

Paige Maas, Ph.D.

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EDUCATION

- Ph. D. Biostatistics**, Johns Hopkins University (JHU) Bloomberg School of Public Health 2014
Dissertation: Synthesizing Data Sources to Develop and Update Risk Models
- B. A. Mathematics**, Biology Minor, Psychology Minor, Pomona College 2009
Thesis: Coral Reef Dynamics and Predation

SKILLS & TOOLS

- Statistical Expertise:** risk prediction, generalized linear models, data cleaning and analysis, synthesizing data sources, Monte Carlo simulation, model calibration, implementation and testing of novel methods
- Software:** Expert Use (R, RStudio, LaTeX, Microsoft Office);
Fundamentals (Git/Github, Python, Octave, Java, Markdown, HTML, Shiny (R), SAS, Stata, WinBUGS)
- Project Management:** extensive oral and written communication, collaboration, and balancing multiple project priorities

RESEARCH EXPERIENCE

- Postdoctoral Fellow - Biostatistics Branch (BB)**, Division of Cancer Epidemiology and Genetics (DCEG),
National Cancer Institute (NCI), National Institutes of Health (NIH) 2014-
- Projected the distribution of breast cancer risk in the US, and partitioned risk into modifiable and non-modifiable components
 - Applied metrics to quantify the public health implications of potential health interventions
 - Evaluated a novel constrained maximum likelihood approach to model calibration
- Predoctoral Fellow - BB, DCEG, NCI, NIH** 2009-2014
- Developed statistical methods for synthesizing data sources to build and update risk models, ran simulation studies
 - Applied novel methodology to data from major breast cancer consortia, managed regular communication with external collaborators on preliminary findings, next steps for analysis, presentation of main results, and scholarly publication
 - Responsible for data analysis of heterogeneity in relationships between risk factors and disease subtypes, consulted with collaborators on implementation and interpretation of statistical model, promoted to co-first author for impact on project
 - Developed and evaluated statistical methods for building models with calibrated margins, using published information
- Research Assistant - JHU Center of Aging and Health** 2010
- Built and interpreted models that examined associations between skin color, race, and hearing loss among older adults
 - Performed simulation analysis of several statistical methods for analyzing audiometric data

LEADERSHIP AND TEAMWORK

- Served on division-wide fellow's committee: advised on programs to meet fellow's needs and support career development.
- Organized activities in JHU Biostatistics for approximately 50 students, including computing club and welcome events, and served as a host for prospective student weekends.
- Captained the departmental soccer team to two championship wins.

PROFESSIONAL DEVELOPMENT

- **Kaggle Data Science Competition:** "Detecting Insults in Social Commentary," Finished 10th out of 50. Fall 2012
- **Coursera online courses:** Machine Learning (Stanford University); Introduction to Python (Rice University); 2012, 2015
Data Scientist's Toolbox, Practical Machine Learning, and Developing Data Products (JHU)
- **NIH trainings:** Workplace Dynamics Leadership Series I-V (interpersonal management skills), Science Writing (communication)

HONORS AND AWARDS

- **#3 Most Read Paper by Oncologists in October**, American Journal of Epidemiology paper recognized by Medscape. 2014
- **Fellowship Achievement Award**, awarded to fewer than 10% of fellows each year in DCEG, NCI. 2013
- **First Place in Poster Competition**, recognized among 30 graduate students at the Research on Aging Showcase at JHU for work on "Statistical Approaches to the Analysis of Audiometric Data." 2011

TEACHING AND MENTORING

- Supervised a summer student new to data analytic research. Introduced statistical concepts and R implementation for data cleaning, model building, and model checking.
- Teaching Assistant for statistical courses at JHU. Ran office hours for masters and introductory level students in Survival Analysis, Data Analysis, Statistical Reasoning in Public Health, and Methods in Biostatistics.

PUBLICATIONS

- Roni Falk*, **Paige Maas***, Catherine Schairer, Sandra Buys, Nilanjan Chatterjee, Theresa Lee, Claudine Isaacs, Regina Ziegler. "Alcohol and risk of breast cancer in postmenopausal women: An analysis of etiologic heterogeneity by multiple tumor characteristics." *American Journal of Epidemiology*, August 2014. *co-first authors
- Frank Lin, **Paige Maas**, Wade Chien, John P Carey, Luigi Ferrucci, and Roland Thorpe. "Association of Skin Color, Race/Ethnicity, and Hearing Loss among Adults in the USA." *Journal of the Association for Research in Otolaryngology*. February 2012; 13(1):109-17.
- Seungyoun Jung, Molin Wang, Kristen Anderson, ... , **Paige Maas**, ... , Xuehong Zhang, Regina G. Ziegler, Stephanie A. Smith-Warner. "Alcohol Consumption and Breast Cancer Risk by Estrogen Receptor Status in Large Pooled Analyses." *International Journal of Epidemiology*. *Submitted*.

PUBLICATIONS - In Progress

- Nilanjan Chatterjee, Yi-Hau Chen, **Paige Maas**, Raymond Carroll. "Constrained Maximum Likelihood Estimation for Model Calibration Using Summary-level Information from External Big-data Sources."
- Paige Maas**, Montserrat Garcia-Closas, Peter Kraft, Regina Ziegler, Myrto Barrdahl, Nilanjan Chatterjee. "The Distribution of Breast Cancer Risk in the US population by Modifiable and Non-Modifiable Risk Factors."
- Paige Maas**, Yi-Hau Chen, Raymond Carroll, Nilanjan Chatterjee. "Building Risk Models with Calibrated Margins."
- Paige Maas**, Montserrat Garcia-Closas, Nilanjan Chatterjee. "A Risk Calculation Tool that Incorporates Multiple Data Sources."
- Paige Maas**, Montserrat Garcia-Closas, Mark Brook, Nilanjan Chatterjee. "Projecting Breast Cancer Risk by Estrogen Receptor Status from Risk Factors and 77 SNPs in the US population."

PRESENTATIONS

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|-------------------------|--|---------------|
| • Multiple Venues: | Developing and Updating Absolute Risk Models for Breast Cancer | February 2015 |
| • Colgate University: | Developing an Absolute Risk Model | February 2015 |
| • Cal Poly University: | Two-Sample T-tests | February 2015 |
| • Smith College: | Multiple Linear Regression | February 2015 |
| • Whitman College: | Statistics and Medical Testing | January 2015 |
| • Oberlin College: | Developing a Breast Cancer Risk Prediction Model | December 2014 |
| • DePauw University: | Highlighting Statistics in Two Real World Contexts | November 2014 |
| • Centre College: | Highlighting Statistics in Two Real World Contexts | November 2014 |
| • Rhodes College: | Testing Differences in Population Average | November 2014 |
| • Doctoral Defense: | Synthesizing Data Sources to Develop and Update Risk Models | June 2014 |
| • Invited DCEG Seminar: | Using Risk Models to Inform Cancer Prevention Efforts | October 2013 |
| • Oral Examination: | Absolute Risk Estimation for Breast Cancer Subtypes | April 2012 |

POSTERS

- Eastern North American Region (ENAR) Statistical Meetings. "Risk Models with Calibrated Margins: Updates." March 2015
- Eastern North American Region (ENAR) Statistical Meetings. "Building Risk Models with Calibrated Margins." March 2014
- Joint Statistical Meetings (JSM). "Development of an Absolute Risk Model for Breast Cancer Subtypes." July 2012
- DCEG Fellows' Symposium. "Alcohol and Breast Cancer Risk in Postmenopausal Women: the PLCO Experience." March 2012
- Statistical Research on Aging Showcase, JHU. "Statistical Approaches to the Analysis of Audiometric Data." April 2011