



CIHEAM

International Centre for Advanced
Mediterranean Agronomic Studies
Mediterranean Agronomic Institute of Zaragoza



General Fisheries Commission
for the Mediterranean

Advanced Course

METHODOLOGIES FOR FISHERIES STOCK ASSESSMENT IN THE MEDITERRANEAN

Zaragoza (Spain), 16-20 March 2009

1. Objective of the course

Mediterranean fisheries are mainly local and small scale, catching a large number of species with many different gears. Assessments in the Mediterranean have been based primarily on single species approaches, which do not take into account the complexity of the fisheries being assessed. There is therefore a need to develop multispecies multigear approaches to improve assessments and provide more appropriate scientific advice to managers, and support implementation of the Ecosystem Approach to Fisheries.

The objective of the course is to train stock assessment scientists and advisors in advanced approaches and tools that are better adapted to the nature of Mediterranean fisheries. The course is intended not only to present the theoretical elements but also to guide participants on how to put theory into practice through case studies and hands-on exercises on the computer.

By the end of the course, the participants will:

- Be aware of the limitations of single species assessment methods when applied to Mediterranean fisheries.
- Understand the data collection needs for different assessment methods.
- Gain experience in the application of the main methods for multigear and multispecies assessment.
- Be familiar with the use of a wide range of indicators and reference points, both biological and economic, as tools in fisheries management.
- Develop knowledge on bioeconomic fisheries processes by using simulation models to improve scientific advice for managers.

Consequently, the course will help national experts in stock assessment to improve advice to managers on the status of fish stocks and the implications of potential management options.

2. Organization

The course is organized by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), through the Mediterranean Agronomic Institute of Zaragoza (IAMZ), with the collaboration of the General Fisheries Commission for the Mediterranean (GFCM) and will take place at the Mediterranean Agronomic Institute of Zaragoza. The course will be given by well qualified lecturers from research centres, universities and private companies in different countries.

The course will be held over a period of 1 week, from 16 to 20 March 2009, in morning and afternoon sessions.

3. Admission

The course is designed for a maximum of 25 participants with a university degree or equivalent and is aimed at professionals with experience in stock assessment in the fisheries sector.

Given the diverse nationalities of the lecturers, knowledge of English and French will be valued in the selection of candidates, since together with Spanish, they will be the working languages of the course. However, if necessary, the IAMZ will provide simultaneous interpretation of the lectures.

4. Registration

Application forms may be obtained from:

Instituto Agronómico Mediterráneo de Zaragoza
Avenida de Montañana 1005, 50059 Zaragoza (Spain)
Tel.: +34 976 716000 - Fax: +34 976 716001
e-mail: iamz@iamz.ciheam.org
Web: www.iamz.ciheam.org

Candidates should send the completed application form to the above address, accompanied by a detailed *curriculum vitae*, stating degree, diplomas, experience, professional activities,

Please display on a notice board if possible



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E-mail: iamz@iamz.ciheam.org

See updated information at

www.iamz.ciheam.org

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language knowledge and reasons for applying to the course. Copies of certificates should be enclosed with the application.

The deadline for the submission of applications is 5 January 2009.

Applications from those candidates who cannot present their complete records when applying, or those requiring authorization to attend the course, may be accepted provisionally.

Registration fees for the course amount to 425 euro. This sum covers tuition fees only.

5. Scholarships

Candidates from CIHEAM member countries (Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Turkey) and from member countries of GFCM regional programmes may apply for scholarships covering registration fees, and for scholarships covering the cost of travel and full board accommodation in the Hall of Residence on the Aula Dei Campus.

Candidates from other countries who require financial support should apply directly to other national or international institutions.

6. Insurance

It is compulsory for participants to have medical insurance valid for Spain. Proof of insurance cover must be given at the beginning of the course. Those who so wish may participate in a collective insurance policy taken out by the IAMZ, upon payment of the stipulated sum.

7. Teaching organization

The course requires personal work and interaction among participants and with lecturers. The international characteristics of the course favours the exchange of experiences and points of view.

The programme includes applied examples, case studies and hands-on exercises on the computer.

8. Programme

1. **Background to fisheries assessment and management (3 hours)**
 - 1.1. The Mediterranean context
 - 1.1.1. Current management at different levels
 - 1.1.2. The role of GFCM
 - 1.2. Single species assessment methods
 - 1.2.1. Production models
 - 1.2.2. Age-structured methods
 - 1.2.3. Direct methods
 - 1.2.4. Constraints of single species methods
 - 1.2.5. Characteristics of Mediterranean fisheries limiting the use of some assessment methods
 - 1.3. Ecosystem approach to fisheries (EAF)
2. **Data collection (2 hours)**
 - 2.1. Commercial landings
 - 2.2. Surveys at sea
 - 2.3. Biological and economic data sampling
3. **Multispecies multigear assessment (12 hours)**
 - 3.1. Multigear and multispecies approaches
 - 3.2. Technical and biological interactions
 - 3.3. Models: data requirements, parameter estimation, theory and outputs
 - 3.3.1. MSVPA and GADGET
 - 3.3.2. Ecopath with Ecosim
 - 3.3.3. Practical work MSVPA
4. **Indicators and reference points (6 hours)**
 - 4.1. Economic
 - 4.2. Biological
 - 4.3. Harvest control rules
 - 4.4. Uncertainty and risk analysis
5. **Bioeconomic simulation to evaluate management scenarios (12 hours)**
 - 5.1. Simulation procedures
 - 5.2. Models: data requirements, parameter estimation, management tools, theory and outputs
 - 5.2.1. FLR
 - 5.2.2. MEFISTO
 - 5.2.3. Practical work MEFISTO

GUEST LECTURERS

H. FARRUGIO, IFREMER, Sète (France)
R. FRANQUESA, Univ. Barcelona (Spain)
H. GISLASON, DTU Aqua, Charlottenlund (Denmark)
H. LASSEN, ICES, Copenhagen (Denmark)
J. LLEONART, CSIC-ICM, Barcelona (Spain)

J.J. MAGUIRE, Fisheries consultant, Québec (Canada)
F. MAYNOU, CSIC-ICM, Barcelona (Spain)
G. PILLING, CEFAS, Lowestoft (UK)
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