

The summer interns

In 2016 the European Marine Energy Centre in Scotland started an internship programme to give students hands-on experience of marine renewables on an operational site. Here several of the interns share their recent experiences and explain why such programmes are so valuable



“THE INTERNSHIP PROGRAMME AT the European Marine Energy Centre (EMEC) in Scotland is a fantastic opportunity for university students to come in and gain hands-on experience in marine renewable energy,” says Elaine Buck, Technical Manager at the wave and tidal energy testing facility.

In 2018 EMEC offered three internships to students Truce Jack, Chris MacDonald, and Michael De Bruin.

“One of the most valuable lessons I’ve had at EMEC is what Caitlin Long, the Environment and Consents Specialist has shared with me, and which will help to shape my future and my decisions,” says Truce Jack who is from California in the US. “I went into the internship not knowing what to expect, especially from the environmental impact section of the industry. I had only thought the industry largely consisted of engineers and didn’t know where I could possibly fit in as an Environmental Earth Science student from St Andrews University. But I was fortunate that I got to actually contribute to work that is not only useful to me as a hands-on learning experience, but to one of the world’s most exciting industries.”

Truce describes how during her three-month summer internship she helped with various environmental monitoring tasks in relation to developer portfolios and the overall environmental characterisation of test sites.

“One of my first and most exciting projects was to further develop a model to estimate the risk of collision

between marine mammals and a tidal turbine device. The results of this model are particularly vital in order to assess each device’s potential impact on the marine mammals present in and around the test devices at EMEC’s Fall of Warness test site,” she explains. “I also updated the environmental description reference documentation for EMEC’s scale test sites at Scapa Flow and Shapinsay Sound. Within these documents, I critically reflect on present legislation and the environmental conditions and receptors which shape the sites where developers would place their devices for testing.”

To support another developer’s environmental monitoring programme, she also conducted an analysis of the impact the mooring system may have on the seabed environment, utilising video footage reaching back over a period of 12 years. In addition, the seal behaviour recorded within EMEC’s Wildlife Observation programme was analysed and compiled into a brief pamphlet for developers regarding typical seal behaviour and potential collision risk at the Fall of Warness site.

“To know that I have completed work that will be actively used by EMEC is such a rewarding feeling,” Truce adds. “I’ve had a great time working with everyone at EMEC and truly felt a part of the dynamic, growing, committed team. We are all working towards the goal of helping ocean energy succeed and it was such a fantastic experience to be in an international



Above, from top to bottom:
Truce Jack

Chris MacDonald

Michael De’Bruin



Right: Interns tour EMEC hydrogen production plant



Left: Michael and Chris at the EMEC Fall of Warness tidal test site

experience which is sought after by nearly all employers. It was also beneficial during the interview stages, as it gave the interviewees a point of discussion which I was able to expand on. I have accepted an offer to work in the oil and gas industry as a graduate mechanical engineer starting September this year. The work will likely be more project engineering based, however, the skills I developed through the internship will definitely aid future work.”

Truce Jack says: “I am currently working on my thesis project in Sweden with the Electrical Engineering Department at Uppsala University. It’s an animal behaviour study looking at salmon and their behaviour when introduced to a tidal turbine (in a laboratory study).”

“I have also been accepted onto the Masters course in Environmental Management and Physical Planning at Stockholm University. I start in September and I can choose to do my thesis anywhere in the world, but I would ideally stay up here in Sweden (or the Nordics) and write it for a national utility. After that, I hope to get hired by the company as an environmental/renewable energy planning consultant.”

New Interns

In 2019 EMEC took on two new interns, Isaque de Paula and Cristina Lozano. Lozano is currently studying marine renewable energy at the International Centre for Island Technology in Orkney and has been working on data analysis and acquisition alongside EMEC’s Metocean Engineer and Technical Team. Isaque de Paula has recently graduated from the University of Dundee with an honour’s degree in mechanical engineering. He too is working with the operations team on various projects, and assisting the commercial team with tasks around the ReFLEX project to create a virtual energy system in Orkney.

Reflecting on the success of EMEC’s summer internship programme which started in 2016, Elaine Buck says: “The value of the internship programme to the students is that it gives them hands-on experience of marine renewables on an operational site at EMEC. And the value for EMEC is that it gives more capability and experience to young professionals going through university.” ●

More information

Applications for the 2020 internship programme can be submitted from October 2019 onwards. Please note, that the internship programme is not guaranteed every year.

Email hr@emec.org.uk for more details.

Below: Truce, Michael and Chris join EMEC boat trip to Fall of Warness tidal test site

working environment with colleagues from all over the world. I learned so many things about the marine energy sector, especially the importance of stakeholder engagement within environmental and consent projects, the direct consequences of those decisions for developers and for test centres like EMEC. The experience just confirmed my personal commitment to help the advancement of marine (and further renewable) energy in the future.”

Chris MacDonald lives in Orkney and was studying mechanical engineering at Robert Gordon University in Scotland when he took part in the internship.

“During my employment at EMEC I worked alongside the operations team and provided site drawings specifically at the Billia Crood and Fall of Warness sites. Some of the drawings go to clients to show what is in the sea and the exact location, including subsea cables, moorings and other devices.

“Overall,” he comments, “I felt I took away a good knowledge of how operations in the marine energy industry works, be it from wave or tidal devices and how to provide that infrastructure to produce electricity into the grid.”

Michael De Bruin was also studying mechanical engineering at Robert Gordon University. He says: “I’ve always been interested in progressive marine technologies and an internship at EMEC seemed an ideal place to learn more about this. I gained a wealth of experience and now begin to understand the scale and range of challenges faced when testing wave and tidal energy devices. One highlight of my time here was the opportunity to visit the testing site at The Fall of Warness. I was fortunate to work with great people who have passed on valuable knowledge and experience which will help me in my career.”

Update

Two of the 2018 interns, Chris MacDonald and Truce Jack, gave an update of where they are now in their careers and how the internship with EMEC has helped them progress in this regard.

MacDonald says: “Currently, I have just finished my Masters (fifth) year of study at Robert Gordon University. The internship was beneficial when applying for jobs, as it provided industry relevant

