



Case Study

Tara Alkubaisi



EPSRC & NERC InDustrial CDT
for Offshore Renewable Energy www.idcore.ac.uk

Unique Entry Route

IDCORE has always offered sponsoring companies the opportunity to bring their own staff into the programme, but Tara is the first example of this happening. After graduating from a five-year integrated Masters programme in Mechanical Engineering at Heriot Watt University, during which she was sponsored by Scottish Power Energy Networks (SPEN), Tara secured a graduate role with the company. She then persuaded them to support her through an EngD. It was the industrially focussed nature of the IDCORE programme (and the case studies of previous cohorts) that persuaded both Tara and SPEN that they would derive value from this process.

Diverse Experience

Tara spent years 2, 4 & 5 of her degree course at Heriot Watt's campus in Malaysia, where in addition to studying for her degree, she taught English. She first became involved with SPEN as part of an internship programme delivered through the IET Power Academy. SPEN recruits from a wide range of backgrounds including mechanical engineering, and this relationship has given Tara some excellent exposure to industry, providing opportunities to engage with the practical aspects of running an electricity network, including site visits with operational staff, helping her to understand where technical work can have impact, the constraints created by issues like system regulation and the importance of communication, particularly how, when and where to present information. All of this is now paying dividends with her IDCORE project.

My project is directly helping SPEN as they seek to understand future markets for hydrogen as an energy supply vector. I am making a comparison between electrical transmission and chemical transmission for both onshore and offshore wind developments. I am investigating the costs of electrical transmission infrastructure and different cable land-fall options and substation locations, alongside a range of chemical carrier options including ammonia and methanol as well as hydrogen. I am aiming to develop a techno-economic model of the options which will assist in the planning of network re-enforcement to support the connection of future generation assets, helping to establish at what point the economics move from electricity transmission to other vectors. But this isn't just about economics, it's also about environmental impact and the lifetime management of assets, understanding the costs of doing things in a very different way - all issues that are important to SPEN as they plan for the future.

Tara Alkubaisi

During her first degree she also worked with the venture arm of a world leading energy company in which she delivered a market landscape of the European start-up space in sustainability covering topics such as hydrogen, CCUS and energy storage. She has since provided support to them with technical reviews of the investor pitches and data rooms of different companies, in preparation for subsequent due diligence exercises during which she has also provided competitive analysis of technical issues.

Delivering net zero is a big challenge for SPEN, not least because we have to work out how to move more than 50 GW of offshore renewable electricity production through our system to supply the rest of the UK. If we are going to do this successfully, we will need to continue to recruit and retain people of the quality of Tara from across a range of disciplines. Her story is one of the many shining examples we want to create to encourage others to follow in her footsteps.

Eric Leavy, Head of Design, SPEN



IDCORE Benefits

The first year of IDCORE is an intense but well-structured programme providing good overall breadth of knowledge in areas that aren't core to SPEN. Tara found the problem-based approach to learning particularly effective, building on the teamwork and communication skills that IDCORE encourage in each cohort. This network of support has proved really valuable. The cohort is small enough to facilitate the development of strong friendships, learning together and from each other, but large enough for the group to include diverse experiences and perspectives. Tara was living in Glasgow during the first year. The daily commute was a challenge, and it meant that she missed out on some social aspects of the cohort (although she was never excluded). Monthly on-line catch-ups mean that they are continuing to provide support to one another now that they are all working with their sponsors.



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