**Job Description**

**1. Job Details**

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| Job Title:  | Undergraduate Research Experience Placement – 4D Anemone Feeding Ecology | Department: | Science |
| Line Manager: | PDRA in Marine Growth | Rate of Pay: | £10.90 per hour |
| Full Time / Part Time: | Either full time or part time | Duration of Appointment: | 6-8 weeks |

**2. Job Purpose**

Summer undergraduate student research experience placement using 4D photogrammetry and machine learning to study feeding ecology of plumose anemones.

The project will use multi-camera photogrammetry to produce repeatable 3D models of anemones within SAMS aquarium facilities. By experimentally manipulating aquarium conditions we will track morphological changes to better understand how their feeding behaviour responds to environmental cues.

No experience is necessary, and all training will be provided. It is a good opportunity to learn both cutting edge image analysis techniques and aquarium practises.

**3. Main Responsibilities**

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| *Main Responsibilities* | *Approx. %**of time* |
| Creating 4D models of plumose anemones in SAMS aquaria | 40 |
| Photogrammetry 4D model processing | 40 |
| Data analysis and project write up | 10 |
| Learn how to create 3D &4D models using photogrammetry | 5 |
| Learning the principle of image segmentation and deep-learning | 5 |
| Be pro-active in the application of SAMS Health and Safety Procedures | Ongoing |

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**4. Planning and Organising**

* Plan work tasks on a weekly basis and complete according to requirements and build project/time management skills.
* With support, able to work independently and manage own time.
* Learn and apply techniques, build focused skills to apply attention to detail.
* Plan and participate in training as required.

**5. Problem-Solving**

* A proactive approach to problem solving, ensuring that tasks are completed in a timely manner.
* Ability to contribute to solutions as part of your learning experience.
* Research and learn new techniques / skills.
* Adapt to new technologies and software.

**6. Decision-Making**

* Use own initiative in assisting with developing workflows and assessing data quality.
* Encouraged to contribute to discussions/meetings and decision making within research group.

**7. Key Contacts/Relationships**

* Project PI
* Aquarium Manager.

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

* Currently studying an UG degree –with marine science / biology experience
* Photogrammetry experience highly desirable
* Willingness to develop new technical skills in image analysis
* Good time management
* Good organisational skills with attention to detail
* Ability to use own initiative and work well as a team.

**9. Dimensions – Scope of role**

* The student will learn how to use Agisoft Metashape to create dynamic multi-camera 4D photogrammetric models. Including:
	+ The principles behind photogrammetry
	+ Best practices in the deployment and organisation of static multicamera setups
	+ The use of coded targets
	+ The use of the software Agisoft Metashape to create scaled dynamic 4D models
	+ Deriving 3D metrics from scaled photogrammetric models
* A large part of the student’s time will be based in SAMS Aquarium, where they will learn how to maintain animals in aquarium conditions and how to monitor their health and wellbeing.
* Day to day activities will be focused on creating 4D models of the anemone *Metridium dianthus* and measuring their response to experimental variables
* Potential opportunity to assisting in local ROV surveys and other boat-based field work.

**10. Any other relevant information**

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**.** If the normal duties of the post include going to sea (apart from small boats e.g. RHIB's) the applicant must be able to obtain the ENG1 medical certification and complete the STCW 95 Personal Survival Techniques training.

For more information on SUPER DTP, please visit here – <https://superdtp.st-andrews.ac.uk/home/research-experience-placements/>

For more information on Dr Joe Marlow, please visit here - <https://www.sams.ac.uk/people/researchers/marlow-dr-joe/>

[WHAT SAMS CAN OFFER YOU (please right click and select ‘open in new tab’)](https://vimeo.com/411370772)

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 that 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 (up to 2 days working from home)
* 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
* 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 quoting Job Ref. ‘D08/23.JM’ in the subject line.

The closing date for applications is Monday 26th June 2023

Interviews will be held the same or following week

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 you 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)



