Who are you?

James Lewis

What do you do?

This summer I'll be starting as a NASA Postdoctoral Program Fellow at Goddard Space Flight Center in Maryland.

What does your job involve?

My main research focus at Goddard will be to examine how interactions between minerals and organic matter impact on the experiments being conducted by the Sample Analysis at Mars (SAM) instrument on board Curiosity Rover. I'll be doing SAM-like experiments in the Laboratory to examine these interactions, which will hopefully lead to a better understanding of what sort of organic molecules are found on the martian surface. I'll also be assisting in the checking of data that the rover sends back to Earth and participating in SAM team meetings. My work is going to be primarily lab based but hopefully it will lead to lots of conference visits!

How did you get there?

Space science and exploration always interested me but until I started university I felt it was the domain of astronomers, physicists and instrument engineers and it wouldn't be something I could have a career in. The people and facilities at Imperial showed me that there's actually a high demand for graduates with geochemical, structural and mineralogical expertise in planetary science. I did both my undergraduate and postgraduate degrees at Imperial and chose to focus on geochemistry.

I managed to publish some of PhD research in my final year and I think that was one of the biggest factors in helping me get the postdoctoral position at Goddard. If you're doing a PhD and able to publish one or more papers during that time it helps so much with applying for jobs as well as writing your thesis. Communications about my paper are how I first established contact with Goddard and I subsequently visited in September 2015 before writing a proposal and applying for the postdoctoral program. It's undeniably a very competitive process but the funds and projects vary greatly with each round so the competitiveness is not something that should dissuade you from applying or even reapplying to this or other similar schemes. I was awarded my PhD in January 2016 and while I wait to start my time at Goddard I'm writing more papers, sorting out the paperwork of moving to America and attempting to learn to drive.

How do you use your skills in geology and geophysics?

On a practical level the skills I learned through working in laboratories at Imperial and the Natural History Museum have given me a good background and confidence in conducting geochemical experiments. However, I feel that if you want to go into postdoctoral research being tenacious, ambitious and an optimist are just as important as having practical skills; the ethos and high expectations at Imperial are a good preparation for this. Planetary science is a multi-disciplinary field and the background I have in geology from lectures, literature reviews and seminars is extremely helpful.

What do you love about geology/geophysics?

The multi-disciplinary nature of geology is probably what I like about it most; attempting to understand complex natural problems usually involves working as a team with lots of different experts and techniques. It's also good to work in a science that occasionally allows you to get out of the office.

Your best and worst moments?

My best moment was definitely being woken up by an email at 2 am to say I'd been awarded a postdoc at NASA. When you're writing a thesis it's easy to forget that you're also meant to be sorting out life after your PhD. Once you have that postdoc or job position confirmed it's a huge feeling of relief and any related sleep deprivation is worth it. My worst moment would be the file containing all the text and images of my thesis corrupting on the day I was planning to submit it. Fortunately I had a separate version saved a couple of days before; incremental backups save lives!