

## “Advancing knowledge on seaweed growth and development”

### *Invitation to PHYCOMORPH network event*



Kavala City



Nea Peramos City

### The COST Action PHYCOMORPH

(<http://www.phycomorph.org/>)

invites to a

**Workshop** (Feb. 15-16, 2016)

&

**Training School** (Feb. 17-19, 2016)

in Fisheries Research Institute

([www.inale.gr](http://www.inale.gr/)),

Hellenic Agricultural Organization-  
DEMETER,

in

Nea Peramos, Kavala, Greece

The workshop and Training School will focus on macroalgae which are either models for basic research in developmental phycology or cultivated seaweeds. Seaweed mariculture is often considered as the most environmentally friendly form of aquaculture: it requires little or no input of fertilisers, does not cause any major physical alterations of the environment, and can be used to mediate eutrophication and pollution. Therefore, seaweeds can be considered as an alternative, additional source of food, feed, fuel and livelihood for humans. Seaweed cultivation, a basement for seaweed aquaculture, needs to be further improved and major bottlenecks to be solved.

**-Workshop on macroalgal development and cultivation** (2 days, max. 50 participants):

**- Training School on macroalgal in vitro and tank cultivation** (3 days, max 10 participants):

Registration here (still open only for the Workshop): <http://goo.gl/forms/OHBNsyNNmM>

Aim: To develop new technological tools of seaweed developmental biology and transfer the current ones to seaweed species newly identified for aquaculture purpose with a special focus on integrated multitrophic aquaculture (IMTA). Plenary sessions and restricted practical work with experts in macroalgal cultivation, both phycologists skilled in the physiology and metabolism of macroalgae, and aquaculture experts more aware of outdoor and tank equipment dedicated to large-scale cultivation.

Possible participants: Network members, invited and selected researchers, aquaculturists and policy makers. All events will take place at Fisheries Research Institute, Nea Peramos, Kavala, Greece (<https://www.google.com/maps/@40.8559347,24.3156409,84m/data=!3m1!1e3>).

**The meeting is organized locally by:**

Fisheries Research Institute (HAO-DEMETER): Dr. Sotiris Orfanidis [[sorfanid@inale.gr](mailto:sorfanid@inale.gr)]

National and Kapodistrian University of Athens: Prof. Christos Katsaros [[ckatsaro@biol.uoa.gr](mailto:ckatsaro@biol.uoa.gr)]

## PROGRAMME OF THE FIRST PHYCOMORPH WORKSHOP

Nea Peramos, Kavala, FRI, 15-16 February 2016  
Local organizers: Sotiris Orfanidis & Christos Katsaros

### Monday 15 February, 2016

Chaired by	Time	Name	Organization	Title of talk
	08:00	Departure from Hotels, Kavala Center to Nea Peramos		
	08:30	Registration		
	09:00-09:10	Sotiris Orfanidis	FRI (HAO-DEMETER), Greece	Welcome
	09:10-09:30	Argyris Kallianiotis	Director, FRI (HAO-DEMETER), Greece	Fisheries Research Institute: Projects and research activities
	09:30-10:00	Christos Katsaros	University of Athens, Greece	Phycomorph: Current status and progress
	10:00-10:30	Coffee		
	10:30-11:00	Olivier de Clerck	Ghent University, Belgium	Culturing and fertility induction in brown algae: focussing on Dictyota
	11:00-11:30	Benedicte Charrier & Christos Katsaros	CNRS Station Biologique Roscoff	A brown alga for basic research: <i>Ectocarpus</i> cultivation, life cycle and genetics
	11:30-12:00	Anne Weiss		Signalling and gametogenesis in <i>Ulva</i> : Tips and tricks to control the life cycle to establish stable cultures
	12:00-12:30	Sara Kaleb	University of Trieste, Italy	Red calcareous algae cultivation: effects of abiotic parameters
	12:30-13:30	Group photo and site seeing tour in Institutes labs		
	13:30-15:00	Lunch		
	15:00-15:30	Annalisa Falace	University of Trieste, Italy	Morpho-functional study and transplantation essays of <i>Cystoseira</i> spp. in the Adriatic Sea
	15:30-16:00	Rita Araújo	CIIMAR, Portugal	Strain selection for seaweed cultivation based on intraspecific phenotypic and ecophysiological traits
	16:00-16:30	Isabel Azevedo	CIIMAR, Portugal	Influence of light quality on growth and carotenoid content of <i>Laminaria ochroleuca</i> seedlings from north Portugal
	16:30-17:00	Coffee		
	17:00-17:30	Olympia Nisiforou	University of Technology, Cyprus	Cultivation of Macroalgae in Swine Wastewater
	17:30-18:00	Nazli Mert	Dokuz Eylul University, Turkey	Stimulation of steviol glycoside accumulation in <i>Stevia rebaudiana</i> by caulerpin from invasive <i>Caulerpa cylindracea</i>
	18:00-18:30	Sotiris Orfanidis, Konstantina Nakou, & Apostotos Papadimitriou	FRI (HAO-DEMETER), Greece	Short and long-term responses of two <i>Cystoseira</i> species to abiotic factors: temperature, photoperiod, nutrients
	18:30	Departure to Hotels		
	20:00	Dinner in a Greek tavern (it costs 20 Euros)		

## Tuesday 16 February, 2016

Chaired by	Time	Name	Organization	Title of talk
	08:00	Departure from Hotels, Kavala Center to Nea Peramos		
	08:30-09:00	Amir Neori	Israel Oceanographic & Limnological Research Institute Ltd., Eilat, Israel	IMTA: Present and future perspectives in Europe
	09:00-09:30	Tim Attack	Managing Director, Viking Fish Farms Ltd., Scotland	Perspectives of seaweed cultivation in Europe: an example from Scotland hatchery
	09:30-10:00	Alvaro Israel	Israel Oceanographic & Limnological Research Institute Ltd., Haifa, Israel)	Seaweed resources and exploitation possibilities in Israeli and Eastern Mediterranean coasts
	10:00-10:30	Coffee		
	10:30-11:00	Teis Boderskov	Independent Researcher, Denmark	Cultivating <i>Saccharina latissima</i> in Europe - current status and key challenges
	11:00-11:30	Tristan Legoff	CEVA, France	Seaweed cultivation in France: Recent technical developments
	11:30-12:00	Tiina Paalme	Estonian Marine Institute University of Tartu, Estonia	Pilot study of the red alga <i>Furcellaria lumbricalis</i> cultivation in the northern Baltic Sea
	12:00-12:30	Cecilia Biancacci	SAMS, UK	Establishment of <i>Osmundea pinnatifida</i> mari-culture
	12:30-13:00	Brahim Sabour	University Chouaib Doukkali, Morocco	Opportunities in Seaweeds exploitation from the Atlantic coast of Morocco
	13:00-14:30	Lunch		
	14:30-15:00	Vasilis Tsiaras	Aithra Ltd., Lagoon aquaculture	Fish & seaweed cultivation perspectives in a coastal lagoon of Thrace, N. Greece
	15:00-15:30	Coffee		
	15:30-17:30	Closure		
	17:30	Bus departure to Hotels		

## PROGRAMME OF TRAINING SCHOOL

*Nea Peramos, Kavala, FRI, 17-19 February 2016*  
*Local organizers: Sotiris Orfanidis & Christos Katsaros*

**Trainers:** *Olivier de Clerck, Kenny Bogaert, Teis Boderskov, Elodie Rolland, Anne Weiss, Annalisa Falace, Sotiris Orfanidis*

### Wednesday 17 February, 2016

08:00	Departure from Hotels, Kavala Center		
08:30	Registration		
Time	Name	Organization	Title of talk
09:00-09:30	Olivier de Clerck & Kenny Bogaert	Ghent Univ., Belgium	<i>Dictyota-Fucus cultivation</i> : an introduction
09:30-11:30	Olivier de Clerck & Kenny Bogaert	Ghent Univ., Belgium	<i>Dictyota-Fucus cultivation</i> : a laboratory demonstration
11:30-12:00	Coffee		
12:00-12:30	Teis Boderskov	Independent Researcher, Denmark	Kelp with a focus on <i>S. latissima</i> cultivation: an introduction
12:30-13:30	Teis Boderskov	Independent Researcher, Denmark	Kelp with a focus on <i>S. latissima</i> cultivation: a laboratory demonstration
13:30-15:00	Lunch (in groups)		
15:00-16:00	Teis Boderskov	Independent Researcher, Denmark	Kelp with a focus on <i>S. latissima</i> cultivation: a laboratory demonstration
16:00-16:30	Coffee		
16:30-17:00	Elodie Rolland	CNRS Station Biolog. Roscoff, France	<i>Ectocarpus</i> cultivation: an introduction
17:00-19:00	Elodie Rolland	CNRS Station Biolog. Roscoff, France	<i>Ectocarpus</i> cultivation: a laboratory demonstration
19:00	Departure to Hotels		

### Thursday 18 February, 2016

08.00	Departure from Hotels, Kavala Center		
Time	Name	Organization	Title of talk
09:00-09:30	Anne Weiss	Friedrich Schiller Univ. Jena, Germany	<i>Ulva</i> cultivation: an introduction
09:30-11:30	Anne Weiss	Friedrich Schiller Univ. Jena, Germany	<i>Ulva</i> cultivation: a laboratory demonstration
11:30-12:00	Coffee		
12:00-12:30	Annalisa Falace & Sotiris Orfanidis	University of Trieste, Italy	<i>Cystoseira</i> cultivation: an introduction
12:30-13:30	Annalisa Falace & Sotiris Orfanidis	University of Trieste, Italy	<i>Cystoseira</i> cultivation: a laboratory demonstration
13:30-15:00	Lunch		
15:00-15:30	Sotiris Orfanidis	FRI (HAO-DEMETER), Greece	<i>Porphyra</i> cultivation: an introduction
15:30-16:00	Coffee		
16:00-17:00	Sotiris Orfanidis & Vasilis Papathanasiou	FRI (HAO-DEMETER), Greece	<i>Porphyra</i> cultivation: a laboratory demonstration
17:00-18:00	Closure		
18:00	Departure to Hotel		
20:00	Dinner (costs 20 Euros)		

**Friday 19 February, 2016**

08:00	Departure from Hotels, Kavala Center
<b>Time</b>	<b>Activity (Chaired by Vasilis Papathanasiou)</b>
08:30-12:00	Field trip to nearby coastal lagoons
12:00-13:00	Coffee in a local Café
13:00-15:00	Field trip to nearby coastal lagoons
15:00-16:30	Lunch
16:30	Departure to Kavala Airport & Hotels

**Other members of the Lab involved:**

K. Nakou, S. Tsioli, A. Papadimitriou, M. Kosmidou



# Information package

## 1. How to get to Kavala City

### Arrival by plane

If arriving into **Kavala airport "Alexander the Great"** (recommended), take Bus or taxi to Kavala city. The airport is located about 30 km east of Kavala, near the village of Chrysoupolis. Except with Taxi (costs ca. 25 Euros), the airport is rather hard to reach by public transport. Car rental at the airport is available.

If arriving into **Thessaloniki airport**, the local organizers could help to share taxi or minibus costs (ca. 170-200 Euros) with other participants to drive you to Kavala. "Macedonia" airport is located about 161 km west of Kavala. Otherwise, you can take the Bus or Taxi to Intercity Bus Station to take the Bus for Kavala.

### By regional coach

Interurban coaches "KTEL" buses are by far the most convenient way to travel to Greece, as well as for intra-regional travelling. Intercity buses drive to all major cities in Greece. The bus station is located in the city center of Kavala near the harbor (Filikis Eteria Str). There is frequent bus service from Thessaloniki bus terminal "Macedonia" to Kavala.

## 2. How to get from Kavala Hotels to the meeting venue

One Mini Bus rented from local organizers will depart from Hotels (see program) to the meeting venue.

## 3. Accommodation around the meeting venue

There are several hotels in Kavala City. Two of them are most recommended:

1. Hotel Oceanis (<http://www.oceaniskavala.gr/>), single and double room with balcony and city or sea view, including breakfast and free-Wi-Fi, 38€ and 57€, respectively. For booking send an e-mail to [info@oceaniskavala.gr](mailto:info@oceaniskavala.gr) mentioning the event.
2. Hotel Galaxy (<http://www.airotel.gr/en/Galaxy-Hotel-790.htm>), single and double room with city or sea view, including breakfast and free-Wi-Fi, 50-60€ and 55-69€, respectively. For booking send an e-mail to [galaxy@airotel.gr](mailto:galaxy@airotel.gr) mentioning the event.

## 4. Information for lunch

There are several of options for lunch (sandwiches, hamburgers, gyros, fish food etc.) and Café with different prices in Nea Peramos City. Since the meeting venue is located in a rather remote area a Mini Bus will transfer the participants to Nea Peramos (5 min).

## 5. Interesting spots around the meeting venue

(<http://tourism.kavala.gov.gr/web/quest/home>)

### Old Town

The Castle of Kavala is the trade mark of the city. The first wall was built in the 5th century, to fortify the city of Neapoli. During the centuries, it was rebuilt and expanded several times. Its last rebuild is from the time of Turkish occupation of the city (1425 AD). You will have a wonderful sea view from there and also a great view over the old town, the port and the new parts of the city of Kavala. Occasionally music events are held there. The entrance fee is about 2€. A simple romantic cafeteria invites you to linger. The City walls, the main part of which was built in the 14th century.

Halil Bey Complex: contains the mosque of Halil Bey dated at the beginning of the 20th century, an older minaret on the side probably of the 16th century and a medresse. The mosque is built over the foundation of an early Christian basilica.

House and Museum (built in 1720) and monument of Mohamed Ali. He is the founder of the last Egyptian dynasty. The Imaret, a former Koranic school, built in 1718, now a hotel. Although worth seeing, it is, unfortunately, difficult to get in if you are not a guest of the hotel.

### **The Panagia Church**

The circular route around the city wall is a worthwhile walk. Beneath the Mohammed Ali equestrian statue starts a path around the city wall. The path leads down to the sea, around the headland of the old town and then branches to the port or back uphill to the old town near Panagia Church.

### **Architecture of Kavala City**

Places to see are:

The white City Hall (Dimarchio) on Kipos Iroon Park in the town center. Nearby is the Tobacco Museum (Philippou Odos Str).

Ag. Nikolas church with Paul Mosaic (Kontouriotou Str). Around the church, there is an old, somewhat run-down neighborhood with many great cafeterias, ouzo drinking places (Ouzeris), restaurants and small shops. Especially in the evening, it is very attractive and crowded by young people.

### **Archaeological Museum**

The museum contains the following collections:

Collection of Prehistoric items.

Finds from Neapolis, and from Amphipolis.

### **Municipal Museum**

The museum, which is housed in a wonderful neo-classical building of the 19th century, is a monument of itself. Visitors may admire jewelry, costumes and handicrafts, amazing samples of our folk culture. Here is also the Historical Archives of the City, while paintings and sculptures of famous Greek artists are also exhibited here. In a special section are exhibited the creations of the famous Thassian sculptor Polygnotos Vagis (1894-1965).

### **Ancient city and theatre of Philippi**

About 15 km from Kavala direction Drama is the ancient site of Philippi. It was founded around 360 BC and is known by the letters of the Apostle Paul, 49 AD, who taught the Christian religion and who baptized the first European Christian here, named Lydia. You can explore the well-preserved amphitheater (with stunning views is on the plain of Drama and the Pangeon Mountain), the Ancient Market, the prison of the Apostle Paul and the ruins of a church from the early Christian period. Also worthwhile is a visit to the Museum and the ascent to the castle above Philippi. About 1 km away from Philippi, in Lydia is the baptism church with a baptismal font on a creek. From here you have access to a few km away healing "mud-bath" (Lasponera) that helps against painful joints.

### **Anaktoroupoli at Nea Peramos**

This castle is situated on the headland of Vrasidas at Nea Peramos. The only part of the walls have survived the passage of time. It was used as a watchtower of the local port.