Julia Wrobel

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EDUCATION

Columbia University Mailman School of Public Health, New York, NY, USA

Ph.D.Candidate in Biostatistics — Sep 2015 – Present
- Dissertation research in progress

Master of Science (M.S.) in Biostatistics — Sep 2013 – May 2015
- Practicum: Associations and Patterns in Ambulatory Blood Pressure
- Advisor: Professor Jeff Goldsmith

Swarthmore College, Swarthmore, Pennsylvania, USA

Bachelor of Arts (B.A.) in Chemistry — Sep 2006 – May 2010

HONORS & AWARDS

Gertrude M. Cox Scholarship for Women in Statistics — Jul 2017

WSDS 2017 Conference Travel Award — Oct 2017
Women in Statistics and Data Science conference in La Jolla, California

Summer Institute in Statistics for Big Data Travel Scholarship, — Jul 2017
University of Washington Department of Biostatistics

Certificate of Distinction, Columbia Department of Biostatistics — May 2015
For outstanding research by a Master's student.

Sigma Xi Scientific Research Society — May 2010

RESEARCH EXPERIENCE

Department of Biostatistics, Columbia University

Research Assistant — Jun 2014 – Present
- Supervisor: Assistant Professor Jeff Goldsmith
- Research areas: Functional data analysis, interactive graphics, variational inference, accelerometers

Department of Biostatistics, Columbia University

Research Assistant — Feb 2016 – Present
- Supervisor: Assistant Professor Sara Lopez-Pintado
- Research areas: Multivariate band depth for functional data, imaging statistics, nonparametric hypothesis tests

WORK EXPERIENCE

Statistical Analysis Center for Clinical Trials, Columbia University

Data Analyst & SAS Programmer — May 2014 – Aug 2015
- Supervisor: Professor Seamus Thompson
- Statistical analysis of Phase III clinical trial data for Novartis Pharmaceuticals

Department of Immunology and Rheumatology, Children's Hospital of Philadelphia

Immunology Research Scientist — Apr 2011 – Jul 2013
- Principal Investigator: Dr. Edward Behrens
- Research areas: Macrophage Activation Syndrome, cytokine storm, flow cytometry, adoptive T-cell transfer

PUBLICATIONS

JOURNALS

- S Lopez–Pintado and J Wrobel, "Robust nonparametric tests for imaging data based on data depth', accepted to *Stat*, Sep 2017.

- J Wrobel, SY Park, AM Staicu, J Goldsmith, "Interactive graphics for functional data analyses", *Stat*, vol. 5, no. 1, pp. 108–118, Feb 2016 **Selected as an exemplar paper of Stat**, showcased at the 2017 Joint Statistical Meetings.

- JH Kim, J Santaella-Tenorio, C. Mauro, J Wrobel, M Cerdâ, KM Keyes, D Hasin, SS Martins, and G Li. "State Medical marijuana laws and the prevalence of opioids detected among fatally injured drivers?", *American Journal of Public Health*, Accepted Aug 2016.

- S Canna, J Wrobel, N Chu, PA Kreiger, M Paessler, EM Behrens, "Interferon-γ mediates anemia but is dispensable for fulminant toll-like recepter 9–induced macrophage activation syndrome and hemophagocytosis," *Arthritis and Rheumatism*, vol. 65 (7), pp. 1764–1775, Jul 2013.

SOFTWARE

- J Wrobel and J Goldsmith, "refund.shiny: interactive plotting for functional data analysis," *R package available on CRAN* Sep 2015. **Downloaded 4919 times as of 10/25/2017**.

- J Wrobel and S Lopez–Pintado, "depthTests: Nonparametric hypothesis tests based on multivariate band depth," *R package available on GitHub* Sep 2017.

- J Wrobel, "mfpca.sc(): multilevel functional principal components analysis by smoothed covariance," *function in* refund *R package available on CRAN* Aug 2015.

PRESENTATIONS	**INVITED TALKS**

- J Wrobel, "Registration for binary functional data," *2017 ICSA Applied Statistics Symposium*, Chicago, IL, USA, Jun 2017.

CONTRIBUTED TALKS

- J Wrobel, "Registration for exponential family functional data," *2017 Joint Statistical Meetings*, Baltimore, MD, USA, Jul 2017.
- J Wrobel, "Interactive graphics for functional data analyses," *2016 Joint Statistical Meetings*, Chicago, IL, USA, Aug 2016.

POSTERS AND E-POSTERS

- J Wrobel, "Communicating results of functional data analyses with interactive graphics," *2017 Women in Statistics and Data Science (WSDS) Conference*, La Jolla, California, USA, Oct 2017.
- J Wrobel, "Can we use statistics to compare pictures? An application to brain imaging data," *2016 Women in Science at Columbia (WISC) Symposium*, New York, NY, USA, Apr 2016.
- J Wrobel, "Associations and Patterns in Ambulatory Blood Pressure," *Columbia University Department of Biostatistics 75th Anniversary Gala*, New York, NY, USA, Apr 2015.

LEADERSHIP & SERVICE	**Biostatistics Student Research Working Group**, Columbia University

Founder and Organizer   Dec 2015 – Present
  - Monthly student seminar series to facilitate research collaborations and hone presentation skills

Columbia Biostatistics Computing Club, Columbia University
Founder and Co-Organizer   Dec 2016 – Present
  - Lead tutorials on computational methods often encountered in biostatistics research
  - Built CBCC website using GitHub pages

Biostatistics Student Cohort, Columbia University
Doctoral Student Leader   Aug 2015 – Present

Girls Who Code
Middle school coding instructor with focus in Python   Aug 2015 – Jun 2016

TEACHING	**Data Science I**, Columbia University Department of Biostatistics

Lead Teaching Assistant   Sep 2017 – Dec 2017

Categorical Data Analysis, Columbia University Department of Biostatistics
Lead Teaching Assistant   Jan 2017 – May 2017

Statistical Inference, Columbia University Department of Biostatistics
Teaching Assistant   Jan 2016 – May 2016

Randomized Clinical Trials II, Columbia University Department of Biostatistics
Teaching Assistant   Aug 2015 – Dec 2015

Organic Chemistry I, Swarthmore College Department of Chemistry
Laboratory Assistant   Sep 2008 – May 2010

SKILLS	R, Rcpp, git, SAS, LaTeX, Python, SPSS, Excel