**Job Description - Robotics and Ocean Mapping Technician**

1. **Job Details**

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| Job Title: | Robotics and Ocean Mapping Technician | Job Family: | Technical & Experimental |
| Line Manager: | Marine Robotics Technical Manager | Grade Range: | 5 |
| Full Time / Part Time: | Full Time (37hrs per week) | Duration of Appointment: | Permanent |

**2. Job Purpose**

To support the data acquisition, processing, and analysis activities in bathymetric mapping, seabed imaging and marine robotics.

**3. Main Responsibilities**

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| |  |  | | --- | --- | | *Role Description* | *Approx. %*  *of time* | | Responsible for the delivery of bathymetric data for both research outputs and commercial purposes, (e.g., multibeam, bathymetric side-scan sonar, sub-bottom profiler). This includes utilisation of hydrographic and GIS software packages to process, analyse and interpret the data. This will encompass scientific output through writing of reports and contribution to scientific papers where appropriate. | 30 | | Lead or assist in the management and operation of our hydrographic and seabed imaging instrumentation (e.g. AUVs, ROVs, bathymetric side-scan sonar, USBLs) for commercial and research projects (including on behalf of NERC-NOC), in coastal environments and offshore. This includes maintenance, testing, mission planning, field operations, and survey logistics. | 30 | | Contribute to the data acquisition and processing of seabed imagery. | 20 | | Contribute to the set-up, maintenance, debugging, testing and operations of the rest of the Robotics instrumentation pool. | 15 | | Contribute to the piloting of the SAMS underwater gliders as required (on-call approximately one week out of four). This work includes out-of-hours duties. | 5 | | Be pro-active in the application of SAMS Health and Safety Procedures. | Ongoing | |  |

**4. Planning and Organising**

* Planning data processing and analysis according to projects timeline.
* Planning of instrumentation usage, maintenance and testing.
* Planning of fieldwork, logistics, shipments, maintenance, purchase of parts and consumables.
* Developing and maintaining Risk Assessments, Safe Systems of Work and Standard Operating Procedures for hydrographic instrumentation and robotics.
* Implementing and testing instrument software and processing code.
* Managing own time to ensure all project deliverables are met, in coordination with line manager and project managers / PIs.

**5. Problem-Solving**

* Anticipating problems and developing solutions.
* Developing quality-control and processing methods for hydrographic and benthic imaging datasets in collaboration with researchers.
* Recognising and addressing data quality issues.
* Troubleshooting technical issues with instruments in the lab and in the field.

**6. Decision-Making**

* Assessing hydrographic data quality and deciding on processing methodologies.
* Effective planning of operations to allow collection of data in potentially high-risk environments (e.g., ice-covered, shallow, high currents, rough weather).
* Assessing instruments suitability and test results for specific experiments and projects.
* Decisions regarding instrument servicing, sensor calibrations and repairs (in-house vs sending back to the manufacturers).
* Day-to-day assessment of glider performance when piloting.

**7. Key Contacts/Relationships**

* Working within the Instrumentation & Robotics team.
* Working in close collaboration with project PIs, researchers and PhD students; especially in the fields of geoscience and bioscience.
* Working with other SAMS and SAMS Enterprise (SAMS commercial trading arm) staff requiring the use of hydrographic instrumentation and/or processing of data; training staff when appropriate.
* Liaising with boat crews and vessel managers.
* Liaising with external collaborators and project partners.
* Liaising with instruments manufacturers for maintenance and repairs.
* Possible supervision of undergraduate students.

**8. Knowledge, Skills and Experience needed for the Job**

**Essential**

* Bachelor’s degree in a quantitative field (e.g., hydrography, marine science, marine geology, engineering, physics, math’s, environmental science)*.*
* Experience in the acquisition, processing, and analysis of bathymetric survey data.
* Proficient in the use of bathymetric mapping software (e.g., Kongsberg GS4, Caris HIPS and SIPS, - Fledermaus, Sonar Whizz, QPS Qimera).
* Proficient in the use of Geographical Information Systems software (e.g., ArcMap, QGIS).
* Knowledge of multibeam and side-scan sonar systems.
* Knowledge of navigational and guidance systems (e.g., INS, GPS).
* Experience working with instrumentation.
* Experience working on boats / at sea.
* Ability and willingness to work in sometimes challenging conditions (at sea, polar regions, remote locations, at night).
* Must be able to work at sea and be able to successfully pass ENG1 medical and STCW95 Sea Survival course, required for participation on scientific offshore cruises.

**Desirable**

* Postgraduate degree.
* Experience working with AUVs.
* Experience working with ROVs.
* Experience processing and analysing seabed photographs and videos.
* Electronics expertise.
* Knowledge of programming languages (Matlab, Python, etc.).
* Experience of acting as crew on small inshore vessels.

**Personal skills**

* Ability to clearly communicate methods, results and difficulties encountered for both instrumentation and data.
* Technical writing skills are needed to ensure reports and software documentation is clear to researchers or other project stakeholders.
* Pro-active individual who can manage workload and able to cope with changing priorities and successfully meet deliverables on time.
* Excellent team-working skills.
* Conscientious, pays attention to details.
* Flexible to the needs of the role.
* Willingness to learn new skills.

**9. Dimensions – Scope of role**

* Responsible for the data processing and analysis of bathymetric / hydrographic datasets.
* Responsible for the processing and analysis of benthic images / videos.
* Responsible for hydrographic instrumentation and robotics such as AUVs and ROVs
* Support for other robotics activities at SAMS.
* Coastal fieldwork and offshore seagoing, ranging from a few hours to several weeks at sea.
* Writing of technical reports.
* Possibly contributing to research papers and presenting at conferences.

**10. Any other relevant information**

Operating in a wide ranging, rapidly changing, and often challenging technical field, requiring very specialist knowledge.

On occasions the post holder may be working alone, in challenging conditions, and/or out-of-hours when decisions have to be made quickly and efficiently to ensure the safety of personnel and/or equipment and data quality.

Allowance for offshore seagoing time and out-of-hours glider piloting.

The post holder may contribute to relevant commercial opportunities and teaching as appropriate.

The post holder may be required to perform duties other than those given in the job description for the post. The particular duties and responsibilities attached to posts may vary from time to time without changing the general character of the duties or the level of responsibilities entailed**.**

[WHAT SAMS CAN OFFER YOU (please right click and select open in new tab)](https://sway.office.com/7GSAUexj0DJC3tZz?ref=Link)

Our Values and Culture

We strive to be a world-class marine science enterprise that underpins regional, national, and international policy, and societal action to secure healthy and sustainable oceans.

As a workforce, we have a strong family and team culture, helping each other to achieve our goals.

Remuneration

We offer a competitive salary and pension as well as employee benefits package. We also have a number of supportive policies to assist absence, family, and other leave types.

Career Goals

SAMS provides a supportive learning and career growth environment for those looking for that next step in their career or upskill in the workplace. This may be through opportunities to develop techniques, learn more about the science objectives for the group, gain some tutorial opportunities, as well as attend meetings and CPD events.

We’ll provide you with a good start as you join SAMS

SAMS provides an excellent induction which is a great introduction to the organisation, the facilities, your department and team, and provides the support that you need over the early months joining a new organisation. We will also provide you with office space, computing equipment and ensure this is ready for you on your first day of work.

Employee Benefits

In addition to a general remuneration package which includes a generous salary, pension, and sickness absence policy, we offer a number of employee benefits to our staff, some of which are listed below:

* Flexible & Hybrid working arrangements
* Purchase of additional annual leave – up to 20 days per annum
* Access to shopping discounts as well as local shop and leisure discounted memberships
* Cycle to work scheme
* Purchase of technology
* Payroll Giving
* Salary Sacrifice – pensions
* Access to wellbeing portals which provide support for mental health, nutrition and fitness and GP referral scheme
* Occupational health support
* Welfare support on site
* Access to CBT sessions, where required
* Sabbatical scheme
* A number of training and development courses to assist you with your career development – leadership, coaching and mentoring.

SAMS’ commitment to gender equality has been recognised, as our institute was presented with an Athena SWAN (Scientific Women’s Academic Network) Bronze Award. SAMS is currently working towards a silver award.

SAMS have received a Bronze Award through the Armed Forces Covenant Employer Recognition Scheme. We recognise the contribution that Service personnel, reservists, veterans, the cadet movement, and military families make to our organisation, our community and to the country. We will seek to uphold the principles of the Armed Forces Covenant through Education, training, and employment of veterans and Service spouses.

As an Academic Partner of the University of the Highlands & Islands (UHI), SAMS is designated as an educational establishment and subject to the provisions of the Protection of Children (Scotland) Act. Certain roles may be subject to a satisfactory check by Disclosure (Scotland) as a condition of their appointment.

Applications must include CV and Cover Letter and should be sent electronically to [recruitment@sams.ac.uk](mailto:recruitment@sams.ac.uk) quoting Job Ref. ‘D31/22.LD’ in the subject line.

The closing date for applications **Monday 7th August 2023.**

Interviews will likely be held during the week commencing 28th August 2023.

*Please note, we prefer to contact referees prior to interview.*

Guidance for Applicants

Candidates must have the rights to work in the UK.

Your application – what are we looking for?

We are looking for a full CV – please remember to document all your relevant work experience, listed with the most recent first. You should also include your educational achievements with your most recent qualification first.  You should include skills and competencies gained from previous employment or education. This should be specific to the job description.  Also, please include details of two referees, one referee at least from your current role, who we may contact if invited for interview.

We enjoy reading cover letters and these are an important part of the application. In the letter, connect your past accomplishments with the requirements listed in the job description. Focus on your most relevant experience, qualifications, and skills. Where possible, quantify your accomplishments with facts and data.

**Useful links**

* [How to write a flawless cover letter](https://career-advice.jobs.ac.uk/cv-and-cover-letter-advice/how-to-write-a-flawless-cover-letter-in-2020/) (please right click and select open in new tab)
* [How to write a CV](https://www.reed.co.uk/career-advice/how-to-write-a-cv/) (please right click and select open in new tab)

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