



UNIVERSIDAD
DE MÁLAGA



SeaWheat
COST Action CA20106

TOMORROW'S 'WHEAT OF THE SEA' USA, A MODEL FOR AN INNOVATIVE MARICULTURE

CULTIVATION TECHNOLOGIES OF THE LAND AND SEA BASED SYSTEMS

2nd SEAWHEAT Training School

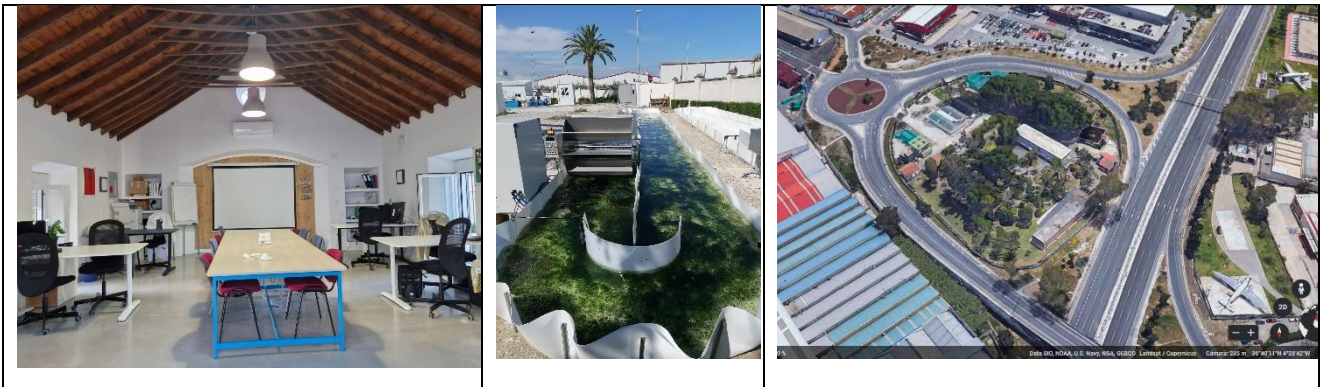
26th-29th of June, 2023, Málaga, Spain

VENUE: Centro de experimentación Grice-Hutchinson.

Barriada de San Julián nº2, 29004 Málaga



Funded by
the European Union



COST Action (SeaWheat CA20106) organizes a second Training School in 2023, and the call for applications is open. The purpose of the Training School is to introduce the participants to fundamental traits for the development of the *Ulva* aquaculture industry.

The COST Action entitled *Ulva: Tomorrow's "Wheat of the Sea"*, a Model for an Innovative Mariculture (SEAWHEAT) is working in close collaboration with the University of Málaga to organize a four-day Training School on the technical and legal aspects of *Ulva* cultivation. The main objective of the SEAWHEAT COST Action is to make a step-change towards a green economy based on *Ulva* mass production and utilization within the European community and beyond. The purpose is the development of *Ulva*-based blue-biotech industries and the utilization of *Ulva* as a model organism in European algaculture. The COST Action aims at facilitating the acceptance of *Ulva* as a new, sustainable, and safe food item in the traditional European diet. The Action will profit from the world-renowned quality standard of European food production. The ultimate goal is to integrate the nutritional value of *Ulva* into the European human diet and animal nutrition.

During this four-day training school, trainers with expertise in reproduction, aquaculture, and regulatory aspects of *Ulva* cultivation will introduce the participants to theoretical and practical approaches to *Ulva* farming and legislation. The Training School will also include a site visit and case studies of two seaweed companies in Almeria.

Céline Rebours, Norway, Møreforsking AS

Rui Pereira, Portugal, A4F

Trainers:

Ricardo Bermejo, Spain, UMA

Felix Lopez, Spain, UMA

Erik Malta, Spain, CTAQUA

More detailed insights into the knowledge trainees will acquire in this training school:

- How to obtain *Ulva* spores (sexually and asexually): protoplast isolation and sporulation induction.
- How to assess the physiological status of *Ulva* cultures using PAM fluorometry and other techniques to estimate photosynthetic performance through instantaneous or short incubations, which may be useful for culture monitoring.
- How to analyze variables used to evaluate biomass quality (e.g. pigments and antioxidant content) and product valorisation.
- How to recognize techniques or technologies that could be transferred from other sectors (e.g. aquaculture, agriculture).
- How to cope with the main regulatory issues that entrepreneurs and SMEs encounter when trying to develop their seaweed aquaculture business in Spain, and solutions found to overcome these challenges.

Total duration of the Training School: 4 days (according to Reimbursement Rule)

Limit number of participants: 15

Reimbursement:

Long distance travel expenses: up to 500 € (> 101 km).

Daily allowance: 120 €/day (including food, lodging, and short-distance travel).

More detailed Travel Reimbursement Rules: [HERE](#)

Registration until and no later than April 1: [link to registration](#)

Eligible participants: Young Researchers, SMEs, and PhD students of the Action network who deal currently / dealt previously with technical and legal aspects of seaweed cultivation. Applicants who have been accepted for the Kavala training school on Phenotyping and Genotyping of *Ulva* cannot apply to this training school.

The meeting is organized locally by:

Ricardo Bermejo

Erik Malta

Félix López

Supported by:

WG2 leader: Rui Pereira

WG6 leader: Céline Rebours

Cost Action Chair Muki Shpigel & Grant Holder Manager Leigh Livne

Scientific Communication Coordinator: Karīna Bālina

INFORMATION PACKAGE

1. How to get to the city of Malaga

Arrival by plane

Malaga has the third most important airport in Spain (<https://www.aena.es/en/malaga-costa-del-sol.html>), so it has connections with many countries and even within the country itself. The airport has a bus and train connection, as well as taxi, car rental, etc. that allow you to move easily within Malaga.

By regional coach

Interurban "EMT" buses are the most convenient way to travel within the capital of Malaga, if you want to visit other municipalities within the province, there are buses to travel to any of them, and trains to travel along the west coast of the province (Torremolinos, Benalmadena, Fuengirola). The bus station and train station are located in the city center of Malaga.

2. How to get from Malaga hotels to the meeting venue

The "Centro experimental Grice Hutchinson" is close to Malaga airport (1.5 km, 15-20 minutes' walk) and there is a bus stop close to the venue (3 minutes' walk; buses 9, 10, M110, M134 - bus stop: "Avenida de Velázquez - Aeropuerto"). It is planned to provide a free shuttle from "Casa Diocesana" to "Centro Experimental Grice-Hutchinson" every morning and afternoon.

3. Accommodation around the meeting venue

We have a special at "Casa Diocesana" (<https://www.casadiocesanamalaga.com>), we strongly recommend this option as we can organise local transportation from here to the research station. The price for one night ranges between 30 (shared room) and 45 € a day (single room), including breakfast or breakfast and dinner.

Otherwise, as Malaga is a touristic city there are many options for accommodation. Close to the airport there are several hotels including Holiday Inn Express Málaga Airport, an IHG Hotel, Campanile Málaga Airport, or Hotel ibis Budget Málaga Aeropuerto; in the case of the city centre (recommended option) you can also find several hotels and apartments (e.g. Atarazanas Málaga Boutique Hotel, Ibis Budget Málaga Centro, or Eurostars Astoria). It is highly recommended to book an accommodation as soon as possible.

4. Information for lunch

The city of Malaga has a very large gastronomic offer, where you can find local, national, and international food, as well as fusion food from different cultures with different prices.

5. Interesting spots around the meeting venue

Center of Malaga

Malaga is a city founded by the Phoenicians on a bastulo settlement (In the 8th century B.C), later it was conquered by the Roman Empire, Germanic peoples, Byzantium, Arabs (with whom the city flourished). From this period, there is a castle, the Alcazaba, which is well preserved and can be visited by all those interested) and later conquered by the Catholic Monarchs in 1487.

During the 19th century, the city experienced a boom when it became the first industrialized Spanish city, later most of the industry would go to other provinces, but there are still industrial structures maintained to remember this period of industrial growth.

Malaga has always been famous, since Roman times, for the quality of its grapes and crops, but with the arrival of Phylloxera (grape disease), much of its wine legacy has disappeared.

After the Spanish Civil War, the city turns to tourism and is currently improving its offer of museums.

More information in <https://www.malaga.eu/la-ciudad/historia-de-la-ciudad/historia-ampliada/>

The Cathedral

Malaga has had a cathedral since 1487 when the Catholic Monarchs conquered Malaga and replaced the existing mosque with the late Gothic cathedral and consecrated under the invocation of Santa Maria de la Encarnación. Currently, the cathedral has two exterior towers, one of which was never finished and was thus given the nickname of "la manquita".

6. What to visit in Malaga

Alcazaba

Visiting the Alcazaba, a fortification of the Muslim era built in the eleventh century, at the foot of Mount Gibralfaro, is one of the best things to do in Malaga.

With a military function, this citadel became one of the constructions that best resisted sieges during the Reconquest thanks to its large crenellated walls, high towers, double doors, and arches.

Inside you will find a beautiful complex of palaces, gardens, fountains, and courtyards, among which the Puerta de los Arcos, the Plaza de Armas, and the Torre del Homenaje, both with incredible views of the city and the bay although their great jewel is the Quarters of Granada, the place where the kings lived, that fall in love with the detailed decoration in Nasrid style of royal rooms and patios.

Larios Street

Marqués de Larios, one of the most elegant and expensive shopping streets in Spain, is the most famous street to see in Malaga.

Financed by the powerful Larios family from Malaga and inaugurated in 1891, this wide street flanked by imposing symmetrical buildings and curved corners, is filled every day with tourists and locals who love shopping or who are looking for a table where they can have a drink in one of its many bars.

Some of the highlights of this street are seen during Christmas, with its striking lighting, and the Malaga Fair, where the Portada is located and a great atmosphere is lived.

Constitution Square

Located at one end of Calle Larios, Plaza de la Constitución has been one of the nerve centers of Malaga life since the fifteenth century and one of the main squares to visit in Malaga.

Surrounded by historic buildings such as the School of San Telmo and the Casa del Consulado, this old main square stands out for the beauty of the Fountain of Genoa, built in marble in the sixteenth century, and for the terraces of bars and restaurants where you can have a drink and tapas.

Carmen Thyssen Museum and Picasso Museum

A few meters from the Plaza de la Constitución, on Calle Compañía, is the Carmen Thyssen Museum, which houses one of the most important collections of Spanish paintings of the nineteenth and early twentieth centuries.

Located in the palace of Villalón, an old manor house of the sixteenth century, this museum has more than 250 works that come from the personal collection of Carmen Thyssen-Bornemisza among which the "Santa Marina" by Francisco de Zurbarán and "La Buenaventura" by Julio Romero de Torres, among many others.

The Picasso Museum, located in the Buenavista Palace of the painter's hometown, is the most important museum to see in Malaga.

Inside this Renaissance building of the sixteenth century, you can see up to 285 works by this great painter who contributed revolutionary techniques such as Cubism, which placed him as one of the great masters of art history.

Among the most important works donated by the painter to the museum are Woman with Arms Raised, Child with a Shovel, Acrobat, Bather, The Three Graces, and Still Life with Rooster and Knife.

The Cathedral

Located opposite the baroque Plaza del Obispo, its construction lasted from 1525 to 1782 and due to financing problems several elements remained unfinished such as the roof, the main sacristy and above all, the second tower, hence it is popularly known as "La Manquita".

Episcopal Palace of Malaga

In front of the Cathedral of Malaga, in the charming Plaza del Obispo, is the Episcopal Palace, home to the Diocesan Museum of Sacred Art of Malaga and an architectural jewel of the mid-eighteenth century.

This baroque building surprises with the ochre colors and the image of the Virgen de las Angustias on its façade, while the imperial staircase with a double shot and two interior courtyards stand out.

Gibralfato Castle

Once in this Arab fortress, built in the fourteenth century and which withstood several sieges by the troops of the Catholic Monarchs, you can tour its wall passing through its 8 towers among which the Torre Mayor, 17 meters high, and enjoy the best views of the city with the Mediterranean in the background.

On the hill of Gibralfaro also has two viewpoints outside the walls that are perfect for enjoying the best sunset over Malaga

Roman Theatre

Built in the first century by order of Emperor Augustus, this theater has remained hidden for centuries until 1951, thanks to the construction of a new building, it came to light and became another of the tourist spots of the city.

During your free visit, you can see many of the original stands and several marble plaques in the orchestra area and pulpit.

Malaga Park

Located in the center, where you can walk among tropical trees, baroque and renaissance style gardens, tile benches, beautiful fountains, and sculptures of famous people.

At the end of the walk, you can approach the Pedro Luis Alonso Garden and the Puerta Oscura Gardens, both with magnificent views of the Alcazaba.

Atarazanas Market

The Atarazanas Market, is located in a beautiful building and which owes its name to a naval workshop of Nasrid origin that occupied its same place.

Inside this central market highlights its iron structure and a large horseshoe arch, as well as stalls with quality local products and several places where you can try traditional tapas.

Soho District

The SoHo or Arts District, located between the Alameda Principal Avenue and the Heredia Pier, is one of the fashionable areas to see in Malaga.

In this neighborhood, you will find stunning graffiti of renowned urban artists, the most famous you will find around the CAC and in Barroso, Casas de Campo, and Trinidad Grund streets, cultural centers such as the CAC Málaga or the Teatro del Soho, art galleries, design venues, and alternative shops.

Centre Pompidou

Another of the most important museums to visit in Malaga is the amazing Pompidou Center, one of the headquarters of the Georges Pompidou National Center of Art and Culture in Paris, located at the beginning of Pier 1.

The Port

In addition to seeing cruise ships, luxury yachts, and fishing boats, you can go to the commercial area of Pier 1 which has a wide range of restaurants, shopping, and leisure. Another of the walks that you can not miss in this area is the one that reaches the Farola, a lighthouse that has become one of the icons of the city, from which you can observe a fantastic sunset.