

**Contact Information**

Department of Economics, University of Calgary  
2500 University Drive, N.W., Calgary, AB, Canada

+1 (825)365-8478  
[arthur.novaesdeamori@ucalgary.ca](mailto:arthur.novaesdeamori@ucalgary.ca)

**Personal Details**

Citizenship: Brazilian

Languages: Portuguese (native), English (fluent), Spanish (read), French (read), Korean (basic)

**Education**

Ph.D. Economics, University of Calgary  
M.A. Economics, University of Ottawa  
B.Mus. Piano, West Virginia University

Expected 08/2023  
2016  
2014

**Technical Skills**

Programming: R (tidyverse, sf, igraph, caret, mlr3, forecast), Python (pandas, scikit-learn, Keras, NLTK, currently learning PySpark), Stata, SAS, MATLAB, GAUSS

Visualization: Tableau, R Markdown, L<sup>A</sup>T<sub>E</sub>X

**Work Experience**

- 2017 – Present     **Research Assistant**, University of Calgary
- Led a team on Dr. Alex Whalley's lab to link individuals across large data sets of patents, publications, and scientific personnel using a clustering-based disambiguation algorithm.
  - Collaborated on a team on Dr. Lucija Muehlenbachs lab to parse and combine financial records and environmental litigation textual data. Collaborated with Muehlenbachs to build a prediction model for the seasonal opening/closure dates of ice roads in Canada.
- 2019 – 2021     **Senior Analyst**, Alberta Health Services
- Delivered machine learning ensemble forecasts of flu-like activity at hospitals.
  - Designed a Tableau dashboard for visualizing flu activity.
  - Quantified healthcare savings due to a mental health program using GIS.
- 2016     **Junior Economist**, Natural Resources Canada
- Maintained a database of energy savings due to adoption of energy-efficient household appliances.
  - Used econometric methods (bunching estimator) to compute causal estimates of energy savings due to the ENERGY STAR program.
- 2015     **Junior Analyst**, Environment Canada
- Wrote a report on respect at work and job satisfaction.

**Teaching & Leadership**

- 2020     **Instructor – Use of Statistics in Economics**, University of Calgary
- Taught economic applications of statistics using R to a class of 55 students.
- 2016 – Present     **Teaching Assistant**
- Planned and delivered weekly tutorials with exercises supporting materials learned in lectures. Courses include (asterisk denotes graduate course): Econometrics I; Econometrics II; Use of Statistics in Economics; Labour Economics<sup>\*</sup>; Microeconomic Theory II<sup>\*</sup>; Econometrics II<sup>\*</sup>; Environmental Economics<sup>\*</sup>.
- 2017–2019     **VP Academic**, Economics Graduate Association
- Helped organize a week-long course in Machine Learning for economics.

## Publications

“Research Universities and Regional Growth.” *Forthcoming. KDI/EWC series on Economic Policy.* With Alex Whalley.

- We discuss when and how research universities can be anchor institutions for a local economic development strategy. The paper provides econometric evidence and data visualizations of a positive impact of universities on regional growth by increasing wages and jobs over the medium term.

“A Stacked ensemble method for forecasting influenza-like illness visit volumes at emergency departments.” *Plos one*, 16(3), e0241725. With Rob Deardon and Vineet Saini.

- We propose a data-driven stacking method for averaging contributions of multiple forecasters in an ensemble. We leverages six years of training data and compute ensemble weights for averaging predictions from linear regression, quantile regression forest, Empirical Bayes, and ARIMA. We show the ensemble outperforms contributing models in a retrospective analysis in two Canadian hospitals.

## Working Papers

“Agricultural Change in the United States: Evidence from the Golden Age of Radio.”

- I study the effects of mass media on agricultural productivity by documenting how the introduction of farm radio programming in the early 20<sup>th</sup> century shaped agriculture in the United States. Panel data regression analysis shows that regions with higher exposure to farm radio induced by variation on signal strength due to topography experienced greater medium-run growth in the value of crops and farmland and in crop yields.

“Outside Options in the Labor Market: Evidence from Vietnam Draft Avoidance” With Alex Whalley and Shawn Kantor.

- We investigate how scientists’ outside options affect their wages and knowledge production. Using difference-in-differences and a triple differences analysis we show scientist wages are sensitive to outside option changes induced by the end of graduate student draft deferrals during Vietnam War.

“Clouded Thoughts: Air Pollution and Cognitive Performance.”

- I measure the cognitive performance of individuals using a neural network to benchmark move quality in a strategy board game setting. I use this measure for estimating the impact of shocks in particulate matter pollution exposure on the performance of professional game players.

## Graduate Coursework

- |  |  |
|--|--|
| <input type="checkbox"/> Labour Economics        | <input type="checkbox"/> (Structural) Topics in Econometrics |
| <input type="checkbox"/> Environmental Economics | <input type="checkbox"/> Computational (Bayesian) Statistics |
| <input type="checkbox"/> International Trade     | <input type="checkbox"/> Economic Development                |

## Honors and Awards

- |           |   |
|-----------|---|
| 2020      | Victor Yang Song Teaching Excellence Award (\$1000)           |
| 2020      | Dissertation Prize runner-up (\$1000)                         |
| 2019      | James D. Gaisford Best 2nd Year Paper Research Prize (\$1000) |
| 2016–2021 | Eyes High Doctoral Scholarship (Total value of \$150,000)     |

## References

**Alex Whalley**, Associate Professor  
Department of Economics, University of Calgary  
Phone: (403)220-7143  
E-mail: [awhalley@gmail.com](mailto:awhalley@gmail.com)

**Lucija Muehlenbachs**, Associate Professor  
Department of Economics, University of Calgary  
Phone: (403)220-7264  
E-mail: [lmuehlen@ucalgary.ca](mailto:lmuehlen@ucalgary.ca)

**Jean-William Laliberté**, Assistant Professor  
Department of Economics, University of Calgary  
Phone: (403)221-5291  
E-mail: [jeanwilliam.lalibert@ucalgary.ca](mailto:jeanwilliam.lalibert@ucalgary.ca)