

About me

My Name is James Denholm and I am a third year PhD student at the University of Strathclyde. I was awarded the Mac Robertson Trust Travel Scholarship towards the end of my second year, in order to undertake a research visit to the [Santa Fe Institute](#) (SFI), in Santa Fe, New Mexico. I was fortunate enough to work directly with distinguished academic [Professor Sidney Redner](#).

My research is in the field of Statistical Physics, and generally involves computer simulations of mathematical models of ferromagnetism. I completed an integrated masters degree programme in Physics at the University of Strathclyde, and started my PhD in 2016.



Me visiting the Los Alamos National Historical Park, the place where the atomic bombs dropped on Hiroshima and Nagasaki in the WW2 were designed and built.

Why I applied

I applied for this award as it gave me the opportunity to work at a world leading research institute with high impact scientists in a very beautiful place. It allowed me the chance

to learn and develop scientifically in a fruitful research environment, and gain experience in international collaboration.

My host supervisor is perhaps the most significant academic in my area of research, having discovered some of the behaviours I study, and this travel award gave me a rare opportunity to work with him directly.

Details of the visit

On Friday the 28th of September, I flew from Glasgow to Philadelphia (Pennsylvania), then connected through Dallas (Texas) on to Santa Fe. The Santa Fe Institute kindly put me in touch with a landlady they have a good relationship with, and I rented her small Casita nearby, allowing me to walk to work.

On Monday the 1st of October I reported to the SFI, and it was awesome. The SFI is an incredible place to be. It's up on hill overlooking all of Santa Fe and the Rio Grande Valley, and has small hiking trails around making the walk to work incredibly picturesque. At any time when work felt stressful, I could just step outside and be looking at "the wild west". It is also possible to see Los Alamos from the SFI, which is pretty impressive as it is a 35 mile drive away. The SFI generally has cool art exhibits around at most times, so there was always something interesting to look at.



The view after a few minutes walk from my desk.

On the first day I met my supervisor and within a few hours the work began. Work at the SFI was pretty intense and very enjoyable. The SFI is extremely well equipped, and within a few hours I had more unrestricted computing resources at my disposal than I have ever had in Scotland. A manuscript detailing my work at the SFI has been prepared and is available [online](#).

Impact of the scholarship

The Mac Robertson Trust Postgraduate Travel Scholarship has had a profound impact on my development as a scientist. It enabled me to work with a world leading academic in my field in an incredibly prestigious research environment.

I gained experience in international collaboration that I would otherwise not have had, and the work I completed on the trip has resulted in a scientific paper (available [here](#)).

On a personal level, this research visit took me out of my comfort zone to spend 2 months working with people who I viewed as totally out of my league. The academics at the SFI are all high impact scientists, and the thought of working in an environment with a standard this big was daunting. Completing this trip and producing successful work has improved my confidence significantly. I was able to learn and benefit from people with years of experience and greater expertise in areas related to mine than perhaps anyone in the UK. The trip also let me experience the natural beauty of New Mexico, and was truly unforgettable.

I gratefully thank the Mac Roberston Trust for this award and opportunity.









