John Muschelli

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Education

2012–2016 **PhD**, *Biostatistics*,
Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.
Computational Methods for Neuroimaging in R: Stroke Hemorrhage in X-ray Computed Tomography Scanning. Advisor: Ciprian Crainiceanu, PhD

Relevant Experience

2020–
Present **Associate Scientist**, *Department of Biostatistics*, Johns Hopkins Bloomberg School of Public Health, (Research-track Faculty).

Peer-Reviewed Publications from past 3 years

* denotes authors contributed equally

2023   Savonen, C. (2023). "Open-source tools for training resources–OTTR". *Journal of Statistics and Data Science Education* 31.1, pp. 57–65.

Zhao, C. (2023). "ModelArray: an R package for statistical analysis of fixel-wise data". *Neuroimage* 271, p. 120037.

2022   Karas, M. (2022). "Comparison of accelerometry-based measures of physical activity: retrospective observational data analysis study". *JMIR mHealth and uHealth* 10.7, e38077.

Pham, D. D. (2022). "ciftiTools: a package for reading, writing, visualizing, and manipulating CIFTI files in R". *NeuroImage* 250, p. 118877.

Qi, G. (2022). "Genome-wide association studies of 27 accelerometry-derived physical activity measurements identified novel loci and genetic mechanisms". *Genetic epidemiology* 46.2, pp. 122–138.

Redd, A. D. (2022). "Curating the evidence about COVID-19 for frontline public health and clinical care: the novel coronavirus research compendium". *Public Health Reports* 137.2, pp. 197–202.

Sharrock, M. F. (2022). "Bayesian deep learning outperforms clinical trial estimators of intracerebral and intraventricular hemorrhage volume". *Journal of Neuroimaging* 32.5, pp. 968–976.

Smirnova, E. (2022). "Predictive performance of selected breath volatile organic carbon compounds in stage 1 lung cancer". *Translational Lung Cancer Research* 11.6, p. 1009.

2021   Bennett, T. D. (July 2021). "Clinical Characterization and Prediction of Clinical Severity of SARS-CoV-2 Infection Among US Adults Using Data From the US National COVID Cohort Collaborative". *JAMA Network Open* 4.7, e2116901–e2116901. eprint: `https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2781923/bennett\_2021\_oi\_210506\_1625605077.56265.pdf`.

Bowring, M. G. (2021). "Outcome-stratified analysis of biomarker trajectories for patients infected with severe acute respiratory syndrome coronavirus 2". *American journal of epidemiology* 190.10, pp. 2094–2106.

Broll, S. (2021). "Interpreting blood glucose data with R package iglu". *PloS one* 16.4, e0248560.

Garibaldi, B. T. (2021). "Patient trajectories among persons hospitalized for COVID-19: a cohort study". *Annals of Internal Medicine* 174.1, pp. 33–41.

Leroux, A. (2021). "Quantifying the predictive performance of objectively measured physical activity on mortality in the UK Biobank". *The Journals of Gerontology: Series A* 76.8, pp. 1486–1494.

Scully, E. P. (2021). "Sex and gender differences in testing, hospital admission, clinical presentation, and drivers of severe outcomes from COVID-19". *Open forum infectious diseases*. Vol. 8. 9, ofab448.

Sharrock, M. F. (2021). "3D deep neural network segmentation of intracerebral hemorrhage: development and validation for clinical trials". *Neuroinformatics* 19.3, pp. 403–415.

Torbati, M. E. (2021). "A multi-scanner neuroimaging data harmonization using RAVEL and ComBat". *Neuroimage* 245, p. 118703.

Tustison, N. J. (2021). "The ANTsX ecosystem for quantitative biological and medical imaging". *Scientific reports* 11.1, pp. 1–13.

Wang, G. (2021). "Moderated t-tests for group-level fMRI analysis". *NeuroImage* 237, p. 118141.

Wongvibulsin, S. (2021). "Development of severe COVID-19 adaptive risk predictor (SCARP), a calculator to predict severe disease or death in hospitalized patients with COVID-19". *Annals of internal medicine* 174.6, pp. 777–785.

Wrobel, J. (2021). "Diurnal physical activity patterns across ages in a large UK based cohort: the UK Biobank study". *Sensors* 21.4, p. 1545.

Software: R Packages

All download counts are from RStudio CRAN logs and are accurate as of May 23, 2024.

rscopus: Scopus Database API Interface, *269857*.

neurobase: Neuroconductor Base Package with Helper Functions for nifti Objects, *78671*.

diffr: Display Differences Between Two Files using Codediff Library, *67396*.

fslr: Wrapper Functions for FSL (FMRIB Software Library) from Functional MRI of the Brain (FMRIB), *60895*.

matlabr: An Interface for MATLAB using System Calls, *48878*.

brainR: Helper Functions to misc3d and rgl Packages for Brain Imaging, *48675*.

gifti: Reads in Neuroimaging GIFTI Files with Geometry Information, *44738*.

mscstts: R Client for the Microsoft Cognitive Services Text-to-Speech REST API, *44289*.

WhiteStripe: White Matter Normalization for Magnetic Resonance Images, *40874*.

text2speech: Text to Speech Conversion, *32086*.

kirby21.base: Example Data from the Multi-Modal MRI Reproducibility Resource, *32078*.

gcite: Google Citation Parser, *31759*.

freesurfer: Wrapper Functions for Freesurfer, *31560*.

cifti: Toolbox for Connectivity Informatics Technology Initiative (CIFTI) Files, *30545*.

neurohcp: Human Connectome Project Interface, *29213*.

spm12r: Wrapper Functions for SPM (Statistical Parametric Mapping) Version 12 from the Wellcome Trust Centre for Neuroimaging, *27548*.

kirby21.t1: Example T1 Structural Data from the Multi-Modal MRI Reproducibility Resource, *26857*.

kirby21.fmri: Example Functional Imaging Data from the Multi-Modal MRI Reproducibility Resource, *26386*.

glassdoor: Interface to Glassdoor API, *25900*.

papayar: View Medical Research Images using the Papaya JavaScript Library, *24868*.

stapler: Simultaneous Truth and Performance Level Estimation, *23880*.

leanpubr: Leanpub API Interface, *19500*.

nsrr: Interface to National Sleep Research Resource, *17065*.

fedreporter: Interface to Federal RePORTER API, *14928*.

neurovault: Neurovault Database API Access, *1677*.