*. Tucson: University of Arizona.

Edited Volumes

- Lewis, William, Simin Karimi, Heidi Harley, and Scott Farrar, editors (2008). *Time and Again: Theoretical Perspectives on Formal Linguistics. In honor of D. Terence Langendoen*. Benjamins.
- Hayes, Rachel, William Lewis, Erin O'Bryan, and Tania Zamuner, editors (2002). *The University of Arizona Working Papers in Linguistics*. Tucson: University of Arizona.

Invited Presentations

- Lewis, William, Robert Munro, and Stephan Vogel (2011). "Crisis MT: Developing A Cookbook for MT in Crisis Situations". Proceedings of the Sixth Workshop on Statistical Machine Translation (WMT 2011), Association for Computational Linguistics, July 2011
- Lewis, William (2009). "Language Data and the Web: Meeting the Challenges of Fair Use and Linguistic Custom in the Digital Age", presented at the Workshop on Legal Constraints for Digital Language Resources, Berlin, September 28th.
- Lewis, William and Fei Xia (2009). "Building a Large Multilingual Resource using (Semi-)Automated Methods: Finding, Enriching, Repurposing", presented at the Small Tools for Cross-Linguistic Research Workshop, Utrecht, The Netherlands, June 15th.
- Lewis, William and Fei Xia (2009). *Structural Projections and Multilingual Structural Query*, presented May 1st, CSU Fresno.
- Lewis, William (2007). Harvesting and Enriching Multilingual Semi-Structured Text to Facilitate Linguistic Search. Google Tech Talk, March 2007, Mountain View.
- Lewis, William (2005). Preserving Endangered Languages' Data: Standards for Data Endurance and Long-term Utility. Invited talk, October 14th, University of Victoria, British Columbia, Canada.
- Lewis, William (2005). Preserving Endangered Languages' Data: Standards for Data Endurance and Long-term Utility. Invited talk, October 7th, University of British Columbia, British Columbia, Canada.
- Lewis, William (2001). Measuring Conceptual Distance: Methods for Measuring the Semantic Similarity of Word Substitution Pairs. Invited talk, University of Southern Maine, Portland, ME. October.

Presentations

- Wendt, Christian and William Lewis (2009). "Pushing the Quality of a Customized SMT System using Shared Training Data." Paper presented at the Machine Translation Summit XII, Ottawa, Canada.
- Lewis, William (2006). Locating, Recognizing and Enriching Interlinear Glossed Text on the Web. Paper presented at the University of Washington/Microsoft Computational Linguistics Symposium, held Feb. 3rd, Redmond, WA.
- Lewis, William (2006). Locating and Recognizing Interlinear Glossed Text on the Web. Paper presented at the Linguistics Society of America annual meeting. Albuquerque, NM, January 5th-8th, 2006.
- Buszard-Welcher, Laura, Susan Hooyenga, and William Lewis (2005). "The Rosetta Project: All Language Archive and the Impact of the NSDL Through Daughter Repository Networks." National Science Digital Libraries Annual Conference 2005, Denver, Colorado.
- Lewis, William (2005). "Taking Resources to the Brink of Interoperation: Profiles, Termsets and Best Practice Markup." Paper presented at the Workshop on Linguistic Ontologies and Data Categories for Language Resources, Cambridge, Mass, July 1st-3rd, 2005. http://emeld.org/workshop/2005/program.html.
- Lewis, William (2005). "The Online Database of Interlinear Text (ODIN)". Poster presented at the Workshop on Linguistic Ontologies and Data Categories for Language Resources, Cambridge, Mass, July 1st-3rd, 2005. http://emeld.org/workshop/2005/program.html.
- Jackson, Scott and William Lewis (2005). The Relation Between Prosody and Logical Scope Varies by the Operator. Poster presented at the Eighteenth Annual CUNY Conference on Human Sentence Processing. Tucson, Arizona, March 31st-April 2nd, 2005.
- Lewis, William and Chris Golston (2005). The Randomness of the Signifier. Paper presented at the Linguistics Society of America annual meeting. Oakland, CA, January 6th-9th, 2005.

- Eggers, Shauna, D. Terence Langendoen, and William Lewis (2004). The GOLD Ontology. Paper presented at the EMELD Workshop on Linguistic Databases and Best Practice, Detroit, Michigan, July 2004.
- Lewis, William (2004). Resource Conversion. Paper presented at the Linguistics Society of America annual meeting, as part of the Symposium entitled Endangered Data vs. Enduring Practice: Creating Linguistic Resources That Last. Boston, MA, January 8th-11th, 2004.
- Lewis, William (2001). Antigrammar: The Role of Negation in Grammar. In J. Haugen & R. Kennedy (Eds.), Proceedings of SCIL 2000. Cambridge, MA: MIT Press.
- Lewis, William, Merrill Garrett and Jason Barker (2001). Measuring Conceptual Distance: The Design of a Metric for Measuring the Semantic Similarity of Word Substitution Pairs. Poster presented at the Seventh Annual Conference on Architectures and Mechanisms for Language Processing (AMLaP): Saarbrücken, Germany. September
- Lewis, William, and Thomas Bever. (2000). Structure and Quantifier Interpretation. Poster presented at the 13th Annual CUNY Human Sentence Processing Conference: La Jolla, CA. March.
- Lewis, William (2000). Antigrammar. Poster presented at the 13th Annual CUNY Human Sentence Processing Conference: La Jolla, CA. March.
- Gillman, Duffy, William Lewis, and D. Terence Langendoen (2000). The Java Computational Linguistics Environment (JaCLE). Poster presented at the 13th Annual CUNY Human Sentence Processing Conference: La Jolla, CA. March

Patents Pending (10/2011) (13/278194) Machine Translation Detection in Web-Scraped Parallel Corpora Pending (2/2012) (13/363401) Selection of Language Model Training Data Awarded (11/2014) (14/552200) Adapting Machine Translation Data using Damaging Channel Model Pending (8/2015) (14/834197) Personal Translator (15/048908) Hearing Assistance with Automated Speech Transcription Pending (2/2016) Pending (8/2016) (15/238329) Conversational Chatbot for Translated Speech Conversations (15/282089) Customized and Contextual Translated Content for Awarded (9/2016) Travelers (17/531937) Customized Multi-Device Translated and Transcribed Awarded (6/2017) Conversations Pending (12/2019) (16/707891) Interactive Augmentation and Integration of Real-Time Speech-to-Text (16/712734) Transcription Revision Interface for Speech Recognition Pending (12/2019) System **Curriculum Development** Developed new courses for the new Professional Master's in 2005-2007,2008, 2012 Computational Linguistics program at the University of Washington, including Linguistics 570 – Shallow Methods in Statistical Natural Language Processing and Linguistics 573 – Systems/Applications in Statistical Natural Language Processing. 2003-2005 Initiated and chaired committee to develop two new courses in Cognitive Science (CgSci 100 – Foundations of Cognitive Science and

Science, and a new major in Cognitive Science.

2002-2003

CgSci 101 – Cognitive Science Seminar), a new minor in Cognitive

Computational Linguistics. Curriculum approved and implemented. When I left CSU Fresno in 2005, 4 students had graduated in the major.

Developed new curriculum for an undergraduate option in

Professional Activities and Academic Service

2016-Present	Steering Committee, International Workshop on Speech Translation (IWSLT)
2012, 2014, 2016	Chair of Organizing Committee, NW-NLP
2011-2020	Editorial Board, (Journal of) Machine Translation
2011, Fall	Panelist, NSF
2010, Summer	Co-Chair, with Fei Xia and Lori Levin. Workshop Proposal for ACL 48: <i>NLP and Linguistics: Finding the Common Ground.</i>
2009, Fall	Panelist, NSF.
2009, Fall	Panelist, NSF.
2009, Spring	Proposal Reviewer, NSF.
2009, Spring	Panelist, NSF.
2007	Outreach Chair, 2007 North American Computational Linguistics Olympiad (NACLO).
2004	Hosted workshop on the General Ontology for Linguistic Description (GOLD) held at the California State University, Fresno, November 12-13, 2004.
2004	On the review committee for the Academic Program Review of the Graduate Interdisciplinary Program in Cognitive Science at the University of Arizona, Tucson, Arizona. April 2004.

Grants

2007-	Consultant (initially co-PI before my move to industry; PI responsibilities shifted
2009	to Fei Xia). Implementing the GOLD Community Model. NSF
	Linguistics, awarded May, 2007. Scott Farrar, Fei Xia, Helen Aristar-Dry, PIs, NSF BCS 0720670.

- Supplement to Data Driven Linguistic Ontology Development Grant, submitted to NSF Linguistics, September 2004, awarded December 2004. William Lewis PI, NSF BCS-0411348.
 - Data-Driven Linguistic Ontology Development, Special Grant for Exploratory Research, submitted to NSF Linguistics, December 2003, awarded March 2004. William Lewis PI, NSF BCS-0411348.
 - Cognitive Science Program Development Grant. Internal California State University Fresno grant. Co-written with Dr. Vida Samiian, Associate Dean, Arts and Humanities. Submitted Fall 2003, awarded Spring 2004.
- 2003 Mining Interlinear Linguistic Data. PI. Internal California State University Fresno grant. Submitted Spring 2003, awarded Fall 2003.

Masters and PhD Students (past and present)

Alberto Poncelas (DCU, on PhD Committee) Qin Gao (CMU, on PhD Committee) Ryan Georgi (UW, on PhD Committee) Steve Moran (UW, on PhD Committee) Albert Bertram (UW, MA Chair) Anna Tinnemore (UW, MA Chair) Zhengbo Zhou (UW, MA Chair)