

Current PhD projects								
Industrial or academic based PhD	Institution	PhD thesis title	Offshore renewable energy sector most closely related to the PhD	Start date of the PhD	End date of the PhD	Does the PhD have financial support from an industrial sponsor?	Description and key aims of the PhD	Link to further information (if applicable)
Academic	Durham University	Designing a Novel 3D Woven Composite for Wind Turbine Blades	Offshore Wind	Oct 1, 2022	Apr 17, 2026	No	The aims of the project are: - To propose a novel fibre-hybrid 3D woven composite design inspired by the biological material, nacre. - Manufacture and characterise a prototype of this material. - Model improved design for the material and propose a design optimised for use in wind turbine blades.	https://auracdt.k/anna-weather
Academic	City St George's, University of London	Digital Twins for Automated Structural Health Monitoring and Intelligent Maintenance of Floating and Monopile Offshore Wind Turbines	Offshore Wind	Apr 1, 2024	Mar 23, 2028	No	This project will develop a common digital infrastructure to have a Digital Twin (DT) of both floating and monopile offshore wind turbines. A DT is a cyber-physical system that must represent physical reality at a level of accuracy suited to its purposes. The extent of realism depends on three essentials: modelling, data and visualisation. In this context, the project will first develop a simulation engine for realistic numerical representation of the physical behaviour of the assets, combining Finite Elements Analysis (FEA) and multi physics environments. Second, a modern flexible, modular and scalable software architecture will be developed to establish the DT virtual environment, to host and interact with simulation engines. Third, the DT will be used as a synthetic simulator to produce real life sensor-like data, of controlled damage and undamaged stages of the assets, for data and Artificial Intelligence (AI) driven solutions for structural health monitoring and damage detection.	
Academic	University of the Highlands and Islands	Impacts of Floating Offshore Wind (IFLOW) on the behaviour and distribution of marine mammals	Offshore Wind	Oct 1, 2022	Apr 1, 2026	Yes - partial	The PhD is investigating how floating offshore wind is impacting the occurrence and foraging behaviour of vocalising cetaceans. Impacts investigated include reef effects, noise, maintenance activities and understanding seasonal temporal and spatial distributions.	https://www.era.itlin-harris
Academic	University of the Highlands and Islands	Validating next-generation biophysical and metocean monitoring techniques for offshore renewable energy	Offshore Wind	Feb 26, 2024	Feb 22, 2028	Yes	Hydro-acoustics (i.e., echosounders) on seabed landers or surface vessels allow non-invasive detection of biomass throughout the water column to characterise the marine environment. Similarly, acoustic Doppler current profilers (ADCPs) are essential for site characterization, including resource assessment / power-performance of tidal turbines, metocean and hydrodynamic survey, measuring wakes, etc. Recent research shows marine ecosystems are strongly influenced by physical forces, including hydrodynamic and metocean conditions, that cannot be measured by a single instrument. Therefore, quantifying the level of risk on ecological interactions from ORE effects currently requires bespoke, disparate equipment to provide the necessary fine-scale combinations of data types at significant expense. This PhD will investigate co-collection, processing and acoustic delivery of metocean, oceanographic and ecological data using novel sensors and platforms. Once validated, benefits include lower cost, lower risk, and greater information coverage at fine scales through use of single and/or distributed sensor platforms.	https://www.soc.com/championifuture-of-marintechology-thrceducation-and-1/
Academic	University of Aberdeen	Towards enhanced black-legged kittiwake metapopulation modelling in the context of global change and renewable energy development.	Offshore Wind	Oct 1, 2021	Dec 1, 2026	No	Aims: A SUPER Doctoral Training Partnership (DTP) PhD led by the University of Aberdeen, with CASE partner Joint Nature Conservation Committee (JNCC), Collaborative partner Marine Directorate (MD), Scottish Government, and co-supervision from the University of the Highlands and Islands (UHI). The black-legged kittiwake (<i>Rissa tridactyla</i> , hereafter 'kittiwake') is a colonially breeding, migratory pelagic gull that breeds at numerous onshore and marine inshore and offshore locations across OSPAR Regions I through V in the North-East Atlantic. The kittiwake is an indicator species for the biodiversity status of the North-East Atlantic (OSPAR Coordinated Environmental Monitoring Programme (CEMP) common indicators B1 Marine Bird Abundance and B3 Marine Bird Breeding Success / Failure (OSPAR Commission, 2008). In the UK, breeding kittiwake populations are regulated according to the Conservation of Habitats and Species Regulations, UK Habitats Regulations and Offshore Habitats Regulations. The kittiwake is a key compensation species within the UK Offshore Wind Environmental Improvement Package (OWEIP) Library of Strategic Compensation Measures (LoSCM) which enables offshore wind developers to apply for environmental derogation through measures demonstrably beneficial to UK breeding kittiwakes. At present there is a high degree of uncertainty around existing empirical estimates of the dispersal of kittiwakes among breeding populations.	https://www.abpeople/c.cargilearch
	IDCORE - University of Edinburgh & EDF	Data Optimised Operations and Maintenance for Offshore Wind Farms					Leveraging the monitoring data on turbines the project has developed a framework to reduce O&M costs. It composes of maintenance and failure data analysis, failure prediction modelling and the development of a tool to optimise the scheduling and routing of maintenance. Initial results have been very positive.	
	The University of Edinburgh	Non-technological barriers to the development of floating offshore wind					I explore the non-technological barriers to deployment of offshore wind with a focus on marine spatial planning, various stakeholder interactions and supply chain management. I research diverse offshore wind markets for examples of industrial policy and legislation which helps support the growth of the industry.	
	Industrial CDT in Offshore Renewable Energy (IDCORE), The University of Edinburgh & The National HVDC Centre	De-risking Multi-Terminal Control for Multi-Vendor HVDC Grids EPSRC Project Reference: 2879473					The research project focuses on de-risking multi-terminal control in HVDC transmission, to support offshore wind power penetration and grid reinforcement, essential for the UK's net-zero target. The project involves real-time and off-line simulations of HVDC systems, as well investigation on cyber security of the power system.	https://www.idk/case-studies/jphurappa https://gtr.ukri.ects?ref=studer2879473 https://idcore.apeople/tara-alkihttps://www.erproceedings.orgl-investment-fofor-offshore-wir
	University of Edinburgh and Scottish Power Energy Networks	Cost optimization of transmission options for offshore wind					The research project aims to develop and implement a cost optimisation approach for offshore wind transmission. The project considers the economic, technical and environmental challenges of landing points for electrical and chemical infrastructure and considers electricity, green hydrogen and ammonia as potential energy carriers within transmission options.	
Industrial or academic based PhD	Institution	CDT Project Title	Offshore renewable energy sector most closely related	Start date of the PhD	End date of the PhD	Does the PhD have financial support from an industrial sponsor?	CDT Research Theme	Link to further information (if applicable)
	Hull University	Impacts of seabed vibration on sediment structure and infaunal organisms					Environmental impact, marine biology and aquaculture	Project page
	Hull University	The impact of windfarm associated noise on commercially important benthic invertebrates					Environmental impact, marine biology and aquaculture	Project page

	Sheffield University	Feasibility of integration of synthetic fuel as an energy vector for offshore wind					Offshore wind energy integration – challenges and impacts	Project page
	Hull University	From textile waste to advanced carbon materials for wind turbine blade manufacturing					Next generation materials and manufacturing	Project page
	Durham University	Novel acoustic methods for directly monitoring seabed sediment transport, geohazards & scour					Environmental impact, marine biology and aquaculture	Project page
	Sheffield University	Advanced data analysis and robust statistics for structural health monitoring of wind turbines: from individual components to a fleet					Operations, maintenance and human factors	Advanced data analysis and robust statistics for structural health monitoring of wind turbines: from individual components to a fleet
	Hull University	Analysing ocean wave data for improved planning of future offshore wind and other marine activities					Big data and sensors and digitalisation for the offshore environment	Analysing ocean wave data for improved planning of future offshore wind and other marine activities
	Hull University	Scour mitigation measures around offshore wind structures using experimental models					Environmental impact, marine biology and aquaculture	Scour mitigation measures around offshore wind structures using experimental models
	Hull University	Low Power High Performance Neuromorphic Circuits for Remote Sensing and Monitoring in the Offshore Wind Sector					Offshore wind energy integration – challenges and impacts	Low Power High Performance Neuromorphic Circuits for Remote Sensing and Monitoring in the Offshore Wind Sector
	Newcastle University	Assessing the viability of multi-use Macroalgae Aquaculture within Offshore Wind Farms					Environmental impact, marine biology and aquaculture	Assessing the viability of multi-use Macroalgae Aquaculture within Offshore Wind Farms
	Hull University	Cumulative and in-combination effects of offshore infrastructure on ecological resources					Environmental impact, marine biology and aquaculture	Cumulative and in-combination effects of offshore infrastructure on ecological resources
	Newcastle University	Assessment of echolocating cetacean (porpoise and dolphin) occurrence and behaviour in offshore development sites using a novel passive acoustic monitoring system					Environmental impact, marine biology and aquaculture	Assessment of echolocating cetacean (porpoise and dolphin) occurrence and behaviour in offshore development sites using a novel passive acoustic monitoring system
	Sheffield University	Advance condition monitoring solutions for offshore wind generators					Operations, maintenance and human factors	Advance condition monitoring solutions for offshore wind generators
	Newcastle University	Satellite detection and mapping of sandbank crests: supporting location of offshore wind developments and conservation areas					Environmental impact, marine biology and aquaculture	Satellite detection and mapping of sandbank crests: supporting location of offshore wind developments and conservation areas
	Durham University	Modelling and Optimisation for a Coordinated interconnected multi-terminal DC transmission infrastructure for integration of offshore wind energy					Offshore wind energy integration – challenges and impacts	Modelling and Optimisation for a Coordinated interconnected multi-terminal DC transmission infrastructure for integration of offshore wind energy
	Hull University	Numerical modelling of wind turbine blade manufacture					Big data and sensors and digitalisation for the offshore environment	Numerical modelling of wind turbine blade manufacture
	Hull University	Tsunami risk to UK offshore wind: Palaeo evidence and numerical model simulations					Physics and Engineering of the offshore environment	Tsunami risk to UK offshore wind: Palaeo evidence and numerical model simulations

	Durham University	Digital twins Era for Coordinating Energy Network inTegration (DECENT)					Big data and sensors and digitalisation for the offshore environment	Digital twins Era Coordinating En Network inTegra (DECENT)
	Hull University	Evaluating the impact of motion travel on cognitive ability of offshore workers - a VR experience					Operations, maintenance and human factors	Evaluating the in motion travel on cognitive ability of offshore workers experience
	Hull University	Wind Sourced Energy Storage					Offshore wind energy integration – challenges and impacts	Wind Sourced Ei Storage
	Durham University	Integration of wave and offshore wind energies					Offshore wind energy integration – challenges and impacts	Integration of wa offshore wind er
	Sheffield University	Ultrasonic guided waves blade monitoring					Big data and sensors and digitalisation for the offshore environment	Ultrasonic guide blade monitoring
	Sheffield University	Population-based offshore wind farm fleet health monitoring and performance prediction					Big data and sensors and digitalisation for the offshore environment	Population-base offshore wind fa health monitorir performance pre
	Durham University	Understanding the emergent macro-scale impacts caused by the rapid expansion of Offshore Wind within The North Sea System					Environmental impact, marine biology and aquaculture	Understanding t emergent macro impacts caused rapid expansion Offshore Wind w North Sea System
	Durham University	Active wind farm control via morphing blade technology					Physics and Engineering of the offshore environment	Active wind farm via morphing bla technology
	Hull University	Enhanced mixing of stratified waters by offshore wind infrastructure					Physics and Engineering of the offshore environment	Enhanced mixing stratified waters offshore wind infrastructure
	Hull University	Array scale sediment transport dynamics					Environmental impact, marine biology and aquaculture	Array scale sedi transport dynam
	Sheffield University	In-Service Inference of Distributed Blade Loading					Big data and sensors and digitalisation for the offshore environment	In-Service Inference Distributed Blade Loading
	Hull University	Assessing the potential for co-location of mussel farms with offshore wind farms					Environmental impact, marine biology and aquaculture	Assessing the po for co-location o farms with offsh farms
	Sheffield University	The effects of government policy on industrial development and employment relations in North Sea offshore wind					Operations, maintenance and human factors	The effects of government poli industrial develc and employmen relations in Nort offshore wind
	Sheffield University	Blade Factory Digital Twin for Recording and Analysing Production Parameters					Big data and sensors and digitalisation for the offshore environment	Blade Factory Di Twin for Recordi Analysing Produ Parameters
	Hull University	Wind Turbine Blade Inspection using Machine Learning for Diagnosis of Structural Faults - Aura Centre for Doctoral Training					Big data and sensors and digitalisation for the offshore environment	Wind Turbine Bla Inspection using Machine Learnir Diagnosis of Stru Faults - Aura Cei Doctoral Trainin;

	Durham University	Data-driven Infrastructure Planning for Offshore Wind Farms					Big data and sensors and digitalisation for the offshore environment	Data-driven Infrastructure Planning for Offshore Wind Farms
	Hull University	Digital Twin Logistics of Operations and Maintenance for Offshore Wind Farms					Big data and sensors and digitalisation for the offshore environment	Digital Twin Logistics of Operations and Maintenance for Offshore Wind Farms
	Durham University	DIAS: Data-driven Intelligent Alarm System					Big data and sensors and digitalisation for the offshore environment	DIAS: Data-driven Intelligent Alarm System
	Durham University	Multiscale Design of Fracture and Fatigue Resistant Bio-mimetic Composite Materials for Wind Energy Applications					Next generation materials and manufacturing	Multiscale Design of Fracture and Fatigue Resistant Bio-mimetic Composite Materials for Wind Energy Applications
	Hull University	Application of wake steering to offshore wind farms					Physics and Engineering of the offshore environment	Application of wake steering to offshore wind farms
	Durham University	Integrated Investigation of Biofouling Impact on Dynamic Subsea Cables and Characterization of Dynamic Cable Motion for Floating Wind Systems					Physics and Engineering of the offshore environment	Integrated Investigation of Biofouling Impact on Dynamic Subsea Cables and Characterization of Dynamic Cable Motion for Floating Wind Systems
	Durham University	Hybrid Modelling of Loads and Structural response on a Floating Offshore Wind Turbine					Physics and Engineering of the offshore environment	Hybrid Modelling of Loads and Structural response on a Floating Offshore Wind Turbine
	Hull University	Evaluating the Performance and Sustainability of Natural Fibre-Based Composites in Wind Turbine Components: A Comparative Study					Next generation materials and manufacturing	Evaluating the Performance and Sustainability of Natural Fibre-Based Composites in Wind Turbine Components: A Comparative Study
	Hull University	Integrating offshore wind with Direct Air Carbon Capture and Storage (DACCS) for a Net Zero Humber					Offshore wind energy integration – challenges and impacts	Integrating offshore wind with Direct Air Carbon Capture and Storage (DACCS) for a Net Zero Humber
	Sheffield University	Digital twin output functions for monitoring wind turbines					Big data and sensors and digitalisation for the offshore environment	Digital twin output functions for monitoring wind turbines
	Hull University	Driving the hydrogen economy: electrochemical compressors for hydrogen					Next generation materials and manufacturing	Driving the hydrogen economy: electrochemical compressors for hydrogen
	Sheffield University	Next Generation High Temperature Superconducting Generators for Floating Wind Turbine					Physics and Engineering of the offshore environment	Next Generation High Temperature Superconducting Generators for Floating Wind Turbine
	Durham University	Computer modelling of irregular nonlinear surface waves and their effects on offshore wind turbine structures					Physics and Engineering of the offshore environment	Computer modelling of irregular nonlinear surface waves and their effects on offshore wind turbine structures
	Sheffield University	Physics and Engineering of the offshore environment - vibrations and the design of wind turbine systems					Physics and Engineering of the offshore environment	Physics and Engineering of the offshore environment - vibrations and the design of wind turbine systems
	Hull University	Impact of Offshore Windfarm Development on Marine Benthos: Interaction with Ecosystem Level Stressors					Environmental impact, marine biology and aquaculture	Impact of Offshore Windfarm Development on Marine Benthos: Interaction with Ecosystem Level Stressors

	Hull University	Optimisation EXplainability (OPEX) for Maintenance Scheduling of Offshore Wind Farms					Push the Frontiers of Offshore Wind Technology	Optimisation EXplainability (OPEX) for Maintenance Scheduling of Offshore Wind Farms
	Hull University	The role of marine growth on the performance and survivability of dynamic subsea cables					Operations, maintenance and human factors	The role of marine growth on the performance and survivability of dynamic subsea cables
	Loughborough University	Offshore wind infrastructure in stratified seas: Interactions between waves and wakes					Physics and Engineering of the offshore environment	Offshore wind infrastructure in stratified seas: Interactions between waves and wakes
	Sheffield University	Human-informed Artificial Intelligence for improved wind turbine health monitoring					Operations, maintenance and human factors	Human-informed Artificial Intelligence for improved wind turbine health monitoring
	Hull University	Sustainable, Low-Cost Recycling of Plastic Transition Piece Covers used by the Offshore Wind Industry					Accelerate Consent and Support Environmental Sustainability	Sustainable, Low-Cost Recycling of Plastic Transition Piece Covers used by the Offshore Wind Industry
	Sheffield University	Vibration control of wind turbine blades					Physics and Engineering of the offshore environment	Vibration control of wind turbine blades
	Durham University	Optimisation of the internal structure of wind turbine blades					Physics and Engineering of the offshore environment	Optimisation of the internal structure of wind turbine blades
	Hull University	Impact of changing estuaries on offshore wind infrastructure: Identifying key environmental drivers					Environmental impact, marine biology and aquaculture	Impact of changing estuaries on offshore wind infrastructure: Identifying key environmental drivers
	Hull University	Effect of Blade Surface Contamination on Wind Turbine Energy Production					Physics and Engineering of the offshore environment	Effect of Blade Surface Contamination on Wind Turbine Energy Production
	Newcastle University	Understanding the interaction between internal waves and offshore wind structures					Physics and Engineering of the offshore environment	Understanding the interaction between internal waves and offshore wind structures
	Hull University	Primary production and carbon export across the Flamborough frontal system: interaction with offshore wind energy					Environmental impact, marine biology and aquaculture	Primary production and carbon export across the Flamborough frontal system: interaction with offshore wind energy
	Hull University	Biorenewable honeycomb adsorbents from wind turbine wood waste for high capacity carbon capture					Environmental impact, marine biology and aquaculture	Biorenewable honeycomb adsorbents from wind turbine wood waste for high capacity carbon capture
	Hull University	Economic and environmental assessment of energy systems integration for increased utilisation and reduced curtailment of offshore wind farms					Develop a Resilient Net-Zero Energy System	Economic and environmental assessment of energy systems integration for increased utilisation and reduced curtailment of offshore wind farms
	Durham University	Innovative decommissioning for offshore foundation systems					Achieve a Sustainable Wind Farm Life Cycle	Innovative decommissioning for offshore foundation systems
	Durham University	The role of fabric anisotropy on cyclic loading of offshore soils: a grain-scale investigation					Push the Frontiers of Offshore Wind Technology	The role of fabric anisotropy on cyclic loading of offshore soils: a grain-scale investigation

	Loughborough University	Energy security vs energy import costs: assessing the role of Offshore Wind Power					Accelerate consent and support environmental sustainability	Energy security energy import c assessing the ro Offshore Wind I
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