

# INNOVATIVE TECHNOLOGIES AND SUSTAINABLE USE OF MEDITERRANEAN SEA FISHERY AND BIOLOGICAL RESOURCES (FISHMED-PHD)

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<b>Starting date of the PhD Programme</b>	01/11/2020		
<b>Duration</b>	3 calendar years		
<b>Language of the PhD Programme</b>	English and Italian		
<b>Mandatory stay abroad</b>	Yes (3 months)		
<b>Associated partners</b> pursuant to art. 2, para 2, lett. a) of the M.D. n. 45/2013	CNR – Consiglio Nazionale delle Ricerche		
<b>Research topics</b>			
<ul style="list-style-type: none"> <li>- Marine microbial metagenomes: study of microbial metagenomes from marine organisms (holobionts) and environments as indicators of ecosystems and organism health and functionalities</li> <li>- Marine environment: relationship between environment and organisms; autecology and synecology, biological cycles of the species being harvested, and food webs;</li> <li>- Modeling gene regulation, biomineralization, growth, and population dynamics in marine calcifiers and fish species;</li> <li>- Genomic methods and life history traits as tools for fisheries management;</li> <li>- Fishery stock assessment methods;</li> <li>- Fishing innovative techniques and Technologies;</li> <li>- Marine microbial food webs, and food security;</li> <li>- Influence of contaminants (chemical and microbiological) on reproductive cycles, on food quality and on human biodiversity;</li> <li>- Bioremediation of impacted marine ecosystems (surface and subsurface water and sediments);</li> <li>- Aquaculture, restocking and relative environmental impact;</li> <li>- Human genetic variability of genes and pathways involved in lipid metabolism across Italy and the Mediterranean area: focus on genetics, nutrition and health;</li> <li>- Natural resources and environmental economics;</li> <li>- Fisheries economics, product marketing and fishery chain;</li> <li>- Protection of the environment and resources: legal bases, organizational, and innovative elements and tools for ecosystem-based fishery management;</li> <li>- Community legislation on fisheries, national rules in the Mediterranean countries and EUSAIR;</li> <li>- International Fisheries Organizations operating in the Mediterranean: objectives and functioning;</li> <li>- Sustainable exploitation of marine bio-resources (microbes, biomass and fish processing by-products and wastes);</li> <li>- Citizen Science: communication, volunteer involvement, spatial and temporal large-scale monitoring, dissemination, environmental education.</li> </ul>			
<b>PhD positions and scholarships</b>			
<b>Position n.</b>	<b>Financial support</b>	<b>Description</b>	<b>Positions linked to research subjects</b>
1	PhD Scholarship	Totally funded by the University of Bologna general budget	Valorization of fishery production systems
2	PhD Scholarship	Totally funded by the University of Bologna general budget	Development of innovative systems and indicators for mollusc farming
3	PhD Scholarship	Funded by the University of Bologna general budget and co-funded by the Department of Biological, Geological, and Environmental Sciences	Biodiversity and population dynamics of demersal and benthic fishery resources
4	PhD Scholarship	Funded by the University of Bologna general budget and co-funded by the Department of Biological, Geological, and Environmental Sciences and the Department of Chemistry "G. Ciamician"	Biomineralization and applications for the circular economy
5	PhD Scholarship	Funded by the Consiglio Nazionale di Ricerca	Climate change and sustainable fisheries: interactions and challenges
6	PhD Scholarship	Funded by the Consiglio Nazionale di Ricerca	Bio-ecological aspects of the Crustacean fisheries
7	PhD Scholarship	Funded by the Consiglio Nazionale di Ricerca	Adaptative life history strategies of exploited Gadiformes in relation to fishery al climate change

**Positions linked to specific research subjects:** during the oral examination, applicants may express their interest in one or more positions linked to specific research subjects. Considering the expressions of interest above, the Admission Board will establish if the applicants can be considered eligible for the allocation of the positions linked to specific research subjects, taking into account their skills, experience and aptitude.

#### Admission requirements

Please, see art. 2 of the Call for applications

#### Mandatory documents to be attached to the application

Please, see art. 3 of the Call for applications

**Further qualifications that may be attached to the application, if in possession of the applicant** (only qualifications attested by documents drawn up in Italian, English, French, German and Spanish shall be considered as valid and assessed by the Admission Board)

- Abstract of the second cycle master's degree thesis. Undergraduate applicants may submit the draft of the thesis approved by their supervisor (please, note that abstracts cannot exceed 5.000 characters, including spaces and formula possibly used. The above figure does not include: the title of thesis, the outline, and images such as graphs, diagrams, tables etc. - where present);
- No more than 2 reference letters signed by Italian and international academics and professionals in the research field, which do not form part of the Admission Board, attesting the suitability of the applicant and his/her interest for the scientific research.  
Please, note that the above letters cannot be uploaded by applicants. When filling the online application form on <http://studenti.unibo.it>, applicants will be only allowed to provide the email accounts of the requested academic/professional. The latter shall receive an email from the University of Bologna providing for the instructions for uploading. Only letters in pdf format submitted before the expiry date and time of the Call shall be accepted.
- Multi-annual research project, with special emphasis on the activities to be completed during the first-year course. The proposal must meet the following requirements:
  - o It must indicate in the cover page the research topic of the PhD Programme covered by the research project proposal and for which the applicant is applying (up to 3 maximum)
  - o It cannot exceed 20.000 characters, including spaces and formula possibly used. This figure does not include: the title of project, the outline, references and images (such as graphs, diagrams, tables etc. - where present);
  - o It must include: the state of the art; description of the project; expected results; lead-time for implementation; references. The research projects that successful applicants shall carry out during their doctoral career may possibly differ from the project proposed at the application stage. This shall be defined together with the supervisor and approved by the Academic Board.
- Motivational letter. This must include the reasons prompting the applicant to attend the PhD Programme and those relevant experiences and research interests, that make the applicant suitable for the specific PhD Programme (3000 characters maximum, including spaces).
- Publications *in extenso* (monographs, articles published on scientific journals, volume's chapters): max 5.
- Minor publications *in extenso* (conference papers, etc.): max 5.
- Abstracts and posters presented during national and international conferences, etc.: max 5.
- Professional Master courses completed in Italy (1st or 2nd level) relevant to the PhD Programme.
- Postgraduate vocational training programmes/specialisation programmes relevant to the PhD Programme.
- Research activity of any kind - whether basic, applied, translational, etc. - carried out in any capacity, including when covered by research grants, and as a staff member of research projects.
- Work activity.
- Vocational internships;
- Curricular and non-curricular training and guidance internships
- Documents attesting the knowledge of foreign languages
- Study periods completed by students outside their countries of origin (e.g. Erasmus programme or other similar mobility programmes).
- Other qualifications attesting the suitability of the applicants (scholarships, prizes, etc).

#### Admission exams (art. 4 of the call for applications)

<b>Examination type</b>	<b>Schedule</b> (please, note that applicants shall not receive any communication concerning the exams schedule)	<b>Examination results publication</b> (please, note that applicants shall not receive any communication concerning the publication of results)
<b>Qualifications and research project evaluation</b>	Non-presential.	The results of the qualifications and research project evaluation shall be available online starting from the <b>10/06/2020</b> at the page <a href="http://studenti.unibo.it">http://studenti.unibo.it</a> (please, select "summary of the requests in progress" - "see detail" and open the pdf file "risultati valutazione titoli e progetto")

<b>Oral examination</b>	<b>Date</b>	<b>17/06/2020</b> In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral exam schedule shall be made available at the webpage <a href="http://studenti.unibo.it">http://studenti.unibo.it</a> together with the results of the qualifications and research project evaluation	The results of the oral examination shall be available on the webpage <a href="http://studenti.unibo.it">http://studenti.unibo.it</a> starting from <b>22/06/2020</b> (please, select “summary of the requests in progress” - “see detail” and open the pdf file “risultati prova orale”)
	<b>Time</b>	10:00 a.m. (local time)	
Applicants shall take the exam remotely. For further details please refer to the relevant provision laid down in art. 4 of the Call for applications.			

### Evaluation criteria

Points will be allocated to applications out of a total of 100 on the basis of the following weighting:

#### 1. Qualifications and research project

- Minimum for admission to the oral exam: 30 points
- Maximum: 50 points

Only qualifications relating to the last 5 calendar years prior to the calendar year of publication of the Call for applications shall be taken into consideration, with the exception of the University Degree (Diploma di laurea). Please, note that qualifications must be consistent with the PhD Programme.

Points relating to qualifications shall be allocated on the basis of the following criteria:

- Graduation final mark. Undergraduates shall be evaluated on the basis of the Weighted Average Mark (WAM): max 15 points
- Publications: max 10 points
- Motivation letter: max 6 points
- Reference letter and other qualifications: max 4 points

Points relating to the research project shall be allocated on the basis of the following criteria:

- Scientific value and ground-breaking nature of the proposal: max 9 points
- Description and structure of the proposal: max 3 points
- Proposal feasibility: max 3 points

#### 2. Oral examination

- Minimum for inclusion in the final ranking list :30 points
- Maximum: 50 points

Oral examination includes the presentation of the research project and is intended to assess the suitability of the applicant in respect of the pursuing of scientific research as well as the general knowledge of issues connected to the PhD Programme. During the oral examination, knowledge of English language shall be assessed.

The oral examination is carried out in Italian or in English.

Points relating to the oral examination shall be allocated on the basis of the following criteria:

- Knowledge of the English language: max 5 points
- Research project presentation: max 35 points
- General knowledge of issues connected to the PhD Programme: max 10 points

Possible evaluation sub-criteria will be available on the [Unibo website](http://studenti.unibo.it), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

### Final ranking list and enrolment (arts.6 and 7 of the Call for applications)

After the publication of the results of the oral exam, the final ranking list will be available on the [Unibo website](http://studenti.unibo.it), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

Following the publication of the final ranking list, successful applicants must enroll on <http://studenti.unibo.it> by the deadline indicated on the [Unibo website](http://studenti.unibo.it), selecting the relevant PhD Programme → “PhD programme information”.