

## **Tod J. Allman**

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### **Education:**

Ph.D. in Linguistics, December 2010.  
University of Texas, Arlington, Texas.

Dissertation: The Translator's Assistant: A Multilingual Natural Language Generator based on Linguistic Universals, Typologies, and Primitives. I developed software which enables linguists to build lexicons and grammars for a wide variety of languages. I also developed a semantic representational system specifically for minority and endangered languages. I then tested the software with English, Korean, Jula (Cote d'Ivoire), and Kewa (Papua New Guinea). In each test language the generated texts more than quadrupled the productivity of experienced mother-tongue translators.

Master of Arts in Linguistics, May 1989.  
University of Texas, Arlington, Texas.

Thesis: Machine Translation of a Greek Parable into English, Spanish, Angas and Chinantec. I developed software which assists linguists who are translating the New Testament into minority languages. After a linguist has built a target lexicon and grammar, the program generates a draft of the target text using the Friberg Annotated Greek New Testament as the source.

Master of Divinity, May 1986.  
Talbot Theological Seminary, LaMirada, California.  
Emphasis in Bible translation.

Master of Engineering, May 1982.  
Harvey Mudd College, Claremont, California.  
Emphasis in microcomputer system design.

Bachelor of Science, May 1981.  
Harvey Mudd College, Claremont, California.  
Major in General Engineering with emphasis in systems engineering.

### **Appointments:**

2010-present: President and co-founder, All the Word Bible Translators Inc. (non-profit) ([www.AlltheWord.org](http://www.AlltheWord.org)) We're a group of computational linguists and Bible exegetes who work with missionaries, linguists, and mother-tongue speakers who are translating the Bible and community development documents into minority and endangered languages.

2012-present: Adjunct faculty member, Department of Applied Linguistics, Dallas International University, Dallas, TX. ([www.diu.edu/faculty/](http://www.diu.edu/faculty/)) I teach a course which introduces students to the natural language generator I developed for minority languages.

2014: Visiting Professor, College of Computer Science, De La Salle University, Manila, Philippines. I taught a language documentation course which introduces students to the software I developed for documenting endangered languages.

### **Publications:**

#### A. Papers in Refereed Journals:

Allman, Tod. 2004. A Natural Language Generator for Minority Languages. *Word & Deed*, Vol. 3, No. 2, pp. 25-30.

Allman, Tod and Stephen Beale. 2004. An environment for quick ramp-up multi-lingual authoring. *International Journal of Translation*, Vol. 16, No. 1, pp. 73-85.

#### B. Papers in Refereed Proceedings:

Allman, Tod, Stephen Beale and Richard Denton. 2014. Toward an Optimal Multilingual Natural Language Generator: Deep Source Analysis and Shallow Target Analysis. In *Proceedings of the 10<sup>th</sup> National Natural Language Processing Research Symposium (10<sup>th</sup> NNLPRS)*, De La Salle University, Manila, Philippines.

Allman, Tod, Stephen Beale and Richard Denton. 2012. Linguist's Assistant: A Multi-Lingual Natural Language Generator based on Linguistic Universals, Typologies, and Primitives. In *Proceedings of the 7<sup>th</sup> International Natural Language Generation Conference (INLG-12)*, Utica, IL.

Beale, Stephen, and Tod Allman. 2011. Linguist's Assistant: a Resource for Linguists. In *Proceedings of the 5<sup>th</sup> International Joint Conference on Natural Language Processing (IJCNLP-11)*, The 9<sup>th</sup> Workshop on Asian Language Resources, Chiang Mai, Thailand.

Allman, Tod, and Stephen Beale. 2006. A Natural Language Generator for Minority Languages. In *Proceedings of the 5<sup>th</sup> SALTMIL 2006 workshop: Strategies for developing machine translation for minority languages*, pp. 39-46, Genoa, Italy.

Beale, Stephen, Sergei Nirenburg, Marjorie McShane and Tod Allman. 2005. Document Authoring the Bible for Minority Language Translation. In *Proceedings of MT-Summit*. Phuket, Thailand.

#### C. Invited Papers:

Beale, Stephen, Tod Allman, Rachel Roxas and Joel Ilao. 2012. A preliminary report on the Linguist's Assistant implementation of Tagalog. Invited paper for the 12th Philippine Computing Science Congress (PCSC-12), Laguna, Philippines. Draft available at: <http://onyxcons.com/LA/papers/pcsc-12.pdf>

### **Invited Conference Presentations:**

“Linguistically Based Computer Assisted Translation: Gleaning the Language Data, Editing the Computer’s Drafts, and Distributing the Published Texts”  
15<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-19), Bicol University, Legazpi City, Philippines. March 8<sup>th</sup>, 2019.  
(<https://sites.google.com/view/15nnlprs/home>)

“Techniques for Accelerating the Development of Computational Lexicons and Grammars for the Languages of the Philippines”  
14<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-18), University of the Cordilleras, Baguio City, Philippines. May 11<sup>th</sup>, 2018.  
(<https://sites.google.com/view/14nnlprs/home>)

“An Analysis of the Required Modifications when Converting a Computational Tagalog Grammar into an Ayta Mag-Indi Grammar”  
13<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-17), University of the Immaculate Conception, Davao, Philippines. April 21<sup>st</sup>, 2017.  
(<http://site.uic.edu.ph/13nnlprs/program-of-activities/>)

“Linguist’s Assistant: Modifying a Tagalog Lexicon and Grammar to accommodate Ayta Mag-Indi”  
12<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-16), Silliman University, Dumaguete, Philippines. April 22<sup>nd</sup>, 2016.  
(<https://sites.google.com/site/12nnlprs/program>)

“Linguist’s Assistant: Gleaning a Tagalog Lexicon and Grammar from a Small, Lightly Annotated Corpus”  
11<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-15), National University, Manila, Philippines. April 24<sup>th</sup>, 2015.

“Linguist’s Assistant: In Search of the Source”  
14<sup>th</sup> Philippine Computing Society Congress (PCSC-14), University of the Immaculate Conception, Davao, Philippines. March 7<sup>th</sup>, 2014. (<http://pssc2014.csp.org.ph/program>)

“Toward an Optimal Multilingual Natural Language Generator: Deep Source Analysis and Shallow Target Analysis”  
10<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-14), De La Salle University, Manila, Philippines. February 21<sup>st</sup>, 2014.  
(<http://www.dlsu.edu.ph/conferences/nlp/2014/>)

### **Conference Presentations:**

“Linguist’s Assistant: Gleaning Malayo-Polynesian Grammars from Small, Lightly Annotated Corpora”  
12<sup>th</sup> Philippines Linguistics Congress (PLC), University of the Philippines in Diliman, Quezon City, Philippines. November 27<sup>th</sup>, 2014.  
(<http://uplinguistics.wordpress.com/12plc-program>)

“Linguist’s Assistant: Deep Source Analysis and Shallow Target Analysis”  
5<sup>th</sup> Dallas Fort Worth Metroplex Linguistics Conference, Graduate Institute of Applied Linguistics, Dallas, TX. November 26<sup>th</sup>, 2013.

“Linguist’s Assistant: A Multi-Lingual Natural Language Generator based on Linguistic Universals, Typologies, and Primitives”  
7<sup>th</sup> International Natural Language Generation (INLG-12), Utica, IL. May 31<sup>st</sup>, 2012.  
(<http://nlp.cs.uic.edu/inlg2012/>)

“Natural Language Generation and the Typology of Relative Clauses”  
Annual Celebration of Excellence by Students. Arlington, TX. March 26<sup>th</sup>, 2009.

“A Natural Language Generator for Minority Languages”  
11<sup>th</sup> Annual UTA Student Conference in Linguistics. Arlington, TX. Nov. 7<sup>th</sup>, 2003.

### **Conference Committees:**

10<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-14), De La Salle University, Manila, Philippines. February 21-22, 2014.

11<sup>th</sup> Annual UTA Student Conference in Linguistics. Arlington, TX. Nov. 6-7, 2003.

### **Workshops:**

“Linguist’s Assistant: Modifying an Ayta Mag-Indi Lexicon and Grammar to accommodate Tagalog”  
12<sup>th</sup> National Natural Language Processing Research Symposium (NNLPRS-16), Silliman University, Dumaguete, Philippines. April 23<sup>rd</sup>, 2016.

### **Teaching Experience:**

De La Salle University, Manila, Philippines. Computer Science Department. 2014. I taught a graduate course called Special Topics in Natural Language Processing: Developing Computational Tools for Documenting Languages. This course introduced students to several software tools for documenting endangered languages.

Dallas International University, Dallas, TX. Applied Linguistics Department. 2012 to present. I teach a graduate course called Introduction to The Bible Translator’s Assistant. This course introduces students to the natural language generator I designed and developed specifically for Bible translators.

Biola University, La Mirada, CA. Math and Computer Science Department. 1984-1986. I taught Introduction to Computer Science, Business Calculus, and Advanced Algebra.

University of Oregon, Eugene, OR. Linguistics Department. Summers of ’89, ’90, ’93, ’95, ’96. Professor’s assistant. I helped teach Functional Typological Grammar, Morphology and Syntax, and Field Methods.

**Professional Experience:**

1986 to 2009, 2012 to 2013: Senior software consultant for Rain Bird. I helped develop software that controls golf course irrigation systems and commercial irrigation systems throughout N. America, Asia, Europe, and the Middle East.

2004 to 2006, 2010 to 2012: Senior software consultant for Onyx Consulting. I helped develop a semantic analyzer that consists of a preprocessor, Stanford's syntax parser, a heuristic based linker, and a semantic constraint engine. This semantic analyzer parses English texts and produces text meaning representations.

**Fellowships:**

Union Oil Fellowship (1981-1982).

Dissertation Completion Fellowship (2010).

**Research Interests:**

My primary field of research is in language documentation and preservation through natural language generation. For the past twenty years I've been developing a natural language generator which assists linguists who are documenting minority and endangered languages. This software enables linguists to build lexicons and grammars for languages, and then it generates initial draft translations of texts in those languages. The generated texts are of sufficient quality that they typically quadruple the productivity of experienced mother-tongue translators. I've tested this software with English, Korean, Jula (Cote d'Ivoire), and Kewa (Papua New Guinea), and proof-of-concept grammars and lexicons have been developed for Spanish, Urdu, North Tanna (Vanuatu), Angas (Nigeria), and Chinantec (Mexico). This system enables linguists to simultaneously document endangered languages and translate texts into those languages. The texts serve to preserve these languages, as well as educate and empower the speakers of these languages. My current research is in the development of a system that will semi-automatically acquire the necessary lexical and grammatical data so that this system can very quickly produce initial draft translations of these texts.