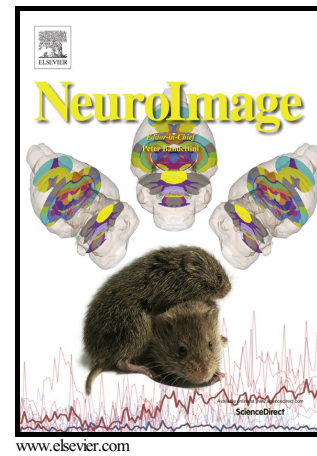


Resting State Network Topology of the Ferret Brain

Zhe Charles Zhou, Andrew P. Salzwedel, Susanne Radtke-Schuller, Yuhui Li, Kristin K. Sellers, John H. Gilmore, Yen-Yu Ian Shih, Flavio Fröhlich, Wei Gao



PII: S1053-8119(16)30464-5
DOI: <http://dx.doi.org/10.1016/j.neuroimage.2016.09.003>
Reference: YNIMG13430

To appear in: *NeuroImage*

Received date: 5 May 2016
Revised date: 17 August 2016
Accepted date: 1 September 2016

Cite this article as: Zhe Charles Zhou, Andrew P. Salzwedel, Susanne Radtke-Schuller, Yuhui Li, Kristin K. Sellers, John H. Gilmore, Yen-Yu Ian Shih, Flavio Fröhlich and Wei Gao, Resting State Network Topology of the Ferret Brain *NeuroImage*, <http://dx.doi.org/10.1016/j.neuroimage.2016.09.003>

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 galley proof before it is published in its final citable 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.

Resting State Network Topology of the Ferret Brain

Zhe Charles Zhou^{1,8}, Andrew P. Salzwedel^{9,10}, Susanne Radtke-Schuller¹, Yuhui Li¹, Kristin K. Sellers^{1,8},
John H. Gilmore¹, Yen-Yu Ian Shih^{3,4,5,6,7,8}, Flavio Fröhlich^{1,2,3,4,7,8*}, Wei Gao^{9,10*}

¹Department of Psychiatry, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

²Department of Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

³Department of Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁴Department of Neurology, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁵Biomedical Research Imaging Center, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁶Small Animal Imaging Facility, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁷Neuroscience Center, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁸Neurobiology Curriculum, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

⁹Biomedical Imaging Research Institute, Cedars-Sinai Medical Center, Los Angeles, CA 90048

¹⁰Department of Biomedical Sciences, Cedars-Sinai Medical Center, Los Angeles, CA 90048

Correspondence should be addressed to: Flavio Fröhlich, 115 Mason Farm Rd. NRB 4109F, Chapel Hill, NC. 27599. Tel.: 1.919.966.4584. flavio_fröhlich@med.unc.edu

&

Wei Gao, 8700 Beverly Blvd., Los Angeles, CA. Tel.: 1.310.423.6699. wei.gao@cshs.org

*Authors contributed equally

Abstract

Resting state functional magnetic resonance imaging (rsfMRI) has emerged as a versatile tool for non-invasive measurement of functional connectivity patterns in the brain. RsfMRI brain dynamics in rodents, non-human primates, and humans share similar properties; however, little is known about the resting state functional connectivity patterns in the ferret, an animal model with high potential for developmental and cognitive translational study. To address this knowledge-gap, we performed rsfMRI on anesthetized ferrets using a 9.4 tesla MRI scanner, and subsequently performed group-level independent component analysis (gICA) to identify functionally connected brain networks. Group-level ICA analysis revealed distributed sensory, motor, and higher-order networks in the ferret brain.

Download English Version:

<https://daneshyari.com/en/article/6023037>

Download Persian Version:

<https://daneshyari.com/article/6023037>

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