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| **University of St Andrews**  **School of Biology**  **Sea Mammal Research Unit**  **Acoustic Data Analyst – AD2537SB**  **Further Particulars for Applicants** |

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| **Sea Mammal Research Unit, School of Biology** |

The [Sea Mammal Research Unit (SMRU)](http://www.smru.st-andrews.ac.uk/) was established in 1978 and is a world leading academic and applied research group focusing on the study of marine mammals and their environment. Its staff and students carry out a range of fundamental and applied studies into the biology, ecology, physiology and behaviour of marine mammals throughout the world. With over [40 staff and students](http://www.smru.st-andrews.ac.uk/contacts/), SMRU represents a formidable concentration of expertise and talent in the field of marine mammalogy.

SMRU provides the UK's main science capability in the field of marine mammal biology and receives funding from NERC to provide scientific advice to the UK Government on the management and conservation of seal populations.

SMRU's strategic science priorities include evaluating the status of marine mammal populations; investigating the importance of marine mammals as components of marine ecosystems; determining the dynamics of marine mammal populations; studying marine mammal social structure and communication; providing the technological basis for observing free-ranging marine mammals and their environment.

SMRU has been at the forefront of efforts to understand the potential for interactions between marine mammals and renewable energy developments in the marine environment since 2006. SMRU was a key part of the research and monitoring around the world’s first commercial tidal turbine, SeaGen, in Strangford Lough. SMRU continues to work on a number of projects in partnership with the emerging tidal and offshore wind energy industry and UK government departments and agencies, to ensure that renewable sources of energy can be exploited in a sustainable manner, with minimal impact on marine wildlife.

**The Project**

This project builds upon previous work funded by the Scottish Government (<http://www.smru.st-andrews.ac.uk/research-policy/reports-to-scottish-government/>) and aims to address data gaps about the impacts of tidal energy on marine mammals by collecting data on the fine scale movements of marine mammals around tidal turbines. This will utilize a partnership of high frequency active sonar (AAM) and passive acoustic (PAM) tracking techniques on a seabed mounted platform to track marine mammals in high resolution around an operating tidal turbine. The data will be used to identify the species of marine mammal passing close to the turbine and to construct 3D (where possible) tracks of animals within several tens of metres from the turbine.

Information on the movement tracks of animals will be matched with operational information from the turbine to allow a series of kinematic analyses to quantify close range behavioural responses of marine mammals to the tidal turbine. This will be guided throughout by the information required to reduce uncertainty in current collision risk models.

As well as processing and presenting data from the current operational turbine, we are undergoing a period of development and testing of new monitoring systems for future turbine deployments. The post holder will play a role in developing new systems.

**The job description for this role is attached below.**

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| **Job Description** |

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| Job Title: Acoustic Data Analyst  School/Unit: SMRU / Biology  Reporting to: Dr. Gordon Hastie and Dr Douglas Gillespie  Job Family: Managerial, Specialist & Administrative  Duration of Post: 18 months | Working Hours: Full time/ 36.25 hours per week  Grade/Salary Range: Grade 5/£27,924 - £31,406 per annum  Reference No: AD2537SB  Start Date: September 2022 or as soon as possible thereafter |

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| **Main Purpose of Role** |

This post is for a fixed term period as it is dependent on external funding. As such, the need for the post will cease to exist when funding runs out.

In order to understand the fine scale movement of marine mammals in the vicinity of tidal turbines, a turbine deployed off the coast of Scotland, is being monitored using a combination of passive and active acoustic tracking systems. The fine scale movement data derived from these instruments will be used primarily to measure behavioural responses to turbines and populate collision risk models in order to assess the possibility of these new energy generating devices impacting on marine mammals not just in Scotland, but also to inform regulators of this novel industry world-wide. The successful candidate will work as part of a small team of experts in the field in order to help maintain and operate the data collection system and to assist in data analysis and interpretation.

Together the data derived from these technologies will be used to provide information to populate tidal turbine collision risk models. The successful candidate will work as part of a small team in order to help collect data, carry out data analysis, and to assist in the interpretation and reporting of results. The role is primarily desk based in St Andrews, though it is expected that there will be opportunities to travel to field study sites and to engage in field work during the course of the employment.

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| **Key Duties and Responsibilities** |

1. Assist in maintaining a long-term data collection system which is operating at a remote site in Northern Scotland.
2. Assist with the deployment and recovery of autonomous acoustic recorders at field sites.
3. Retrieve and archive data from the sensor system at the turbine site.
4. Process passive and active acoustic data in order to identify marine mammal detections and, where possible, to construct 3D tracks of animal movement close to the turbine combining data from all sensors.
5. Provide regular quality control information and updates of animal detections and tracks to other team members and communicate these results to industrial partners and regulators.
6. Engage with other team members to interpret data from the sensors and to help develop new analytical methods to interpret track data.
7. Assist in the preparation of reports and manuscripts for publication.
8. Ensure compliance with all legal and regulatory requirements including equality and diversity, data protection, copyright and licensing, security, financial, health and safety and other University policies, procedures and codes as appropriate.

Special Requirements:

This position willinvolve some periods of fieldwork using small boats in remote locations, and some weekend or evening work may be required

*Please note that this job description is not exhaustive, and the role holder may be required to undertake other relevant duties commensurate with the grading of the post. Activities may be subject to amendment over time as the role develops and/or priorities and requirements evolve*.

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| **Person Specification** |

This section details the attributes e.g. skills, knowledge/qualifications and competencies which are required in order to undertake the full remit of this post.

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| **Attributes** | **Essential** | **Desirable** | **Means of Assessment**  (i.e. application form, interview, test, presentation etc) |
| Education & Qualifications  (*technical, professional, academic qualifications and training required)* | A degree in Biology, Bioacoustics, Computational Biology, Physics, Engineering, or in a related subject | Masters level qualification in the relevant area. | Application form |
| Experience & Knowledge  (*examples of specific experience and knowledge sought*) | Experience of passive acoustic data analysis, ideally using the PAMGuard software  Practical programming knowledge ideally in Matlab or R otherwise Java or C/C++  Experience of data manipulation and statistical analysis in R. | Experience of analysis of active sonar data  Java / C programming experience  Full UK/EU driving license and a willingness to travel on an occasional basis.  Experience of deploying and recovering acoustic recorders at sea  Experience in the maintenance and analysis of large datasets  Experience in towing trailers and small boat handling | Application form/interview |
| Competencies & Skills  (*e.g. effective communication skills, initiative, flexibility, leadership etc*) | Strong analytical and organizational skills  Good verbal and written communication skills |  | Application form/interview |
| Other Attributes/Abilities  (if applicable) | High motivation, ambition, and flexibility in pursuing a career in a scientific research environment  Use initiative and creativity in problem solving |  | Application form/interview |

**Essential Criteria** – requirements without which a candidate would not be able to undertake the full remit of the role. Applicants who have not clearly demonstrated in their application that they possess the essential requirements will normally be rejected at the short listing stage.

**Desirable Criteria** – requirements which would be useful for the candidate to hold. When short listing, these criteria will be considered when more than one applicant meets the essential requirements.

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| **Other Information** |

We encourage applicants to apply online at [www.vacancies.st-andrews.ac.uk/welcome.aspx](http://www.vacancies.st-andrews.ac.uk/welcome.aspx), however if you are unable to do this, please call +44 (0)1334 462571 for a paper application form.

For all applications, please quote ref: AD2537SB

Equality, diversity and inclusion are at the heart of the St Andrews experience. We strive to create a fair and inclusive culture demonstrated through our commitment to diversity awards (Athena Swan, Carer Positive, LGBT Charter, Race Charters and Stonewall). We celebrate diversity by promoting profiles of BAME, LGBTIQ+ staff and supporting networks including the Staff BAME Network; Staff with Disabilities Network; Staff LGBTIQ+ Network; and the Staff Parents & Carers Network. Full details available online: <https://www.st-andrews.ac.uk/hr/edi/>

The University of St Andrews is a charity registered in Scotland (No SC013532).

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| **Obligations as an Employee** |

You have a duty to carry out your work in a safe manner in order not to endanger yourself or anyone else by your acts or omissions.

You are required to comply with the University health and safety policy as it relates to your work activities, and to take appropriate action in case of an emergency.

You are required to undertake the Information Security Essentials computer-based training course and adhere to its principles alongside related University Policy and Regulations.

You are responsible for applying the University’s equality and diversity policies and principles in your own area of responsibility and in your general conduct.

You have a responsibility to promote high levels of customer care within your own area of work/activities.

You should be adaptable to change and be willing to acquire new skills and knowledge as applicable to the needs of the role.

You may, with reasonable notice, be required to work within other Schools/Units within the University of St Andrews.

You have the responsibility to engage with the University’s environmental sustainability strategy, committing the University to reach net-zero by 2035.

You are required to engage with the technology, systems and communication channels necessary for you to undertake your work and must update your personal details via HR Self Service whenever there is a change.

Employees with staff management responsibilities must familiarize themselves with appropriate policies.

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| **Who Are We? St Andrews At a Glance** |

The third oldest university in the English-speaking world

Ranked top UK university in the [Times and Sunday Times Good University Guide 2022](https://news.st-andrews.ac.uk/archive/top-of-the-class/)

Twice named [University of the Year](https://news.st-andrews.ac.uk/archive/st-andrews-named-university-of-the-year/)

Consistently ranked [one of the UK’s top five universities](https://www.thecompleteuniversityguide.co.uk/league-tables/rankings) and top in Scotland in the *Complete University Guide*

Top in the UK for [student satisfaction](https://news.st-andrews.ac.uk/archive/st-andrews-top-for-student-experience-2/)

Research-intensive – ranked 14th in [UK Research Excellence Framework](https://www.ref.ac.uk/2014/)

Athena SWAN [Bronze Award holder](https://news.st-andrews.ac.uk/archive/athena-swan-awards/)

[Strategy](https://www.st-andrews.ac.uk/about/governance/university-strategy/) founded on ambition to be World-Leading, Diverse, Global, Entrepreneurial and Socially Responsible

Committed to sustainability and [aiming for Net Zero by 2035](https://www.st-andrews.ac.uk/sustainability/)

More than 9000 students and 3000 staff

Highly international – more than 45% of students and staff are from outwith the UK

A non-campus university, closely integrated with the ancient town of St Andrews

Top quality [sports](https://www.st-andrews.ac.uk/sport/), [music](https://www.st-andrews.ac.uk/music/) and [nursery](https://www.st-andrews.ac.uk/hr/edi/carers/childcare/nurseries/) facilities for staff and students

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| **The University & Town** |

Founded in the early 15th century, St Andrews is Scotland’s first university and one of the oldest in the world.

Situated on the east coast of Scotland and framed by countryside, beaches and cliffs, [the town of St Andrews](https://en.wikipedia.org/wiki/St_Andrews) was once the centre of the nation’s political and religious life. Today, it’s a vibrant academic town with a distinctively cosmopolitan feel where students and university staff account for more than half of the local population.

The University of St Andrews is a diverse and international community of almost 13,000 students and staff, typically of more than 140 nationalities. It has more than 10,000 students, just over 8000 of them undergraduates, and employs approximately 3000 staff, made up of c1350 in the academic job families and c1650 in the non-academic job families.

Under the leadership of current [Principal Professor Sally Mapstone](https://www.st-andrews.ac.uk/about/governance/key-officials/principal/), the University’s [Strategy (2018-23)](https://www.st-andrews.ac.uk/about/governance/university-strategy/) is to broaden its global influence, become more diverse and consolidate its current position as the top UK university ([Times and Sunday Times Good University Guide 2022](https://news.st-andrews.ac.uk/archive/top-of-the-class/)).

The Strategy sets out the University’s ambitions to grow its international profile, champion diversity and inclusivity, expand its portfolio of world-leading research, develop stronger links with industry, and embed a culture of entrepreneurship among students and staff.

St Andrews has placed social responsibility at the heart of the Strategy, with a pledge to manage growth in student numbers, foster a growing culture of sustainability, and pursue a research and teaching agenda for the wider public good.

The University is one of Europe’s most research-intensive seats of learning. In the [Research Excellence Framework (REF) 2014](https://www.ref.ac.uk/2014/) it was ranked top in Scotland for quality of research output and one of the UK’s top 20 research universities.

St Andrews was ranked the top university in the UK in [The Times and Sunday Times Good University Guide 2022](https://www.thetimes.co.uk/article/good-university-guide-in-full-tp6dzs7wn): this is the first time in the history of the Guide, and UK university league tables in general, that a university other than Oxford or Cambridge has topped the rankings. St Andrews has consistently been ranked one of the UK’s top five universities in league tables compiled by [The Times and The Sunday Times](https://www.thetimes.co.uk/article/good-university-guide-in-full-tp6dzs7wn), [The Guardian](https://www.theguardian.com/education/universityguide) and the [Complete University Guide](https://www.thecompleteuniversityguide.co.uk/league-tables/rankings).

It is the third year that St Andrews has challenged the Oxbridge rankings, coming [second to Cambridge in 2020](https://news.st-andrews.ac.uk/archive/staff-and-students-help-st-andrews-to-league-table-first/) and [second to Oxford in 2021](https://news.st-andrews.ac.uk/archive/university-challenged-st-andrews-breaks-oxbridge/). It has frequently been rated the leading university in Scotland for [teaching quality and academic experience](https://news.st-andrews.ac.uk/archive/st-andrews-scoops-top-teaching-award/), and in the [National Student Survey 2021](https://news.st-andrews.ac.uk/archive/st-andrews-top-for-student-experience-2/) was the leading mainstream UK university for student satisfaction for the thirteenth year in a row.

In international and world rankings the University of St Andrews scores highly for teaching quality, research, international outlook and citations. It is a World Top 100 institution in the [QS World University Rankings 2022](https://www.topuniversities.com/university-rankings/world-university-rankings/2022).

St Andrews’ reputation for teaching, research and student satisfaction make it one of the most sought-after destinations for prospective students from the UK, Europe and overseas.

The University typically averages 12 applications per place and has not offered Clearing places for more than a decade. St Andrews has highly challenging academic entry requirements to attract only the most academically potent students in the Arts, Sciences, Medicine and Divinity.

St Andrews holds an Institutional [Athena SWAN Bronze Award](https://news.st-andrews.ac.uk/archive/athena-swan-awards/). Sixteen Schools hold [Bronze Awards](https://news.st-andrews.ac.uk/archive/university-secures-gender-equality-awards/), while the Schools of Physics & Astronomy and Psychology & Neuroscience have achieved [Athena SWAN Silver Awards](https://www.st-andrews.ac.uk/hr/edi/sex_gender/athenaswansupport/), and the School of Biology holds a [Gold Award](https://biology.st-andrews.ac.uk/edi/2021/05/10/school-of-biology-receives-an-athena-swan-gold-award/).