

# Monica Alexander

725 Spadina Avenue, Toronto, ON, M5S 2J4  
monicaalexander.com  
monica.alexander@utoronto.ca

## Academic Appointments

### University of Toronto

*Assistant Professor*, Statistical Sciences and Sociology

July 2018 – *current*

## Professional Appointments

*Lead technical advisor*

### World Health Organization Group

on Estimation of Causes of Maternal Mortality

January 2019 – *current*

*Fellow*

### Institute for Clinical Evaluative Sciences

January 2019 – *current*

*Member*

### Technical Advisory Group to the World Health Organization

on Violence Against Women (Estimation and Data)

January 2018 – *current*

## Education

Ph.D (Demography), **University of California, Berkeley**, 2018.

*Dissertation title:* Bayesian Methods for Mortality Estimation.

*Committee:* Josh Goldstein (chair); Ken Wachter; Dennis Feehan; Jas Sekhon.

M.Arts (Statistics), **University of California, Berkeley**, 2015.

M.Social Research (Demography), **Australian National University**, 2013.

B.Science (First Class Honors) (Maths and Chemistry), **University of Tasmania**, 2008.

## Papers

### *Peer-reviewed articles*

**Alexander, M.**, Polimis, K., and Zagheni, E., ‘The impact of Hurricane Maria on out-migration from Puerto Rico: Evidence from Facebook data’, *Population and Development Review*, accepted. Preprint: <https://osf.io/preprints/socarxiv/39s6c/>.

Hug, L., **Alexander, M.**, You, D., and Alkema, L. ‘National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis by the United Nations Inter-agency Group for Child Mortality Estimation’, *Lancet Global Health*, 2019, 7(6): 710–720.

Kiang, M.V., Basu S., Chen J., and **Alexander, M.** ‘Assessment of Changes in the Geographical Distribution of Opioid-Related Mortality Across the United States by Opioid Type, 1999-2016’. *JAMA Network Open*. 2019, 2(2):e190040.

Gemmill, A., Kiang, M.V., and **Alexander, M.** ‘Trends in pregnancy-associated mortality involving opioids in the United States, 2007–2016’, *American Journal of Obstetrics and Gynecology*, 2019, 220(1): 115–116.

**Alexander, M.**, Kiang, M.V., and Barbieri M., ‘Trends in Black and White Opioid Mortality in the United States, 1979–2015’, *Epidemiology*, 2018, 29(5): 707–715.

**Alexander, M.**, and Alkema, L., ‘Global Estimation of Neonatal Mortality using a Bayesian Hierarchical Splines Regression Model’, *Demographic Research*, 2018, 38(15): 335–372.

**Alexander, M.**, Zagheni, E., and Barbieri, M., ‘A Flexible Bayesian Model for Estimating Subnational Mortality’, *Demography*, 2017, 54(6): 2025–2041.

**Howlett, M.**, Gray, M., and Hunter, B., ‘Wages, government payments and other income of Indigenous and non-Indigenous Australians’, *Australian Journal of Labour Economics*, 2016, 19(2): 53–76.

Hunter, B., **Howlett, M.**, and Gray, M., ‘The Economic Impact of the Mining Boom on Indigenous and Non-Indigenous Australians’, *Asia & the Pacific Policy Studies*, 2015, 2(3): 517–530.

Gray, M., **Howlett, M.**, and Hunter, B., ‘Labour Market Outcomes for Indigenous Australians’, *The Economic and Labour Relations Review*, 2014, 25(3): 497–517.

Biddle, N., **Howlett, M.**, Hunter, B., and Paradies, Y., ‘Labour Market and Other Discrimination Facing Indigenous Australians’, *Australian Journal of Labour Economics*, 2013, 16(1): 91–113.

#### *Other published papers*

Hunter, B., **Howlett, M.**, and Biddle, N., ‘Modelling Exposure to Risk of Experiencing Discrimination in the Context of Endogenous Ethnic Identification’, *IZA Discussion Paper #8040*, March 2014.

Gray, M., Hunter, B., and **Howlett, M.**, ‘Indigenous Employment: A Story of Continuing Growth’, *CAEPR Topical Issue 2/2013*, Australian National University, Canberra.

#### *Current working papers and manuscripts in progress*

**Alexander, M.**, ‘Temporal smoothers for use in demographic estimation and projection.’, [https://www.monicaalexander.com/pdf/temporal\\_smoothing.pdf](https://www.monicaalexander.com/pdf/temporal_smoothing.pdf).

**Alexander, M.**, and Goldstein, J., ‘Deaths without denominators: using a matched dataset to study mortality patterns in the United States’, [https://www.monicaalexander.com/pdf/bayesian\\_censoc.pdf](https://www.monicaalexander.com/pdf/bayesian_censoc.pdf).

**Alexander, M.**, and Alkema, L., ‘A Bayesian hierarchical model for estimating subnational female populations in developing countries’, [https://www.monicaalexander.com/pdf/bayesian\\_kenya.pdf](https://www.monicaalexander.com/pdf/bayesian_kenya.pdf).

**Alexander, M.**, and Alexander, R., ‘The Effect of Events on Discussion in the Australian Federal Parliament (1901–2017)’, abstract: [https://rohanalexander.com/pdf/2018-10-22-first\\_page.pdf](https://rohanalexander.com/pdf/2018-10-22-first_page.pdf).

**Alexander, M.**, Polimis, K., and Zagheni, E., ‘Combining Social Media Data and Traditional Surveys to Estimate and Predict Migration Stocks’, <https://paa.confex.com/paa/2018/meetingapp.cgi/Paper/23641>.

Chung, P.H., and **Alexander, M.**, ‘Kin Dependency Ratios: An Extension and Application of the Goodman Method for Estimating the Availability of Kin’,  
<https://p-chung.com/paa/2019/abstract/>.

## Grants awarded

<b>Social Sciences and Humanities Research Council</b>	2019–2021
<b>Insight Development Grant</b>	
<i>Using Facebook data to measure and understand international migration patterns in Canada</i>	
CAD \$59,000	
<b>University of Toronto Connaught New Researcher Award</b>	2019–2020
CAD \$18,900	

## Professional Experience

<b>University of Massachusetts, Amherst</b>	
<i>Graduate Student Researcher</i>	January 2017 – June 2018
<b>World Health Organization</b>	
<i>Consultant</i>	September 2016 – June 2017
<b>Data Science for Social Good</b>	
<i>Fellow</i>	May 2016 – September 2016
<b>Human Mortality Database</b>	
<i>Graduate Student Researcher</i>	January 2015 – May 2016
<b>UNICEF Technical Advisory Group</b>	
<i>Consultant</i>	March 2014 – July 2015
<b>The Centre for Aboriginal Economic Policy Research</b>	
<i>Research Officer</i>	April 2012 – December 2014
<b>Reserve Bank of Australia</b>	
<i>Analyst/Senior Analyst</i>	February 2010 – June 2013

## Teaching

<b>University of Toronto</b>	
Demographic Methods	Winter Semester, 2019
<b>University of California, Berkeley</b>	
<i>Instructor, Formal Demography Workshop</i>	June, 2017
<i>Instructor, Formal Demography Workshop</i>	August, 2015
<i>Graduate Student Instructor, Demographic Methods</i>	Fall Semester, 2014
<b>Other</b>	
<i>Instructor, Introduction to Causal Inference, ITAM</i>	March, 2017
<i>Instructor, IUSSP Workshop on social media data and demography</i>	August, 2016

## Conference presentations and invited talks

### 2019

***Combining social media data and traditional surveys to predict migration stocks***  
 MPIDR-IUSSP Workshop on Migration Data and Models for a Better World: Perspectives from Academia, Data Science, and International Organizations, at ASA 2019: New York, NY (August)

Cornell Population Center, *Cornell University* (February)

### 2018

***Combining social media data and traditional surveys to predict migration stocks***

European Symposium in Computational Social Science: Cologne, Germany (December)

School of Geography, *University of Queensland* (November)

Institute for the Study of Social Change, *University of Tasmania* (October)

Symposium of Digital Demography: Rostock, Germany (October)

Center for Population Dynamics, *McGill University* (September)

European Population Conference: Brussels, Belgium (June)

***Estimating subnational populations of women of reproductive age***

International Society for Bayesian Analysis World Meeting: Edinburgh, Scotland (June)

European Population Conference: Brussels, Belgium (June)

Max Planck Institute for Demographic Research (May)

PAA Annual Meeting: Denver, CO (April)

Institute of Disease Modeling Symposium: Seattle, WA (April)

***The spatial distribution of opioid mortality by race in the United States***

European Population Conference: Brussels, Belgium (June)

### 2017

***Modeling and understanding mortality disparities***

School of Demography, *Australian National University* (December)

Department of Statistics, *University of Toronto* (December)

Department of Sociology, *University of Washington, Seattle* (November)

***Temporal smoothers for use in demographic estimation***

IUSSP: Cape Town, South Africa (October)

Statistics working group, *University of Massachusetts, Amherst* (February)

***Opioid-related deaths by race in the United States: trends and patterns in multiple causes of death***

PAA Annual Meeting: Chicago, IL (April).

### 2016

***A flexible Bayesian model for estimating subnational mortality***

Statistics working group, *University of Massachusetts, Amherst* (November)

European Population Conference: Mainz, Germany (August)

PAA Annual Meeting: Washington, DC (April)

Demography brown bag, *University of California, Berkeley* (March)

## 2015

***Global estimation of neonatal mortality***

UNICEF Inter-agency Group on Mortality Estimation (March, April and May)

PAA Annual Meeting: San Diego, CA (April)

## Honors

**Doctoral Completion Fellowship** (*UC Berkeley*) 2017-2018

**Elizabeth Scott Memorial Award** (*UC Berkeley*) 2015

Statistics MA student showing the most promise in statistical research.

**Regents-Intern Fellowship** (*UC Berkeley*) 2013-2015

**Lado Ruzicka Prize in Social Research** (*Australian National University*) 2013

Awarded to the most outstanding Master of Social Research candidate.

**W.D. Borrie Prize** (*National essay competition, Masters category*) 2012

For best student paper on a population-related topic.

**University Medal** (*University of Tasmania*) 2008

One of three awarded to the most outstanding Science and Technology undergraduates.

**Edith Rita Lowenstern Prize** (*University of Tasmania*) 2008

Awarded to the most outstanding mathematics honors student.

## Service

**Panel Member:** *International Union of Scientific Study of Populations panel on Digital Demography.*

**Founder and Organizer:** *R-Ladies Toronto.* This community-led group aims to promote gender diversity in the R community in Toronto. Our community is designed to develop our members' R skills and knowledge through social, collaborative learning and sharing.

**Reviewer:** *Australian Journal of Labour Economics; Annals of Applied Statistics; Demography; Demographic Research; Epidemiology; European Journal of Population; Genus; Population Research and Policy Review.*