Rob Trangucci

CONTACT

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                                 Google Scholar: Link

EDUCATION

University of Michigan, Ann Arbor, MI   **Sept. 2017 - 2023 (expected)**

- PhD, Statistics

Columbia University, New York, NY   **Sept. 2012 - May 2014**

- M.A., Quantitative Methods in the Social Sciences

Bucknell University, Lewisburg, PA   **Sept. 2005 - May 2009**

- B.A., Physics, *cum laude*

PUBLICATIONS

PEER-REVIEWED PAPERS

- **R Trangucci**, Y Chen, J Zelner. Modeling racial/ethnic differences in COVID-19 incidence with covariates subject to non-random missingness. *Accepted at Annals of Applied Statistics*, 2022. https://doi.org/10.48550/arXiv.2206.08161
- K Broen, J Dickens, **R Trangucci**, M D. Ogwang, C N. Tenge, N Masalu, S J. Reynolds, E Kawira, P Kerchan, P A. Were, R T. Kuremu, W N Wekesa, T Kinyera, I Otim, I D. Legason, H Nabalende, I D. Buller, L W. Ayers, K Bhatia, R J. Biggar, J J. Goedert, M L. Wilson, S M. Mbulaiteye, and J Zelner. Burkitt Lymphoma risk shows geographic and temporal associations with Plasmodium falciparum infections in Uganda, Tanzania, and Kenya. *Accepted at Proceedings of the National Academy of Sciences*, 2022.
- David E Jones, **Robert N Trangucci**, Yang Chen. Quantifying Observed Prior Impact. *Bayesian Analysis*, 2021. https://doi.org/10.1214/21-BA1271
- Kelly Broen, **Robert N Trangucci**, Jon Zelner. Measuring the impact of spatial perturbations on the relationship between data privacy and validity of descriptive statistics. *International journal of health geographics*, 2021. https://doi.org/10.1186/s12942-020-00256-8
- Jonathan Auerbach, Christopher Eshleman and **Rob Trangucci**. A hierarchical Bayes approach to adjust for selection bias in before–after analyses of vision zero policies. *Computational Statistics*. 2021. https://doi.org/10.1007/s00180-021-01070-x
- Yajuan Si, **Rob Trangucci**, Jonah Sol Gabry, Andrew Gelman. Bayesian hierarchical weighting adjustment and survey inference. *Survey Methodology*. Dec. 2020. https://www150.statcan.gc.ca/n1/pub/12-001-x/2020002/article/00003-eng.htm
- Jon Zelner, **Rob Trangucci**, Ramya Naraharisetti, Alex Cao, Ryan Malosh, Kelly Broen, Nina Masters, Paul Delamater. Racial Disparities in Coronavirus Disease 2019 (COVID-19) Mortality Are Driven by Unequal Infection Risks. *Clinical Infectious Diseases*. Nov. 2020. https://doi.org/10.1093/cid/ciaa1723
- Qu Cheng, **Robert N Trangucci**, Kristin N Nelson, Wenjiang Fu, Philip A Collender, Jennifer R Head, Christopher M Hoover, Nicholas K Skaff, Ting Li, Xintong Li, Yue You, Liqun Fang, Song Liang, Changhong Yang, Jin'ge He, Jonathan L Zelner, Justin V Remais. Prenatal and early-life exposure to the Great Chinese Famine increased the risk of tuberculosis in adulthood across two generations. *Proceedings of the National Academy of Sciences*, 2020. https://doi.org/10.1073/pnas.2008336117
- Jesse D. Contreras, **Rob Trangucci**, Eunice E. Felix-Arellano, Sandra Rodríguez-Dozal, Christina Siebe, Horacio Riojas-Rodríguez, Rafael Meza, Jon Zelner, and Joseph N.S. Eisenberg. Modeling Spatial Risk of Diarrheal Disease Associated with Household Proximity to Untreated Wastewater Used for Irrigation in the Mezquital Valley, Mexico. *Environmental Health Perspectives*. Jul. 2020. https://doi.org/10.1289/EHP6443
- J Zelner, JG Petrie, **R Trangucci**, ET Martin, AS Monto. Effects of sequential influenza A (H1N1) pdm09 vaccination on antibody waning. *The Journal of infectious diseases*, Feb. 2019. https://doi.org/10.1093/infdis/jiz055

Contributed discussions

- **Rob Trangucci**, Derek Hansen, Yang Chen. Contributed Discussion on "On a Class of Objective Priors from Scoring Rules (with Discussion)". *Bayesian Analysis*. Dec. 2020. https://doi.org/10.1214/19-BA1187

Working papers

- **R Trangucci**, Y Chen, J Zelner. Identified vaccine efficacy for binary post-infection outcomes under misclassification without monotonicity. *arXiv*, Nov. 2022. https://arxiv.org/abs/2211.16502.
- **R Trangucci**, Imad Ali, Andrew Gelman, Doug Rivers. Voting patterns in 2016: Exploration using multilevel regression and poststratification (MRP) on pre-election polls *arXiv*, Feb. 2018. https://doi.org/10.48550/arXiv.1802.00842

Conference papers

- A Gelman, JR Lax, J Phillips, J Gabry, **R Trangucci**. Using Multilevel Regression and Poststratification to Estimate Dynamic Public Opinion. *American Political Science Association Annual Meeting*, August 2018.
- **Trangucci, Rob**. Hierarchical Gaussian processes in Stan. 2017. http://doi.org/10.5281/zenodo.1284293
- **R Trangucci**. Hierarchical Gaussian Process Inference in Stan. *StanCon*, January 2017
- J Auerbach and **R Trangucci**. Twelve Cities: Causal Inference of Pedestrian Mortality using Stan *StanCon*, January 2017

Workshop papers

- **R Trangucci**, M Betancourt, and A Vehtari. Prior Formulation for Gaussian Process Hyperparameters. *NeurIPS Workshop on Practical Bayesian Nonparametrics*, December 2016.

Book chapters

- **R Trangucci**, J S Gabry, J Zelner. Multilevel modeling and poststratification over time. *In preparation for Multilevel Regression and Poststratification: A Practical Guide and New Developments*, Edited by Lauren Kennedy, Rohan Alexander, and Andrew Gelman, 2023.

Software
Stan   Oct. 2014 - Present
- Developer

Invited talks
University of Michigan Statistics Department Seminar   Dec. 2022
- Vaccine Efficacy for Post-Infection Outcomes Under Infection Misclassification

MIDAS Network Webinar   Feb. 2023
- Vaccine Efficacy for Post-Infection Outcomes Under Infection Misclassification

JSM Invited Session: Missing Data: The Where, the How, and the Why   Aug. 2023
- Modeling racial/ethnic differences in COVID-19 incidence with covariates subject to non-random missingness

Conference Presentations and Workshops
JSM   August 2022
- Presentation: Vaccine Efficacy for Post-Infection Outcomes Under Infection Misclassification

ISBA   June 2022

- Poster Presentation: Vaccine Efficacy for Post-Infection Outcomes Under Infection Misclassification

MIDAS Network Annual Meeting   **May 2021**
- Poster Presentation: Joint model for disease mapping with missing categorical covariates

j-ISBA BAYSM   **Nov. 2020**
- Presentation: Examining Prior Impact in Classically Unidentifiable Models

American Statistical Association - Joint Statistical Meetings   **Aug. 2020**
- Contributed Talk: Measuring cumulative exposure to extensive environmental hazards

MSSISS   **Mar. 2018**
- Poster presentation: Love in the Big Apple: Hierarchical Bayesian Modeling of Online Dating Behavior in Brooklyn

StanCon   **Jan. 2017**
- Contributed Talk: Hierarchical Gaussian Process Inference in Stan.

NeurIPS Workshop on Practical Bayesian Nonparametrics   **Dec. 2016**
- Poster Presentation: Prior Formulation for Gaussian Process Hyperparameters
- Tutorial: Supervised Learning with Gaussian Processes in Stan

PROFESSIONAL SERVICE

ISBA   **June 2022**
- Invited session organizer and chair: Perspectives on prior influence and sensitivity

TEACHING - SHORT COURSES

Introduction to Bayesian Inference with Stan. With Jonah Gabry and Scott Spencer.	**Jun. 2021**
Introduction to Bayesian Inference with Stan. With Jonah Gabry and Ben Bales.	**Apr. 2020**
Introduction to Bayesian Inference with Stan. With Jonah Gabry and Lauren Kennedy.	**Aug. 2018**
Hierarchical Modeling with Stan.	**Aug. 2017**
Introduction to Bayesian Inference with Stan. With Jonah Gabry and Andrew Gelman.	**Jan. 2017**

TEACHING - GRADUATE INSTRUCTOR

Grader, Office Hours Master's Level Bayesian Inference	**Jan. 2019 - May 2019**
Lab Instructor Grader, Office Hours Undergrad Intro to Statistics	**Sept. 2017 - Dec. 2017**

AWARDS

- Outstanding Teaching Award, May 2019.
- Best Statistical Analysis, Professional Category, in the Government Statistics Section Data Challenge at the Joint Statistical Meetings, 2016. With Jonathan Auerbach and Chris Eshleman.

PROFESSIONAL EXPERIENCE

Statistical Consultant	Stan Group, New York, NY	**Mar. 2016 - Aug. 2017**
Data Scientist	iSENTIUM, New York, NY	**Aug. 2015 - Feb. 2016**
Research Fellow	Columbia University, Stan, New York, NY	**Oct. 2014 - July 2015**
Applied Statistician	iSENTIUM, New York, NY	**Nov. 2013 - Sept. 2014**
Analyst	PHOTON Consulting, Boston, MA	**May. 2009 - May 2012**

SKILLS

Statistical modeling in Python, R and Stan. Programming in R and Python. Data wrangling and analysis in Python and R. Avid user of Git, GitHub, LaTeX, tmux, and Vim.