

# Craig Frayne

GRADUATE STUDENT & RESEARCHER · UNIVERSITY OF WATERLOO

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## Education

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### Technische Universität Bergakademie Freiberg

Freiberg, Saxony, Germany

#### PHD APPLIED LINGUISTICS & INTERCULTURAL COMMUNICATION

- Dissertation: "Language Games and Nature: A Corpus-Based Analysis of Ecological Discourse"
- Advisor: Prof. Dr. Michael Hinner
- Grade: summa cum laude

### Technische Universität Kaiserslautern

Kaiserslautern, Germany

#### GRADUATE CERTIFICATE NANOBIO TECHNOLOGY

- Coursework covering Molecular Biology, Nanostructures, Characterization Techniques, and applications

### Bauhaus-Universität Weimar

Weimar, Germany

#### MSC ENVIRONMENTAL ENGINEERING

- Thesis: "Systems Analysis of Power and Water Cogeneration"
- Advisor: Prof. Dr. Mark Jentsch

### University of Waterloo

Waterloo, Canada

#### GRADUATE STUDIES, GEOMATICS

- Geospatial Sensing and Data Intelligence Lab

## Professional Experience

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| present   | <b>Independent Graduate Research</b> , Geospatial Sensing and Data Intelligence Lab, University of Waterloo |
| 2020-2021 | <b>Research Project Manager</b> , Conestoga College Applied Research, Cambridge Ontario                     |
| 2018-2020 | <b>Project Manager</b> , DigitalEd, Waterloo Ontario  |
| 2009-2020 | <b>Non-profit and International Development sectors (contract work)</b> , various                           |
| 2016-2018 | <b>Data Analyst</b> , Microsoft Research, Montreal (Maluuba acquisition)                                    |
| 2015-2016 | <b>Teaching Assistant</b> , Wilfrid Laurier University, Department of Geography & Environmental Studies     |
| 2007-2009 | <b>Scientific Intern / Project Manager</b> , EPEA Internationale Umweltforschung, Hamburg                   |

## Publications

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### PUBLISHED

- Frayne, C.** 2021. Corpus-based analysis of genetically modified seed discourse. *Discourse & Society*, 32(6).
- Frayne, C.** 2019. Historical analysis of species references in American English. *Corpora*, 14(3):327-349
- Frayne, C.** 2018. An ecosemiotic critique of Heidegger's concept of enframing. *Environmental Philosophy*, 15(2):213-236
- Frayne, C.** 2017. Wittgenstein, organic form, and an orientation to intercultural language games. *Journal of Intercultural Communication Research*, 46(2):147-160

### IN REVIEW

- Frayne, C.** submitted Jan. 2021. Demarcating Cultural expressions in the Dakota Access Pipeline debate. *International Journal of Language and Culture*. In Review.
- Frayne, C.** Nonverbals, cognition, and the hidden dimension of environmental communication. (Manuscript in review for the ICA 2022 Conference.)

**Frayne, C.** (2021). Natural resources and communication: when the rhetorical tradition confronts the real economy (chapter) in “Communication Science and Linguistics for Business Administration and Management” (working title). Peter Lang Publishing. (Book publication in prep.)

IN PREP

## Presentations

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**Frayne, C.** 2021. Multilevel Discourse Analysis: A Methodological Response to the Ecological Turn in ICC Research. ICA 2021 - 71st Annual ICA Conference.

## Teaching Experience

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Fall 2015 **Atmosphere & Hydrosphere**, Teaching Assistant, Wilfrid Laurier University  
Winter 2016 **Introduction to Environmental Studies**, Teaching Assistant, Wilfrid Laurier University  
Fall 2010 **Academic English, University Prep. Course**, Instructor, CODEMA Bogota, Colombia

## Courseware & Curriculum Development

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At DigitalEd, managed algorithmic question authoring and conversion of **digital textbooks and online courseware** in STEM disciplines. Included several OpenStax titles, publisher titles (including SAGE, Pearson, Kendall-Hunt), and professors' custom materials.

Freelance development of **interactive online learning labs** for university professors in the natural sciences.

Freelance research consulting for the Center for Curriculum Redesign (CCR) to identify **international best practices for curriculum resources**.

## Outreach & Professional Development

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### PEER REVIEW

Environment, Development and Sustainability (Springer)  
International Communication Association

### PROFESSIONAL MEMBERSHIPS & SERVICE

Association for Computing Machinery (ACM)  
Project Management Institute (PMI)  
International Communication Association (ICA)  
International Ecological Linguistics Association (IEA)  
GoGeomatics (volunteer)  
Canadian Industrial Heritage Centre (CIHC)

## Skills & Languages

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**Languages:** Python, SQL, JavaScript, HTML/CSS, R, Matlab

**Human Languages:** native English speaker with experience working in French, German, and Spanish language environments

**Software Tools:** Adobe Creative Suite, Autodesk Fusion, ArcGIS, QGIS

**Developer Tools:** Jupyter Notebooks, GitHub, Google Cloud Platform

**Libraries:** pandas, plotly, numpy, scikit-learn, scipy, d3.js

**Certifications:** Ecology Conservation & Management (Ducks Unlimited), International Public Sector Accounting Standards (CIPFA), Project Management Professional (PMI)