Ethan M. Alt

RESEARCH ASSISTANT PROFESSOR · DEPARTMENT OF BIOSTATISTICS

University of North Carolina at Chapel Hill · Gillings School of Global Public Health

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Education

University of North Carolina   *Chapel Hill, NC*
PHD BIOSTATISTICS   *Aug. 2017 - Sep. 2021*
- Advisors: Drs. Matthew Psioda and Joseph Ibrahim
- Dissertation: *Bayesian Methods for the Use of Historical Data and Prior Information in Clinical Trials*

University of Florida   *Gainesville, FL*
MS STATISTICS   *Aug. 2015 - May 2017*
- Thesis Advisor: Dr. James Hobert
- GPA: 3.50
- *Magna Cum Laude*

Loyola University Chicago   *Chicago, IL*
BA ECONOMICS   *Aug. 2009 - May 2013*
- Minor: Mathematics
- GPA: 3.81

Awards, Fellowships, & Grants

2022	**Delta Omega Honor Society Inductee**, University of North Carolina
2021	**Honorable Mention, Student Paper Competition**, Joint Statistical Meetings
2017-20	**NIH Trainee**, University of North Carolina
2015-17	**Graduate School Fellow**, University of Florida
2015-17	**Alpha Sigma Nu Honor Society Inductee**, Loyola University Chicago

Professional Experience

2022 -	**Research Assistant Professor**, Dept. of Biostatistics, University of North Carolina at Chapel Hill
2021 - 2022	**Instructor of Medicine**, Dept. of Medicine, Harvard Medical School
2020 - 2021	**Graduate Research Assistant**, Dept. of Biostatistics, University of North Carolina at Chapel Hill
2017 - 2020	**NIH Trainee**, Dept. of Biostatistics, University of North Carolina at Chapel Hill
2015-2017	**Graduate Fellow and Instructor**, Dept. of Statistics, University of Florida
2013-2015	**Research Assistant**, International Monetary Fund
2012-2013	**Research Assistant**, Dept. of Economics, Loyola University Chicago

Publications

STATISTICAL METHODOLOGY

Published and Accepted

Ethan M. Alt, Matthew A. Psioda, and Joseph G. Ibrahim. Bayesian multivariate probability of success using historical data with type I error rate control. *Biostatistics* (in press).

Ethan M. Alt, Matthew A. Psioda, and Joseph G. Ibrahim. A hierarchical prior for generalized linear models based on predictions for the mean response. *Biostatistics* (in press).

Ethan M. Alt, Brady Nifong, Xinxin Chen, Matthew A. Psioda, and Joseph G. Ibrahim. The scale transformed power prior for use with historical data from a different outcome model. *Statistics in Medicine* (in press).

Under Revision

Ethan M. Alt, Matthew A. Psioda, and Joseph G. Ibrahim. Bayesian multivariate probability of success for outcomes of different types. *Statistics in Medicine* (Manuscript under minor revision).

Ethan M. Alt, Brady Nifong, Xinxin Chen, Matthew A. Psioda, and Joseph G. Ibrahim. The scale transformed power prior for time-to-event data. *Lifetime Data Analysis*. (Manuscript under major revision).

Under Preparation

Ethan M. Alt, Coco Chang, and Joseph G. Ibrahim. LEAP: The latent exchangeability prior for incorporating relevant historical data with an application to a trial in plaque psoriasis. (In progress for 2023 submission).

Ethan M. Alt, Anil Anderson, and Joseph G. Ibrahim. A novel grouped horseshoe prior for subgroup identification. (In progress for 2023 submission).

Ethan M. Alt and Joseph G. Ibrahim. A Bayesian semi-nonparametric approach towards latent subgroup identification. (In progress for 2023 submission).

Collaborative Research

Accepted and Published

Allison J Burbank, Anusha Vadlamudi, Katherine H Mills, **Ethan M. Alt**, Heather Wells, Haibo Zhou, Neil Alexis, Michelle L Hernandez, and David B Peden. The glutathione-s-transferase mu-1 null genotype increases wood smoke-induced airway inflammation. *Journal of Allergy and Clinical Immunology*, 143(6):2299–2302, 2019.

In Progress

Elvira D. D'Andrea., Deborah Wexler, Julie Paik, **Ethan M. Alt**, Seoyoung C. Kim, Elisabetta Patorno. Does effectiveness and safety of sodium-glucose cotransporter 2 inhibitors differ in patients with type 2 diabetes and varying baseline HbA1c levels? (In progress for 2023 submission).

Phyo T. Htoo, Julie M. Paik, **Ethan M. Alt**, Dae Hyun Kim, Deborah J. Wexler, Seoyoung C. Kim, and Elisabetta Patorno. Association of sodium-glucose cotransporter 2 inhibitors vs. incretin-based medications with the risk of hypoglycemia stratified by insulin or sulfonylurea use. (In progress for 2023 submission)

Devin Abrahami, Elvira D'Andrea, Julianna Mastrorilli, **Ethan M. Alt**, Julie M. Paik, Deborah Wexler, Brendan Everett, Seoyoung C. Kim, Kazuki Yoshida, Robert J. Glynn, Elisabetta Patorno Cardiovascular effectiveness of individual SGLT2 inhibitors: head-to-head comparisons (In progress for 2023 submission).

Software ──────────────────────────────

hdbayes	**Bayesian analysis of GLMs with historical data**, https://github.com/ethan-alt/hdbayes
bmabasket	**Power analysis of basket trials**, https://cran.r-project.org/web/packages/bmabasket/index.html

Mentoring ──────────────────────────────

2022-	**Anil Anderson**, Graduate Research Assistant, University of North Carolina at Chapel Hill
2022-	**Coco Chen**, Graduate Research Assistant, University of North Carolina at Chapel Hill
2021-	**Xinxin Chen**, Graduate Research Assistant, University of North Carolina at Chapel Hill

Teaching Experience ──────────────────────────────

Spring 2017	**Engineering Statistics**, Instructor, University of Florida	*Gainesville*
Fall 2016	**Statistical Methods I**, Teaching Assistant, University of Florida	*Gainesville*
2011-12	**Mathematics**, Peer Tutor, Loyola Univeristy Chicago	*Chicago*
2010-11	**K-12 Education**, Substitute Teacher, Michigan City Area Schools	*Michigan City*

Presentations

* presenting author

INVITED TALKS

Ethan M. Alt, Matthew A. Psioda*, and Joseph G. Ibrahim. A hierarchical prior for generalized linear models based on predictions for the mean response. Joint Statistical Meetings, 2022

Ethan M. Alt*, Luiz Carvallho, and Joseph G. Ibrahim A computationally efficient approach to the normalized power prior. StanCon, 2021.

Ethan M. Alt*, Matthew A. Psioda, and Joseph G. Ibrahim Bayesian multivariate probability of success for multivariate generalized linear models with type I error control. DIA Bayesian Scientific Working Group, 2021.

Ethan M. Alt*, Matthew A. Psioda, and Joseph G. Ibrahim Bayesian multivariate probability of success for rare diseases. American Statistical Association Biopharmaceutical Section, 2020.

CONTRIBUTED PRESENTATIONS

Ethan M. Alt*, Matthew A. Psioda, and Joseph G. Ibrahim Study design and multiplicity control for multivariate outcomes of mixed types. Eastern North American Regional, 2022.

Ethan M. Alt*, Matthew A. Psioda, and Joseph G. Ibrahim Bayesian multivariate probability of success for the multivariate normal linear model. Eastern North American Regional, 2020.

POSTER PRESENTATIONS

Ethan M. Alt*, Matthew A. Psioda, and Joseph G. Ibrahim A hierarchical prior for generalized linear models based on predictions for the mean response. International Society for Bayesian Analysis, 2022.

Professional Development

DEVELOPMENT

Bayesian Causal Inference Workshop, an introduction to Bayesian nonparametric methods with an application to causal inference.

PEER REVIEW

Statistics in Medicine
Biostatistics

PROFESSIONAL MEMBERSHIPS

American Statistical Association
International Society for Bayesian Analysis
Eastern North American Regional