



Case Study

Calum Dunnett



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

Calum's Sponsor

Calum is working with Sustainable Marine, a tidal energy firm with a demonstration installation in Grand Passage, Nova Scotia, Canada. Headquartered in Edinburgh, it was convenient for Calum to stay close

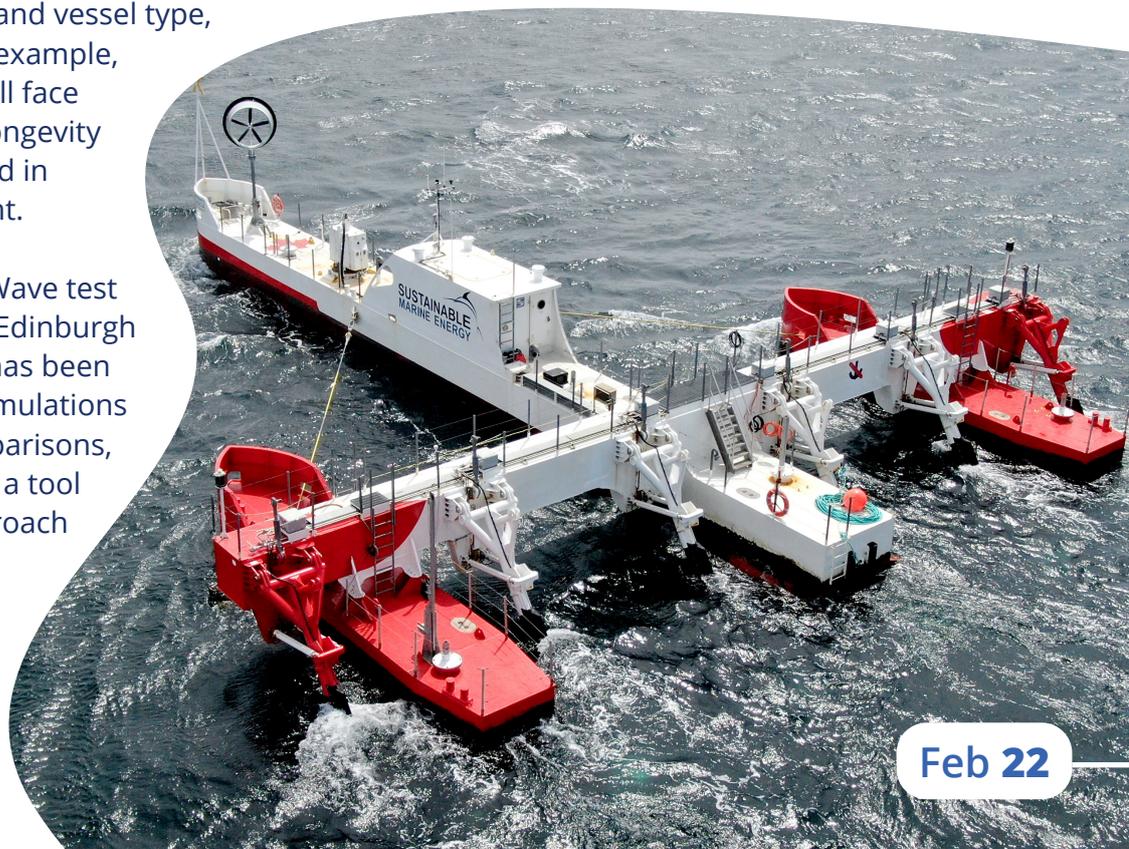
to the university and work within a small team with greater visibility. The project outline was appealing as it was flexible and offered the opportunity to develop his interest in electrical engineering.

The IDCORE courses were all useful and have given me a whole selection of knowledge on offshore renewables that I can call upon when needed

Calum's Project

Calum has been able to respond to quickly evolving opportunities within the organisation, which can be submitted as part of his final portfolio. After exploring initial ideas on microgrids, his project is now focused on optimising the balance of plant systems for floating offshore energy platforms. Calum's research explores the mechanical restraints on offshore electrical design, which is constrained by factors including platform and vessel type, and ocean conditions. For example, a cable in a high current will face different installation and longevity challenges than one located in a more benign environment.

Calum has utilised the FloWave test centre at the University of Edinburgh to collect initial data. This has been used to produce further simulations and provide practical comparisons, with the aim of developing a tool that enables a holistic approach to understanding the performance of cables in different conditions.

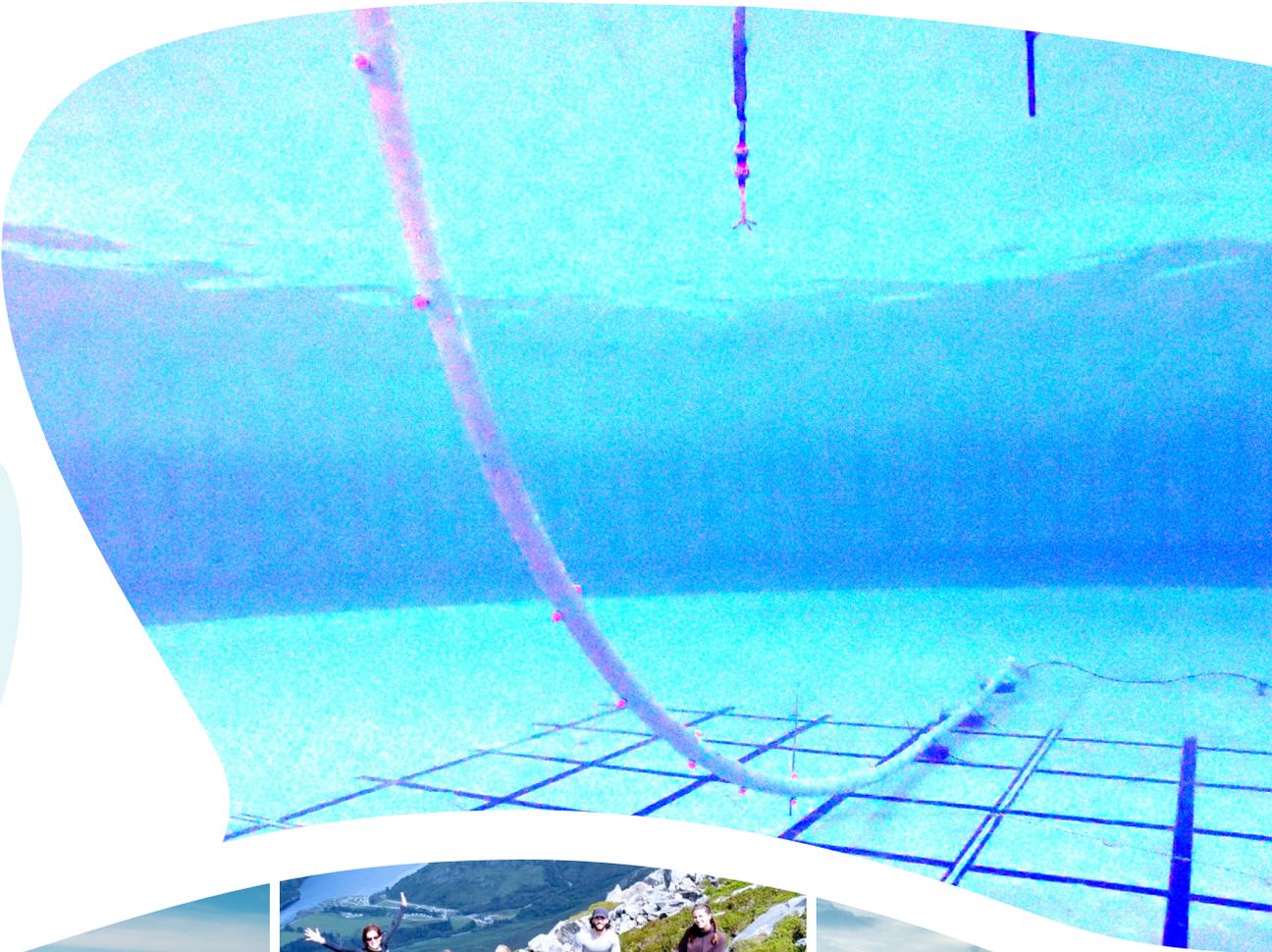


About Calum

Calum had recently completed a 5-year integrated Masters in Physics and wanted to pursue a career in the renewable energy space. IDCORE provided the opportunity to transfer these skills into an engineering role of direct use to the offshore renewables industry. The initial training modules provided a very accessible 'crash course' in multiple facets of the industry, despite having no previous engineering experience.

Being part of IDCORE has enabled Calum to build a big directory of academic contacts alongside some very valuable experience, all of which he is now using in his project. The initial courses have endowed him with a selection of knowledge that he can draw upon when needed and he is able to access facilities like FloWave. He is happy to be part of a supportive, friendly cohort.

Beyond his project, Calum has been involved in training in different software, which has improved his coding skills, as well as generally engaging in Sustainable Marine's ongoing work. A trip to visit the Grand Passage demonstration in Canada is hopefully on the cards soon.



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