

Julia Wrobel

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CV compiled on 2020-01-14

ACADEMIC APPOINTMENTS	Department of Biostatistics Colorado School of Public Health Assistant Professor Aug 2019 – Present
EDUCATION	Columbia University Mailman School of Public Health , New York, NY, USA PhD in Biostatistics • Dissertation title: Functional data analytics for wearable device and neuroscience data • Advisor: Jeff Goldsmith Sep 2015 – Jun 2019 Master of Science (M.S.) in Biostatistics • Practicum: Associations and Patterns in Ambulatory Blood Pressure • Advisor: Jeff Goldsmith Sep 2013 – May 2015 Swarthmore College , Swarthmore, Pennsylvania, USA Bachelor of Arts (B.A.) in Chemistry Sep 2006 – May 2010
HONORS & AWARDS	ASA Biometrics Section JSM Travel Award Jul 2018 ENAR Distinguished Student Paper Award Mar 2018 NESS IBM Student Research Award Finalist Mar 2018 WSDS 2017 Conference Travel Award Oct 2017 Women in Statistics and Data Science conference in La Jolla, California Gertrude M. Cox Scholarship for Women in Statistics Jul 2017 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: Jeff Goldsmith • Research areas: Functional data, neuroimaging, variational inference, accelerometers, interactive graphics Department of Biostatistics , Columbia University Research Assistant Feb 2016 – Oct 2017 • Supervisor: Sara Lopez-Pintado • Research areas: Multivariate band depth for functional data, imaging statistics, nonparametric hypothesis tests
WORK EXPERIENCE	Data Science and AI Research , AT&T Labs Summer Intern - Statistical Research Group May 2018 – Aug 2018 • Supervisor: Senior Inventive Scientist Emily Dodwell • Curve clustering and predictive modeling for addressable advertising delivery data Statistical Analysis Center for Clinical Trials , Columbia University Data Analyst & SAS Programmer May 2014 – Aug 2015 Department of Immunology and Rheumatology , Children's Hospital of Philadelphia Immunology Research Scientist Apr 2011 – Jul 2013
PROFESSIONAL ORGANIZATIONS & SERVICE	EDITORIAL EXPERIENCE • Referee: Biostatistics, JASA, Stat, Biometrics, Statistics and Computing, PLOS ONE, Annals of Applied Statistics MEMBERSHIPS

ASA, ENAR, WNAR

DEPARTMENTAL AND UNIVERSITY COMMITTEES

Member, Inference curriculum task force
Director, Health Analytics and Data Science Certificate Program

Sep 2019 – Dec 2019
Sep 2019 – Present

PUBLICATIONS

PEER-REVIEWED ARTICLES

- [J Wrobel](#), V Zipunnikov, J Schrack, J Goldsmith, “Registration for exponential family functional data”, *Biometrics*, vol. 75, no. 1, pp. 48–57, Mar 2019.
- [J Wrobel](#), “registr: Registration for exponential family functional data”, *Journal of Open Source Software*, vol. 3, no. 22, pp. 557 Feb 2018.
- S Lopez–Pintado and [J Wrobel](#), “Robust non-parametric tests for imaging data based on data depth”, *Stat*, vol. 6, no. 1, pp. 405–419, Oct 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*, vol. 106, no. 11, pp. 2032–2037, 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 receptor 9–induced macrophage activation syndrome and hemophagocytosis,” *Arthritis and Rheumatism*, vol. 65 (7), pp. 1764–1775, Jul 2013.

SOFTWARE

- J Goldsmith, F Scheipl, L Huang, [J Wrobel](#), J Gellar, J Harezlak, M McLean, B Swihart, L Xiao, C Crainiceanu, and P Reiss, “refund: Regression with Functional Data,” *R package available on CRAN*, version 0.1-17, May 2018. Over 2500 downloads per month.
 - author: “mfPCA.sc(): multilevel FPCA by smoothed covariance”
 - contributor: version 0.1-15 to present
 - maintainer: version 0.1-16 to present
- [J Wrobel](#) and J Goldsmith, “registr: Registration for exponential family functional data,” *R package available on GitHub* Nov 2017.
- [J Wrobel](#) and J Goldsmith, “refund.shiny: interactive graphics for functional data analysis,” *R package available on CRAN* Sep 2015. Downloaded over 12,000 times as of 01/13/2020.
- [J Wrobel](#) and S Lopez–Pintado, “depthTests: Nonparametric hypothesis tests based on multivariate band depth,” *R package available on GitHub* Sep 2017.

PRESENTATIONS INVITED TALKS

- J Wrobel, “Predicting GI bleeds using wearable device data,” *2020 JSM*, Philadelphia, PA, USA, Aug 2020.
- J Wrobel, “Functional regression for studying the kinematics of motion,” *2020 WNAR*, Anchorage, AK, USA, Jun 2020.
- J Wrobel, “Intensity warping for multisite MRI harmonization,” *2020 Statistical Methods in Imaging*, Atlanta, GA, USA, May 2020.
- J Wrobel, “Modeling kinematic behavior using functional linear first-order differential equations,” *2020 ENAR*, Nashville, TN, USA, Mar 2020.
- J Wrobel, “Circadian rhythms revealed by accelerometers,” *Use of Wearable and Implantable Devices in Health Research*, Banff International Research Station, Alberta, Canada, Feb 2020.
- J Wrobel, “Intensity warping for multisite MRI harmonization,” *2019 CMStatistics*, London, UK, Dec 2019.
- J Wrobel, “Identifying circadian chronotypes using accelerometers,” *2018 CMStatistics*, Pisa, Italy, Dec 2018.
- J Wrobel, “Modeling the effects of high-dimensional covariates on 3D kinematics,” *2018 PEPS Workshop on advances in functional data analysis*, Rennes, Brittany, France, Oct 2018.
- J Wrobel, “Registration for exponential family functional data,” *2018 JSM*, Vancouver, Canada, Aug 2018.
- J Wrobel, “Clustering and Modeling Addressable Advertising Impression Curves,” *AT&T Labs Intern Research Showcase*, New York, NY, USA, Jul 2018.
- J Wrobel, “Introduction to Shiny using NBA Data,” *RLadies NYC, hosted at NBA NYC*, New York, NY, USA, May 2018.
- J Wrobel, “Registration for exponential family functional data,” *2017 CMStatistics*, London, UK, Dec 2017.
- J Wrobel, “Identifying patterns in physical activity,” *2017 AT&T Labs Graduate Student Symposium*, New York, NY, USA, Dec 2017.
- 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

- J Wrobel, “Can early intervention save money in addressable advertising?,” *2018 AT&T Labs Intern Poster Session*, Bedminster, NJ, USA, Jul 2018.
- J Wrobel, “Removing scanner variability from structural MRIs,” *2018 Statistical Methods in Imaging (SMI) Conference*, Philadelphia, PA, USA, Jun 2018.
- 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

- Biostatistics Graduate Student Research Working Group**, Columbia University
Founder and Organizer Dec 2015 – Jun 2019
- Monthly student seminar series to facilitate research collaborations and hone presentation skills
- Columbia Biostatistics Computing Club**, Columbia University
Founder and Co-Organizer Dec 2016 – Jun 2018
- 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 – Jun 2019

TEACHING

Guest Lectures

- “Introduction to web scraping”, R for Data Science course taught by Dr. Debashis Ghosh, Colorado School of Public Health, November 2019
- “Introduction to web APIs”, R for Data Science course taught by Dr. Debashis Ghosh, Colorado School of Public Health, November 2019
- Nonparametric hypothesis testing, Biostatistics Methods I course taught by Dr. Alex Kaizer, Colorado School of Public Health, October 2019
- Gibbs sampling and the Metropolis-Hasting algorithm, Advanced Data Analysis course taught by Dr. Nichole Carlson, Colorado School of Public Health, September 2019
- “Introduction to Bayesian regression”, Longitudinal Data Analysis course taught by Dr. Elizabeth Sweeney, Columbia University Mailman School of Public Health, November 2018
- “Building Shiny apps with flexdashboard”, Data Science I course taught by Dr. Jeff Goldsmith, Columbia University Mailman School of Public Health, October 2017

Teaching Assistantships

Longitudinal Data Analysis, Columbia University Department of Biostatistics (Lead TA) Fall 2018
Statistical Inference, Columbia University Department of Biostatistics (Lead TA) Spring 2018
Data Science I, Columbia University Department of Biostatistics (Lead TA) Fall 2017
Categorical Data Analysis, Columbia University Department of Biostatistics (Lead TA) Spring 2017
Categorical Data Analysis, Columbia University Department of Biostatistics Fall 2016
Statistical Inference, Columbia University Department of Biostatistics Spring 2016
Randomized Clinical Trials II, Columbia University Department of Biostatistics Fall 2015
Organic Chemistry I, Swarthmore College Department of Chemistry Sep 2008 – May 2010

Advising and Mentorship

Goutham Swaminathan

- High school student at Bergen County Academies
- Developing R package for statistical shape analysis

Doctoral Examination and Defense Committees

- Alex Jensen, Department of Biostatistics and Informatics, 2020
- Connor McCullough, Department of Bioengineering, 2019

SKILLS

R, Rcpp, git, SAS, \LaTeX