

## MECHANICAL (NUCLEAR) ENGINEERING

**NAME: SARAH GRIFFITHS**

“I am now mentoring an Arkwright Scholar myself and supporting the new candidate interview process, it's a great chance to give something back to the Trust.”



The Arkwright Scholarship inspired me to continue pursuing a career in engineering. I used the financial support to attend a summer school; I really enjoyed learning about what university would be like. The contact with my sponsor company was invaluable; I learnt about different industries within engineering and potential career paths.

My university course was a great mix of academic lectures and hands on practical experience. I chose optional modules in biomedical engineering and robotics, enabling me to join a group project called ARTEMIS (Autonomous Robotic Technology Enabling Minimally Invasive Surgery). We developed a gastric balloon robot which could be swallowed and inflated inside an obese patient's stomach to support weight loss without invasive surgery. We produced a fully automated and remotely powered 5:1 scale robot and an actuated stomach test environment. My main focus was on the inflation control system and capsule design. The project was very successful; we were runners up in National Instruments global student design competition and went to their conference in Texas to present our work. It was a great experience to work on a cutting edge project with a brilliant team.

Since graduating, I joined the nuclear industry and have found it challenging and rewarding. I am on the Cavendish

Nuclear Graduate Scheme where I do placements around the company to develop a wide range of skills. I also get to attend courses and conferences: I presented my work at the DECOM conference this year which was a great experience. So far, I have worked as part of design teams on several major design projects to support decommissioning of the UK's nuclear sites. The projects bring up unique issues which require me to think outside of the box: it's a great way to learn new engineering concepts and work as part of multi-discipline teams.

I'm really enjoying my current placement in the stress analysis team, where I am assessing equipment using finite element analysis and hand calculations. The aim of this is to calculate if equipment we have designed is strong enough to do the job as well as being safe and cost effective. The work is very interesting and puts my knowledge from university into practice. It's rewarding to see equipment that I have assessed be installed at site.

Achieving the Arkwright Scholarship gave me more confidence as an engineer and helped me pursue fantastic opportunities. I would encourage any student who is passionate about engineering to apply. I am now mentoring an Arkwright Scholar myself and supporting the new candidate interview process, it's a great chance to give something back to the Trust.

### PERSONAL PROFILE:

Scholarship Awarded  
2007 – 2009

### ARKWRIGHT SPONSOR:

Alcatel-Lucent

### A LEVELS:

Maths, Further Maths,  
Physics, Computing,  
General Studies

### UNIVERSITY:

Mechanical Engineering,  
MEng, University of Leeds

### CURRENT POSITION:

Graduate Mechanical  
Engineer, Cavendish  
Nuclear Limited



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