



**Student:** Daniel Staab  
**The Open University**  
**Placement:** AVS UK  
**Role:** R&D Engineer

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### Can you briefly describe a typical day?

I was commuting from Oxford to Harwell Science Campus, where AVS UK is based. My work focussed on the design of a thruster for spacecraft attitude control that uses electric propulsion to achieve high “fuel efficiency” (specific impulse). Most of the day would be spent on modelling and optimising different design options via multi-physics software. I also researched suitable components from suppliers and attended telecons with the consortium working on this project. The office I’m working in is very friendly and relaxed.

### How do you think this placement has benefited you for the future?

After submitting my thesis this has been an ideal opportunity to work outside academia for the first time. It was in the area that interests me most, spaceflight hardware! I’ve gained an enormous amount of experience with software and analysis — quite different from what I was using in my PhD. The experience has been very positive, with a healthier work-life balance and more day-to-day job satisfaction than during the PhD. Overall it confirmed completely that working in a space sector SME is what I want to do long term and that I can actually use those transferable skills from my PhD research work. I’m now in a much better position to keep working in the industry. Harwell campus is also a great working environment with a huge number of exciting research projects, facilities and SMEs. I was able to meet people working across many different fields, learning a lot about research outside my own area.

### What are your next steps?

I have been offered a permanent contract at AVS and will continue working on the thruster and other projects. Manufacturing and lab testing of the prototype is about to begin so it will be very rewarding to see the results of all the design work I’ve done. Especially since it will come in the very visible form of a glowing plasma plume shooting out of the thruster!

### Employer perspective:

Dan showed great passion from the beginning and his great interest for Space technologies was a perfect match for AVS. Dan’s academic, theoretical and applied physics background has been a great asset. The work that Dan has performed will be the base of future modelling and analysis of new thrusters and technologies at AVS. Moreover, Dan has been offered a permanent contract at AVS as an R&D Engineer.