

## Accepted Manuscript

Title: Spatially adaptive unsupervised multispectral nonlocal filtering for improved cerebral blood flow mapping using arterial spin labeling magnetic resonance imaging

Authors: Mustapha Bouhrara, Diana Y. Lee, Abinand C. Rejimon, Christopher M. Bergeron, Richard G. Spencer



PII: S0165-0270(18)30253-X  
DOI: <https://doi.org/10.1016/j.jneumeth.2018.08.018>  
Reference: NSM 8090

To appear in: *Journal of Neuroscience Methods*

Received date: 6-6-2018  
Revised date: 15-8-2018  
Accepted date: 15-8-2018

Please cite this article as: Bouhrara M, Lee DY, Rejimon AC, Bergeron CM, Spencer RG, Spatially adaptive unsupervised multispectral nonlocal filtering for improved cerebral blood flow mapping using arterial spin labeling magnetic resonance imaging, *Journal of Neuroscience Methods* (2018), <https://doi.org/10.1016/j.jneumeth.2018.08.018>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# **Spatially adaptive unsupervised multispectral nonlocal filtering for improved cerebral blood flow mapping using arterial spin labeling magnetic resonance imaging**

**Authors names:** Mustapha Bouhrara\*, Diana Y. Lee†, Abinand C. Rejimon†, Christopher M. Bergeron, and Richard G. Spencer.

**Authors' affiliation:** Laboratory of Clinical Investigation, National Institute on Aging, NIH, Baltimore, Maryland, USA.

†Equal contribution.

\*Address correspondence to: Mustapha Bouhrara, *PhD.*, National Institutes of Health (NIH), National Institute on Aging (NIA), Intramural Research Program, BRC 04B-117, 251 Bayview Boulevard, Baltimore, MD 21224, USA. Tel: 410-558-8541, E-mail: [bouhraram@mail.nih.gov](mailto:bouhraram@mail.nih.gov)

**Type of paper:** Research paper.

## **Highlights**

- We applied the NESMA filter to improve cerebral blood flow (CBF) mapping from ASL MRI data
- The NESMA-ASL filter outperforms other advanced filters in terms of noise reduction and detail preservation
- NESMA-ASL is spatially adaptive, requires only one user-defined parameter, and is straightforward to implement

Download English Version:

<https://daneshyari.com/en/article/10130106>

Download Persian Version:

<https://daneshyari.com/article/10130106>

[Daneshyari.com](https://daneshyari.com)