

# Kyran Cupido

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Department of Mathematics & Statistics  
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## Research Interests

### **Methodological**

Data Science, Geospatial Analysis, Spatial Point Processes, Spatial Regression Modelling, Statistical Demography

### **Domain**

Longevity Risk, Property & Casualty, Health Insurance

## Academic Appointments

**St. Francis Xavier University**, Antigonish, Nova Scotia, Canada  
Assistant Professor, Department of Mathematics & Statistics  
July 2020 - Present

## Education

**Arizona State University**, Tempe, Arizona, USA  
School of Mathematical and Statistical Sciences  
Ph.D. Statistics, 2017 - 2020.  
Advisor: Dr. Petar Jevtić

**McMaster University**, Hamilton, Ontario, Canada  
Department of Mathematics and Statistics  
M.Sc. Statistics, 2016 - 2017.

**Brock University**, St. Catharines, Ontario, Canada  
Department of Mathematics and Statistics  
B.Ed. Education, 2014 - 2015.  
B.Sc. Mathematics, 2010 - 2015.

## Peer-Reviewed Publications

- [1] Cupido, K., Jevtić, P, Regis, L, and Zhou, KQ. “Spatial Natural Hedging – A general framework with application to the mortality of U.S. States” *Scandinavian Actuarial Journal* (2024): 1-29.  
<https://doi.org/10.1080/03461238.2024.2365977>
- [2] Cupido, K., Jevtić, P, and Boonen, T. “Space, Mortality and Economic Growth” *Journal of Forecasting* (2024): 1–17.  
<https://doi.org/10.1002/for.3086>

- [3] Johnson, R., Al-khateeb, S., Forbes, A., and Cupido, K. “Targeted Social Media Harassment: A Comparative Analysis of Toxicity Directed at Men and ” Women Sports Reporters *Communication & Sport* 0(0) (2023): 1-23.  
<https://doi.org/10.1177/21674795231213330>
- [4] Cupido, K., and McClure, O. “Spatio-temporal Analysis of Human Mortality in Canada” *Canadian Studies in Population* (2022): 1-16.  
<https://doi.org/10.1007/s42650-022-00071-5>
- [5] Cupido, K., Fotheringham, A.S., and Jevtić, P. “Local Modeling of U.S. Mortality Rates: A Multiscale Geographically Weighted Regression Approach” *Population, Space and Place* 27.1 (2021): e2379.  
<https://doi.org/10.1002/psp.2379>
- [6] Cupido, K., Jevtić, P., and Paez, A. “Spatial Patterns of Mortality in the United States: A Spatial Filtering Approach” *Insurance: Mathematics and Economics* 95 (2020): 28-38.  
<https://doi.org/10.1016/j.insmatheco.2020.08.003>

## Conference Publications

- [1] Delamer, J.-A., Cupido, and Givigi, S. “Graph Neural Network to Solve the Dynamic Emergency Vehicles Routing Problems” *IEEE SysCon 24*

## Technical Reports

- [1] Martinez, W., Cupido, K., Jevtić, P., and Su, J. “[Social and Other Determinants of Life Insurance Demand](#)” August 2022, The Society of Actuaries (SOA).

## Papers in Review

- [1] “Population Aging in Atlantic Canada: A Regional Appraisal” with D. Kerr (Submitted to the *Canadian Journal on Aging*)
- [2] “Inspiration, Fairness, Cheating, and Transphobia: An Analysis of Tweets About Lia Thomas’ NCAA Swimming Championship” with R. Johnson, M. Madouh, M. Romney, and S. Al-khateeb (Submitted to *Communication & Sport*)

## Working Projects

- [1] “Extraction and Classification of Spatial Features in Urban Maps for use in Kernel Density Estimation of Traffic Accidents” with P. Jevtić and S. Pesic (Target: *Accident Analysis & Prevention*)
- [2] “Modelling the Spatial Dynamics of Fertility Rates in Canada” with D. Kerr (Target: *Spatial Statistics*)
- [3] “The Electoral Geography of Local Campaign Diversification” with R. Currie-Wood
- [4] “COVID-19 Recovery by Province and Industry” with I. Beaton

## Contributed Talks

- [1] June 2024, St. John's, Newfoundland. [\*Statistical Society of Canada Annual Meeting 2024\*](#) "Spatial Natural Hedging – A General Framework with Application to the Mortality of U.S. States by K. Cupido, P. Jevtić, L. Regis, and K. Zhou
- [2] May 2023, Toronto, Ontario. [\*Annual Meeting of the Canadian Population Society\*](#) "Investigating the Spatial Dynamics of Fertility Rates in Canada" by K. Cupido, and D. Kerr
- [3] June 2022, Virtual Conference. [\*Statistical Society of Canada Annual Meeting 2022\*](#) "Space, Mortality and Economic Growth" by K. Cupido, P. Jevtić, and T. Boonen
- [4] August 2020. Virtual Conference, [\*Actuarial Research Virtual Conference\*](#) "Local Modeling of U.S. Mortality Rates" by K. Cupido, A.S. Fotheringham and P. Jevtić
- [5] August 2018. London, Ontario, [\*Actuarial Research Conference\*](#) "Spatial Filtering Approach to Mortality Modeling" by K. Cupido, P. Jevtić and A. Paez

## Presentations

- [1] June 2022, Texas State University. Guest Lecture, MC 4329. "Quantifying Uncertainty: An Introduction to the Study of Risk."
- [2] October 2021, Arizona State University Professional Development Seminar. "Navigating the Start of an Academic Career (During a Pandemic....)"
- [3] October 2021, St. Francis Xavier University Mathematics & Statistics Senior Seminar. "Analyzing Patterns in Human Mortality Rates."
- [4] September 2020, Arizona State University. Guest Lecture, JMC 454: Advanced Issues in Sport and Media, "What are the Odds? An Introduction to Sports Statistics."
- [5] March 2020, Arizona State University. Guest Lecture, JMC 454: Advanced Issues in Sport and Media, "Sports Gambling and Betting, Fantasy Sports"
- [6] October 2018, Arizona State University Graduate Statistics Seminar. "Quantifying and Modeling Spatial Patterns."

## Workshops, Workshops, Summer Schools, Conferences

- [1] June 2024, St. John's, Newfoundland, [\*SSC 2024\*](#); Statistical Education Workshop
- [2] May 2023, Ottawa, Ontario, [\*SSC 2023\*](#); Statistical Education Workshop
- [3] May 2022, Virtual Conference, [\*Canadian Population Society Annual Meeting\*](#)
- [4] June 2021, Virtual Conference, [\*SSC 2021\*](#); Statistical Education Workshop
- [5] May 2021, Virtual Conference, [\*Canadian Population Society Annual Meeting\*](#)
- [6] August 2020, Virtual Conference, [\*Actuarial Research Virtual Conference\*](#)
- [7] August 2020, Virtual Conference, [\*Joint Statistics Meeting\*](#)
- [8] July 2020, Virtual Conference, [\*Society for Industrial and Applied Mathematics Annual Meeting\*](#)

- [9] July 2020, Virtual Conference, *Use R! 2020: The R User Conference*
- [10] July 2019, L'Aquila, Italy, *Summer School in Smart City Development*
- [11] June 2019, Toronto, Ontario, *Big Data and Artificial Intelligence Toronto*
- [12] August 2018, London, Ontario, *Actuarial Research Conference*
- [13] June 2018, Toronto, Ontario, *Big Data Toronto*

## Teaching Experience

### **St. Francis Xavier University**, Antigonish, Nova Scotia, Canada

#### Instructor

- Winter 2024: Mathematical Statistics (STAT 334)
- Winter 2024: Statistical Methods (STAT 331)
- Winter 2024: Statistics for Students in the Sciences (STAT 231)
- Fall 2023: Statistics for Students in the Sciences (STAT 231)
- Fall 2023: Regression Analysis (STAT 357)
- Winter 2023: Statistical Methods (STAT 331)
- Winter 2023: Statistical Learning and Data Mining (STAT 445)
- Fall 2022: Introductory Statistics (STAT 101), Course Coordinator
- Fall 2022: Statistics for Students in the Sciences (STAT 231)
- Winter 2022: Statistical Methods (STAT 331)
- Winter 2022: Regression Analysis (STAT 357)
- Fall 2021: Introductory Statistics (STAT 101), Course Coordinator
- Fall 2021: Statistics for Students in the Sciences (STAT 231)
- Winter 2021: Survey Sampling Design (STAT 311)
- Winter 2021: Statistical Methods (STAT 331)
- Fall 2020: Statistics for Students in the Sciences (STAT 231)
- Fall 2020: Introductory Statistics (STAT 101)

### **Arizona State University**, Tempe, Arizona, USA

#### Instructor

- Spring 2020: Statistics for Biosciences (STP 231)
- Fall 2019: Statistics for Biosciences (STP 231)

#### Teaching Assistant

- Summer 2019: Applied Linear Algebra (MATLAB 343)
- Spring 2019: Experimental Statistics (STP 429)
- Spring 2019: Machine Learning (STP 598)
- Fall 2018: Applied Regression Analysis (STP 530)
- Spring 2018: Applied Analysis of Variance (STP 531)
- Spring 2018: Experimental Statistics (STP 429)
- Fall 2017: Introductory Applied Statistics (STP 420)
- Fall 2017: Mathematical Structures (MAT 300)

### **McMaster University**, Hamilton, Ontario Canada

#### Teaching Assistant

- Winter 2017: Calculus for the Physical Sciences & Engineering Mathematics (MATH 1A03/1Z03)
- Fall 2016: Introductory Calculus for Humanities & Social Sciences (MATH 1K03)

## Student Supervision

### Supervised Summer Research Students

- Simon Maltby, *Spatiotemporal Analysis of Voter Turnout in Nova Scotia* NSERC Undergraduate Student Research Awards 2024
- Adrianna D'Amico and Adam Stalker, *Local Investigations of Life Expectancy in Atlantic Canada*, 2024
- Samantha Brooks and Aidan Foster *Opportunities for Change: Exploring Nova Scotians' Quality of Life and Wellbeing*, 2024
- Isaac Ombotimbe, *Spatially Analyzing Traffic Accident Data for Optimal Emergency Vehicles Routing Strategy*, NSERC Undergraduate Student Research Award Black Scholar 2023
- Simon Maltby, *Investigating the Spatial Distribution of the Underlying Risk Factors for COVID-19 in Canada*, Research Nova Scotia Scotia Scholars Undergraduate Award 2023
- Madelaine Davis, *Provincial Models of Pandemic Business Interruption Insurance*, 2023
- Isaac Ombotimbe, *An Investigation of the Spatial Patterns of Canadian Traffic Accidents*, 2022
- Olivia McClure, *An Empirical Study of Canadian Mortality*, University Council for Research Award, 2021

### Supervisor for Undergraduate Honours Theses

- Simon Maltby, *Factors Influencing Voter Turnout in Nova Scotia*, 2024

### Second Reader for Undergraduate Honours Theses

- Tiffany Bondoc, *Exploring Colorectal Cancer in Atlantic Canada and the Effects of Low-Penetrance Genes*, 2022
- April Long, *An Analysis of Income Inequality in Ghana Using GLSS 7 Data*, 2021

### External Reviewer for Masters Theses

- Ethan Heavey, *Chat NPC*, 2024
- Anik Das, *A Novel Tweet Dataset and Comparative Analysis of BERT Based Classification Models For Phobia Subtypes Detection*, 2023

## Grants and Awards

StFX University Research/Publication/Teaching Award, 2024: \$1,683  
W. F. James Research Scholar in the Pure and Applied Sciences, 2024  
SSC New Investigator Presentation Award (Runner Up), 2024 \$200  
SSHRC Insight Development Grant, 2023: \$49,486  
StFX University Research/Publication/Teaching Award, 2023: \$1,570  
Canadian Institute of Actuaries Academic Research Program, 2022: \$12,435  
StFX University Research/Publication/Teaching Award, 2022: \$1,875  
StFX University Research/Publication/Teaching Award, 2021: \$1,697  
StFX University Council for Research Award, 2021: \$7,000  
StFX University Start-up Grant, 2020: \$10,000  
CLAS Student Leadership Award, 2018  
Summer Research Block Grant, 2018: \$5,000  
Deans Honour's List, 2012 - 2014

## Professional Memberships

Statistical Society of Canada. Statistical Education Section  
Canadian Population Society  
Canadian Mathematical Society

## University Service

**St. Francis Xavier University**, Antigonish, Nova Scotia, Canada

- Committee on Research Integrity, 2024 - Present
- Appeals Committee, 2021 - Present
- Recording Secretary, Department of Mathematics & Statistics, 2022 - Present
- Review Committee: StFX Undergraduate Student Research Awards 2023
- Data Science Programming Committee
- Mathematics & Statistics Teaching and Learning Committee
- Actuarial Science Programming Committee
- Review Committee: StFX Undergraduate Student Research Awards 2022

**Arizona State University**, Tempe, Arizona, USA

- President: ASU Chapter of the American Mathematical Society, 2019
- Vice President: ASU Chapter of the American Mathematical Society, 2018
- Communications Officer: Committee for Peer Mentoring at SoMSS at ASU
- Volunteer: Datafest, Math Day at ASU, CryptoRally, Open Door

## Community Service

Coaching: Hamilton Lacrosse Association, Lawfield Minor Hockey Association, Hamilton Catholic District School Board, Gage Park Softball Association

Tutoring: Notre Dame House Youth Shelter, Hamilton Ontario. House of Hope, St. Catharines Ontario

## Personal Information

Date of Birth: August 17, 1992. Citizenship: Canadian. Married.