Kalli Herlein

MSc. Student in Agricultural and Resource Economics

Summary

- Interdisciplinary researcher with background in economics and environmental science
- 6 years of research experience using quantitative analytical methods on hydrologic, economic, and survey-based datasets with 50-10000 observations
- Skilled at synthesizing complex information into succinct communication formats including policy briefs, written reports, oral presentations, and poster formats

Key Skills

- **Quantitative economic data analysis** – benefit-cost analysis, general and partial equilibrium models, net present value, economic feasibility assessment, regression models, time-series analysis, interpretation of statistical tests, and efficiency analyses
- **Large dataset manipulation and cleaning** – R/RStudio, Stata, Excel, and Python
- **Non-market valuation and survey design** – hedonic price, travel cost, and stated preference models to valuate environmental goods such as clean air and water
- **Communication** – audience appropriate reports, oral presentations, and brief summaries

Education

MSc. Agricultural and Resource Economics, University of Alberta (expected) Sep. 2020
Thesis: "The Efficiency of Wildfire Suppression in Alberta: A Stochastic Frontier Analysis"

- Summarized 60 academic papers in literature review chapter to inform research direction

BSc. Environmental and Conservation Sciences, University of Alberta 2014
Environmental Economics and Policy Major

Research Experience

University of Alberta – *Graduate Research Assistantship* May 2019 – present

- Currently analyzing Alberta Wildfire's 2017 operations data for sources of operational inefficiency using "stochastic frontier analysis" and "data envelopment analysis"
- Combining GIS fire perimeters, government operations data, and daily weather data into an economic model that quantifies the efficacy of each resource and efficiency of suppression

Southern Rockies Watershed Project – *Research Hydrologist/Supervisor* Mar. 2015 – Sep. 2018

- Quantified the increase of sediment in streams due to forest-fire and salvage-logging to be 873% and 1243% immediately post-fire and presented results at international conferences
- Supervised field crew collecting surface water data to understand how human and natural forest disturbances affect the quantity and quality of source-water in Alberta
- Processed and QAQC'd 1000s of hydro-meteorological datapoints using Excel and R

Foothills Research Institute – *Water Program Research Assistant* Nov. 2014 – Feb. 2015

- Ensured grant deliverable deadlines were being met by contacting individuals for ongoing progress updates and keeping organized accounting records

University of Alberta – *Field Technician* May 2014 – Oct. 2014

- Surveyed 920 public land users on their benefits from using crown land for quad use
- Engaged with public to understand their perspectives through one-on-one interviews

University of Alberta – *Undergraduate Research Projects*

- Calculated Village Farms Inc. 2013 to be worth $20M using net present value analysis
- Computed economic feasibility City of Edmonton's waste to ethanol plant to be a profitable waste reduction strategy netting $0.44/gallon at 2013 market and technology expectations

Conference Presentations

- **IAWF Fire Continuum Conference 2018, Missoula, MN, USA:** "Long-term Suspended Sediment Yields in Wildfire Affected Mountain Streams in Southwestern Alberta, Canada"
- **Canadian Geophysical Union AGM 2017, Vancouver, BC:** (Same title as above)
- **American Geophysical Union AGM 2016, San Francisco, CA:** (Same title as above)
- **IISD International Food Security Dialogue 2014, Edmonton, AB:** "How Do Social Networks Affect the Difference Between Perceived and Actual Food Security in Tanzanian Households?"

Leadership Experience

University of Alberta - *Teaching Assistant, Physical Hydrology Computer* Lab Jan. – Apr. 2019

- Taught 20 undergraduate hydrology students new computer skills with Excel and GIS
- Delivered six 20-minute lectures teaching the application of lecture material to real data
- Prioritized effective scientific communication in students' lab reports by teaching information synthesis and concise writing skills

Other Leadership

- Directed training week for 30 hydrology graduate students and professors from across Canada to increase their research skills by running demonstrations, leading hands-on activities, and booking food, transportation, and venues
- Trained and supervised 6-15 junior staff over 5 years on proper field data collection and equipment installation techniques during one-on-one training sessions
- Increased team collaboration by initiating and organizing weekly lab meetings that fostered group discussion and information sharing
- Engaged with hydrologic community by solely running SRWP's twitter and website

Volunteering Leadership

- Conferences: IPCC Cities and Climate Change 2018, IISD Food Security Dialogue 2014
- Other: 65 Roses Golf for Cystic Fibrosis, Edmonton Mustard Seed, and Festival of Trees

Awards

- Alberta Graduate Excellence Scholarship, 2020
- Brett G. Cortus Memorial Scholarship for academic achievement, 2019
- SSHRC - Joseph-Armand Bombardier Canada Graduate Scholarship, 2018
- Walter H. Johns Graduate Fellowship, 2018
- Dean's List (2014) & First Class Standing (2013)
- Jason Lang Scholarship, 2011
- Alexander Rutherford Scholarship, 2007-2009