**Training course on Applied Phycology:**

**Marine algae : Potential uses and developments**

**Tunis, 09-14 July 2018**

1. **Objective of the course**

Algae are a natural resource with multiple properties that make them useful in many areas of human and animal use including nutraceutical, cosmetics, pharmaceuticals, agriculture and bioenergy. The course will present basic and applied aspects of both micro and macro-algae: taxonomy, ecology, culture and uses. Particular emphasis will be given to applied aspect and potential development of the field in the region according to its specific biodiversity. International and national speakers with strong background in the cultivation and biotechnological use of algae will present the state of the art of algal industry and the potential developments. The training course will also offer an immersion in industrial conditions with the visit of Eden Life, a Spirulina producing company established in Gabès (South of Tunisia).

1. **Organization**

The course is organised by the laboratory of Blue Biotechnology and Aquatic Bioproducts (B3Aqua) of INSTM (National Institute of Marine Sciences and Technologies) in association with ATIS (Association Tunisienne pour l’InformationScientifique) and EdenLife and cofunded by ISAP (International Society of Applied Phycology).

1. **Location**

The course will be held at INSTM La Goulette

Adress : INSTM La Goulette

 Port de La Goulette

 2060 La Goulette- Tunis- Tunisie

1. **Lecturers**

**Invited lecturers:**

* Dr. Celine Rebours –MøreforskingÅlesund AS- Norway
* Dr. Juan Luis Gómez Pinchetti- University of Las Palmas of GC- Spain
* Dr. GazbarHedi– Eden Life (Tunisia)

**From INSTM:**

* Dr. Saloua Sadok
* Dr. Chebil Leila
* Dr. Ktari Leila
* Dr. Ben Ouada Hatem
* Dr. Mensi Fethi
* Dr. Ben Said Rafik
1. **Detailed planning**

**Day 1:** 8h30 – 9h00 Opening: Presentation of the course – INSTM and ISAP

9h00 -10h30 Lecture 1:Algae classification, biology and ecology

10h30-11h00 Coffee break

11h00-12h30 lecture 2 : Algal production in the word

12h30 14h00 Lunch

14h00- 15h30 lecture 3: Seaweed cultivation

15h30-16h00 Coffee break

16h00-17h30 lecture 4: Microalgae cultivation

**Day 2:** 9h00 -10h30 Lecture 5 : Use of seaweeds (phycocolloids)

10h30-11h00 Coffee break

 11h00-12h30 Field session: collecting algae

 12h30- 14h00 Lunch

 14h00 -17h30 Practical Session: I- Seaweed Identification

**Day 3:** 9h00 -10h30 Lecture6 : Seaweed cultivation (IMTA)

10h30-11h00 Coffee break

 11h00-12h30 Lecture 7 : Use of microalgae

12h30 14h00 Lunch

14h00 -17h30 Practical Session: II- Seaweed Biotechnnology

**Day 4:** 9h00 -10h30 Lecture8: Use of seaweeds (food, nutraceutical, pharmaceutical)

10h30-11h00 Coffee break

 11h00-12h30 Lecture 9: Use of seaweeds (Biofuel, bioremediation, agriculture)

12h30 14h00 Lunch

14h00 -17h30 Practical Session: III- Seaweed Biotechnology

**Day 5:** Field trip Gabès – Eden Life (6h00 – 13h00 bus)

13h00-14h00 Lunch

14h00- 16h00 lecture 10: visit of Eden Life and training on techniques of cultivation of spirulina

16h00-16h15 Coffee break.

16h15-17h45 lecture 11: Bio production of microalgae. Theoretical aspects

17h45-19h00: Practical Session IV: (Origin software) “Biomass and bioactives productivity estimation and maximisation.

**Day 6:**Gabès- Eden Life

9h00 – 10h30: lecture 12: The production factors and their effects. Experimental design

10h30-12h00 Practical Session: V: Optimising physicochemical factors (MODD 7 Software).

12h00- 13h00 Discussion and conclusion of the course

13h00 14h00 Lunch

14h00 – 19h00 Back to Tunis.