“Thanks to the Master I have come into contact with the world of research and had the opportunity to work with the best aquaculture professionals in Spain and in the world. Furthermore, it has been a fabulous personal experience for me to work in an international context.”

Mouna Abaad: Environmental Assesement & Management (EAM), Tunisia.

“My time at the Master has opened doors for me to the aquaculture world through my contact with lecturers of international standing and has been the foundation upon which I have built my career as a researcher, as it gave me my first opportunity to carry out research.”

David Dominguez Montesdeoca, Doctor-Researcher, GIA-ULPGC, Spain.

“Attending the course on marine culture of the ULPGC-CHEIAM-JAZ Program made me to work with marine fish larvae which I am passionately about, and to sharpen my skills as a researcher in marine aquaculture. Personally, I have met some very interesting people and future colleagues with whom I have become my best friends and that will be with me for the rest of my life.”

Mauricio Moreno Ane. Hatchery Manager, Ocean Baja Lobo. Baja California, Mexico.

“Thanks to the Master I have been able to specialise in sole culture, which is what I have always wanted.”

Ricardo Zerolo, Director of Production CUPMAR, Cádiz, Spain.

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**Programme of the Postgraduate Specialisation Course**

**I. INTRODUCTION TO AQUACULTURE (1 ECTS)**

**II. NUTRITION (12 ECTS)**
- Physiology of nutrition. Nutritional requirements and dietary ingredients: lipids, proteins, carbohydrates, vitamins and minerals, nutritional energy.

**III. HEALTH MANAGEMENT (12 ECTS)**

**IV. REPRODUCTION (4 ECTS)**

**V. GENETIC IMPROVEMENT (6 ECTS)**

**VI. FACILITIES (3 ECTS)**
- Pipe water systems. Pumping systems. Aeration and oxygenation systems. Hatchery design, nurseries and on-growing facilities.

**VII. ECONOMICS AND MANAGEMENT (3 ECTS)**

**VIII. TECHNICAL HATCHERY PRODUCTION (8 ECTS)**

**IX. ON-GROWING TECHNIQUES (5 ECTS)**

**X. DIFFERENT SPECIES CULTURE TECHNIQUES (3 ECTS)**

**XI. ENVIRONMENT (3 ECTS)**

**XII. INTRODUCTION TO RESEARCH (30 ECTS)**

**XIII. MASTER THESIS (30 ECTS)**
- University Master in Marine Aquaculture
- October 2020 - June 2022
- Las Palmas de Gran Canaria, Spain
Aquaculture constitutes the food production that has experienced most growth in recent decades. It is now a consolidated activity able to supply the growing demand for fish products, as opposed to the stagnation of catches by the fisheries in the 1980s. In 2016 world aquaculture production reached 86.9 million metric tons. Marine farms included, a quarter of oceanic fishery production by 18.2 million metric tons. In fact, most of the aquaculture production is domesticated species, such as salmon, carp and oysters. This figure reaches up to 90%, 70% and 40% respectively. The Mediterranean is a natural producing region after Asia, being specialized in the cultivation of shrimp and fish. Three of the largest Mediterranean producers are Spain, France and behind Norway, it is the fifth producer of fish feed and pellets. Having led more than 130 research projects in aquaculture in technology, genetics, reproduction, pathology and a workshop to prepare fish feed and shrimp diet. This development requires a continued demand of specialized professionals in the various fields of this activity, which the University Master in Marine Aquaculture (former International Master in Aquaculture) has been building for over 20 years. The Master offers an international framework on the principles of aquaculture, the cultivation techniques of the most representative species and the different areas of study that support this activity: nutrition, pathology, genetics, reproduction, engineering, economics and the environment, joining the efforts of ten organizing institutions with extensive experience in this field. With more than 50 specialist lecturers in aquaculture, from various countries and students from the five continents, the Master is an intense personal and professional experience with a strong international focus.

The Master is coordinated by the Aquaculture Research Group (GIA) (www.giapisciculturaacuicultura.org) of the University Las Palmas de Gran Canaria (ULPGC). This group, with more than thirty years of experience in research and teaching in aquaculture, has facilities with approximately 2,500 m² devoted to comprehensive cultivation of algae, shrimp, shellfish, crabs, marine fish and 421 square meters of laboratories in nutrition, histology, genetics, reproduction, pathology and a workshop to prepare fish feed and shrimp diet. Having led more than 130 research projects in aquaculture in technology, genetics, reproduction, pathology and a workshop to prepare fish feed and shrimp diet. The structure of the course is divided in two parts: theoretical and practical classes in the first year of the programme to take place from October 2020 to June 2021. The second part (60 ECTS) will allow specialization in any of these areas through the implementation of a research project and the Master’s thesis in any of the institutions or collaborating companies belonging to the supervisor. This training period is an introduction to a career in aquaculture to be completed before May 2022, for subsequent public defence.

The Master programme is jointly organized by the University of Las Palmas de Gran Canaria (ULPGC), and the International Centre for Advanced Mediterranean Agronomic Studies (CIEHAM). The programme will be taught by highly skilled teachers of their host institutions and by renowned guest professors belonging to research institutions and teaching, to administration and private entities in several countries.

The agenda of the International Master in Aquaculture has two parts. The first (60 ECTS) provides an intense basic training in all fields of aquaculture through theoretical and practical classes in the first year of the programme to take place from October 2020 to June 2021. The second part (60 ECTS) will allow specialization in any of these areas through the implementation of a research project and the Master’s thesis in any of the institutions or collaborating companies belonging to the supervisor. This training period is an introduction to a career in aquaculture to be completed before May 2022, for subsequent public defence.

At the end of the first part of the Master, the participants who have passed the tests of knowledge established and have obtained 60 ECTS, receive the title of Postgraduate Specialization Diploma awarded by the CIEHAM.

Participants who passed the first part of the Master with a grade of 7 or more out of a possible 10 are considered candidates for specialization in aquaculture for the second part of the Master. They will be entitled to a Certificate of Professional Experience from the Faculty of Fisheries and Marine Sciences since 2004. The completion of the Master shall, in addition, provide a formative period of introduction to research and training towards the development of a research or development project in the Mediterranean. The programme offers an individual component and the supervision and development of the research project in a Spanish province outside Las Palmas may opt for aid through the Student mobility programme (Modalidad B) of the Spanish Ministry of Education. The Master will take place in the PhD in Sustainable Aquaculture and Marine Ecosystems, offered by the GIA that holds the Quality Award of the Spanish Ministry of Education and Science since 2004.

The course is designed for a maximum of 20 participants who must meet the following requirements:

A) Higher university degree or equivalent, related to the theme of the course.

B) Knowledge of Spanish, which will be the working language of the course.

Most of the documentation will be in this language. Since some of the conferences and part of the teaching materials will be in English, knowledge of this language will also be valued in the selection of candidates.

The CIEHAM will organize an intensive Spanish course in Zaragoza between July and September 2020 for those participants who require it.

SCHOLARSHIPS

Applications for pre-admission and registration can be made at http://www.ulpgcparati.es/, and for any additional information please contact:

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Universidad de Las Palmas de Gran Canaria
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Las Palmas de Gran Canaria, Spain.
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The first application for the pre-admission period starts 5 February and ends 28 May. All research and practical courses of the first year of the programme have been organized and accepted, to the Master Degree. The official Spanish Master degree will be awarded by ULPGC, and CIEHAM will award its Master of Science Degree.

The completion of the Master’s thesis is required to acquire the title of Master Degree. The candidate must submit the Master’s thesis to the organization of the course and defend it at the University Las Palmas de Gran Canaria (ULPGC) in the PhD programme. The Master’s thesis will be an original contribution to the scientific literature that supports the development of a research or development project in the Mediterranean. The programme offers an individual component and the supervision and development of the research project in a Spanish province outside Las Palmas may opt for aid through the Student mobility programme (Modalidad B) of the Spanish Ministry of Education.

The organizers will help participants find accommodation in hotels, apartments or university halls of residence during the course. However, accommodation costs will be paid by the participants.

Various public and private agencies may grant scholarships to participate in the programme. These scholarships may cover all or part of the registration fees.

In https://www.ulpgc.es/recursos, one can also find several calls for grants for students or researchers for the carrying out of research projects in Spain and abroad. These grants are aimed at students or researchers who are neither Spanish citizens nor residents, although the latter are also allowed to apply. Also, students or researchers who are employed by a Spanish university or research centre can apply to conduct thesis research at centres in their home countries.

For the second part of the Master, students conducting their research project in a Spanish province outside Las Palmas may opt for aid through the Student mobility programme (Modalidad B) of the Spanish Ministry of Education.