



Michael Eddy F Belloy

Postdoctoral Research Fellow, Neurology and Neurological Sciences

Bio

BIO

I have a long-standing interest in brain function and network dynamics in both health and disease. I pursue this interest at the interface between state of the art brain imaging technologies and advanced data modelling. This translates into the investigation of large-scale multimodal datasets that contain information on structural and functional brain properties, genetics, and other biomarker data. More recently, I have developed a strong interest to investigate the genetic underpinnings of neurological disorders and their clinical substrates.

I am currently a post-doc at Stanford university, under the lead of Dr. Michael D Greicius, performing genetics and imaging research into Alzheimer's disease and other complex neurological disorders in humans. My main aims are to identify genetic factors that may be causative to Alzheimer's disease and to determine related endophenotypes from publicly available imaging and biomarker data bases. My current project seeks to unravel differential genetic risk for AD across sub-ethnic groups and by interaction with a patients APOE genotype.

During my phd, supervised by Dr. Marleen Verhoye, Dr. Shella Keilholz and Dr. Georgios A Keliris, I worked on developing dynamic resting state functional (rsf)MRI in mice, which lead to the first observation of mouse Quasi-Periodic patterns, and related applications for Alzheimer's disease research in rodents. I still have an ongoing interest in dynamic rsfMRI research.

PROFESSIONAL EDUCATION

- Doctor of Science, Universitaire Instelling Antwerpen (2018)
- Bachelor of Science, Universitaire Instelling Antwerpen (2011)
- Master of Science, Universitaire Instelling Antwerpen (2014)

STANFORD ADVISORS

- Michael Greicius, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Quasi-periodic patterns contribute to functional connectivity in the brain** *NEUROIMAGE*
Abbas, A., Belloy, M., Kashyap, A., Billings, J., Nezafati, M., Schumacher, E. H., Keilholz, S.
2019; 191: 193–204
- **Molecular Imaging of Immune Cell Dynamics During De- and Remyelination in the Cuprizone Model of Multiple Sclerosis by [F-18]DPA-714 PET and MRI** *THERANOSTICS*
Zinnhardt, B., Belloy, M., Fricke, I. B., Orije, J., Guglielmetti, C., Hermann, S., Wagner, S., Schaefers, M., Van der Linden, A., Jacobs, A. H.

2019; 9 (6): 1523–37

- **Bottom-up sensory processing can induce negative BOLD responses and reduce functional connectivity in nodes of the default mode-like network in rats.** *NeuroImage*

Hinz, R., Peeters, L. M., Shah, D., Missault, S., Belloy, M., Vanreusel, V., Malekzadeh, M., Verhoye, M., Van der Linden, A., Keliris, G. A.
2019; 197: 167–76

- **A Quarter Century of APOE and Alzheimer's Disease: Progress to Date and the Path Forward.** *Neuron*

Belloy, M. E., Napolioni, V., Greicius, M. D.
2019; 101 (5): 820–38

- **Dynamic resting state fMRI analysis in mice reveals a set of Quasi-Periodic Patterns and illustrates their relationship with the global signal** *NEUROIMAGE*

Belloy, M. E., Naeyaert, M., Abbas, A., Shah, D., Vanreusel, V., Van Audekerke, J., Keilholz, S. D., Keliris, G. A., Van der Linden, A., Verhoye, M.
2018; 180: 463–84

- **Quasi-Periodic Patterns of Neural Activity improve Classification of Alzheimer's Disease in Mice** *SCIENTIFIC REPORTS*

Belloy, M. E., Shah, D., Abbas, A., Kashyap, A., Rossner, S., Van der Linden, A., Keilholz, S. D., Keliris, G. A., Verhoye, M.
2018; 8: 10024