Ph.D.

Joseph Ryan Petrulli

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Summary:

A National Science Foundation graduate research fellow with 5 years of positron emission tomography (PET) imaging experience. Will complete a PhD thesis focused on a novel PET tracer used in lung cancer (^{11}C-erlotinib) for use in personalized cancer treatment and radiation dosimetry. Organized, self-driven researcher who has employed quantitative image analysis techniques for varied applications in radiology, oncology, psychiatry, and dosimetry for over 7 years.

Education:

Yale University
- 2014 Biomedical Engineering, Master of Science
- 2015 Biomedical Engineering, Master of Philosophy
- 2017 Biomedical Engineering, Doctor of Philosophy (expected)

University of Pittsburgh
- 2012 Bioengineering, Bachelor of Science
- 2012 Chemistry, Minor
- GPA: 3.59/4.00

Research Experience:

Graduate Student - Yale University PET Center — June 2012 - Present
Thesis Mentor: Evan Morris (PhD)

- Characterized the radiation dosimetry, kinetic modeling, and specific binding of ^{11}C-erlotinib through my thesis research. I am the primary author of a manuscript focused on how to use this radiotracer in accordance with FDA regulatory policy.
- Aided in the authorship of grant R01 CA195493-01 which extended the use of ^{11}C-erlotinib into cancer patients. I act as the manager of this project and am involved in all areas of its execution including subject recruitment and consent, coordination of experimental procedures with PET staff, data analysis, and presentation of findings.
- Collaborated in neuroscience projects primarily concerning the role of dopamine in the brain following various drug challenges. I have worked with other departments at Yale and with a major pharmaceutical company regarding how to plan, perform, revise, and present an appropriate pharmacological study.

Research Assistant - Geriatric Psychiatry Neuroimaging Laboratory — December 2010 - May 2012
Mentor: Howard Aizenstein (MD, PhD)

- Presented a research study to general science and image analysis audiences regarding the effects of aging on white matter volume as quantified by MRI. Applied image processing techniques such as registration and segmentation in order to explore a clinical question.

Applicable Skills:

General Skills	Project management, collaboration, experimental design, grant writing, literature reviews
Programs	Matlab, Linux Clients, OLINDA, 3D Slicer, ITK Snap, SPM, Bioimage Suite, C3D Image Converter, Epic Hyperspace, EndNote
Image Analysis	Compartmental modeling, image registration/deformation, fMRI task processing, radiation dosimetry, image transformation, texture analysis, practical programming