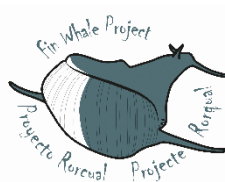




Research Assistant Program

EDMKATUB Association

EDMAKTUB is a non-profit organization, dedicated to the study, dissemination, and conservation of the marine environment. Mainly focused on cetacean research. Dedicating most of their efforts conducting scientific research projects, but also running educational programs to increase the knowledge people have of the marine environment.



This course aims to give participants a thorough practice of the different techniques of cetacean research, giving them an insight into the project and participating in the tasks of data collection, data analysis and interpretation of the results obtained. This course will provide participants with experience and practice in the study of cetaceans, giving them a starting point in this research field.



The Program Schedule

The Research Assistant Program is a course where you will get inside the Fin Whale Project as well as meeting an international team with different backgrounds and experiences. This course can be done in three different durations:

- **One-week Program.** Get an idea of all the research lines that the Fin Whale Project is carrying out. Having an intense immersion to the project with 7 days of talks, fieldwork, and data analysis. The cost of this course is **900 euros***.
- **Two-week Program.** Get a bit more inside of the Research done in the Fin Whale Project, getting an immersion to the project with 14 days of talks, fieldwork and data analysis, being able to go deeper in some specific subjects each participant is more interested in. The cost of this course is **1200 euros***.
- **Three- and Four-week Program.** Join the fin whale project for nearly a month, participants can get a small project to work on besides getting an inside of all the Fin Whale Project research. The cost **1500 euros***.

* **This price includes the accommodation and basic food expenses. It also includes all the material needed to follow the course as well as the boat trips.**

The general schedule for the different option durations is:

Day 1

Reception in the apartment around 6 – 7 pm. This reception time may vary depending on the boat survey on the arrival day. But a close contact will be maintained with the participant to facilitate the arrival at the apartment. Basic information, tasks and responsibilities regarding the apartment will be explained upon arrival. Also, a general presentation of the EDMAKTUB association and the Fin whale Project, a presentation of the research protocol on board the Maktub vessel will take place. We will explain the general protocols, sightings and the tasks that are carried out on the days of the surveys.

During your stay

Onboard research surveys. We will try to make at least three research survey days per week, depending on the weather conditions.

The days without boat surveys will be used for presentations of the different research lines, although some of them may also be done on the boat during survey days. These boat off days can also be used to work on assistant's personal research lines (objectives, data collection, data processing and analyses, results expected, and results acquired so far) or as free days.

Last day

Wrap up activity, packing and cleaning.

The Program contents

First of all, there will be some general talks:

- A presentation of the EDMAKTUB Association and the Fin whale Project. Explanation of the creation, purpose and objectives of the research association and the Fin Whale Project. Summary of preliminary results. Brief presentation of the different research lines.
- Protocol on board. Explanation of the different tasks to be performed onboard the Maktub. Regulations. Sighting protocol: effort and data collection.
- Steps to follow to carry out a research project. Step-by-step explanation of the approach of a scientific project, starting with the formulation of objectives, hypotheses, expectations, the observational or experimental set-up including materials, the approach, and the data processing to test the hypothesis.

Each research topic will be presented, both as a short talk and as a more practical issue (depending on the interest of the participants and the chosen program).

Sightings

- General talk about main objectives, data collection and results got until the date.
- Database management and preparation for analysis.
- How to manage Logger, Excel, R and QGIS.
 - Learning how to use and modify Logger.
 - Excel data management.
 - R language, RMarkdown, data analysis in different packages.
 - QGIS introduction, mapping and analysis.

Practical example of different tasks used in a cetacean data analysis for presence/absence and temporal analysis.

- Map interpretation and analysis.
- Statistical and Time Series analysis.

Behaviour

- General talk about main objectives, data collection and results got until the date.
- Database management and preparation for analysis.
- How to manage PADOCC, Excel, R and Boris.
 - Learning how to use PADOCC.
 - Excel data management.
 - R language, RMarkdown, data analysis in different packages.

Practical example of different tasks used in a behaviour data analysis.

- Analysing drone videos for a behaviour research purpose.

Photo-identification

- Presentation of its importance and objectives. Explanation of the use of these results for different research purposes.
- Presentation of photo-identification techniques. Protocol on board. Type of photographs. Photo-identifiable areas and marks.
- Analysis of the photographs and expansion of the photo-identification catalogue. Protocol for analysing photographs of the camera and the drone. Screening of photographs and entering the data in an Excel file. Catalogue expansion protocol.
- Protocol and flight techniques. Explanation of the protocol to follow depending on the information collected.
- Analysis and cataloguing of videos. Explanation of the protocol to be followed for each of the research lines in which drone images are used.

Fishermen

- Presentation of the relationship that the association have with the professional fishermen community and the importance of they collaboration for data collection.
- Processing of the data obtained. Register of sightings to the database. Register of sea status data, bioindicator species and other information in a concise manner to the database.
- Visit one of the fishermen's guilds we collaborate with. Together with an association researcher we will interview some fishermen in order to get some extra information.
- Learn how to manage citizen science data.

Oceanography

- Presentation of the importance of oceanography, the characteristics of the area and the main oceanographic processes that are carried out. A basic introduction to the variables that we are interested in relation to cetaceans.
- Protocol for oceanographic data collection during the trips. Collection of water samples and measurements of the water column with the CTD instrument (Conductivity, Temperature, Depth).
- Presentation of the analysis of satellite data. Objective, treatment and analysis of the data. The open-source databases options mainly used. Instructions on how to choose the proper database based on your interest. Instructions on how to download and open a Marine Copernicus database. Preparation of the database for further analysis.
- Practical analysis of the data, interpretation of the results and modelling. Data analysis case of study with the different steps to follow.

Plankton and Microplastics

- Presentation of the study techniques and brief introduction of the species that can be found in the study area and the problems that microplastics induce in the marine environment.
- Collection of samples during trips. Use of the echosounder. Protocol for the collection and storage of samples.
- Analysis of echosounder images and plankton samples with the magnifying glass and analysis of the data. Identification of the species and the type of microplastics found. Count for an abundance characterization.
- Analysis of results.

Collisions

- Introduction to marine traffic data and the situation in the Catalan coast.
- Marine traffic data collection, management and analysis with R and QGIS.
- The risk of collision for fin whales. The study of behaviour and day/night changes in fin whales and how it is related to the risk of collision.
- Overlap between marine traffic and fin whales.
- Actual regulation and future conservation plan to protect fin whales in the Catalan coast.

Thermal camera

- Presentation of the advantages and limitations of thermal cameras. Main goals and results obtained.
- Protocol of image collection and analysis.
- Thermal camera applications and future implementations.

Biological samples

- Presentation of study techniques for the collection of skin and faeces samples. Objectives, protocol, and analysis to be carried out.
- Results obtained / expected.

Acoustics

- Presentation of the acoustics study techniques. Objectives, data processing and introduction to analysis of acoustic data.
- Presentation of the acoustic system of cetaceans. Explanation of the anatomical mechanics of sound emission, operation of echolocation. Anatomical differences between species and more.

If you would like to gain knowledge and experience on cetacean research, like a real scientist, we would like to welcome you to join our eco-volunteering program, during which you will also have the opportunity to join the team and spot different species of cetaceans, fish and seabirds.



How to participate

Fill the form that you will find in our website [Participate in the Project - EDMAKTUB](#)

Remember you can choose any of our three-course timing depending on your interests and time availability.

1 week course: 900 euros.

2-week course: 1200 euros.

3 – 4-week course: 1500 euros.

* Terms and conditions are found in EDMAKTUB webpage.

If you want to know more about it, you can also write us an email to info@edmaktub.org or a WhatsApp to +34 655879180.

We hope to hear from you soon!

