Atticus G. **Harrigan**

Ph.D. Candidate

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Education

University of Alberta
Edmonton, Alberta

Ph.D. Candidate in Linguistics — *PRESENT*

I study corpus and quantitative linguistics. Working with Indigenous languages of Canada, specifically Nêhiyawêwin (Plains Cree), my dissertation looks at how mood-like constructions can be predicted from morphological, syntactic, and semantic features.

Dissertation title: A Quantitative Account of Nêhiyawêwin Order: Using mixed-effects modeling to uncover syntactic, semantic, and morphological motivations in Nêhiyawêwin

Supervisor: Dr. Antti Arppe
Supervisory Committee: Dr. Jordan Lachler, Dr. Arok Wolvengrey

University of British Columbia
Online

Visiting Student — *Winter 2022*

I took course work in Computational Morphology

Linguistics Society of America Summer Institute
Lexington, Kentucky

Univeristy of Kentucky — *2017*

I attended the 2017 Summer Institute in Linguistics at the Univeristy of Kentucky. I took course work in Construction Grammar, Computational Linguistics, Sign Language Linguistics, and Forensic Linguistics.

University of Alberta
Edmonton, Alberta

B.A. (Hons.) in Linguistics — *2015*

I studied linguistics focusing on language sustainability and phonetics.

Thesis title: Reduction in Plains Cree

MacEwan University
Edmonton, Alberta

Diploma of Professional Writing — *2012*

I studied professional writing, including technical writing and rhetoric.

Publications

Edited Volumes

Proceedings of the 5th Workshop on the Use of Computational Methods in the Study of Endangered Languages

*Anastasopoulos, A., Arppe, A. Chaudhary, A., **Harrigan, A.**, Holden, J., Lachler, J., Palmer, A., Rijhwani, S. & Schwartz, L. (Eds.)*

Association for Computational Linguistics — *2022*

Role: I Co-edited the volume.

Proceedings of the 4th Workshop on the Use of Computational Methods in the Study of Endangered Languages

*Arppe, A., Good, J., **Harrigan, A.**, Hulden, M., Lachler, J., Moeller, S., Palmer, A., Silfverberg, M. & Schwartz, L. (Eds.)*

Association for Computational Linguistics — *2021*

Role: I Co-edited the volume.

Refereed Journal Articles

Learning from the Computational Modelling of Plains Cree Verbs

Harrigan, A. G., Schmirler, K., Arppe, A., Antonsen, L., Trosterud, T., Wolvengrey, A.

MORPHOLOGY, 27(4) 65-98
2017
  Role: I helped build the underlying model, co-developed the research question, and was the primary writer.

Refereed Book Chapters

Leveraging Majority Language Resources for Plains Cree Semantic Classification

Harrigan, A. G., Arppe, A.

IN MACAULAY M. & NOODIN M. (EDS.) *Papers of the Fifty-Second Algonquian Conference*. MICHIGAN STATE UNIVERSITY PRESS
In Press
  Role: I helped build and test the underlying computational model.

A Morpholosyntactically Tagged Corpus for Plains Cree

Arppe, A., Schmirler, K., Harrigan, A. G., Wolvengrey, A.

IN MACAULAY M. & NOODIN M. (EDS.) *Papers of the Forty-Ninth Algonquian Conference* (PP. 1-16). MICHIGAN STATE UNIVERSITY PRESS
2020
  Role: I helped build and test the underlying computational model.

Plains Cree Verbal Derivational Morphology: A Corpus Investigation

Schmirler, K., Harrigan, A. G., Arppe, A., Wolvengrey, A.

IN MACAULAY M. & NOODIN M. (EDS.) *Papers of the Forty-Eighth Algonquian Conference* (PP. 239-254). MICHIGAN STATE UNIVERSITY PRESS
2019
  Role: I helped build and test the inflectional model the derivational computational model is based upon.

Toward a Detailed Plains Cree VAI Paradigm

Harrigan, A. G., Arppe, A., Wolvengrey, A.

IN MACAULAY M. & NOODIN M. (EDS.) *Papers of the Forty-Eighth Algonquian Conference* (PP. 129-146). MICHIGAN STATE UNIVERSITY PRESS
2017
  Role: I developed the main research question, analyzed qualitative data, and was the primary writer.

Refereed Conference Proceedings

Interactive Word Completion for Plains Cree

Lane, W. A., Harrigan, A. G., Arppe, A.

IN "MURESAN, S., NAKOV, P., & VILLAVICENCIO, A. (EDS.) *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, (PP. 3284-3294)
2022
  Role: I developed and undertook the qualitative analysis.

Leveraging English Word Embeddings for Semi-Automatic Semantic Classification in Nêhiyawêwin (Plains Cree)

Harrigan A. G., Arppe, A.

IN MAGER, M., ONCEVAY, A., RIOS, A., RUIZ, I., VLADIMIR M., PALMER, A., NEUBIG, G. & KANN, K. (EDS.) *Proceedings of the First Workshop on Natural Language Processing for Indigenous Languages of the Americas*, (PP. 113-121)
2021
  Role: I developed the methodology, analyzed the data, and was the main author.

The More Detail, the Better? – Investigating the Effects of Semantic Ontology Specificity on Vector Semantic Classification with a Plains Cree / nêhiyawêwin Dictionary

*Dacanay, D. B., **Harrigan A. G.**, Wolvengrey, A., Arppe, A.*

In Mager, M., Oncevay, A., Rios, A., Ruiz, I., Vladimir M., Palmer, A., Neubig, G. & Kann, K. (Eds.) *Proceedings of the First Workshop on Natural Language Processing for Indigenous Languages of the Americas*, (pp. 143-152)

2021

Role: I wrote the underlying script used in compiling sentence vectors and helped develop research methodology.

Computational Analysis versus Human Intuition: A Critical Comparison of Vector Semantics with Manual Semantic Classification in the Context of Plains Cree

*Dacanay, D., **Harrigan A. G.**, Arppe, A.*

In Arppe, A., Good, J., Harrigan, A., Hulden, M., Lachler, J., Moeller, S., Palmer, A., Silfverberg, M. & Schwartz, L. (Eds.) *Proceedings of the 4th Workshop on the Use of Computational Methods in the Study of Endangered Languages, 1, 33-43*

2021

Role: I wrote the underlying script used in compiling sentence vectors and helped develop research methodology.

Design and Evaluation of a Smartphone Keyboard for Plains Cree Syllabics

*Santos E., **Harrigan A. G.***

In Beermann, D., Besacier, L., Sakti, S., Soria, C. (Eds.) *Proceedings of the 1st Joint Workshop on Spoken Language Technologies for Under-resourced languages (SLTU) and Collaboration and Computing for Under-Resourced Languages (CCURL)*, 88-96

2020

Role: I designed experiments, ran qualitative and quantitative analyses, and was co-writer.

A Preliminary Plains Cree Speech Synthesizer

***Harrigan, A.**, Mills, T., Arppe, A.*

In Arppe, A., Good, J., Hulden, M., Lachler, J., Palmer, A., Schwartz, L. & Silfverberg, M. (Eds.) *Proceedings of the 3rd Workshop on the Use of Computational Methods in the Study of Endangered Languages*, 1(1) 64-73

2019

Role: I built the synthesized voice, devised testing procedures, ran participants, analyzed data, and was the main author.

Refereed Extended Abstracts

Vowel Spaces and Reduction in Plains Cree

***Harrigan, A.**, Tucker B.*

Journal of the Canadian Acoustical Association, 43(03)

2015

Role: I developed the research questions, formulated test procedures, analyzed qualitative and quantitative data, and was the main author.

Publications in Preparation

Plains Cree Verb Construction Choice—a spectrum of types and degrees of alternation/interchangeability

***Harrigan, A. G.**, Arppe, A.*

In preparation for submission to *Linguistics Vanguard*

Role: I originated research questions, am developing experimental design, am running analyses, and will be the main author.

Software/Corpora

Mary Jean Littlechild, Louise Wildcat, Jerry Roastng, Harley Simon, Annette Lee, Arlene Makinaw, Rosie Rowan, Rose Makinaw, Kisikaw, Betty Simon, Brian Lightning, Brian Lee, Linda Oldpan, Miriam Buffalo, Debora Young, Ivy Raine, Paula Makinaw, Norma Linda Saddleback, Renee Makinaw, **Atticus Harrigan**, Katherine Schmirler, Dustn Bowers, Megan Bontogon, Lex Giesbrecht, Patricia Johnson, Timothy Mills, Jordan Lachler, Antti Arppe

Role: I recorded a plurality of material, developed recording frameworks, and helped edit and transcribe materials.

Plains Cree FST
Antti Arppe, **Atticus Harrigan**, Katherine Schmirler, Eddie Antonio Santos, Lene Antonsen, Trond Trosterud

Role: I helped write the verbal morphology, assisted with writing the nominal morphology, and consulted on the morphophonological rules.

Ahenakew-Wolfart Corpus
NÊHIYAWÊWIN CORPUS OF 142,192 TOKENS
Antti Arppe, Katherine Schmirler, **Atticus Harrigan**

Role: I hand annotated and verified entries in the corpus for morphosyntactic features (responsible for 25% of material).

Honors & Awards

2019	Alberta Graduate Excellence Scholarship	*$12,000*
2017	President's Doctoral Prize of Distinction	*$27,000*
2017	SSHRC Doctoral Fellowship	*$80, 000*
2015	Joseph Armand Bombardier Canada Graduate Scholarship—Master's	*$17,500*
2015	Walter H. Johns Graduate Fellowship	*$5,700*
2014	Roger S. Smith Undergraduate Researcher Award	*$5,000*
2010-2013	Jason Lang Scholarship	*$1,000 (x3)*
2013	KIAS *Tomorrow's Ideas, Now* Presentation Award	*$120*
2009	Alexander Rutherford Scholarship for Academic Excellence	*$2,500*
2009	Pezer Construction Scholarship for Excellence in Communication Technology Studies	*$1,000*

Conference Experience

Organization

5th Workshop on the Use of Computational Methods in the Study of Endangered Languages

Online and Dublin

I am on the organizing committee for the 5th Workshop on the Use of Computational Methods in the Study of Endangered Languages, located at the 60th Annual Meeting of the Association for Computational Linguistics. I am involved in the organization of the workshop as a whole while also specifically acting as review chair for the Community track of submissions.

May 2022

4th Workshop on the Use of Computational Methods in the Study of Endangered Languages

Online

I was on the organizing committee for the 4th Workshop on the Use of Computational Methods in the Study of Endangered Languages. In addition to serving as review chair of the community-track stream of submissions, I was involved in broad planning activities and maintain the conference website.

March 2021

50th Algonquian Conference

University of Alberta

I co-organized the 50th Algonquian Conference. I organized volunteers, scouted and booked venue space, reviewed abstracts, helped run sessions and daily activities, and communicated with prospective participants.

October 2018

Participation

Order as Alternation: the status of Order as a valid category in Nêhiyawêwin

53RD ALGONQUIAN CONFERENCE
October 2021

Arppe, A., Santos,E., Neitsch, A., Poulin, J., Harrigan, A. G., Schmirler, K., Hieber, D., Wolvengrey, A.
Carleton University (online)

Towards a Morphologically Intelligent and User-friendly On-line Dictionary of Plains Cree

53RD ALGONQUIAN CONFERENCE
October 2020

Arppe, A., Santos E. A., Yan, M., Harrigan, A. G., Schmirler, K., Amoh K., Wolvengrey, A.
University of Wisconsin-Madison (online)

Plains Cree verb construction choice—a spectrum of types and degrees of alternation/interchangeability

WHAT COUNTS AS AN ALTERNATION IN USAGE-BASED CONSTRUCTION GRAMMAR?, WORKSHOP AT THE 11TH INTERNATIONAL CONFERENCE ON CONSTRUCTION GRAMMAR
October 2020

Harrigan, A. G., Arppe, A.

University of Antwerp (hybrid)

Leveraging English Translations for an Automatic Semantic Classification of Plains Cree Verbs and Nouns

52ND ALGONQUIAN CONFERENCE
October 2020

Harrigan, A. G., Arppe, A.

University of Wisconsin-Madison (online)

Automatic Semantic Classification of Plains Cree Verbs

51ST ALGONQUIAN CONFERENCE
October 2019

Harrigan, A. G., Arppe, A.
Montreal, QC, Canada

Towards a Morphologically Intelligent On-line Dictionary of Plains Cree

51ST ALGONQUIAN CONFERENCE
October 2019

Arppe, A., Santos E., Harrigan, A., Schmirler, K., Wolvengrey, A.
Montreal, QC, Canada

Subverting the Ideology of Standardization with Language Technology

6TH INTERNATIONAL CONFERENCE ON LANGUAGE DOCUMENTATION AND CONSERVATION
February-March 2019

Harrigan, A. G., Lachler, J., Arppe, A.

Honolulu, HI, USA

A Preliminary Plains Cree Speech Synthesizer

3RD WORKSHOP ON THE USE OF COMPUTATIONAL METHODS IN THE STUDY OF ENDANGERED LANGUAGES
February 2019

Harrigan, A. G., Mills, T., Arppe, A.

Honolulu, HI, USA

A Preliminary Plains Cree Speech Synthesizer

50TH ALGONQUIAN CONFERENCE
October 2018

Harrigan, A. G., Mills, T.

Edmonton, AB, Canada

Long-term Dependencies in Plains Cree

11TH INTERNATIONAL CONFERENCE ON THE MENTAL LEXICON
September 2018

Harrigan, A. G., Arppe, A., Schmirler, K.

Edmonton, AB, Canada

A Morpholosyntactically Tagged Corpus for Plains Cree

49TH ALGONQUIAN CONFERENCE
October 2017

Arppe, A., Schmirler, K., Harrigan, A. G., Wolvengrey, A.

Montreal, QC, Canada

Conjunct(ion) Junct(ion): what is your function?

49TH ALGONQUIAN CONFERENCE
October 2017

Harrigan, A. G., Arppe, A.

Montreal, QC, Canada

A Morphologically Tagged Corpus for Plains Cree

PRAIRIE WORKSHOP ON LINGUISTICS IV
March 2017

Schmirler, K., Harrigan, A. G., Arppe, A.

Saskatoon, SK, Canada

Addressing the Paradox of Authenticity: the emergence of pluricentric written languages for Haida and Plains Cree

115TH AMERICAN ANTHROPOLOGICAL ASSOCIATION ANNUAL MEETING
November 2016

Lachler, J., Harrigan, A., Bontogon, M.

Minneapolis, MI, USA

Lexical Subtypes in a Plains Cree Corpus

48TH ALGONQUIAN CONFERENCE
October 2016

Harrigan, A. G., Schmirler, K., Arppe, A.

Milwaukee, WI, USA

Plains Cree Verbal Derivational Morphology: A Corpus Investigation.

48TH ALGONQUIAN CONFERENCE
October 2016

Schmirler, K., Harrigan, A. G., Arppe, A., Wolvengrey, A.

Milwaukee, WI, USA

So similar in principle, but so different in practice – mixing texts, elicitation and experimentation in the study of the Plains Cree independent and conjunct verb constructions.

NEW WAYS OF ANALYZING SYNTACTIC VARIATION 2
May 2016

Arppe A., Harrigan A., Schmirler, K.

Gent, Belgium

Word Class Frequencies According to Corpora

3RD PRAIRIE WORKSHOP ON LANGUAGE AND LINGUISTICS
March 2016

Schmirler, K. and Harrigan, A. G.
Regina, SK, Canada

Learning from the Computational Modelling of Plains Cree Verbs

COMPUTATIONAL METHODS FOR DESCRIPTIVE AND THEORETICAL MORPHOLOGY AT THE 17TH INTERNATIONAL MORPHOLOGY MEETING
February 2016

Harrigan, A., Antonsen, L., Arppe, A., Bowers, D., Trosterud, T. and Wolvengrey, A.
Vienna, Austria

Modelling the Plains Cree Verbs

47TH ALGONQUIAN CONFERENCE
October 2015

Antonsen, L., Arppe, A., Harrigan A. G., Trosterud, T., Wolvengrey, A.
Winnipeg, MB, Canada

oswêw êkwa ê-tipiskâk, mâka mâcîw âhpô ê-mâcît?

47TH ALGONQUIAN CONFERENCE
October 2015

Harrigan, A. G. and Arppe, A.
Winnipeg, MB, Canada

Vowel Spaces and Reduction in Plains Cree

ACOUSTICS WEEK IN CANADA 2015
October 2015

Harrigan, A., Tucker B.
Halifax, NS, Canada

Variations in Goals and Methods of Linguistic Education: A Comparison of Academic And Community-Based Approaches to Linguistics

4TH INTERNATIONAL CONFERENCE ON LANGUAGE DOCUMENTATION AND REVITALIZATION
February 2015

Jerry, M., Harrigan, A., Bontogon M., and Casavant, T.
Honolulu, HI, USA

Analysis of a Death

KIAS TODAY'S IDEAS, NOW
August 2013

Harrigan, G.
Edmonton, AB, Canada

Invited Talks

Language Technology

CULTURAL ARTS AND TECHNOLOGY IN LANGUAGE REVITALIZATION
Supporting Indigenous Language Revitalization Workshop
February 2022

Harrigan, A. G.

University of Alberta

Campus Talks

Well, That Didn't Work: Building a Plains Cree speech synthesizer with forced alignment through Simple4All

DEPARTMENT COLLOQUIUM
September 2018

Harrigan, A. G., Mills, T., Stan A.
University of Alberta

Conjunct(ion) Junct(ion): what's your funct(ion)

DEPARTMENT COLLOQUIUM
September 2017

Harrigan, A. G.
University of Alberta

Teaching Experience

Teaching Assistant
UNIVERSITY OF ALBERTA   *Winter 2022*
  LING 224—Endangered Languages & LING 362—Language Documentation

Principal Instructor
UNIVERSITY OF ALBERTA   *4 sections, 2021*
  INT D 318—Technologies for Endangered Language Documentation

Principal Instructor
UNIVERSITY OF ALBERTA   *Summer 2020*
  LING 101—Introduction to Linguistic Analysis

Principal Instructor
UNIVERSITY OF ALBERTA   *Summer 2019*
  INT D 318—Technologies for Endangered Language Documentation (Co-taught with Ashleigh Surma)

Teaching Assistant
UNIVERSITY OF ALBERTA   *Winter 2017*
  LING 308—Morphology and the Lexicon & LING 309—Syntax and Semantics

Teaching Assistant
UNIVERSITY OF ALBERTA   *Fall 2016*
  LING 101—Introduction to Linguistics

Professional Service

5th Workshop on Computational Methods for Endangered Languages
COMMUNITY TRACK CHAIR   *2021 - PRESENT*

Digital Scholarship in the Humanities
REVIEWER   *2020 - 2021*

4th Workshop on Computational Methods for Endangered Languages
COMMUNITY TRACK CHAIR   *2020 - 2021*

28th International Conference on Computational Linguistics
SUB-REVIEWER   *2020*

12th Language Resources and Evaluation Conference
SUB-REVIEWER   *2020*

1st Joint Workshop on Spoken Language Technologies for Under-resourced languages (SLTU) and Collaboration and Computing for Under-Resourced Languages (CCURL)
SUB-REVIEWER   *2020*

University Service

Student Library Advisory Committee
University of Alberta
BOARD MEMBER
2017 - 2020
I provided feedback to the University of Alberta Libraries regarding library services and programs for graduate students.

Linguistics Graduate Student Association
University of Alberta
PHD REPRESENTATIVE
2019 - 2020
I acted as the representative for PhD students to the Department of Linguistics.

Linguistics Graduate Student Association
University of Alberta
PRESIDENT
2017 - 2018
I lead the association and helped steer its activities, acted as the primary point of conduct, and filled in where needed to help serve Linguistics graduate students in a social and professional capacity.

Appeals and Complaints Board for the Graduate Students' Association
University of Alberta
BOARD MEMBER
2017 - 2018
I sat on the board that hears official appeals and complaints directed toward the Graduate Students' Association.

Linguistics Graduate Student Association/Department of Linguistics
University of Alberta
GRADUATE STUDENTS' ASSOCIATION REPRESENTATIVE
2017 - 2018
I acted a department representative on the general council of the Graduate Students' Association.

Linguistics Graduate Student Association
University of Alberta
TREASURER
2016 - 2017
I administered and kept track of the association's funds in addition to applying for funding from various sources.

Linguistics Graduate Student Association
University of Alberta
EVENT COORDINATOR
2015 - 2016
I planned and executed events through the University of Alberta's Student Group Services for the Linguistics Graduate Student's Association.

University of Alberta Undergraduate Linguistics Club
University of Alberta
VICE-PRESIDENT
2014 - 2015
I operated the undergraduate linguistics helpdesk, executed social events through the University of Alberta's Student Group Services, redrafted the constitution, managed, scheduled, and led meetings, and created training materials for future executive members.

Further Training

Graduate Teaching and Learning Program
Level 1
University of Alberta
I completed coursework in essential competencies for pedagogues, including classroom management, assessment, and communication in the classroom.

Selected Work Experience

Laboratory Manager
UNIVERSITY OF ALBERTA
Sept. 2015 – PRESENT
I manage the storage and use of laboratory equipment; coordinate and schedule recordings and other research activities with partner Indigenous communities; manage, oversee, and train undergraduate annotators; and participate in recording activities for the Alberta Language Technology Laboratory (ALTLab).

Indigenous Language Analyst

ALBERTA EDUCATION   *Nov. 2018 – May 2019*

In working for the First Nations, Métis, and Inuit Education Directorate, I provided research expertise in the field of Indigenous languages. Among other responsibilities, I generated reports regarding the status of Albertan languages, undertook jurisdictional surveys for language policy and planning, supported the creation, drafting and administering of grant programs, and preformed analyses of quantitative and qualitative data using a range of techniques.

Research Intern

ALBERTA EDUCATION   *Feb. 2018 – Aug. 2018*

I provided research and linguistic expertise on Indigenous language pedagogy and policy, with a particular focus on the creation of immersion programming. I was an integral part of developing grant programs and documents, briefing notes, literature reviews, and other reports to be used both internally and externally.

Research Assistant

UNIVERSITY OF ALBERTA   *May 2017 – August 2017*

I was a research assistant for Dr. Jordan Lachler's *Responding to the Call: Supporting Indigenous Language Sustainability in Alberta* project.

Research Assistant

UNIVERSITY OF ALBERTA   *Oct. 2014 – September 2015*

I participated in recording, annotation, and other activities in relation to the production of computational tools for Indigenous language learning as part of the SSHRC funded 21st Century Tools for Indigenous Languages project.

Teaching Areas

General Linguistics Courses

Introduction to Linguistics, Phonology, Morphology, Phonetics, Syntax

Indigenous Language Courses

Languages of North America, Language Documentation/Field Linguistics, Structure of Cree/Algonquian language

Computational/Quantitative Courses

Computational linguistics, Statistics for Linguistics Analysis, Corpus Linguistics

Skills

Programming Languages	Python, Finite State Machines, R, LaTeX, Unix, Awk, Bash, SQL
Languages	English (Native), Nêhiyawêwin (Reading, Writing, Some Spoken), Latin (Reading, Writing)
Software	Adobe Creative Suite, AntConc, Audacity, ELAN, macOS, Microsoft Office, Praat, RStudio, Windows