John Muschelli

☎ 610-291-7685
✉ muschellij2@gmail.com
http://johnmuschelli.com
GitHub: muschellij2

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

2020 **Muschelli, J.** (2020). "A publicly available, high resolution, unbiased CT brain template". *International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems*, pp. 358–366.

Ding, T (2020). "An improved algorithm of white matter hyperintensity detection in elderly adults". *NeuroImage: Clinical* 25, p. 102151.

Gherman, A. (2020). "Rxnat: an open-source R package for XNAT-based repositories". *Frontiers in Neuroinformatics* 14.

Hannawi, Y. (2020). "Postcardiac arrest neurological prognostication with quantitative regional cerebral densitometry". *Resuscitation* 154, pp. 101–109.

Hansen, B. M. (2020). "Relationship of white matter lesions with intracerebral hemorrhage expansion and functional outcome: MISTIE II and CLEAR III". *Neurocritical Care*, pp. 1–9.

Kross, S. (2020). "ari: The Automated R Instructor". *The R Journal* 12.1, pp. 258–265.

Minhas, D. S. (2020). "Statistical methods for processing neuroimaging data from two different sites with a Down syndrome population application". *International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems*, pp. 367–379.

Rothstein, J. D. (2020). "'The doctor said formula would help me': health sector influences on use of infant formula in peri-urban Lima, Peru". *Social Science & Medicine* 244.112324.

Ryan, S. M. (2020). "Template creation for high-resolution computed tomography scans of the lung in R software". *Academic radiology* 27.8, e204–e215.

Valcarcel, A. M. (2020). "TAPAS: a thresholding approach for probability map automatic segmentation in multiple sclerosis". *NeuroImage: Clinical*.

2019 **Muschelli, J.** (2019b). "ROC and AUC with a binary predictor: a potentially misleading metric". *Journal of Classification*, pp. 1–13.

Muschelli, J. (2019a). "Recommendations for processing head CT data". *Frontiers in Neuroinformatics* 13, p. 61.

Hadavand, A. (2019). “Analysis of student behavior using the R package crsra”. *Journal of Learning Analytics* 6.2, pp. 140–152.

2018 **Muschelli, J.** (2018). “freesurfer: connecting the Freesurfer software with R”. *F1000Research* 7.

Muschelli, J. (2018). “Neuroconductor: an R platform for medical imaging analysis”. *Biostatistics*, kxx068. eprint: `/oup/backfile/content_public/journal/biostatistics/pap/10.1093_biostatistics_kxx068/1/kxx068.pdf`.

Commowick, O. (2018). “Objective evaluation of multiple sclerosis lesion segmentation using a data management and processing infrastructure”. *Scientific Reports* 8, p. 13650.

Smith, C. H. (2018). “Feasibility of coping effectiveness training for caregivers of children with autism spectrum disorder: a genetic counseling intervention”. *Journal of genetic counseling* 27.1, pp. 252–262.

Valcarcel, A. (2018c). “TAPAS: threshold adjustment to probability map automatic segmentations”. *MULTIPLE SCLEROSIS JOURNAL*. Vol. 24, pp. 629–630.

Valcarcel, A. M. (2018b). “MIMoSA: an automated method for intermodal segmentation analysis of multiple sclerosis brain lesions”. *Journal of Neuroimaging*.

Valcarcel, A. M. (2018a). “MIMoSA: an approach to automatically segment T2 hyperintense and T1 hypointense lesions in multiple sclerosis”. *International MICCAI Brainlesion Workshop*, pp. 47–56.

Software: R Packages

All download counts are from RStudio CRAN logs and are accurate as of December 02, 2022.

rscopus: Scopus Database API Interface, *163502*.

neurobase: Neuroconductor Base Package with Helper Functions for nifti Objects, *65488*.

fslr: Wrapper Functions for FSL (FMRIB Software Library) from Functional MRI of the Brain (FMRIB), *52572*.

diffr: Display Differences Between Two Files using Codediff Library, *51781*.

brainR: Helper Functions to misc3d and rgl Packages for Brain Imaging, *43521*.

matlabr: An Interface for MATLAB using System Calls, *43269*.

mscstts: R Client for the Microsoft Cognitive Services Text-to-Speech REST API, *37928*.

WhiteStripe: White Matter Normalization for Magnetic Resonance Images using WhiteStripe, *35795*.

gifti: Reads in Neuroimaging GIFTI Files with Geometry Information, *35096*.

freesurfer: Wrapper Functions for Freesurfer, *30008*.

kirby21.base: Example Data from the Multi-Modal MRI Reproducibility Resource, *28529*.

gcite: Google Citation Parser, *27087*.

cifti: Toolbox for Connectivity Informatics Technology Initiative (CIFTI) Files, *26584*.

text2speech: Text to Speech, *25849*.

spm12r: Wrapper Functions for SPM (Statistical Parametric Mapping) Version 12 from the Wellcome Trust Centre for Neuroimaging, *25630*.

neurohcp: Human Connectome Project Interface, *25224*.

papayar: View Medical Research Images using the Papaya JavaScript Library, *24242*.

kirby21.t1: Example T1 Structural Data from the Multi-Modal MRI Reproducibility Resource, *23803*.

kirby21.fmri: Example Functional Imaging Data from the Multi-Modal MRI Reproducibility Resource, *23353*.

glassdoor: Interface to Glassdoor API, *22909*.

stapler: Simultaneous Truth and Performance Level Estimation, *20779*.

leanpubr: Leanpub API Interface, *16848*.

nsrr: Interface to National Sleep Research Resource, *15964*.

fedreporter: Interface to Federal RePORTER API, *14641*.

neurovault: Neurovault Database API Access, *1293*.