

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
(Maternity leave: April 2019 – December 2019)

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*, 2019, 45(3): 617-630.

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., Polimis, K., and Zagheni, E., ‘Combining social media and survey data to nowcast migrant stocks in the United States’,
<https://arxiv.org/abs/2003.02895>.

Alexander, M., ‘Temporal smoothers for use in demographic estimation and projection.’,
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.

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.

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.

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

Social Sciences and Humanities Research Council 2019–2021
Insight Development Grant
Using Facebook data to measure and understand international migration patterns in Canada
 CAD \$59,000

University of Toronto Connaught New Researcher Award 2019–2020
 CAD \$18,900

Professional Experience

World Health Organization
Consultant September 2016 – June 2017

Data Science for Social Good
Fellow May 2016 – September 2016

Human Mortality Database
Graduate Student Researcher January 2015 – May 2016

UNICEF Technical Advisory Group
Consultant March 2014 – July 2015

The Centre for Aboriginal Economic Policy Research
Research Officer April 2012 – December 2014

Reserve Bank of Australia
Analyst/Senior Analyst February 2010 – June 2013

Teaching

University of Toronto
 Applied Statistics II (graduate) Winter Semester, 2020
Materials: <https://github.com/MJAlexander/applied-stats>
 Demographic Methods (graduate) Winter Semester, 2019
Materials: <https://github.com/MJAlexander/demographic-methods>

University of California, Berkeley
Instructor, Formal Demography Workshop June, 2017
Instructor, Formal Demography Workshop August, 2015
Graduate Student Instructor, Demographic Methods Fall Semester, 2014

Other
Instructor, Introduction to Causal Inference, ITAM March, 2017
Instructor, IUSSP Workshop on social media data and demography August, 2016

Conference presentations and invited talks

2020

Using social media data to estimate migration

NEST seminar series, *Western University* (March)

2019

Reproducibility in demographic research

MPIDR Open Science Workshop, Rostock, Germany (October)

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.*