Alumni Case Study

Sarah Acheson

EPSRC & NERC InDustrial CDT for Offshore Renewable Energy

www.idcore.ac.uk

Current situation

Sarah graduated from IDCORE in 2020, and after a few months of unpaid leave returned to her sponsoring company, Artemis Intelligent Power, an R&D and engineering company based in Edinburgh and specialising in hydraulic system development.

She is now going through one of those key life stages where she is balancing her career as an engineer with the challenges of having young children. For her, along with the many other benefits of her time at IDCORE, she is connected to a network of young professionals going through similar experiences.

I first started working with Artemis halfway through my time at IDCORE, after my first sponsor Albatern (a wave energy device developer) went into liquidation. I had lost the project, but the advantage of being part of IDCORE was that I hadn't lost my job, and I learned a lot from the process.

It wasn't stress-free, but I got first-hand exposure to the challenges of working for a start-up and saw how important effective leadership is for an organisation to be successful. Artemis was also a small organisation with a similar 'rough and ready' approach, but it was better organised with a commitment to planning and training that had been missing from Albatern.

Subsequently, Artemis was bought out by Danfoss, who were wanting to apply Artemis' disruptive digital displacement pump technology to new markets. I have moved away from offshore renewables, as my role with Danfoss is all about applying knowledge of fluid power systems to excavators and off-highway vehicles.

It's a different sector, but no less exciting. Fluid power systems are ubiquitous in industry and making them more efficient has a significant impact on energy use.

Sarah Acheson, System Engineer, Danfoss Digital Displacement

Project

Sarah's original project with Albatern focussed on the power take off system for their device, and this was the area she continued to work in when she moved to Artemis. She joined the Quantor project, a collaboration with Quoceant, which was funded by Wave Energy Scotland to develop improvements to the power take off system originally developed by Pelamis.

The work was focussed on improvements to deliver a more idealised torque, involving simulation work that supported building and testing of a prototype system. It was a complex process, and Sarah gained invaluable experience from putting all this together, exploring scaling issues and through her involvement in the subsequent testing and commissioning processes.

Background

Sarah came to IDCORE from a first degree in Maths and Physics at the University of Durham, followed by a year of voluntary work in the third sector. She had also completed an internship with a small wind turbine consultancy, working on community wind projects in rural Wales and a project in Shetland using storage heaters to store excess generation.

Through all of these experiences Sarah developed a passion for low carbon solutions and a realisation that it was technical work that really interested her. Looking at graduate schemes, she soon discovered that other than in the defence industry it was hard to move into a technical role without an engineering degree ...and then she found IDCORE.

Why IDCORE?

IDCORE wasn't the only CDT that Sarah looked at, but she was impressed by their approach. She enjoyed her visit to Edinburgh for the interview and particularly liked the grounding in engineering they provided without requiring prior knowledge other than in a STEM subject at first degree level.

Not only did IDCORE provide her with a route to additional learning, but it did so in the context of working in a relevant industrial setting. She really benefitted from being able to work with people who were such good engineers in a creative atmosphere with a 'can do' attitude... and she also learned to weld!

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