

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

2016–
Present **Assistant 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

- 2019 **Muschelli, J.** “Roc and auc with a binary predictor: a potentially misleading metric”. *Journal of Classification*. In Press.
- Muschelli, J.** “Recommendations for processing head ct data”. *Frontiers in Neuroinformatics* 13, p. 61.
- Hadavand, A. “Analysis of student behavior using the R package crsra”. *Journal of Learning Analytics* 6.2, pp. 140–152.
- 2018 **Muschelli, J.** “freesurfer: connecting the Freesurfer software with R”. *F1000Research* 7.
- Muschelli, J.** “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](http://oup/backfile/content_public/journal/biostatistics/pap/10.1093_biostatistics_kxx068/1/kxx068.pdf).
- Commowick, O. “Objective evaluation of multiple sclerosis lesion segmentation using a data management and processing infrastructure”. *Scientific Reports*.
- Smith, C. H. “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. “TAPAS: threshold adjustment to probability map automatic segmentations”. *MULTIPLE SCLEROSIS JOURNAL*. Vol. 24, pp. 629–630.
- Valcarcel, A. M. “MIMoSA: an automated method for intermodal segmentation analysis of multiple sclerosis brain lesions”. *Journal of Neuroimaging*.
- 2017 **Muschelli, J.** “PltCHPERFeCT: primary intracranial hemorrhage probability estimation using random forests on CT”. *NeuroImage: Clinical* 14, pp. 379–390.
- Hanley, D. F. “Thrombolytic removal of intraventricular haemorrhage in treatment of severe stroke: results of the randomised, multicentre, multiregion, placebo-controlled CLEAR III trial”. *The Lancet* 389.10069, pp. 603–611.
- Kickingeder, P. “Radiomic subtyping improves disease stratification beyond key molecular, clinical and standard imaging characteristics in patients with glioblastoma.” *Neuro-Oncology*.

Maier, O. "ISLES 2015 - a public evaluation benchmark for ischemic stroke lesion segmentation from multispectral MRI". *Medical Image Analysis* 35, pp. 250–269.

Software

R Packages

All download counts are from RStudio CRAN logs and are accurate as of January 14, 2020.

rscopus: Scopus Database API Interface, 40908.

fslr: Wrapper Functions for FSL (FMRIB Software Library) from Functional MRI of the Brain (FMRIB), 29804.

neurobase: Neuroconductor Base Package with Helper Functions for nifti Objects, 22940.

brainR: Helper Functions to misc3d and rgl Packages for Brain Imaging, 22838.

matlabr: An Interface for MATLAB using System Calls, 20639.

WhiteStripe: White Matter Normalization for Magnetic Resonance Images using WhiteStripe, 18286.

diffR: Display Differences Between Two Files using Codediff Library, 18096.

spm12r: Wrapper Functions for SPM (Statistical Parametric Mapping) Version 12 from the Wellcome Trust Centre for Neuroimaging, 11660.

kirby21.base: Example Data from the Multi-Modal MRI Reproducibility Resource, 11014.

gcite: Google Citation Parser, 10184.

freesurfer: Wrapper Functions for Freesurfer, 10053.

papayar: View Medical Research Images using the Papaya JavaScript Library, 9632.

gifti: Reads in Neuroimaging GIFTI Files with Geometry Information, 9070.

kirby21.t1: Example T1 Structural Data from the Multi-Modal MRI Reproducibility Resource, 8903.

cifti: Toolbox for Connectivity Informatics Technology Initiative (CIFTI) Files, 8480.

kirby21.fmri: Example Functional Imaging Data from the Multi-Modal MRI Reproducibility Resource, 8017.

neurohcp: Human Connectome Project Interface, 7372.

mcsstts: R Client for the Microsoft Cognitive Services Text-to-Speech REST API, 7361.

glassdoor: Interface to Glassdoor API, 7295.

fedreporter: Interface to Federal RePORTER API, 6529.

stapler: Simultaneous Truth and Performance Level Estimation, 6185.

leanpubr: Leanpub API Interface, 4382.

text2speech: Text to Speech, 3462.

nsrr: Interface to National Sleep Research Resource, 3294.

neurovault: Neurovault Database API Access, 533.