Julia Wrobel

1518 Clifton Rd, Atlanta, GA 30322, USA julia.wrobel@emory.edu • github: julia-wrobel • website: julia-wrobel.github.io CV compiled on 2025-05-01

ACADEMIC Department of Biostatistics & Bioinformatics Emory University				
APPOINTMENTS	Assistant Professor	Jul 2023 – Present		
	Department of Biostatistics & Informatics Colorado School of Public Health			
	Assistant Professor	Aug 2019 – Jun 2023		
EDUCATION	Columbia University Mailman School of Public Health, New York, NY, USA			
	PhD in BiostatisticsDissertation title: Functional data analytics for wearable device and neuroscience deAdvisor: Jeff Goldsmith	Sep 2015 – Jun 2019 ata		
	Master of Science (M.S.) in Biostatistics	Sep 2013 – May 2015		
	Swarthmore College , Swarthmore, Pennsylvania, USA Bachelor of Arts (B.A.) in Chemistry	Sep 2006 – May 2010		
HONORS & AWARDS	Dean's Pilot Innovation Award Rollins School of Public Health, Emory University	Sep 2024		
	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 Women in Statistics and Data Science conference in La Jolla, California	Oct 2017		
	Gertrude M. Cox Scholarship for Women in Statistics	Jul 2017		
	Summer Institute in Statistics for Big Data Travel Scholarship University of Washington Department of Biostatistics	Jul 2017		
	Certificate of Distinction, Columbia Department of Biostatistics For outstanding research by a Master's student	May 2015		
	Sigma Xi Scientific Research Society	May 2010		
PRIOR WORK EXPERIENCE	Data Science and AI Research , AT&T Labs Summer Intern - Statistical Research Group	May 2018 – Aug 2018		
	Department of Immunology and Rheumatology , Children's Hospital of Immunology Research Scientist	Philadelphia Apr 2011 – Jul 2013		
PROFESSIONAL ORGANIZATIONS	EDITORIAL SERVICE			
& SERVICE	Associate Editor for Reproducibility, Journal of the American Statistical Association	Apr 2021 – Present		
	Associate Editor , The R Journal	Mar 2024 – Present		
	Referee : Annals of Applied Statistics, Applied Mathematical Modeling, Biometrics, Biostatistics, BMC Bioinformatics, Canadian Journal of Statistics, Computational Statistics and Data Science, f1000Research, Electronic Journal of Statistics, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal for the Measurement of Physical			

f1000Research, Electronic Journal of Statistics, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal for the Measurement of Physical Behavior, Journal of Statistical Software, Patterns, PLOS ONE, Psychometrika, Scandinavian Journal of Statistics, Stat, Statistics and Computing, Statistics in Medicine, Statistical Methods in Medical Research

MEMBERSHIPS

ASA, ENAR

GRANT REVIEW SERVICE

Diabetes Translational Accelerator's Shankar Fellowship Program	Apr 2024
DEPARTMENTAL AND UNIVERSITY COMMITTEES (EMORY)	
Co-Director, Georgia CTSA BERD Member, PhD qualifying exam committee Member, Biostatistics MSPH/MPH admission's committee	Aug 2023 – Present Jan 2024 – Present Dec 2023 – Present
DEPARTMENTAL AND UNIVERSITY COMMITTEES (COLORADO)	
Director, Health analytics and data science certificate program Director, Applied biostatistics certificate program Organizer, Biostatistics MS/PhD program student visit day Member, MS qualifying exam committee Member, PhD qualifying exam committee Member, Inference curriculum task force	Sep 2019 – Jun 2023 Aug 2022 – Jun 2023 Mar 2020 – Jun 2023 Apr 2021 – Jun 2023 Apr 2020 – Apr 2021 Sep 2019 – Dec 2019
NATIONAL AND INTERNATIONAL SERVICE	
COPSS Communication officer Judge, MCBIOS student poster competition Reviewer, ENAR distinguished student paper competition Member, ENAR Council for Emerging and New Statisticians (CENS) Social Media co-Chair, ENAR CENS Reviewer, ASA Statistics in Imaging student paper competition	Jan 2025 – Present Mar 2024 2023, 2024 Apr 2020 – Mar 2022 Jul 2021 – Mar 2022 Dec 2020
PRESENT SUPPORT	
Novel Approaches to Assessing Cannabis Impaired Driving • R01DA049800, NIH (PI: Brooks-Russell) • Role: Co-Investigator	Jul 2020 – Apr 2025
Observational study of the effects of acute cannabis use on ocular activity rele – Jun 2023 • R01 Supplement, Institutes for Cannabis Research (PI: Brooks-Russell) • Role: Co-Investigator	vant to driving Jul 2021
PAST SUPPORT	
Multiplexed single-cell imaging in pediatric lupus nephritis Lupus Research Alliance Lupus Innovation Award (PI: Hsieh) Role: Co-Investigator 	Oct 2020 – Sep 2023
Network Analysis of the Ovarian Tumor Microenvironment • CCTSI Translational Methods Biostatistics/Bioinformatics Pilot Grant • Role: PI	Apr 2020 – Mar 2021
Spatial Mapping of Proteomic and Transcriptional Signatures in Kidney Dis Jun 2023s • U01DK133113, NIH (PIs: Hsieh and Thurman)	ease Jul 2022 –

Role: Co-Investigator

PUBLICATIONS BOOK CHAPTERS AND EDITORIALS

GRANT SUPPORT

- <u>J Wrobel</u>, E Hector, L Crawford, L McGowan, N da Silva, J Goldsmith, S Hicks, M Kane, Y Lee, V Mayrink, CJ Paciorek, T Usher, J Wolfson, "Partnering with Authors to Enhance Reproducibility at JASA". *Journal of the American Statistical Association*, pp. 795–797, 2024.
- <u>J Wrobel</u>, C Harris, S Vandekar, "Statistical Analysis of Multiplex Immunofluorescence and Immunohistochemistry Imaging Data". In B Fridley & X Wang (Eds.), Statistical Genomics. *Springer Nature*, 2023.

METHODOLOGY AND SOFTWARE

[‡] indicates a graduate student or postdoc under my supervision

- JA Gonzalez, <u>J Wrobel</u>, SN Vandekar, and P Moraga, "Analyzing spatial point patterns in digital pathology: immune cells in high-grade serous ovarian carcinomas", *The American Statistician*, pp. 1–26, 2025.
- D Tu, <u>J Wrobel</u>, TD Satterthwaite, J Goldsmith, RC Gur, RE Gur, J Gertheiss, DS Bassett, and RT Shinohara, "Regression and Alignment for Functional Data and Network Topology", *Biostatistics*, vol. 26, no. 1, 2025.
- <u>J Wrobel</u>, B Sauerbrei, E Kirk, JZ Guo, A Hantman, and J Goldsmith, "Modeling Trajectories using Functional Linear Differential Equations", *AOAS*, vol. 18, no. 4, pp. 3425–3443, 2024.
- <u>J Wrobel</u>, AC Soupir, MT Hayes, LC Peres, T Vu, A Leroux, and B Fridley, "mxfda: A comprehensive toolkit for functional data analysis of single-cell spatial data", *Bioinformatics Advances*, vol. 4, no. 1, 2024.
- S Godbole[‡], A Leroux, A Brooks-Russell, PS Subramanian, MJ Kosnett, and <u>J Wrobel</u>, "A Study of Pupil Response to Light as a Digital Biomarker of Recent Cannabis Use", *Digital Biomarkers*, vol. 8, no. 1, 2024.
- J Xiong, H Kaur, CN Heiser, ET McKinley, JT Roland, RJ Coffey, MJ Shrubsole, <u>J Wrobel</u>, S Ma, KS Lau, and S Vandekar "GammaGateR: semi-automated marker gating for single-cell multiplexed imaging", *Bioinformatics*, 2024.
- T Vu, S Seal, T Ghosh, M Ahmadian, <u>J Wrobel</u>, and D Ghosh, "FunSpace: A functional and spatial analytic approach to cell imaging data using entropy measures", *PLoS Computational Biology*, vol. 19, no. 9, 2023.
- B Steinhart[‡], A Brooks-Russell, MJ Kosnett, PS Subramanian, and <u>J Wrobel</u>, "A Video Analysis Pipeline for Assessing Changes in Pupil Response to Light after Cannabis Consumption", *Journal of Data Science*, 2023.
- S Bothwell[‡], A Kaizer, R Peterson, D Ostendorf, V Catenacci, and <u>J Wrobel</u>, "Pattern-Based Clustering of Daily Weigh-In Trajectories using Dynamic Time Warping", *Biometrics*, vol. 79, no. 3, 2023.
- T Vu, <u>J Wrobel</u>, BG Bitler, EL Schenk, KR Jordan, and D Ghosh, "SPF: A Spatial and Functional Data Analytic Approach to cell Imaging data", *PLoS Computational Biology*, vol. 18, no. 6, 2022.
- C Harris, <u>J Wrobel</u>, and S Vandekar, "mxnorm: An R Package to Normalize Multiplexed Imaging Data", *Journal of Open Source Software*, vol. 7, no. 71, 2022.
- S Seal, T Vu, T Ghosh, <u>J Wrobel</u>, and D Ghosh, "DenVar: Density-based Variation analysis of multiplex imaging data", *Bioinformatics Advances*, vol. 2, no. 1, 2022. Recipient of 2022 ASA Biometrics Section Paper Award.
- CR Harris, ET McKinley, JT Roland, Q Liu, MJ Shrubsole, K Lau, RJ Coffey, <u>J Wrobel</u>, and S Vandekar "Quantifying and correcting slide-to-slide variation in multiplexed immunofluorescence images", *Bioinformatics*, vol. 38, no. 6, pp. 1700–1707, 2022.
- EI McDonnell, V Zipunnikov, J Schrack, J Goldsmith, and <u>J Wrobel</u>, "Registration of 24-hour accelerometric rest-activity profiles and its application to human chronotypes", *Biological Rhythm Research*, vol. 8, no. 9 pp. 1–22, 2022.
- <u>J Wrobel</u> and A Bauer, "registr 2.0: Incomplete Curve Registration for Exponential Family Functional Data", *Journal of Open Source Software*, vol. 6, no. 61, pp. 2964, May 2021.
- <u>J Wrobel</u>, ML Martin, R Bakshi, PA Calabresi, M Elliot, D Roalf, RC Gur, RE Gur, RG Henry, G Nair, J Oh, N Papinutto, D Pelletier, DS Reich, WD Rooney, TD Satterthwaite, W Stern, K Prabhakaran, NL Sicotte, RT Shinohara, and J Goldsmith, "Intensity warping for multisite MRI harmonization", *Neuroimage*, vol. 223, pp. 117242, Dec 2020.

- <u>J Wrobel</u>, V Zipunnikov, J Schrack, and J Goldsmith, "Registration for exponential family functional data", *Biometrics*, vol. 75, no. 1, pp. 48–57, Mar 2019. **Recipient of 2018 ENAR Distinguished Student Paper Award**.
- <u>J Wrobel</u>, "registr: Registration for exponential family functional data", *Journal of Open Source Software*, vol. 3, no. 22, pp. 557 Feb 2018.
- S Lopez–Pintado and <u>J Wrobel</u>, "Robust non-parametric tests for imaging data based on data depth", *Stat*, vol. 6, no. 1, pp. 405–419, Oct 2017.
- <u>J Wrobel</u>, 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.

COLLABORATIVE

- G Dooley, S Godbole[‡], <u>J Wrobel</u>, SA Limbacher, MJ Kosnett, A Brooks-Russell, "Comparison of Δ 9-tetrahydrocannabinol in venous and capillary blood following ad libitum cannabis smoking by occasional and daily users", *Journal of Analytical Toxicology*, 2025.
- SA Limbacher, S Godbole[‡], <u>J Wrobel</u>, GS Wang, A Brooks-Russell, "Dose of product or product concentration: a comparison of change in heart rate by THC concentration for participants using cannabis daily and occasionally", *Cannabis and cannabinoid research*, vol. 10, no. 1, pp. 53–59, 2025.
- A Soupir, I Gadiyar, B Helm, C Harris, SN Vandekar, LC Peres, RJ Coffey, <u>J Wrobel</u>, S Ma, and BL Fridley, "Benchmarking Spatial Co-Localization Methods for Single-Cell Multiplex Imaging Data with Applications to High-Grade Serous Ovarian and Triple Negative Breast Cancer", *Statistics and Data Science in Imaging*, 2025.
- AM Jensen, P DeWitt, BM Bettcher, <u>J Wrobel</u>, K Kechris, and D Ghosh, "Kernel machine tests of association using extrinsic and intrinsic cluster evaluation metrics", *PLoS Computational Biology*, vol. 20, no. 11, 2024.
- J Rieck[‡], <u>J Wrobel</u>, AR Porras, K McRae, and JL Gowin, "Neural signatures of emotion regulation", *Scientific Reports*, vol. 14, no. 1, 2024.
- GS Wang, MJ Kosnett, P Subramanian, <u>J Wrobel</u>, M Ma, T Brown, LC Bidwell, and A Brooks-Russell, "Accuracy and replicability of identifying eyelid tremor as an indicator of recent cannabis smoking", *Clinical Toxicology*, vol. 62, no. 1, 2024.
- A Brooks-Russell, <u>J Wrobel</u>, T Brown, LC Bidwell, GS Wang, B Steinhart[‡], G Dooley, and MJ Kosnett, "Effects of acute cannabis inhalation on reaction time, decision-making, and memory using a tablet-based application", *Journal of Cannabis Research*, vol. 6, no. 1, 2024.
- Y Wang, JN Stroh, G Hripcsak, CC Low Wang, TD Bennett, <u>J Wrobel</u>, C Der Nigoghossian, S Mueller, J Claassen, and DJ Albers, "A methodology of phenotyping ICU patients from EHR data: high-fidelity, personalized, and interpretable phenotypes estimation", *Journal of Biomedical Informatics*, vol. 148, 2023.
- M Ahmadian, C Rikert, A Minic, <u>J Wrobel</u>, B Bitler, F Xing, M Angelo, E Hsieh, D Ghosh and K Jordan, "A Platform-Independent Framework for Phenotyping of Multiplex Tissue Imaging Data", *PLoS Computational Biology*, vol. 19, no. 9, 2023.
- S Smith[‡], <u>J Wrobel</u>, A Brooks-Russell, MJ Kosnett, and M Sammel, "A Latent Variable Analysis of Psychomotor Performance after Acute Cannabis Smoking", *Cannabis*, 2023.
- R Miller, T Brown, <u>J Wrobel</u>, MJ Kosnett and A Brooks-Russell, "Influence of cannabis use history on the impact of acute cannabis smoking on simulated driving performance during a distraction task", *Traffic Injury Prevention*, pp. 1–7, 2022.
- TK Henthorn, GS Wang, G Dooley, A Brooks-Russell, <u>J Wrobel</u>, S Limbacher, MJ Kosnett, "Dose Estimation Utility in a Population Pharmacokinetic Analysis of Inhaled Δ9-Tetrahydrocannabinol Cannabis Market Products in Occasional and Daily Users", *Therapeutic Drug Monitoring*, vol. 46, no. 5, pp. 672–680, 2022.

- S Seal, <u>J Wrobel</u>, AM Johnson, RA Nemenoff, EL Schenk, BG Bitler, KR Jordan, and D Ghosh, "On Clustering for Cell Phenotyping in Multiplex Immunohistochemistry (mIHC) and Multiplexed Ion Beam Imaging (MIBI) Data", *BMC Research Notes*, vol. 15, no. 1, pp. 1–7, 2022.
- <u>J Wrobel</u>, J Silvasstar, R Peterson, K Sumbundu, A Kelley, D Stephens, SC Rushing, and S Bull, "Patterns of User Engagement in the BRAVE Study", *JMIR Formative Research*, vol. 6, no. 2, 2022.
- B Steinhart[‡], KR Jordan, J Bapat, MD Post, LJ Brubaker, BG Bitler, and <u>J Wrobel</u>, "The spatial context of tumor-infiltrating immune cells associates with improved ovarian cancer survival", *Molecular Cancer Research*, vol. 19, no. 12, pp. 1973–1979, Oct 2021.
- <u>J Wrobel</u>, J Muschelli, and A Leroux, "Diurnal Physical Activity Patterns across Ages in a Large UK Based Cohort: The UK Biobank Study", *Sensors*, vol. 21, no. 4, pp. 1545, Jan 2021.
- A Brooks-Russell, T Brown, K Friedman, J Schwartz, KA Ryall, E Amioka, G Dooley, GS Wang, <u>J Wrobel</u>, B Steinhart[‡], G Milavetz and MJ Kosnett, "Simulated Driving Performance among Daily and Occasional Cannabis Users", *Accident Analysis & Prevention*, vol. 160, pp. 106326, Sep 2021.
- SC Rushing, A Kelley, S Bull, D Stephens, <u>J Wrobel</u>, J Silvasstar, R Peterson, C Begay, TG Dog, C McCray, DL Brown, M Thomas, C Caughlan, M Singer, P Smith, and K Sumbundu. "Efficacy and Impact of an mHealth Intervention to promote Mental Wellness for American Indian and Alaska Native Teens and Young Adults: A Randomized Controlled Trial of the BRAVE Study", *JMIR Mental Health*, vol. 8, no. 9, pp. e26158, Aug 2021.
- AM Johnson, JM Boland, J Wrobel, EK Klezcko, MW Evans, K Hopp, L Heasley, ET Clambey, K Jordan, RA Nemenoff, and EL Schenk, "Cancer cell-specific MHCII expression as a determinant of the immune infiltrate organization and function in the non-small cell lung cancer tumor microenvironment", *Journal of Thoracic Oncology*, vol. 16, no. 10, pp. 1694–1704, May 2021.
- MI Becker, DJ Calame, <u>J Wrobel</u>, and AL Person. "Online control of reach accuracy in mice", *Journal of Neurophysiology*, vol. 124, no. 6, pp. 1637–1655, Nov 2020.
- JH Kim, J Santaella-Tenorio, C. Mauro, <u>J Wrobel</u>, 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, <u>J Wrobel</u>, 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.

CURRENTLY UNDER REVIEW

- <u>J Wrobel</u> and H Song, "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data", 2025+.
- S Limbacher, S Godbole[‡], <u>J Wrobel</u>, D Mackie, S Goldman, A Brooks-Russell, "Commercial cannabis product testing: fidelty to labels and regulations", 2025+.
- Y Lu, X Zhou, E Cui, D Rogers, C Crainiceanu, <u>J Wrobel</u>, and A Leroux, "Generalized conditional functional principal component analysis", 2025+. **Recipient of 2025 ASA Biometrics Section Byar Award**.
- X Zhou, <u>J Wrobel</u>, C Crainiceanu, and A Leroux, "Analysis of Active/Inactive Patterns in the NHANES Data using Generalized Multilevel Functional Principal Component Analysis", 2025+.
- A Leroux, C Crainiceanu, and <u>J Wrobel</u>, "Fast Generalized Functional Principal Components Analysis", 2025+.

SOFTWARE

- J Goldsmith, F Scheipl, L Huang, <u>J Wrobel</u>, 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 291,000 downloads.
 - author: "mfpca.sc(): multilevel FPCA by smoothed covariance"
 - contributor: version 0.1-15 to present
 - maintainer: version 0.1-16 to present
- <u>J Wrobel</u>, and A Soupir, "mxfda: A Functional Data Analysis Package for Spatial Single Cell Data" *R package available on CRAN and GitHub* Apr 2024. Downloaded 1461 times as of 2025-05-01.
- <u>J Wrobel</u>, and T Ghosh, "VectraPolarisData" *R data package available on Bioconductor ExperimentHub* Apr 2022. Downloaded 2479 times as of 2025-05-01.
- C Harris, <u>J Wrobel</u>, and S Vandekar, "mxnorm: An R Package to Normalize Multiplexed Imaging Data" *R package available on CRAN and GitHub* Apr 2022. Downloaded 9633 times as of 2025-05-01.
- <u>J Wrobel</u>, EI McDonnell, A Bauer, and J Goldsmith, "registr: Registration for exponential family functional data," *R package available on CRAN and GitHub* Nov 2017. Downloaded 17,199 times as of 2025-05-01.
- <u>J Wrobel</u> and J Goldsmith, "refund.shiny: interactive graphics for functional data analysis," *R package available on CRAN* Sep 2015. Downloaded 30,886 times as of 2025-05-01.
- <u>J Wrobel</u>, C Crainiceanu, and A Leroux, "fastGFPCA: fast generalized functional principal components analysis" *R package available on Github* Oct 2022.

PRESENTATIONS INVITED WORKSHOPS, DEPARTMENT SEMINARS, AND WORKING GROUPS

- "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data," *Department of Biostatistics & Informatics, Colorado School of Public Health*, Department Seminar, Dec 2024.
- "Modeling trajectories using functional linear differential equations," *Department of Biostatistics, University of Minnesota*, Department Seminar, Oct 2024.
- "Modeling trajectories using functional linear differential equations," Department of Biostatistics Functional Data Analysis Working Group, University of Pennsylvania, Oct 2024.
- "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data," *Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania,* Biomedical data science seminar series, Sep 2024.
- "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data," *Department of Biostatistics, Johns Hopkins University*, Department Seminar, Sep 2024.
- "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data," *Division of Biostatistics , University of Pittsburgh*, Department Seminar, Sep 2024.
- "Statistical analysis of single-cell protein data," *Pacific Symposium on Biocomputing workshop*, Big Island, Hawaii, Jan 2024.
- "Analysis of wearable device data using functional data models," *Department of Biomedical Informatics, Emory University School of Medicine,* Seminar, Dec 2023.
- "Modeling trajectories using functional linear differential equations," *Department of Biostatistics Functional Data Analysis Working Group, Columbia University*, Oct 2023.
- "Introduction to single-cell multiplex imaging data," ASA Statistics in Imaging Section Virtual Working Group, Sep 2023.
- "A workshop for analysis of multiplex single-cell imaging data in R," *Department of Biostatistics, University of Michigan,* Cancer Data Science Seminar Series, Apr 2023.

- "Challenges and advances in multiplex imaging," *Department of Biostatistics PENNSIVE Statistical Imaging Group, University of Pennsylvania,* Seminar, Mar 2022.
- "Registration for wearable device data with application to circadian rhythm chronotype discovery," *Department of Statistics and Actuarial Science, University of Waterloo*, Virtual Department Seminar, Mar 2022.
- "Registration for wearable device data with application to circadian rhythm chronotype discovery," *Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania*, Virtual Department Seminar, Feb 2022.
- "Registration for wearable device data with application to circadian rhythm chronotype discovery," *Department of Biostatistics, Vanderbilt University,* Jun 2021.
- "Registration for wearable device data with application to circadian rhythm chronotype discovery," *Department of Biostatistics, Johns Hopkins University*, Virtual Department Seminar, Sep 2020.
- "Registration for wearable device data with application to circadian rhythm chronotype discovery," *Department of Epidemiology and Biostatistics, University of California San Francisco,* Virtual Department Seminar, Aug 2020.
- <u>J Wrobel</u>, B Bitler, C Rickert, and K Jordan, "Multiplexed Ion Beam Imaging (MIBI) analysis of the ovarian tumor microenvironment," *Department of Immunology and Microbiology, CU Anschutz School of Medicine*, Virtual Department Seminar, Jul 2020.

INVITED TALKS

- "Modeling trajectories using functional linear differential equations," *2024 ICSDS*, Nice, France, Dec 2024.
- "A case study of pupil dynamics after cannabis consumption using nested-crossed function-on-scalar regression," *2024 CMStatistics*, London, UK, Dec 2024.
- "A robust, scalable K-statistic for quantifying immune cell clustering in spatial proteomics data," 2024 International Biometric Conference, Atlanta, GA, USA, Dec 2024.
- "A scalable robust K-statistic for quantifying immune-cell clustering in multiplex imaging data," *2024 JSM*, Portland, OR, USA, Aug 2024.
- "A scalable robust K-statistic for quantifying immune-cell clustering in multiplex imaging data," 2024 ASA Statistical Methods in Imaging, Indianapolis, IN, USA, May 2024.
- "A scalable robust K-statistic for quantifying immune-cell clustering in multiplex imaging data," *2024 StatGen*, Pittsburgh, PA, USA, May 2024.
- "Tools and software for functional data analysis of multiplexed imaging data," *2024 ENAR*, Baltimore, MD, USA, Mar 2024.
- "Modeling trajectories using functional linear differential equations," *2023 CMStatistics*, Berlin, Germany, Dec 2023.
- "Analysis of wearable device data using functional data models," *BERD 2023 Wearables research forum*, **keynote address**, Atlanta, Georgia, Nov 2023.
- "Using digital biomarkers to predict cannabis impaired driving," 2023 Emory Research Week forum on AI, Atlanta, Georgia, Oct 2023.
- "Analysis of wearable device data using functional data models," *2023 Georgia Statistics Day*, Atlanta, Georgia, Oct 2023.
- "Analysis of immune cell spatial clustering using functional data models," *2023 JSM*, Toronto, Canada, Aug 2023.
- "Fast generalized functional principal components analysis," 2023 International Indian Statistical Association Conference, Golden, CO, USA, Jun 2023.
- "Analysis of immune cell spatial clustering using functional data models," *2023 ASA Statistical Methods in Imaging*, Minneapolis, MN, USA, May 2023.
- "Detecting changes in pupillary light response associated with acute cannabis consumption," *2022 CMStatistics*, London, UK, Dec 2022.
- "Challenges and advances in multiplex imaging," 2022 JSM, Washington DC, USA, Aug 2022.
- "Modeling trajectories using functional linear first-order differential equations," *2022 EcoSta*, Kyoto, Japan, Jun 2022.
- "Challenges and advances in multiplex imaging," 2022 ASA Statistical Methods in Imaging, Nashville, TN, USA, May 2022.
- "Challenges in multiplex imaging," 2021 CMStatistics, Virtual Conference, Dec 2021.
- "Intensity warping for multisite MRI harmonization," *2021 Statistical Methods in Imaging*, Virtual Conference, May 2021.

- "Online control of reach accuracy and functional data models for dynamic movement," *2020 CMStatistics*, Virtual Conference, Dec 2020.
- "Physical activity patterns across ages in the NHANES data," *2020 JSM*, Philadelpha, PA, USA, Aug 2020.
- "Modeling kinematic behavior using functional linear first-order differential equations," *2020 ENAR*, Nashville, TN, USA, Mar 2020.
- "Circadian rhythms revealed by accelerometers," *Use of Wearable and Implantable Devices in Health Research*, Banff International Research Station, Alberta, Canada, Feb 2020.
- "Intensity warping for multisite MRI harmonization," 2019 CMStatistics, London, UK, Dec 2019.
- "Identifying circadian chronotypes using accelerometers," *2018 CMStatistics*, Pisa, Italy, Dec 2018.
- "Modeling the effects of high-dimensional covariates on 3D kinematics," 2018 PEPS Workshop on advances in functional data analysis, Rennes, Brittany, France, Oct 2018.
- "Registration for exponential family functional data," 2018 JSM, Vancouver, Canada, Aug 2018.
- "Clustering and Modeling Addressable Advertising Impression Curves," *AT&T Labs Intern Research Showcase*, New York, NY, USA, Jul 2018.
- "Introduction to Shiny using NBA Data," *RLadies NYC, hosted at NBA NYC*, New York, NY, USA, May 2018.
- "Registration for exponential family functional data," 2017 CMStatistics, London, UK, Dec 2017.
- "Identifying patterns in physical activity," 2017 AT&T Labs Graduate Student Symposium, New York, NY, USA, Dec 2017.
- "Registration for binary functional data," 2017 ICSA Applied Statistics Symposium, Chicago, IL, USA, Jun 2017.

POSTERS

- "Can early intervention save money in addressable advertising?," 2018 AT&T Labs Intern Poster Session, Bedminster, NJ, USA, Jul 2018.
- "Removing scanner variability from structural MRIs," 2018 Statistical Methods in Imaging (SMI) Conference, Philadelphia, PA, USA, Jun 2018.
- "Communicating results of functional data analyses with interactive graphics," 2017 Women in *Statistics and Data Science (WSDS) Conference*, La Jolla, California, USA, Oct 2017.
- "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.
- "Associations and patterns in ambulatory blood pressure," *Columbia University Department of Biostatistics 75th Anniversary Gala*, New York, NY, USA, Apr 2015.

LEADERSHIP	FuDGE: Functional data working group at Emory University , Rollin Co-founder and Organizer	ns School of Public Health Jan 2024 – Present
	imgfun: Image and Functional Data Analysis Working Group , Colora Co-founder and Organizer	do School of Public Health Jan 2022 – Jun 2023
	Biostatistics Graduate Student Research Working Group , Columbia Founder and Organizer	University Dec 2015 – Jun 2019
	Columbia Biostatistics Computing Club , Columbia University Founder and Co-Organizer	Dec 2016 – Jun 2018
	Biostatistics Student Cohort , Columbia University Doctoral Student Leader	Aug 2015 – Jun 2019
TEACHING	Full Courses	
	<i>Emory University</i> Advanced Statistical Computing (11 enrolled students)	Spring 2025

Colorado School of Public Health	
Biostatistical Consulting II (12 enrolled students)	Spring 2023
Biostatistical Methods II (28 enrolled students)	Spring 2023
Biostatistical Methods II (34 enrolled students)	Spring 2022
Biostatistical Methods II (24 enrolled students)	Spring 2021

• Developed YouTube videos for flipped-classroom format which have been watched over 78.8K times since January 2021

Guest Lectures

- "R Shiny", Current topics in data science, Emory University Rollins School of Public Health, April 2025
- "Reproducible project organization", Statistical Practice I, Emory University Rollins School of Public Health, October 2024
- "Introduction to single cell multiplex imaging data", Introduction to Large-Scale Biomedical Data Analysis, Emory University Rollins School of Public Health, October 2023
- "Introduction to web scraping", R for Data Science, Colorado School of Public Health, November 2019
- "Introduction to web APIs", R for Data Science, Colorado School of Public Health, November 2019
- "Nonparameteric hypothesis testing", Biostatistics Methods I, Colorado School of Public Health, October 2019
- "Gibbs sampling and the Metropolis-Hasting algorithm", Advanced Data Analysis, Colorado School of Public Health, September 2019
- "Introduction to Bayesian regression", Longitudinal Data Analysis, Columbia University Mailman School of Public Health, November 2018
- "Building Shiny apps with flexdashboard", Data Science I, Columbia University Mailman School of Public Health, October 2017

ADVISING PhD Thesis Advising

- Weijia Qian (Emory Biostatistics), 2024-Present
- Sarah Bird (Colorado Biostatistics), joint with Ryan Peterson, 2024-Present
- · Jared Rieck (Colorado Biostatistics), joint with Ryan Peterson, 2023-Present
- Suneeta Godbole (Colorado Biostatistics), joint with Andrew Leroux, 2021-2024. *First employment*: Senior Research Scientist, Quantitative Sciences Unit, Stanford University

Master's Thesis Advising

- Savannah Ngo (MSPH, Emory Biostatistics) 2024-2025
- Sarah Bird (Colorado Biostatistics), joint with Ryan Peterson, 2023-2024
- Dustin Rogers (Colorado Biostatistics), joint with Andrew Leroux, 2022-2023
- Jared Rieck (Colorado Biostatistics), 2022-2023
- · Savannah Mierau (Colorado Biostatistics), joint with Alex Kaizer, 2021-2023
- · Shelby Smith (Colorado Biostatistics), joint with Mary Sammel, 2021-2022
- Benjamin Steinhart (Colorado Biostatistics) 2020-2022
- Samantha Bothwell (Colorado Biostatistics), 2019-2021

Doctoral Examination and Defense Committees

- · Ying Jin, Department of Biostatistics and Informatics, Expected graduation 2024
- Yanran Wang, Department of Biostatistics and Informatics, Expected graduation 2024
- Alex Jensen, Department of Biostatistics and Informatics, Graduated Fall 2022
- · Connor McCullough, Department of Bioengineering, Graduated Fall 2022