

Aya A. Mitani

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EDUCATION

PhD in Biostatistics *2019*
Boston University Boston, MA
Dissertation: “Modeling dental disease progression in a longitudinal study”

MPH in Biostatistics *2008*
Yale University New Haven, CT
Thesis: “Analysis of reproductive factors and risk of endometrial cancer among Swedish women using Cox regression model with time-dependent covariates”

BA in Mathematics (Honors) *2006*
Pitzer College Claremont, CA

PROFESSIONAL EXPERIENCE

Assistant Professor *Aug 2020 – Present*
University of Toronto Dalla Lana School of Public Health Toronto, ON
Division of Biostatistics

Postdoctoral Research Fellow *Sept 2019 – July 2020*
Harvard T. H. Chan School of Public Health Boston, MA
Department of Biostatistics

Biostatistician *Feb 2011 – July 2014*
Stanford University Palo Alto, CA
Quantitative Sciences Unit

Biostatistician *May 2008 – Jan 2011*
Brigham and Women’s Hospital Boston, MA
Department of Anesthesiology, Perioperative and Pain Medicine

FUNDING

Ongoing

Catalyst grant *2023 – 2025*
University of Toronto Data Sciences Institute (DSI)
Title: Providing data to improve representation by public officials
Role: Co-PI (NPI: Peter Loewen)

Project grant *2023 – 2025*
Canadian Institutes of Health Research
Title: Correcting for participation bias in nonprobability samples using multiple reference samples
Role: Co-applicant (NPI: Victoria Landsman)

Connaught New Researcher Award 2022 – 2024

University of Toronto

Title: Towards Precision Public Oral Health: Developing A Dynamic Prediction Model For Tooth Loss

Role: Principal Investigator

Discovery Grants Program and Discovery Launch Supplement 2022 – 2027

Natural Sciences and Engineering Research Council of Canada

Title: Statistical methods for multilevel data with informative cluster size

Role: Principal Investigator

Health Research Training Platform 2021-2022 Pilot 2022 – 2027

Canadian Institutes of Health Research

Title: Artificial Intelligence for Public Health (AI4PH) Training Platform

Role: Co-applicant (NPI: Laura Rosella)

Completed

Seed Funding for Methodologists 2022 – 2023

University of Toronto DSI

Title: Matrix-variate regression for multilevel data

Role: Principal Investigator

NRSA Individual Pre-doctoral Fellowship (F31) 2017 – 2019

National Institute of Dental and Craniofacial Research

Title: Modeling Dental Disease Progression in a Longitudinal Study

Role: Principal Investigator

HONORS, AWARDS AND FELLOWSHIPS

DLSPH Public Health Sciences Award for Excellence in Teaching (Early Career)	2023
IMS New Researcher Travel Award	2020
BUSPH Biostatistics Doctoral Applied Research Paper Award	2019
Winner, BU Department of Biostatistics Student Paper Competition	2019
IBM Student Research Award, New England Statistical Symposium	2018
Mu Sigma Rho, The National Statistics Honorary Society	2017
Annual Scientific Award, Society of Critical Care Medicine	2011
Pre-doctoral Cancer Research Training Fellowship, National Cancer Institute	2007
Graduated with Honors in Mathematics, Pitzer College	2006
Best Presentation in Geometry, MASS, Pennsylvania State University	2005
Research Experience for Undergraduates, Claremont Colleges (Funded by NSF)	2005
Sigma Xi, The Scientific Research Society	2005

TEACHING

Dalla Lana School of Public Health

Instructor, Reading Course: Statistical Programming and Computation in Health Data Fall 2023

**Designed and proposed as a pilot course*

Instructor, Analysis of Correlated Data Winter 2021 – 2023

Co-instructor, Introduction to Joint Modeling in Health Research Summer 2022, 2023

Co-instructor, Doctoral Seminar Series in Biostatistics Fall 2020 – 2022, Winter 2021 – 2023

Guest lecturer, Biostatistics III: Advanced Biostatistical Techniques for Observational Studies *Fall 2022*
 Guest lecturer, Advanced Lab in Statistical Design & Analysis *Winter 2023*

Boston University School of Public Health

Co-instructor, Introduction to Statistical Computing *Fall 2016, Spring & Summer 2017*

ADVISING

Thesis Supervision and Co-supervision

Xinyang (Sean) Feng (MSc, Biostatistics) *2021 – 2022*
 Xinyang (Sean) Feng (PhD, Biostatistics) *2022 – Present*
**Recipient of CIHR AI4PH Scholarship*
 Reza Fahimi (MSc, Biostatistics, co-supervised with Osvaldo Espin-Garcia) *2022 – Present*
**Recipient of Second Prize in 2023 Paul Corey Biostatistics Research Day Poster Award*

Practicum Supervision

Mei Dong (PhD, Biostatistics) *2021 – 2022*
 Yingren Luo (MSc, Biostatistics) *2022 – 2023*
 Peiyu Li (MSc, Biostatistics, co-supervised with Chun-Po Steve Fan and Sudipta Saha) *2022 – 2023*
**Recipient of First Prize in 2023 Paul Corey Biostatistics Research Day Poster Award*
 Shijie Min (MSc, Biostatistics, co-supervised with Kuan Liu) *2022 – 2023*

Work Study Supervision

Walid Maraqa (MSc, Biostatistics) *Summer 2022*

Thesis Committee Memberships

Menelaos Konstantinidis (MSc, Biostatistics) *2020 – 2022*
 Alex Goodhand (PhD, Biostatistics) *2021 – Present*
 Dorothy Kim (MSc, Institute of Medical Science) *2021 – Present*
 Luis Ledesma (MSc, Biostatistics) *2022 – Present*
 Yushu Zou (MSc, Biostatistics) *2023 – Present*
 Aoqi Xie (MSc, Biostatistics) *2023 – Present*
 Shiyao Ying (PhD, Biostatistics) *2023 – Present*

PROFESSIONAL ACTIVITIES

Memberships in Professional Organizations

Caucus for Women in Statistics *2021 – Present*
 Statistical Society of Canada *2021 – Present*
 Eastern North American Region of the International Biometrics Society *2018 – Present*
 American Statistical Association *2006 – Present*
 Institute of Mathematical Statistics *2017 – 2020*
 New England Statistical Society *2019 – 2020*

Conference Organizations and Services to Profession

Reviewer, AI4PH Scholarships	2023
Invited session organizer, ISI World Statistics Congress	2023
Invited session organizer, International Day of Women in Statistics and Data Science Conference	2022
Reviewer, CIHR Clinical Trials Projects	2022
Member, International Program Committee, International Biometrics Conference 2024	2022 – 2024
Judge, Canadian Statistics Student Conference	2022
Member, Travel Award Committee, CWS	2022 – 2023
Session chair, SSC Annual Meeting	2021
Topic-contributed session organizer, Joint Statistical Meetings	2020

Services to Department, School and University

Chair, Paul Corey Biostatistics Research Day Poster Awards Committee, DLSPH	2023
Reviewer, DSI Doctoral Student Fellowship	2022 – 2023
Member, DLSPH Recruitment, Hiring and Appointments Advisory Group	2022 – Present
Member, Faculty Search Committee, DLSPH	2022 – 2023
Reviewer, DLSPH Graduate Awards in Data Science for Public Health and Health Systems	2022 – 2023
Co-founder and organizer, DLSPH Health Data Working Group	2021 – Present
Member, DLSPH Data Science Interdisciplinary Research Cluster	2021 – Present
Reviewer, The C. David Naylor University Fellowships, UofT	2022 – 2023
Member, Biostatistics PhD Admissions Committee, DLSPH	2021 – 2023
Member, Biostatistics PhD Comprehensive Exam Committee, DLSPH	2021 – 2023
Member, Graduate Department Academic Appeals Committee, DLSPH	2020 – 2023
Reviewer, Ontario Graduate Scholarship, UofT	2021, 2023
Chair, Awards Committee, Postdoctoral Association Council, HSPH,	2019 – 2020
Biostatistics Department Representative, Postdoctoral Association Council, HSPH	2019 – 2020
Student Representative, Biostatistics PhD Program Review Evaluation Committee, BUSPH	2018
Student Representative, L. Adrienne Cupples Award Committee, BUSPH	2016
Panelist, Graduate School Information Session by Statistics Club, BUSPH	2016
President, Biostatistics Student Association, BUSPH	2016 – 2017
Vice President of Academic Affairs, Biostatistics Student Association, BUSPH	2015 – 2016

Thesis Examinations

Kuan Liu (PhD, UofT Biostatistics)	2021
Siyi Wang (MSc, UofT Biostatistics)	2022
Erik Lovblom (PhD, UofT Biostatistics)	2023
Bo Chen (PhD, UofT Biostatistics)	2023
Changchang Xu (PhD, UofT Biostatistics)	2023

Editorial Roles

Statistical Reviewer, JAMA Network Open	2019 – Present
Ad-Hoc Reviewer, Advances in Statistical Analysis, Annals of Applied Statistics, Biometrical Journal, Biometrics, BMC Medical Research Methodology, Canadian Medical Association Journal, Dentistry Journal, Journal of Clinical Epidemiology, Journal of Modern Applied Statistical Methods, Journal of Statistical Computation and Simulation, Pharmaceutical Statistics, Statistical Methods in Medical Research, Statistics in Medicine	

SOFTWARE

R Packages

CWGEE (<https://github.com/ayamitani/CWGEE>),

Cluster weighted generalized estimating equations for clustered longitudinal data with informative cluster size.

ipccwGEE (<https://github.com/ayamitani/ipccwGEE>),

Cluster weighted generalized estimating equations with inverse probability centering weights for clustered longitudinal data with informative cluster size and informative drop-out.

modelkappa (<https://github.com/ayamitani/modelkappa>),

Calculates model-based kappa of agreement and association and their standard errors for multiple raters each assessing multiple cases.

PAPERS

Peer-reviewed Publications (Trainee indicated with *)

- [1] **Mitani, A. A.**, *Feng, X., and Kaye, E. K. “Modeling time-varying risk factors of tooth loss: results from joint model compared to extended Cox regression model”. *Accepted to Journal of Clinical Periodontology*.
- [2] Gandotra, Sakshi, Daza, Julian F., Diep, Calvin, **Mitani, A. A.**, Ladha, Karim S., and Wijesundera, Duminda N. “Psychological Distress after inpatient non-cardiac Surgery: A Secondary Analysis of the Measurement of Exercise Tolerance before Surgery (METS) Prospective Cohort Study”. *Annals of Surgery*, 2023. DOI: [10.1097/sla.0000000000006031](https://doi.org/10.1097/sla.0000000000006031).
[†] *Related abstract won Award for Best Abstract in Perioperative at 2023 Canadian Anesthesiologists’ Society Annual Meeting.*
- [3] Narasaki-Jara, Mai, Brolsma, Donald, Abdolrazagh, Katira, Sun, Kai, Yamada, Masahiro, **Mitani, A. A.**, and Jung, Taeyou. “Quality of Life in Individuals With Disabilities Through a Student-Led Service-Learning Program: Qualitative and Quantitative Analysis to Examine the Reciprocal Benefits of Service Learning”. *Journal of Teaching in Physical Education* pp. 1–10, 2023. DOI: [10.1123/jtpe.2022-0150](https://doi.org/10.1123/jtpe.2022-0150).
- [4] *Dong, Mei and **Mitani, A.** “Multiple imputation methods for missing multilevel ordinal outcomes”. *BMC Medical Research Methodology* 23(112) pp. 938–949, 2023. DOI: [10.1186/s12874-023-01909-5](https://doi.org/10.1186/s12874-023-01909-5).
- [5] **Mitani, A. A.**, Kaye, Elizabeth K., and Nelson, Kerrie P. “Accounting for drop-out using inverse probability censoring weights in longitudinal clustered data with informative cluster size”. *Ann. Appl. Statist.* 16(1) pp. 596–611, 2022. DOI: [10.1214/21-A0AS1518](https://doi.org/10.1214/21-A0AS1518).
- [6] **Mitani, A. A.**, Mercaldo, Nathaniel D., Haneuse, Sebastien, and Schildcrout, Jonathan S. “Survey design and analysis considerations when utilizing misclassified sampling strata”. *BMC Medical Research Methodology* 21(1), 2021. DOI: [10.1186/s12874-021-01332-8](https://doi.org/10.1186/s12874-021-01332-8).
- [7] **Mitani, A. A.**, Kaye, E. K., and Nelson, K. P. “Marginal analysis of multiple outcomes with informative cluster size”. *Biometrics* 77(1) pp. 271–282, 2021. DOI: [10.1111/biom.13241](https://doi.org/10.1111/biom.13241).
- [8] **Mitani, A. A.** and Haneuse, S. “Invited Commentary: Small data challenges of studying rare diseases”. *JAMA Network Open* 3(3), 2020. DOI: [10.1001/jamanetworkopen.2020.1965](https://doi.org/10.1001/jamanetworkopen.2020.1965).
- [9] Ladabaum, U., Mannalithara, A., **Mitani, A.**, and Desai, M. “Clinical and economic impact of tailoring screening to predicted colorectal cancer risk: A decision analytic modeling study”. *Cancer Epidemiol Biomarkers Prev.* 29(2) pp. 318–328, 2020. DOI: [10.1158/1055-9965.EPI-19-0949](https://doi.org/10.1158/1055-9965.EPI-19-0949).

- [10] **Mitani, A. A.**, Kaye, Elizabeth K., and Nelson, Kerrie P. “Marginal analysis of ordinal clustered longitudinal data with informative cluster size”. *Biometrics* 75(3) pp. 938–949, 2019. DOI: [10.1111/biom.13050](https://doi.org/10.1111/biom.13050).
- [11] Nelson, K. P., **Mitani, A. A.**, and Edwards, D. “Evaluating the effects of rater and subject factors on measures of association”. *Biom J* 60(3) pp. 639–656, 2018. DOI: [10.1002/bimj.201700078](https://doi.org/10.1002/bimj.201700078).
- [12] **Mitani, A. A.**, Freer, P. E., and Nelson, K. P. “Summary measures of agreement and association between many raters’ ordinal classifications”. *Ann Epidemiol* 27(10) pp. 677–685, 2017. DOI: [10.1016/j.annepidem.2017.09.001](https://doi.org/10.1016/j.annepidem.2017.09.001).
- [13] **Mitani, A. A.** and Nelson, K. P. “Modeling agreement between binary classifications of multiple raters in R and SAS”. *JMASM* 16(2) pp. 277–309, 2017. DOI: [10.22237/jmasm/1509495300](https://doi.org/10.22237/jmasm/1509495300).
- [14] Nelson, K. P., **Mitani, A. A.**, and Edwards, D. “Assessing the influence of rater and subject characteristics on measures of agreement for ordinal ratings”. *Stat Med* 36(20) pp. 3181–3199, 2017. DOI: [10.1002/sim.7323](https://doi.org/10.1002/sim.7323).
- [15] Winkelmayr, W. C., Goldstein, B. A., **Mitani, A. A.**, Ding, V. Y., Airy, M., Mandayam, S., Chang, T. I., Brookhart, M. A., and Fishbane, S. “Safety of Intravenous Iron in Hemodialysis: Longer-term Comparisons of Iron Sucrose Versus Sodium Ferric Gluconate Complex”. *Am. J. Kidney Dis.* 69(6) pp. 771–779, 2017. DOI: [10.1053/j.ajkd.2016.10.031](https://doi.org/10.1053/j.ajkd.2016.10.031).
- [16] Montez-Rath, M. E., Kapphahn, K., Mathur, M. B., **Mitani, A. A.**, Hendry, D. J., and Desai, M. “Guidelines for generating right-censored outcomes from a Cox model extended to accommodate time-varying covariates”. *JMASM* 16(1) pp. 86–106, 2017. DOI: [10.22237/jmasm/1493597100](https://doi.org/10.22237/jmasm/1493597100).
- [17] Desai, M., **Mitani, A. A.**, Bryson, S. W., and Robinson, T. “Multiple Imputation when Rate of Change is the Outcome of Interest”. *JMASM* 15(1) pp. Article 10, 2016. DOI: [10.22237/jmasm/1462075740](https://doi.org/10.22237/jmasm/1462075740).
- [18] Afghahi, A., Mathur, M., Thompson, C. A., **Mitani, A.**, Rigdon, J., Desai, M., Yu, P. P., Bruin, M. A. de, Seto, T., Olson, C., Kenkare, P., Gomez, S. L., Das, A. K., Luft, H. S., Sledge, G. W., Sing, A. P., and Kurian, A. W. “Use of Gene Expression Profiling and Chemotherapy in Early-Stage Breast Cancer: A Study of Linked Electronic Medical Records, Cancer Registry Data, and Genomic Data Across Two Health Care Systems”. *J Oncol Pract* 12(6) pp. 697–709, 2016. DOI: [10.1200/JOP.2015.009803](https://doi.org/10.1200/JOP.2015.009803).
- [19] Ladabaum, U., Patel, A., Mannalithara, A., Sundaram, V., **Mitani, A.**, and Desai, M. “Predicting advanced neoplasia at colonoscopy in a diverse population with the National Cancer Institute colorectal cancer risk-assessment tool”. *Cancer* 122(17) pp. 2663–2670, 2016. DOI: [10.1002/cncr.30096](https://doi.org/10.1002/cncr.30096).
- [20] **Mitani, A. A.**, Kurian, A. W., and Desai, M. “Navigating choices when applying multiple imputation in the presence of multi-level categorical interaction effects”. *Statistical Methodology* 27 pp. 82–99, 2015. DOI: [10.1016/j.stamet.2015.06.001](https://doi.org/10.1016/j.stamet.2015.06.001).
- [21] Winkelmayr, W. C., Chang, T. I., **Mitani, A. A.**, Wilhelm-Leen, E. R., Ding, V., Chertow, G. M., Brookhart, M. A., and Goldstein, B. A. “Longer-term outcomes of darbepoetin alfa versus epoetin alfa in patients with ESRD initiating hemodialysis: a quasi-experimental cohort study”. *Am. J. Kidney Dis.* 66(1) pp. 106–113, 2015. DOI: [10.1053/j.ajkd.2015.02.339](https://doi.org/10.1053/j.ajkd.2015.02.339).
- [22] Airy, M., Mandayam, S., **Mitani, A. A.**, Chang, T. I., Ding, V. Y., Brookhart, M. A., Goldstein, B. A., and Winkelmayr, W. C. “Comparative outcomes of predominant facility-level use of ferumoxytol versus other intravenous iron formulations in incident hemodialysis patients”. *Nephrol. Dial. Transplant.* 30(12) pp. 2068–2075, 2015. DOI: [10.1093/ndt/gfv305](https://doi.org/10.1093/ndt/gfv305).
- [23] Afghahi, A., Forgo, E., **Mitani, A. A.**, Desai, M., Varma, S., Seto, T., Rigdon, J., Jensen, K. C., Troxell, M. L., Gomez, S. L., Das, A. K., Beck, A. H., Kurian, A. W., and West, R. B. “Chromosomal copy number alterations for associations of ductal carcinoma in situ with invasive breast cancer”. *Breast Cancer Res.* 17 pp. 108, 2015. DOI: [10.1186/s13058-015-0623-y](https://doi.org/10.1186/s13058-015-0623-y).
- [24] Oxman, D. A., Adams, C. D., Deluke, G., Philbrook, L., Ireland, P., **Mitani, A.**, Panizales, C., Frendl, G., and Rogers, S. O. “Improving Antibiotic De-Escalation in Suspected Ventilator-Associated

- Pneumonia: An Observational Study With a Pharmacist-Driven Intervention”. *J Pharm Pract* 28(5) pp. 457–461, 2015. DOI: [10.1177/0897190014527316](https://doi.org/10.1177/0897190014527316).
- [25] Shen, J. I., **Mitani, A. A.**, and Winkelmayer, W. C. “Heparin use in hemodialysis patients following gastrointestinal bleeding”. *Am. J. Nephrol.* 40(4) pp. 300–307, 2014. DOI: [10.1159/000367901](https://doi.org/10.1159/000367901).
- [26] Shen, J. I., Montez-Rath, M. E., **Mitani, A. A.**, Erickson, K. F., and Winkelmayer, W. C. “Correlates and variance decomposition analysis of heparin dosing for maintenance hemodialysis in older US patients”. *Pharmacoepidemiol Drug Saf* 23(5) pp. 515–525, 2014. DOI: [10.1002/pds.3595](https://doi.org/10.1002/pds.3595).
- [27] Kurella-Tamura, M., Goldstein, B. A., Hall, Y. N., **Mitani, A. A.**, and Winkelmayer, W. C. “State medicaid coverage, ESRD incidence, and access to care”. *J. Am. Soc. Nephrol.* 25(6) pp. 1321–1329, 2014. DOI: [10.1681/ASN.2013060658](https://doi.org/10.1681/ASN.2013060658).
- [28] Winkelmayer, W. C., **Mitani, A. A.**, Goldstein, B. A., Brookhart, M. A., and Chertow, G. M. “Trends in anemia care in older patients approaching end-stage renal disease in the United States (1995-2010)”. *JAMA Intern Med* 174(5) pp. 699–707, 2014. DOI: [10.1001/jamainternmed.2014.87](https://doi.org/10.1001/jamainternmed.2014.87).
- [29] Kurian, A. W., **Mitani, A.**, Desai, M., Yu, P. P., Seto, T., Weber, S. C., Olson, C., Kenkare, P., Gomez, S. L., Bruin, M. A. de, Horst, K., Belkora, J., May, S. G., Frosch, D. L., Blayney, D. W., Luft, H. S., and Das, A. K. “Breast cancer treatment across health care systems: linking electronic medical records and state registry data to enable outcomes research”. *Cancer* 120(1) pp. 103–111, 2014. DOI: [10.1002/cncr.28395](https://doi.org/10.1002/cncr.28395).
- [30] Arce, C. M., Goldstein, B. A., **Mitani, A. A.**, and Winkelmayer, W. C. “Trends in relative mortality between Hispanic and non-Hispanic whites initiating dialysis: a retrospective study of the US Renal Data System”. *Am. J. Kidney Dis.* 62(2) pp. 312–321, 2013. DOI: [10.1053/j.ajkd.2013.02.375](https://doi.org/10.1053/j.ajkd.2013.02.375).
- [31] Arce, C. M., Goldstein, B. A., **Mitani, A. A.**, Lenihan, C. R., and Winkelmayer, W. C. “Differences in access to kidney transplantation between Hispanic and non-Hispanic whites by geographic location in the United States”. *Clin J Am Soc Nephrol* 8(12) pp. 2149–2157, 2013. DOI: [10.2215/CJN.01560213](https://doi.org/10.2215/CJN.01560213).
- [32] Fox, A. A., Nascimben, L., Body, S. C., Collard, C. D., **Mitani, A. A.**, Liu, K. Y., Muehlschlegel, J. D., Shernan, S. K., and Marcantonio, E. R. “Increased perioperative b-type natriuretic peptide associates with heart failure hospitalization or heart failure death after coronary artery bypass graft surgery”. *Anesthesiology* 119(2) pp. 284–294, 2013. DOI: [10.1097/ALN.0b013e318299969c](https://doi.org/10.1097/ALN.0b013e318299969c).
- [33] Kumar, S., Fioritto, A., **Mitani, A.**, Desai, M., Gunaratnam, N., and Ladabaum, U. “Optical biopsy of sessile serrated adenomas: do these lesions resemble hyperplastic polyps under narrow-band imaging?” *Gastrointest. Endosc.* 78(6) pp. 902–909, 2013. DOI: [10.1016/j.gie.2013.06.004](https://doi.org/10.1016/j.gie.2013.06.004).
- [34] Nair, S. S., **Mitani, A. A.**, Goldstein, B. A., Chertow, G. M., Lowenberg, D. W., and Winkelmayer, W. C. “Temporal trends in the incidence, treatment, and outcomes of hip fracture in older patients initiating dialysis in the United States”. *Clin J Am Soc Nephrol* 8(8) pp. 1336–1342, 2013. DOI: [10.2215/CJN.10901012](https://doi.org/10.2215/CJN.10901012).
- [35] Shen, J. I., **Mitani, A. A.**, Chang, T. I., and Winkelmayer, W. C. “Use and safety of heparin-free maintenance hemodialysis in the USA”. *Nephrol. Dial. Transplant.* 28(6) pp. 1589–1602, 2013. DOI: [10.1093/ndt/gft067](https://doi.org/10.1093/ndt/gft067).
- [36] Shen, J. I., **Mitani, A. A.**, Saxena, A. B., Goldstein, B. A., and Winkelmayer, W. C. “Determinants of peritoneal dialysis technique failure in incident US patients”. *Perit Dial Int* 33(2) pp. 155–166, 2013. DOI: [10.3747/pdi.2011.00233](https://doi.org/10.3747/pdi.2011.00233).
- [37] Carabuena, J. M., **Mitani, A. A.**, Liu, X., Kodali, B. S., and Tsen, L. C. “The learning curve associated with the epidural technique using the Episure AutoDetect versus conventional glass syringe: an open-label, randomized, controlled, crossover trial of experienced anesthesiologists in obstetric patients”. *Anesth. Analg.* 116(1) pp. 145–154, 2013. DOI: [10.1213/ANE.0b013e31826c7cad](https://doi.org/10.1213/ANE.0b013e31826c7cad).
- [38] Ladabaum, U., Fioritto, A., **Mitani, A.**, Desai, M., Kim, J. P., Rex, D. K., Imperiale, T., and Gunaratnam, N. “Real-time optical biopsy of colon polyps with narrow band imaging in community practice

- does not yet meet key thresholds for clinical decisions”. *Gastroenterology* 144(1) pp. 81–91, 2013. DOI: [10.1053/j.gastro.2012.09.054](https://doi.org/10.1053/j.gastro.2012.09.054).
- [39] Elie-Turenne, M. C., Hou, P. C., **Mitani, A.**, Barry, J. M., Kao, E. Y., Cohen, J. E., Frendl, G., Gajic, O., and Gentile, N. T. “Lung injury prediction score for the emergency department: first step towards prevention in patients at risk”. *Int J Emerg Med* 5(1) pp. 33, 2012. DOI: [10.1186/1865-1380-5-33](https://doi.org/10.1186/1865-1380-5-33).
- [40] Garfield, J. M., Garfield, F. B., Holzman, R., **Mitani, A. A.**, and Tsen, L. C. “Practice policies for older anesthesiologists in academic departments: a national survey of academic departmental chairpersons”. *J Clin Anesth* 24(5) pp. 357–363, 2012. DOI: [10.1016/j.jclinane.2012.02.003](https://doi.org/10.1016/j.jclinane.2012.02.003).
- [41] Mizuguchi, K. A., **Mitani, A.**, Waikar, S. S., Ireland, P., Panizales, C., Deluke, G., Sugarbaker, D. J., Bonventre, J. V., and Frendl, G. “Use of postoperative creatinine to predict sustained kidney injury in patients undergoing mesothelioma surgery”. *Clin J Am Soc Nephrol* 7(7) pp. 1071–1078, 2012. DOI: [10.2215/CJN.12401211](https://doi.org/10.2215/CJN.12401211).
- [42] Sarin, P., Philip, B. K., **Mitani, A.**, Eappen, S., and Urman, R. D. “Specialized ambulatory anesthesia teams contribute to decreased ambulatory surgery recovery room length of stay”. *Ochsner J* 12(2) pp. 94–100, 2012. DOI: [10.1053/j.gastro.2012.09.054](https://doi.org/10.1053/j.gastro.2012.09.054).
- [43] Hou, P. C., Elie-Turenne, M. C., **Mitani, A.**, Barry, J. M., Kao, E. Y., Cohen, J. E., Frendl, G., Gajic, O., and Gentile, N. T. “Towards prevention of acute lung injury: frequency and outcomes of emergency department patients at-risk - a multicenter cohort study”. *Int J Emerg Med* 5(1) pp. 22, 2012. DOI: [10.1186/1865-1380-5-22](https://doi.org/10.1186/1865-1380-5-22).
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Manuscripts Submitted or Under Review

- [1] *Feng, X. and **Mitani, A. A.** “Marginal clustered multistate models for longitudinal progressive processes with informative cluster size”. *Submitted to Lifetime Data Analysis*.
† *Winner of 2023 ASA Lifetime Data Science Section Student Paper Competition*.
- [2] **Mitani, A. A.**, Espin-Garcia, O., Fernández, D., and Landsman, V. “Applying survey-weighted ordinal regression models for unbiased inference in outcome-dependent samples with ordinal outcome”. *Under review at Statistical Methods in Medical Research*.

TALKS, SEMINARS AND WORKSHOPS

Invited (upcoming)

- [1] *Analysis of complex multilevel dental data with informative cluster size*. Biostatistics Seminar Series, Yale School of Public Health, Virtual. Nov. 2023.
- [2] *Analysis of complex multilevel dental data with informative cluster size*. Biostatistics Seminar Series, McGill University, Virtual. Nov. 2023.

Invited (completed)

- [1] *Marginal clustered multistate models for longitudinal progressive processes with informative cluster size*. International Statistical Institute World Statistics Congress, Ottawa, ON. July 2023.
- [2] *Fitting bivariate skew-t linear mixed models for longitudinal periodontal data: A Stan recourse*. SSC Annual Meeting, Ottawa, ON. May 2023.
- [3] *Bridging the gap between data availability and reproducibility*. Toronto Conference on Reproducibility, University of Toronto, Toronto, ON. Feb. 2023.
- [4] *Accounting for drop-out using inverse probability censoring weights in longitudinal clustered data with informative cluster size*. International Day of Women in Statistics and Data Science Conference, Virtual. Oct. 2022.
- [5] *Matrix-variate regression for multilevel data*. Learn about Innovative Data Science Methodologies, Data Science Institute, University of Toronto, Virtual. June 2022.
- [6] *Reproducible, reliable, replicable? In-class exercise using peer-reviewed studies*. Toronto Workshop on Reproducibility, Virtual. Feb. 2022.
- [7] *Analysis of complex multilevel dental data with informative tooth-loss*. The Biostatistics Seminar Series, University of Toronto Dalla Lana School of Public Health, Virtual. Nov. 2021.

- [8] *Reproducibility in research*. Health Data Working Group, University of Toronto Dalla Lana School of Public Health, Virtual. Nov. 2021.
- [9] *Analysis of complex multilevel dental data with informative tooth-loss*. Research Seminar, Department of Biostatistics, Virginia Commonwealth University School of Medicine, Virtual. Nov. 2021.
- [10] *How to write your own R package and upload it to GitHub*. The Biostatistics Seminar Series, University of Toronto Dalla Lana School of Public Health, Virtual. Jan. 2021.
- [11] *Marginal analysis of multiple outcomes with informative cluster size*. Joint Statistical Meetings, Virtual. Aug. 2020.
- [12] *Marginal analysis of multiple outcomes with informative cluster size*. Biostatistics Division, University of Toronto Dalla Lana School of Public Health, Toronto, ON. Mar. 2020.
- [13] *Marginal analysis of multiple outcomes with informative cluster size*. Statistics Seminar, University of Waterloo, Waterloo, ON. Jan. 2020.
- [14] *Informative cluster size in observational studies*. HIV Working Group, Harvard Chan School, Boston, MA. Nov. 2019.
- [15] *Modeling tooth-loss using inverse probability censoring weights in longitudinal clustered data with informative cluster size*. New England Statistical Symposium, Hartford, CT. May 2019.
- [16] *Marginal analysis of ordinal clustered longitudinal data with informative cluster size*. New England Statistical Symposium, University of Massachusetts Amherst, Amherst, MA. Apr. 2018.
- [17] *Applying for Individual (pre- and post-doctoral) Fellowship Awards from the NIH*. Biostatistics Student Association Seminar, Boston University, Boston, MA. Oct. 2017.
- [18] *Multiple imputation in practice – approaches for handling categorical and interaction variables*. QSU Research Methods Seminar, Stanford University, Palo Alto, CA. May 2013.
- [19] *Basic statistics for journal reading*. Faculty Breakout Session, Department of Anesthesiology, Perioperative and Pain Medicine, Brigham and Women’s Hospital, Boston, MA. Feb. 2010.

Contributed

- [1] *Multiple imputation methods for multilevel ordinal outcomes*. Joint Statistical Meetings, Toronto, ON. Aug. 2023.
- [2] *Using Stereotype Regression for Unbiased Inference from Ordinal Outcome-Dependent Samples*. SSC Annual Meeting, Virtual. June 2022.
- [3] *Ordinal clustered data with informative cluster size in a longitudinal study*. ENAR, Philadelphia, PA. Mar. 2019.
- [4] *Marginal analysis of ordinal clustered longitudinal data with informative cluster size*. Joint Statistical Meetings, Vancouver, BC. July 2018.
- [5] *Variable selection with multiply imputed data when considering interaction effects*. Joint Statistical Meetings, Montreal, QC. Aug. 2013.
- [6] *The implications of software choice for handling missing data in the presence of interaction effects involving at least one categorical variable*. Joint Statistical Meetings, San Diego, CA. July 2012.
- [7] *Biweight correlation as a measure of distance between genes on a microarray*. Joint Statistical Meetings, Seattle, WA. Aug. 2006.

Webinars

- [1] *Panelist, NIH Graduate and Postdoctoral Fellowships: Opportunities and Advice*. Webinar from the ASA Committee on Funded Research. Jan. 2021.
- [2] *Issues and guidelines of multiple imputation in practice*. Webinar training series, ASA Section for Statistical Programmers and Analysts. Apr. 2013.

Workshops

- [1] *Handling missing data in health science research*. Data Science Interdisciplinary Research Cluster, Dalla Lana School of Public Health, Virtual. June 2022.
- [2] *Handling missing data in health science research*. Data Science Interdisciplinary Research Cluster, Dalla Lana School of Public Health, In-person. Apr. 2023.