

# POSTDOC SPOTLIGHT

## Fay Nicolson, PhD

### How long have you been at DFCI?

Just under two years.

I work in Dr. Kevin Haigis' lab in the department of Cancer Biology

### From where did you receive your graduate degree?

University of Strathclyde, Scotland

### Why did you choose this area of study?

My undergraduate studies enabled me to better understand the significance of science in our everyday lives. In particular, I became very interested in the utility of analytical chemistry to solve real world problems. Intrigued by its application to counterterrorism, I decided to pursue a PhD in analytical chemistry; specifically, surface enhanced spatially offset resonance Raman spectroscopy (SESORRS). SESORRS is an emerging technique which can safely detect analytes, e.g. explosives, non-invasively, through obscuring barriers such as plastics. My PhD was partly funded by the UK government's Defense Science and Technology Laboratory - there are currently several spatially offset Raman spectroscopy instruments being used daily in airports across the world, particularly in Europe. It excites me to see this approach being implemented daily to solve current real world problems! During my PhD, I also applied the technique to ex vivo tissue analysis. I became confident that SESORRS could also transform cancer imaging and wanted to become part of this transformation. I therefore sought postdoctoral opportunities in clinical radiology departments to expand my understanding of cancer biology and molecular cancer imaging.



### What is the focus of your current research?

My current research is focused on applying molecular imaging strategies for the detection of cancer. I am particularly interested in the application of theranostics (the combination of diagnostics and therapy) to improve cancer care. I'm interested in continuing my research into SESORRS imaging and also expanding my knowledge and application of other molecular imaging approaches, such as positron emission tomography (PET), to cancer theranostics.

### How do you envision your career trajectory? How has working at Dana-Farber enhanced your career?

My long-term career goal is to head my own independent research lab in the field of molecular imaging and cancer theranostics. The rich scientific environment here at DFCI has enabled me to learn from, and collaborate with, many brilliant scientists from both within the institute and also, at other Harvard affiliate hospitals. This collaborative, supportive environment will definitely help me to achieve my future career goals.

### When you're not doing science, where might we find you? (i.e., any outside activities or hobbies you enjoy?)

When I'm not doing science, I enjoy cooking, hiking, spin classes, listening to true crime podcasts and travelling!