



Case Study

Anita Nunes Leite

Anita's Project

Anita is working with the team at FloWave, a unique ocean energy research facility based at the University of Edinburgh. Conceived as a cutting edge research tool to recreate complex wave and tidal current interactions at model scale, FloWave is being used by commercial developers to de-risk the performance of their technologies before constructing prototype devices for testing at sea.

The project Anita is undertaking is helping to grow the testing capabilities at FloWave by implementing a recently developed methodology for simulating wind loads on floating offshore wind turbine models, Software-in-the-Loop (SIL). The big challenge, highlighted by latest research, is how to apply the dynamic loading in real time while ensuring that the correct loads are being applied to the model.

The project is not just focussed on implementing this additional test capability for FloWave, the unique contribution it will bring is an understanding of the 'best tool for the job' – the level of complexity in test regimes needed to support different stages of floating wind turbine development. In this way, FloWave (and potentially other test facilities) can offer the most appropriate service to their commercial clients, minimising costs while maximising learning as the companies go through the development cycle.

About Anita

Anita came to IDCORE from a job as an energy and waste manager in the NHS. She grew up in Portugal where she originally trained as an Environmental Engineer before moving to Suffolk on an international internship scheme participating in renewables projects for Suffolk Council, before taking up the management post at Suffolk NHS Trust. These experiences developed her interest in renewable energy and drove her to seek out PhD opportunities.

FloWave are a small team, but that gives me freedom to explore opportunities, engage with clients and see the immediate impact of my work. I've learned so much. Combining physical testing and numerical modelling, gives me first-hand experience of the practical application of engineering theory. I'm really enjoying the challenge."



IDCORE wasn't the only PhD level training opportunity Anita was offered, but it was the first time she had come across the idea of a centre for doctoral training. With its foundation year in offshore renewable energy fundamentals, it offered a unique training opportunity alongside industrially relevant, high quality research projects. IDCORE's approach to placing all the researchers with their sponsoring organisation also provided the level of industrial experience she was looking for.

FloWave



It has been a tough journey, not least because the offshore wind industry is developing so quickly. Its changing research needs have already affected Anita's project, despite it only starting last year. The size of turbine planned for floating offshore installations is increasing and her project has had to reflect this. However, the IDCORE training has given her confidence that she can learn and apply new knowledge quickly. It has also given her sponsors confidence in her abilities, that has allowed her to quickly become a fully integrated member of the team.



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