



Case Study

Tzu-Hsun Lin



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

CATAPULT

Offshore Renewable Energy

Tzu-Hsun's research is highly technical, attempting to unlock key issues for the future of the offshore renewable sector. However, she strongly believes that this research won't be valuable unless it has a real impact on the world, something she is striving for through the development of her communication and presentation skills. She's found both IDCORE and her industrial sponsor, the ORE Catapult, have prepared and supported her well in these aims.

Technical research

Tzu-Hsun undertook her undergraduate and master's degrees in offshore engineering back in her home country of Taiwan. During her master's degree she had a particular focus on floating offshore wind, cultivating her knowledge and appreciation of the key challenges and solutions in the sector. This led to her applying to IDCORE where she is now undertaking research around offshore wind mooring systems.

Her research is examining the potential for synthetic fibre ropes to be used in the mooring systems of the future. These ropes behave quite

differently to conventional metal chains under marine environmental loads and it is these behaviours Tzu-Hsun is characterising. Her examination involves a combination of numerical modelling and physical testing, something she enjoys due to the technical, detail-oriented nature of the work.

This research is highly forward looking. There is a trend in the offshore wind sector towards building larger turbines, which creates a need for newer, larger mooring systems in floating offshore applications. These synthetic ropes could address challenges for these mooring systems, potentially reducing manufacturing and transportation difficulties, as well as improving overall costs and performance. Tzu-Hsun's academic supervisor, Tim Stratford, believes this could be an important technology for the sector and is keen to see the research continued beyond just the present project.

The project has not been without its difficulties, physical testing plans have had to change due to building delays at a new facility in Scotland. However, Tim feels that Tzu-Hsun is navigating these barriers and she will shortly begin her physical testing at the DMaC test facility in Exeter.



Being involved with IDCORE has allowed me to expand my academic network as well. I've made contacts in other departments and other universities, and I think that's much the same for the industry partners.

Tim Stratford, Academic Supervisor, University of Edinburgh

Feb 26

Impact

Both Tzu-Hsun and her supervisors believe this research has good potential to benefit the floating offshore sector. However, as she points out, good potential and good research aren't enough for her work to have a real impact on the sector. To have impact, Tzu-Hsun believes strong presentation skills will be essential, allowing her to communicate the value of her findings to the right people. This desire to deliver real benefits to the whole offshore renewables sector is a core aim she shares with her industrial sponsor the ORE Catapult.

Tzu-Hsun is planning to attend an international conference where she hopes to hone these presentation skills further and share the value of her work. She does not expect this to be a one-sided transmission of information, as she hopes to receive useful feedback to improve her research. Networking with other researchers and industrialists, exchanging ideas and making contacts in the sector will all help both in her present project and future career.

IDCORE emphasises the importance of presentation, networking and impact more broadly. Tzu-Hsun recalls presentation practice being a core part of the IDCORE taught modules, something she especially appreciated given she was learning to present in a second language. The Centre also provides funding for the students to attend multiple conferences and to exhibit their findings in different ways. However, it is the community of students within her cohort that Tzu-Hsun believes helped her most in this regard. She felt supported and encouraged by her fellow researchers, helping her develop her skills and hone her messaging.

The cohort will know what you're doing, they'll support you. We all have an environment where we can share experiences with each other, especially if we're struggling with something.

Tzu-Hsun



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