

**Maricela F. Cruz**  
Curriculum Vitae  
(Updated December 2019)

**1. BIOGRAPHICAL INFORMATION**

Maricela F. Cruz, PhD  
Assistant Investigator  
Biostatistics Unit, Kaiser Permanente Washington Health Research Institute (KPWHRI)  
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Seattle, WA 98101  
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**2. EDUCATION**

B.A., Mathematics, Pomona College, Claremont, CA, 2014  
Thesis: Long-term Averages of the Stochastic Logistic Map  
M.S., Statistics, University of California Irvine, CA, 2017  
Ph.D., Statistics, University of California Irvine, CA, 2019  
Dissertation: Interrupted Time Series Models for Assessing Complex Health Care Interventions  
Advisor: Daniel L. Gillen, Professor and Chair of Statistics

**3. LICENSURE**

Not applicable

**4. PROFESSIONAL POSITIONS**

Summer 2018	Summer Associate RAND Corporation Santa Monica, California
2019 – Present	Assistant Investigator Biostatistics Unit, KPWHRI Seattle, Washington

**5. HONORS, AWARDS AND SCHOLARSHIPS**

2010-2014	QuestBridge Scholarship, Pomona College
2014	Pat Kelly Prize, Pomona College
2014-2019	Eugene Cota-Robles Fellowship, University of California Irvine
2015-2019	NSF Graduate Research Fellowship Program awardee, National Science Foundation
2017	Graduate Conference Presentation Grant, University of California Irvine Donald Bren School of Information and Computer Sciences
2017	Student Paper Competition winner for the Survey Research Methodology Section/Government Statistics Section/Social Statistics Section ( <i>travel award for JSM 2017</i> ), American Statistical Association

2018	Latino Excellence Award for the Donald Bren School of Information and Computer Sciences, University of California Irvine
2019	PhD Enhancement Award for the Donald Bren School of Information and Computer Sciences, University of California Irvine
2019	Student Travel Award, 13 <sup>th</sup> International Conference on Health Policy and Statistics (ICHPS)

## 6. OTHER PROFESSIONAL ACTIVITIES

### Journal Referee

2019	Vaccine
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### Abstract Reviewer

2018	Workshop for the Philosophy of Machine Learning: Knowledge and Causality
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### Memberships

2014 – Present	Sigma Xi
2016- Present	American Statistical Association
2018-Present	Western North American Region, International Biometric Society

### Leadership

2018-2019	Co-organizer, R-Ladies Irvine
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## 7. BIBLIOGRAPHY

### Peer-reviewed Research Articles

1. **Cruz M**, Bender M, & Ombao H. (2017). A robust interrupted time series model for analyzing complex health care intervention data. *Statistics in Medicine*, 36(29), 4660–4676. <https://doi.org/10.1002/sim.7443>
2. **Cruz M**, Gillen DL, Bender M, & Ombao H. (2019). Assessing health care interventions via an interrupted time series model: study power and design considerations. *Statistics in Medicine*, 38(10), 1734-1752. <https://doi.org/10.1002/sim.8067>
3. **Cruz M**, Osilla KC, Paddock SM. (2019). Group cohesion and climate in cognitive behavioral therapy for first-time DUI offenders. *Alcoholism Treatment Quarterly*, 1-19. <https://doi.org/10.1080/07347324.2019.1613941>
4. Bender M, Murphy EA, **Cruz M**, Ombao H. (2019). System and unit-level care quality outcomes after reorganizing frontline care delivery to integrate Clinical Nurse Leaders: a quasi-experimental time series study. *Journal of Nursing Administration*, 49(6), p. 315-322. <https://doi.org/10.1097/NNA.0000000000000759>

### Manuscripts

1. **Cruz M**, Ombao H, & Gillen DL. A generalized interrupted time series model for assessing complex health care interventions. Submitted for publication.
2. **Cruz M**, Wei A, Hardin J, Radunskaya A. Long-term averages of the stochastic logistic map. In preparation.

## 8. PATENTS AND OTHER INTELLECTUAL PROPERTY

Not applicable

## 9. FUNDING HISTORY

### Funded Projects

1. Co-investigator (0.25 FTE): Moving to Health: How Changing Built Environments Impact Weight and Glycemic Control, 9/1/2017 – 6/1/2022. Funded by the National Institute of Diabetes and Digestive and Kidney. (Principal Investigators David Arterburn, MD MPH; KPWHR and Adam Drewnowski, PhD; University of Washington)
2. Co-investigator (0.30 FTE): Effects of Medical Products on Suicidal Ideation and Behavior - Real World Evidence, 9/30/2018-9/29/2021. Funded by the Food and Drug Administration. (Principal Investigator Greg Simon, MD MPH; KPWHRI)
3. Co-investigator (0.15 FTE): Value-based Formulary-Essentials: Testing and Expanding on Value in Prescription Drug Benefit Design, 7/1/2019 – 6/1/202. Funded by the Donaghue Foundation. (Principal Investigator Kai Yeung, PharmD PhD; KPWHRI)

### Completed Projects

Not applicable

### Pending Applications

1. Co-investigator (0.20 FTE): Organizing nursing to improve care quality and safety: a hybrid implementation-effectiveness study, 07/01/2020 – 06/30/2023. Submitted to the Agency for Healthcare Research and Quality. (Principal Investigator Miriam Bender, PhD; University of California Irvine)

## 10. CONFERENCES AND SYMPOSIUMS

Like presentations grouped. \*Denotes invited presentation.

1. **Cruz M.** Completing Partial Matrices to Satisfy the Anticommutativity Equation. Society for Advancement of Chicanos and Native Americans in Science (SACNAS) Seattle, WA, October 2012.
2. **Cruz M.** Completing Partial Matrices to Satisfy the Anticommutativity Equation. Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, NE, January 2013.
3. **Cruz M.**, Hardin J., Radunskaya A. Averages in the Period 2 Region of the Logistic Map. Annual Summer Research Poster Conference, Claremont, CA, September 2013.
4. **Cruz M.**, Hardin J., Radunskaya A. Averages in the Period 2 Region of the Logistic Map. Claremont Center for the Mathematical Sciences, Claremont, CA, September 2013.
5. **Cruz M**, Bender M, & Ombao H. A robust interrupted time series model for analyzing complex health care intervention data. Association for Women in Mathematics Research Symposium, Los Angeles, CA, April 2017.
6. **Cruz M**, Bender M, & Ombao H. A robust interrupted time series model for analyzing complex health care intervention data. Academy Health Annual Research Meeting, New Orleans, LA, June 2017.
7. **Cruz M**, Bender M, & Ombao H. A robust interrupted time series model for analyzing complex health care intervention data. Joint Statistical Meetings, Baltimore, MD, August 2017.
8. **Cruz M**, Gillen DL, Bender M, & Ombao H. Assessing Health Care Interventions via an Interrupted Time Series Model: Study Power and Design Considerations. Eastern North American Region (ENAR), Atlanta, GA, March 2018.
9. **Cruz M**, Gillen DL, Bender M, & Ombao H. Assessing Health Care Interventions via an Interrupted Time Series Model: Study Power and Design Considerations. Western North American Region (WNAR), Edmonton, Alberta, Canada, June 2018.

10. **Cruz M**, Gillen DL, Bender M, & Ombao H. Assessing Health Care Interventions via an Interrupted Time Series Model: Study Power and Design Considerations. Joint Statistical Meetings, Vancouver, British Columbia, Canada, July 2018.
11. **Cruz M**, Ombao H, & Gillen DL. A generalized interrupted time series model for assessing complex health care interventions. Western North American Region (WNAR), Portland, OR, June 2019.
12. **Cruz M**, Ombao H, & Gillen DL. A generalized interrupted time series model for assessing complex health care interventions. Joint Statistical Meetings, Denver, CO, July 2019.
13. \***Cruz M**. Interrupted Time Series Models for Assessing Complex Health Care Interventions. Enhancing Diversity in Graduate Education (EDGE) Program, Claremont, CA. June 2019.
14. **Cruz M**, Ombao H, & Gillen DL. A generalized interrupted time series model for assessing complex health care interventions. Women in Statistics and Data Science Conference, Bellevue, WA, October 2019.

## 11. PROFESSIONALLY-RELATED COMMUNITY SERVICE

2011-2014	Academic Tutor and Mentor, Harvey Mudd College Upward Bound, Claremont, CA
2017 – 2019	Student Representative, Diverse Educational Community and Doctoral Experience (DECADE), University of California Irvine
2018	Poster Judge, AP Statistics Poster Competition, Chapman University, Orange, California

## 12. TEACHING HISTORY

### Formal Courses

1. Statistics 07: Basic Statistics, Department of Statistics, University of California Irvine, Teaching Assistant, Summer Session II 2015.
2. Statistics 08: Introduction to Biostatistics, Department of Statistics, University of California Irvine, Teaching Assistant, Summer Session II 2015.
3. Statistics 67: Introduction to Probability and Statistics for Computer Science Major, Department of Statistics, University of California Irvine, Teaching Assistant, Summer Session II 2016 and Summer Session II 2017.
4. Biostat 582: Student Seminar, Department of Biostatistics, University of Washington, Instructor, November 2019

### Other Teaching

1. Algebra 2, Harvey Mudd College Upward Bound, Summer Residential Math Instructor, Summer 2015 and Summer 2016
2. Pre-Calculus, Harvey Mudd College Upward Bound, Summer Residential Math Instructor, Summer 2015 and Summer 2016
3. Calculus, Harvey Mudd College Upward Bound, Summer Residential Math Instructor, Summer 2015 and Summer 2016

## 13. ADVISING AND FORMAL MENTORING

### Mentoring

2017-2019	Academic Mentor, Department of Statistics, University of California Irvine, Irvine, CA
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