

FIRST ANNOUNCEMENT

	<p>Inter-Islamic Science and Technology Network on Oceanography (INOC), Izmir – Turkey</p>
	<p>National Institute of Marine Science and Technology (INSTM), Salammbô, Tunisia</p>
	<p>Islamic Development Bank (IDB), Jeddah - Saudi Arabia</p>
	<p>Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH), Islamabad, Pakistan</p>
	<p>International Foundation For Science, Sweden</p>

Date and Place: 15-20 May, 2017, Monastir, Tunisia

Scope of the Workshop/Training:

Aquaculture plays an important role in the countries of the region in terms of contribution to economic development, employment for coastal communities and as an important source of food. Harvests of wild aquatic species or matching demand through commercial fishing interests would eventually result in overfishing and the loss of those species entirely. Therefore, while aquaculture is required to meet the human demand, it also relieves the strain on wild species to allow them to continue to be a significant source. In the most of the INOC member states, the production from capture fisheries stabilized in the early 1990s and many stocks are considered now fully or overexploited. In response, marine and brackish water aquaculture grew steadily during the last decades.

The need for increasing supplies of aquatic foods to meet the growing demands of an expanding population is recognized as an important problem of the world. Closely

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related is the concern over the increasing pollution of the coastal areas, with potentially serious effects upon the aquatic environment and its ability to produce acceptable foods. At last, the sustainability of the sector is increasingly challenged by old and emerging issues which require innovative techniques to be successfully managed.

Consequently, in order to achieve this goal, it is important to develop new modern environmentally friendly aquaculture techniques, to know the different disciplines of this industry and their management.

The Inter-Islamic Network of Technology and Science (INOC) is a reference point for its catalytic role regarding cooperation between member countries on various topics that deserve to be valued. INOC, with the technical collaboration of the Institute of Marine Sciences and Technology (IMST) from Turkey, the National Institute of Marine Science and Technology (INSTM), from Tunisia and other institutions, plans to set up a training course of one week entitled 'Development of Aqua-culture Production and Technologies in the Islamic Countries ". This course aims to help countries of the region and its surroundings to own the latest technological developments in the marine and continental aquaculture, in its various areas of intervention, optimal production techniques and infrastructure involved in this industry.

The Aims and objectives of the workshop:

As part of the Training Course, several objectives are targeted:

- Reinforce the capacities of INOC member's institutions about the modern techniques of marine and inland aquaculture;**

It's known that very many of the INOC member states are the main (inland and marine) producing countries. The average annual growth for the period from 2009–2014 for marine and brackish water aquaculture is estimated at 9 per cent. The objective here is to help all the other INOC member states to reach a satisfying level of production.

- Contributing to the development of aquaculture production using sustainable practices that help stabilize aquatic resources, improve ecological conditions and maintain bio-diversity;**

In order to solve those environmental and social concerns, it is necessary to call for a swift inclusion of aquaculture within integrated coastal zones management and maritime policies. In this respect, space limiting factors, administrative and local conflicts are real and need a collaborative approach to be solved.

- Ensure a better monitoring of aquaculture industry in the INOC Member Countries;**

In the World, it isn't easy to talk about a real existence of a common marketing strategy in the sector to better ensure price stability, product traceability, exploitation

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of emerging markets, the increase in domestic consumption, improving the sector's public image and increasing the competitiveness of the industry. Here, the course aims to help participants of the countries concerned to improve their data collection methods, evaluation and forecasting of production.

Beneficiaries of the Training Course:

The INOC member states will participate in this workshop. These countries include: Algeria, Azerbaijan, Bahrain, Bangladesh, Cameroun, Egypt, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Malaysia, Mauritania, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Senegal, Syria, Tunisia, Turkey, Turkmenistan, United Arab Emirates and Yemen.

Schedule of the training course and its program:

Aquaculture Science

1. Introduction
2. Hatchery Technology
 - 2.1. Brood stock management
Theory: photo period, temperature, food, selection, reproduction)
Practice: Injection of hormones for both grey mullet and sea bass to be made prior to & during the course week. If needed, theory matter can be practiced at a private hatchery in Sousse.
 - 2.2. Production of the larvae of sea bass and grey mullet as a practical activity.
Theory: Larval production in closed system.
Practice: Egg, larvae and “vessinatatar” to be shown under microscope. Larval production in closed system will be shown.
 - 2.3. Zoo-technique, Live-feed, and protocol for the development of the larvae under physical, chemical and biological conditions.
Practice: Rotifer and artemia production will be show
 - 2.4. Larvae quality.
Theory: Nutritional, management of stress, welfare, harvest protocol
 - 2.5. Shell-fish (*Ruditapes decussatus*) larvae production
Theory: Brood stock, larvae production, release to lagoons, pathology and eco-toxicology. Documentary will be shown.
Practice: Lab visit.
 - 2.6. Micro algae production
Theory: Lagoon specific micro algae isolation and production for shell fish, and toxic algae.
Practice: Micro algae isolation, isolated micro algae (including toxic algae) to be shown under microscope
3. Pathology (prevention, diagnostic, treatment)
Theory & Practice: Bacteria identification by means of PCR and classical method. Parasite identification.

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4. Off-shore cage culture technology
 - 4.1. Site selection (physical parameters)
 - 4.2 Off-shore types depending on off-shore sites (engineering)
 - 4.3 Feeding quality (nutrition) and techniques
 - 4.4 Sorting technique
 - 4.5 Welfare
 - 4.6 Multitrophic
5. Genetics
6. Practical lab work for basic monitoring: Temperature, oxygen, nitrogen, phosphorus, other biological indicators (benthic index) in the sediment around the cage.

Aquaculture Management

1. Site selection (AZA concept)
2. Site selection with the ICZM concept
3. Aquaculture and environment interaction
 - a. Water quality
 - b. Food
 - c. Exotic organisms and their impact on ecosystem
 - d. Escape (genetics)
 - e. Impact on flora (e.g. Posidonia meadows) and fauna (e.g. marine tetrapods)
4. Environmental parameters monitoring (sampling method, optimum frequency, EIA (risk assessment & social impacts) and evaluation
 - a. In sediment
Practice: Granule size. Sulphide bacteria to be shown.
 - b. In water
Practice: NO₂, NO₃, NH₃, PO₄, Organic phosphate, chlorophyll. Bacteria to be shown.
5. Economy and Marketing
 - a. Sea food processing
 - b. Stock management
 - c. Species diversity

5-day practical work

1. Hatchery: Fish brood stock & larvae
2. Hatchery: zoo- technique
3. Shellfish/micro algae
4. Environment/pathology
5. Visit to cage and feed factory.

Notes:

All practical works will be performed in groups of 5 to 10.

Participants are expected to deliver 10 min power point presentation on the overview of the aquaculture in their country.

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Workshop design 5 participants on a round table.

Trainers

Experts from Intergovernmental Oceanography Commission (IOC) and Inter Islamic Science and Technology Network for Oceanography (INOC).

Sponsors:

- Inter Islamic Science and Technology Network for Oceanography (INOC);
- National Institute of Marine Sciences and Technology (INSTM), Tunisia
- Islamic Development Bank (IDB);
- Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH) of the OIC (Organization of Islamic Cooperation)
- IFS, International Foundation for Science

Trainees

Trainees will mainly include experts and managers from INOC and IOC Member Countries.

The applicants should have a good command of English.

Workshop/Training Level

Advanced level

Date and Venue

The Workshop/Training course will be conducted from 3-7 April 2017 in Tunisia. More information about this center and this training course can be found on the website of INOC (<http://www.inoctr.org/>) and INSTM ().

Working Language

The training course will be conducted in English.

Deadline for Application

The filled-in application form shall be sent to INOC at the following addresses **no later than 30 March 2017**. All applicants will be informed of the final selection result no later than **15 April 2017**.

Prof.Dr. Mustafa Ergun, INOC Executive Director, Izmir, Turkey

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Web Site: www.inoctr.org

Visa

Selected trainees traveling to Tunisia probably need to apply for entry visa to Tunisia in accordance with relevant laws and regulations. Please check the visa requirements with the Tunisian Embassy/Consulate in your country and apply for it as soon as possible. The local secretariat of INOC will be glad to provide you any assistance upon your request.

Contacting Information:

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