

## **MARINE INSTITUTE'S SUMMER BURSARY SCHOLARSHIP SCHEME 2022**

This is a scholarship programme aimed at undergraduates of Universities, Institutes of Technology and National Institutes for Higher Education. The Bursary scholarship programme is strictly limited to undergraduates who will have completed at least 2 year's study in a relevant discipline by the start of the programme. Students who have completed two Marine Institute bursaries are not eligible to apply.

Successful candidates will work with full time Marine Institute staff in exciting areas such as Freshwater Fisheries, Aquaculture, Marine Infrastructure Asset Management, Finance, Human resources, Library and Molecular Chemistry and Marine Communications The bursaries are based at our facilities in Oranmore, Co. Galway and Newport Co. Mayo,

A bursary scholarship is valued at €275 per week and will last between 8-12 weeks depending on the bursary on offer and suitable funding.

Details of the bursaries on offer for 2022 and application forms are available from [www.marine.ie](http://www.marine.ie)

### **To apply for Bursary Programme 2022, here's what you need to do:**

- 1) **Check out the List of Bursaries on offer for 2022 on [www.marine.ie](http://www.marine.ie)**
- 2) **Select the TWO Bursaries that interest you the most in order of preference.**
- 3) **Complete the Online Application Form, have it signed by your department/school head who will return it to the Marine Institute using the online process.**
- 4) **Application Deadline is Friday 25<sup>th</sup> February 2022**  
**PLEASE NOTE LATE APPLICATIONS WILL NOT BE ACCEPTED**

- Students will receive email acknowledgement on receipt of the application form.
- All applications will be reviewed and short-listed using the same method and criteria.
- Successful applicants short-listed for interview will be contacted by email with an interview date, time and location.
- Students will confirm attendance at interview by email.
- Interviews will be held online
- Interviews will be held in March and April 2022

**Deadline for receipt of completed application is Friday 25th February 2022**

**Please note that due to COVID 19 restrictions these bursaries will only go ahead if the Marine Institute deems it safe to do so.**

### **1. National Wild Salmon Assessment (1)**

One student is required for monitoring wild salmon caught by commercial and recreational fishing (draft net and angling), screening for the presence of microtags and collection of biological data and statistics. This bursary should have a combination of both field and laboratory work. The student will be based in Marine Institute Newport Co. Mayo from June to August. The duration of Bursary is 8 weeks.

### **2. Fish Husbandry/ Fishery (1)**

The bursar will assist with all aspects of aquaculture research currently being undertaken in the salmonid research unit. Hatchery duties will be based around associated fish husbandry procedures such as fish welfare, feeding, hygiene, mortality checks, fish grading, fish harvesting and data processing. The student will gain experience in working with both Flow Through and RAS (Recirculating Aquaculture System) production. The bursar will also provide support to the Fishery Manager with the day to day running of Burrishoole Fishery. Fishery duties will include: record keeping / data input (excel spreadsheets), dealing with customers, microtag recovery from ranched salmon returns (coring etc.) and working with ghillies to ensure compliance with safety procedures. An interest in angling is desirable. The bursary will be based in the Marine Institute Newport, Co. Mayo. Boat handling would be an advantage for the fishery side of the bursary. The duration of Bursary is 12 weeks.

### **3. Salmon and Eel Fish Stock Census (1)**

One student is required to assist in daily monitoring of the fish trapping installations including counting and sampling salmon, sea trout and eel as part of a team. Fish Trap Census is one of the core research programmes undertaken in Marine Institute Newport Co Mayo and the Salmon Ranching Programme is an integral part of the Census work. The student involved with this bursary will, while working as part of a team, assist with monitoring fish movements, taking measurements, fish scale samples, tagging & releasing salmon & trout and will be involved with sampling returned ranched salmon for tags and other associated lab work (such as digitising fish scales).

The student will also be involved in a number of areas of the Burrishoole eel programme; assisting with netting surveys on the lakes in Burrishoole, data collection in the field surveys and fish traps and also with the laboratory sampling of eels. The bursary will involve a combination of field, laboratory and office duties. Data entry and data preparation for upload into a new database will also be a component of the work. Eels are a common fish coming under increasing conservation pressure to protect the declining stocks. The Irish Eel Management Plans submitted to the EU in Jan 2009 have established various strict management measures. Monitoring the implementation of these measures along with surveys to assess the current status of the stock are components of the eel Management Plans.

The work will include daily working in the fish traps (salmon, eels, trout) on the two rivers, some initial data processing, dissection and retrieval of tags from ranch salmon, preparation of scale samples for age analysis. Data entry and data preparation for upload into a new database will also be a component of the work.

For the eels, the routine will be to monitor daily the elver trap, and to assist in the fyke net survey of each of four lakes in Newport, taking about 10 days in the field.

Much of the work will be outdoors. A flexible working arrangement may be needed for covering weekends and evenings, largely weather dependent.

The student must be physically fit/ happy to work outdoors, in local lake boats and in the lab. Good computer skills with working knowledge of MS Excel and Word. The student must be flexible and willing to work shifts and/or balance time worked with time off. Own transport essential due to COVID travel restrictions for both getting to and from work, but also during work to travel between locations on a daily basis. A sea survival certificate is essential for this bursary. The duration of the bursary is 12 weeks. This bursary will be based in Newport Co. Mayo.

#### **4. Aquaculture Field / Laboratory Assistant (1)**

This bursary will involve assisting the Aquaculture Section scientists with day-to-day work and helping out on research projects. It will involve working with aquaculture species (such as fish, shellfish, seaweeds, etc.) in an integrated aquaculture environment. The work will involve taking samples from the marine environment and fish farm installations, environmental monitoring, and analysis of these samples, general laboratory tasks and other duties as required. There will also be desk top work, such as a report on aquaculture standards and certification to be carried out, as well as analysis of archival materials and reporting on the content.

A key focus of the bursary will be fieldwork, which will involve working at sea alongside the Aquaculture team in remote locations, in Connemara, working from small inshore boats. There will be some morning and evening work required pursuant to weather conditions and tides. Strong computer skills are required for this bursary, especially MS Excel. A Safety at Sea Certificate is an essential requirement as well as a full driver's licence and access to a vehicle.

The duration of Bursary is 12 weeks and will be based in the Marine Institute Oranmore Co. Galway.

#### **5. Aquaculture - Lobster cultivation as part of Integrated Multi-Trophic Aquaculture (1)**

Lobster are being cultivated at the Marine Institute Integrated Multi-Trophic (IMTA) Aquaculture research site in Lehanagh Pool Cashel Bay, Connemara Co. Galway. Ongoing trials are in collaboration with NUIG - Carna Research Station and the H2020 ASTRAL project. Lobsters are being monitored for growth and performance, to fine tune cultivation at sea prior to release as a restocking initiative.

The role of this bursary will be to conduct an in depth literature review of lobster stocks and restocking initiatives, including tagging, identification and genetic population studies. Lab work will include image analysis to measure growth of the standing stock. Fieldwork will include measurements of the stock in situ and epi-biotic community structure of the cultivation environment.

This bursary will also involve assisting the Aquaculture Section scientists with day-to-day work and helping out on research projects. A key focus of the bursary will be fieldwork, which will involve working at sea alongside the Aquaculture team in remote locations, in Connemara, working from small inshore boats. There will be some morning and evening

work required pursuant to weather conditions and tides. Strong computer skills are required for this bursary, especially MS Excel.

A Safety at Sea Certificate is an essential requirement as well as a full driver's licence and access to a vehicle.

The duration of Bursary is 12 weeks and will be based in the Marine Institute Oranmore Co. Galway.

## **6. Ecological Monitoring in Burrishoole (1)**

This student will work with the Burrishoole catchment team on ecological monitoring. They will assist with: fisheries surveys, water sampling (rivers and lakes), chemical analyses, macroinvertebrate identification, sensor downloads, bird and habitat mapping. The work will include long periods at a microscope as well as full days outside on fieldwork. There may also be some data entry tasks if weather excludes fieldwork. The student must be goal-orientated, flexible, willing to play a team role, able to work by themselves. Happy to work outside as well as in the lab. It would be great if they had a little bit of invertebrate taxonomy experience.

Own transport essential due to COVID travel restrictions for both getting to and from work, but also during work to travel between locations for fieldwork.

The duration of Bursary is 12 weeks and will be based in the Marine Institute Newport Co. Mayo.

## **7. Oceanographic inventory and data analysis (1)**

The Oceanographic Services group has collected many datasets related to temperature, salinity and ocean currents in Irish waters. These datasets are archived in various locations and formats. As part of our ocean climate programme we plan to organise these data sets, quality assure them and analyse the data to elucidate trends in ocean climate in Irish waters. A bursar is required to support this work.

The bursar will:

- Work through the Research Vessel-Operations cruise reports to identify additional valuable oceanographic data collection activity.
- Sort legacy data on the OceanSQL file server and conduct quality assurance on the data.
- Manually convert old Conductivity, Temperature, Depth data from .CON to .XMLCON using Jupyter notebooks (training provided)
- Update inventory of temperature, salinity and ocean current data in Irish waters. This will include location, depth and duration of data sets.
- Conduct quality assurance checks on the data in line with the Institute's Quality management framework and assessing data process gaps.
- Analyse the data to elaborate trends in the data collected.

There may be some limited oceanographic data collection at sea (subject to COVID restrictions during the bursary), therefore a sea survival certificate is desirable. Some experience in working with scientific data sets would be an advantage.

The bursary will be home based or in Marine Institute Oranmore if restrictions are lifted and the duration is 12 weeks.

#### **8. Communications – Communications Content Creator (1)**

The Communications Team of the Marine Institute are looking for a Bursar who loves to write, proofread, design or produce multimedia content with proven skills in science publishing, science communication or mainstream media.

Whether your skills lie in interviews, data journalism, graphic design, video or podcasting, we want to hear from you. We are looking for a Communications Content Creator to support us in producing quality, informative and engaging content that tells the Marine Institute's story.

- The successful bursar will have proven skills in one or more of the following areas. Developing content marketing ideas, writing stories
- Shooting and editing video and/or photography,
- Producing marketing collateral for print or online applications
- Writing content material for all forms of digital and offline marketing materials.
- Assisting in creating content for social media, videos and other media projects.
- Supporting the development and creation of content and campaigns across multiple media (print/collateral, interactive/web, e-marketing)
- Assisting in the development and execution of social media promotion

The bursary will be home based or in Marine Institute Oranmore if restrictions are lifted and the duration is 12 weeks.

#### **9. Library and Lab: working with crayfish historical materials, and validation of molecular detection techniques for pathogens of aquatic animals (2)**

This is a joint project between the Library and the Fish Health Unit (FHU) based at the Marine Institute in Oranmore Co Galway. Two students are required for the joint project. The students will work together as a team. You will work part time in the library gaining valuable experience in information management, and work part time in the lab, gaining valuable hands on experience in an active working laboratory.

The library has acquired a large collection of historical reference materials on crayfish and eels. These materials will be used by the FHU as reference baseline figures, containing important data for future research and study.

In the library and archive room, you will sort, itemise, catalogue, digitise, and correctly store the reference materials. Where legally possible, you will also learn to make items openly available on our digital library.

Your lab-based work will be in the molecular biology section of the FHU. This project aims to evaluate the sensitivity, specificity and reproducibility of established and novel real-time qPCR assays used to detect and identify pathogens of aquatic animals, in particular, crayfish and finfish. You will gain valuable experience in the planning and execution of a series of suitable experiments to verify such diagnostic methods are fit

for purpose, with the ultimate aim of establishing a set of “rules” to govern the interpretation of molecular diagnostics results.

Techniques used will include:

- Dissection of crustacean and finfish samples.
- DNA and RNA extraction.
- Preparation of PCR master mixes, positive control material, primer and probe working stocks, and other molecular reagents as required.
- PCR and real-time quantitative PCR (qPCR).
- Statistical data analysis and calculation of Limit of Detection/Quantification Scores.
- Preparation of reports to collate experimental data.

An interest in historical content, libraries, native crayfish species, aquaculture activities, molecular test methods, or validation processes would be advantageous but not essential.

For library, information management, communications or similar students, there is scope to work on the project without the lab work for a suitable candidate. The duration of Bursary is 12 weeks.

#### **10. Research Office Administrator (1)**

One student is required to work with the finance team. The role will involve working with the Research and Systems Accountant on a variety of externally funded projects. You will be working on the financial reporting element of projects, assisting in the review and internal audit, of cost statements prior to submission to the EU. Liaise with stakeholders and follow up on outstanding information or documentation as identified during the review and audit process. Monitor and update the master project tracker, assist in prioritising workload based on reporting deadlines. Maintain project dashboards on SharePoint Online.

Good working knowledge of Ms Office and very comfortable with Excel.

Can demonstrate the following competencies: good communicator, strong organisational skills, has attention to detail and initiative. Has an interest in accountancy, as a career.

The bursary will be home based or in Marine Institute Oranmore if restrictions are lifted and the duration is 12 weeks.

#### **11. Refining measurement of Ireland’s Ocean Economy (1)**

This Bursary involves desk top research to identify possible new sources of data that would support refined measurement of Ireland’s Ocean Economy through ocean satellite accounts. The research will include a review of NACE codes used to measure ocean economies including by OECD, EU Commission and the Socio-Economic Marine Research Unit in NUIG. In addition, the bursar would explore what Irish data is available to support measurement of these NACE codes.

The Bursar will be asked to provide a report and database of sources of data in Ireland. Experience working with large scientific or economic datasets would be beneficial.

The bursary will be home based or in Marine Institute Oranmore if restrictions are lifted and the duration is 8 weeks.

## **12. Marine Research Infrastructures asset management (1)**

The Marine Research Infrastructure section of the Marine Institute operates and manages a broad range of Marine Observation Platforms including a Cabled observatory, a network of autonomous underwater Vehicles and Monitoring Buoys. Deployed on these platforms are arrays of marine sensors measuring Weather, Wave conditions, Water Quality, Subsea Video and Marine Noise.

One student is required to work with the Marine Research Infrastructures team in Galway. The work will be primarily desk based and requires an updating of existing equipment database systems through carrying out inventory audits and updating calibration records and maintenance scheduling information as necessary. Ensuring that all the assets are photographed and tagged will also be part of the assessments.

Interaction with existing Quality Management Framework Software systems (Paradigm 3) to generate reports on asset inventories and improve existing engineering process flows will also be required.

The student will also assist in the inspection and monitoring of the Cabled Observatory Shores station equipment and building facilities.

There may also be opportunity to participate in a deployment/retrieval of marine platforms at sea if resources are available and covid restrictions allow.

The bursary will be based in the Marine Institute in Oranmore (restrictions permitting or may require working remotely) and Galway docks. An up to date Sea survival certificate and Medical is desirable but not essential. The duration of Bursary is 12 weeks.

The ideal candidate would have:

- Knowledge of and aptitude for working with marine platforms, systems and instrumentation
- Proficiency in MS Excel, Paradigm 3 or similar and Database experience
- Good interpersonal, IT & written communication skills
- A keen interest in marine engineering and science.

## **13. Human Resources Support (1)**

The H.R. team is seeking a student with an interest in Human Resources, Communications, Training and Connecting with People. The student will work with the H.R. Team to review and create interactive manuals including the staff handbook and health and safety statement. The role will also involve a review of the Human Resources Intranet site, insuring that all related policies and procedures are current and accurate and assisting with HR communication and staff information. The student should have Strong IT skills - MS Office and be good communicator.

The bursary will be home based or in Marine Institute Oranmore if restrictions are lifted and the duration is 8 weeks with an option to extend to 12 weeks.

**ENDS**