

# National Institute of Oceanography and Applied Geophysics - OGS

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## National Institute of Oceanography and Applied Geophysics – OGS

- OGS' roots date back to the School of Astronomy and Navigation founded in Trieste by empress Maria Theresa of Austria in 1753
- OGS is a National Research Institute  
<https://www.istruzione.it/archivio/web/ricerca/enti-di-ricerca/elenco-enti.html>

- The **National Institute of Oceanography and Applied Geophysics (OGS)** is a public research institution, operating under the aegis of the Italian Ministry of Education, University and Research (MIUR) developing basic and applied research in the fields of oceanography, geophysics and seismology.
- Within its international mission, OGS promotes **cooperation** and dialogue amongst individuals, institutions and countries through the instrument of **Science Diplomacy**.
- OGS initiative on Sustainable Blue Growth represents a cross-cutting support to the **Western Mediterranean Forum on Higher Education, Research and Innovation (Dialogue 5+5)** and for the benefit of all Mediterranean Countries.
- OGS Strategic Plan (2019-2021):  
[www.inogs.it/PTA%202019-2021\\_DEF\\_inviatoMIUR\\_12\\_febbraio\\_2019.pdf](http://www.inogs.it/PTA%202019-2021_DEF_inviatoMIUR_12_febbraio_2019.pdf)

### Type of Activities

- Publishable Research
- Institutional research
- Third Mission

### Geographical Priorities

- Central and South America
- Polar Regions
- Mediterranean basin

### Technological Divisions

- Oceanography
- Geophysics
- Infrastructure
- Seismology

### Human resources - 2018

- **287** – researchers, technologists, technicians and administrative staff
- Around **40** PhD students and other trainees





# Type of Activities

## Publishable Research

### Scientific and technological priorities in research

1. Unveil and use the potential of seas and oceans;
2. Mitigate the impact of disasters on sea and on land;
3. What is behind our feet: knowledge and use of the Earth interior;
4. Enlarge the community of data utilization: make marine data and products FAIR;
5. Predict the future climate response of polar areas.

## Third Mission

### Third Mission

1. Economic valorisation of knowledge, which include research on behalf of third parties, the management of intellectual propriety, enterprise creation and, more generally, the relationships research-industry;
2. Production of public goods for society, culture and education, aimed at enhance society welfare and resilience.

## Institutional Research

### Institutional Research

1. Design, realization, management and maintenance of research infrastructures of high complexity;
2. Creation and management of non-material research infrastructures (databases);
3. High level consultancy activities.



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## Programma Nazionale per la Ricerca



Aerospazio



Agrifood



Cultural  
Heritage



Blue  
growth



Chimica  
verde



Design,  
creatività e  
Made in Italy



Energia



Fabbrica  
intelligente



Mobilità  
sostenibile



Salute



Smart,  
Secure and  
Inclusive  
Communities



Tecnologie  
per gli  
Ambienti  
di Vita

[https://www.istruzione.it/allegati/2016/PNR\\_2015-2020.pdf](https://www.istruzione.it/allegati/2016/PNR_2015-2020.pdf)

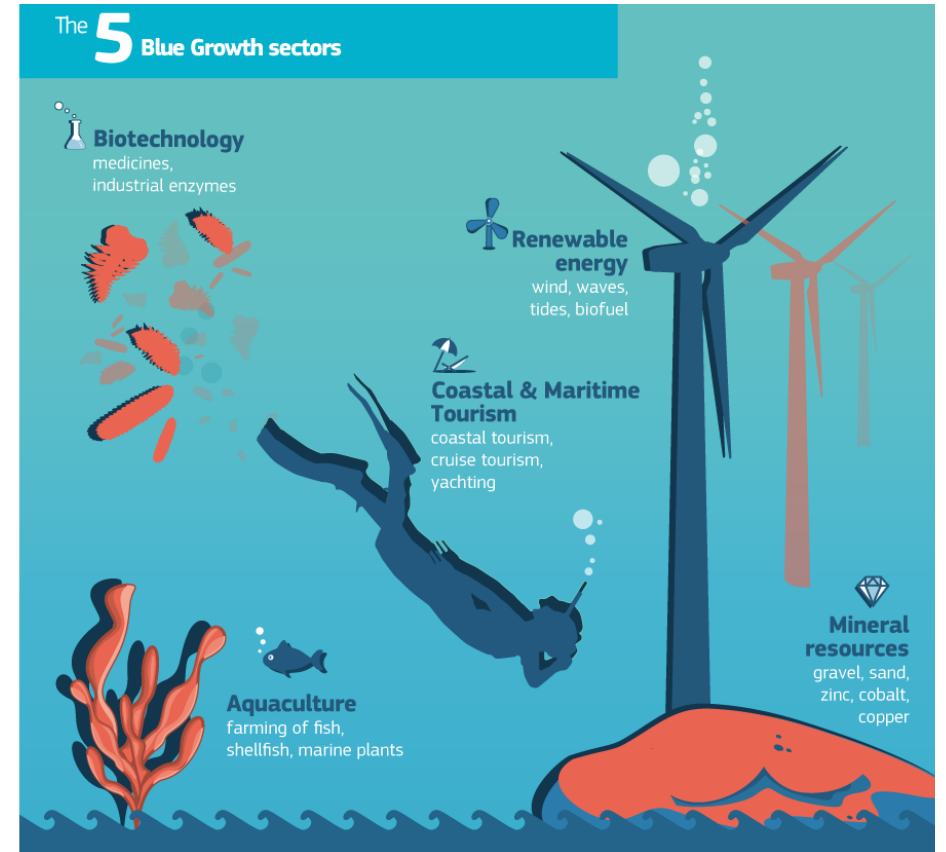
## EUROPEAN BLUE GROWTH STRATEGY

- Blue Growth is the long term strategy to support sustainable growth in the marine and maritime sectors as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. It is the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth.
- The 'blue' economy represents roughly 5.4 million jobs and generates a gross added value of almost €500 billion a year. However, further growth is possible in a number of areas which are highlighted within the strategy.

Source: [https://ec.europa.eu/maritimeaffairs/policy/blue\\_growth\\_en](https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en)

The strategy consists of three components:

1. **Develop sectors that have a high potential for sustainable jobs and growth:**
  - a) aquaculture (Fisheries website)
  - b) coastal tourism
  - c) marine biotechnology
  - d) ocean energy
  - e) seabed mining



## 2. Essential components to provide knowledge, legal certainty and security in the blue economy

- a) marine knowledge to improve access to information about the sea;
- b) maritime spatial planning to ensure an efficient and sustainable management of activities at sea;
- c) integrated maritime surveillance to give authorities a better picture of what is happening at sea.

## 3. Sea basin strategies to ensure tailor-made measures and to foster cooperation between countries

- a) a. Adriatic and Ionian Seas
- b) b. Arctic Ocean
- c) c. Atlantic Ocean
- d) d. Baltic Sea
- e) e. Black Sea
- f) f. Mediterranean Sea
- g) g. North Sea

Blue Growth is the European Commission's initiative to further harness the potential of Europe's oceans, seas and coasts for:



Five sectors with high potential for sustainable Blue Growth are to be further developed:



other **sectors of the blue economy** crucial for value & jobs



## BLUE ECONOMY: OVERVIEW

As a marine and coastal analogue to the Green Economy, the **Blue Economy** approach is based on a vision of “improved wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2013).

The concept of a "blue economy" emphasizes conservation and sustainable management, based on the premise that healthy ocean ecosystems are more productive and a must for sustainable ocean-based economies (FAO).

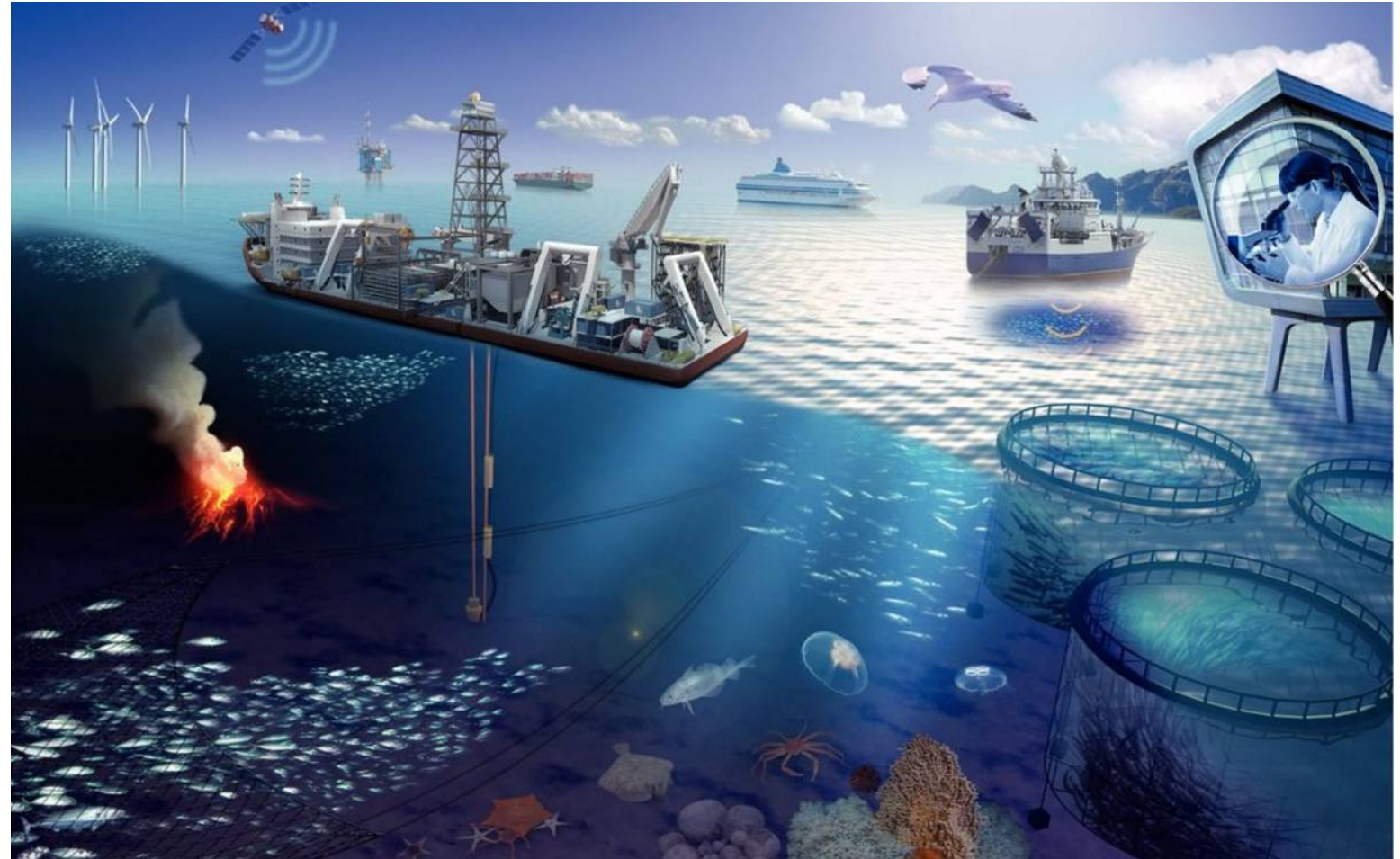
FAO:

<http://www.fao.org/policy-support/policy-themes/blue-growth/en/>

UNEP:

<https://www.unenvironment.org/resources/report/blue-growth-opportunities-marine-and-maritime-sustainable-growth>





OECD: <http://www.oecd.org/innovation/inno/ocean-economy/>

## EMPLOYMENT AND “BLUE” CAREERS

There is a mismatch between the needs of policy and industry in a changing world, and the typically more traditional approach to educating graduates within the University system. There is strong emphasis on Blue Growth in Europe. However traditional marine-based graduate programmes do not equip our future marine professionals with the ability to realize the potential of a sustainable blue economy.

We need graduates who:

- understand the needs and requirements of blue industries, and have had exposure to both academic and non-academic careers;
- have and can apply multi-disciplinary knowledge to complex marine systems;
- have a good range of transferrable skills and experience; and
- can ensure innovation and bring new ideas to address new challenges.

Source: EMB Future Science Brief 2 “Training the 21st Century Marine Professional”, free to download at:

<http://www.marineboard.eu/science-strategy-publications>

## The blue economy: Growth, opportunity and a sustainable ocean economy

The  
Economist

Intelligence  
Unit

Type of activity	Ocean service	Established industries	Emerging industries	New industries	Drivers of future growth
Harvesting of living resources	Seafood	Fisheries	Sustainable fisheries		Food security
			Aquaculture	Multi-species aquaculture	Demand for protein
	Marine bio-technology		Pharmaceuticals, chemicals		R&D in healthcare and industry
Extraction of non-living resources, generation of new resources	Minerals	Seabed mining			Demand for minerals
			Deep seabed mining		
	Energy	Oil and gas			Demand for alternative energy sources
			Renewables		
	Fresh water		Desalination		Freshwater shortages
Commerce and trade in and around the ocean	Transport and trade	Shipping			Growth in seaborne trade
		Port infrastructure and services			International regulations
	Tourism and recreation	Tourism			Growth of global tourism
		Coastal development			Coastal urbanisation
			Eco-tourism		Domestic regulations
Response to ocean health challenges	Ocean monitoring and surveillance		Technology and R&D		R&D in ocean technologies
	Carbon sequestration		Blue carbon (i.e. coastal vegetated habitats)		Growth in coastal and ocean protection and conservation activities
	Coastal protection		Habitat protection, restoration		
	Waste disposal			Assimilation of nutrients, solid waste	

Activities that can contribute to restoring ocean health

## BlueSkills



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## DeepBlue





## The 5+5 Dialogue: Western Mediterranean Forum for Research Innovation and Higher Education

OGS represents Italy in the Western Mediterranean Forum for Higher Education, Research and Innovation (Dialogue 5+5)

The 5+5 Dialogue is a sub-regional forum for dialogue between Western Mediterranean countries and a 'space' for research and innovation to promote cooperation in science, technology and higher education. The Maghreb countries involved are Algeria, Libya, Mauritania, Morocco and Tunisia, and the European nations are France, Italy, Malta, Portugal and Spain.

Rome Declaration, 2019 ([link](#))

Website and updates: <http://www.fiveplusfiverihe.org/>



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- Fostering the synergies between higher education, research and innovation programmes in the Western Mediterranean Area;
- Enhancing the role of higher education, research and innovation for contributing to the job creation within the Western Mediterranean Area.

Rome Declaration and Work Plan, 2019 ([link](#))

Website and updates: <http://www.fiveplusfiverihe.org/>



# Science Diplomacy

## «Bridging the World through Science»

International science cooperation strengthens countries' excellence and attentiveness in research and innovation as well as their economics and industrial competitiveness. It allows better tackling global societal challenges as international cooperation allows developing multiannual roadmaps for cooperation with key partner countries and neighboring regions (source: [EEAS](#)).

- **Science in diplomacy:** Science can provide advice to inform and support foreign policy objectives.
- **Diplomacy for science:** Diplomacy can facilitate international scientific cooperation.
- **Science for diplomacy:** Scientific cooperation can improve international relations.



# The “Trieste System”



# The “Trieste System”

- The city of Trieste and its surrounding territory comprise an area with the highest development potential that aims to become a European reference point, to attract an increasingly higher number of international students and researchers, to develop tangible interactions with the business world, thereby achieving a positive spin-off on the local society and economy.
- This Network - which identifies itself in the name Trieste City of Knowledge - operates in order to provide functional responses to the objectives outlined above, developing the relations between the local territory and its scientific excellence.

## ACTIVITIES

- Dissemination of scientific culture
- Knowledge and innovation-based activities in support of the local economy
- Training
- Activities aimed at attracting Italian and foreign researchers and students
- Services for resident researchers and students
- Relations between researchers and the corporate world
- Organization of urban and territorial spaces
- Social participation by organizing events, tours and other initiatives

# BlueSkills

Blue Jobs and Responsible Growth in the Mediterranean  
throughout Enhancing Skills and Developing Capacities



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Union for the Mediterranean  
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Who we are

What we do

Work with us

Info center

Contact



## The UfM endorses two new regional projects to support Member States in their transition to climate-resilient economies and to promote blue employment

Ahead of the 4th UfM Ministerial Meeting on Employment and Labour, the UfM endorses initiatives to promote blue and sustainable economic growth in order to improve livelihood and create jobs

**Brussels, 28 March 2019.** The Senior Officials of the Union for the Mediterranean (UfM) endorsed today two new regional projects to contribute to the transition towards sustainable, low-carbon and climate-resilient development ([Clima-Med](#)) and on encouraging the development of skills, knowledge and research in the field of Blue Economy ([Blue Skills](#)). The UfM will join forces for these projects with the European Union and Italian National Institute of Oceanography and Applied Geophysics – OGS in Italy, respectively.

<https://ufmsecretariat.org/ufm-endorses-two-new-regional-projects/>

### Latest news

[The UfM endorses three new regional projects ahead of the Forum of Ministers of Foreign Affairs](#)

04 / 10 / 2019

[UfM conference takes place in](#)

**43** member countries **28** EU member states **15** Southern and Eastern Mediterranean countries



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#visibility #fundraising #win-win strategy

UfM projects and initiative database: <https://ufmsecretariat.org/what-we-do/projects/>

## OVERVIEW

- **Promoter** Consortium of 10 countries led by the Italian National Institute of Oceanography and Applied Geophysics - OGS (Italy)
- **Countries** 5+5 Dialogue member countries
- **Geographical scope:** Mediterranean area
- **Funding:** 100% funded by the Italian Ministry for Education, University and Research (MIUR) - Additional funding envisaged for increasing beneficiaries and scaling up impact.
- **BlueSkills is a UfM labelled project.**

## Framework

- UfM Ministerial Declaration on Blue Economy (2015)
- Valletta Declaration on Strengthening Euro-Mediterranean Cooperation through Research and Innovation (2017)
- UfM Roadmap: UfM Agenda on Sustainable Development (2017)

## Partnership

### LOCATIONS

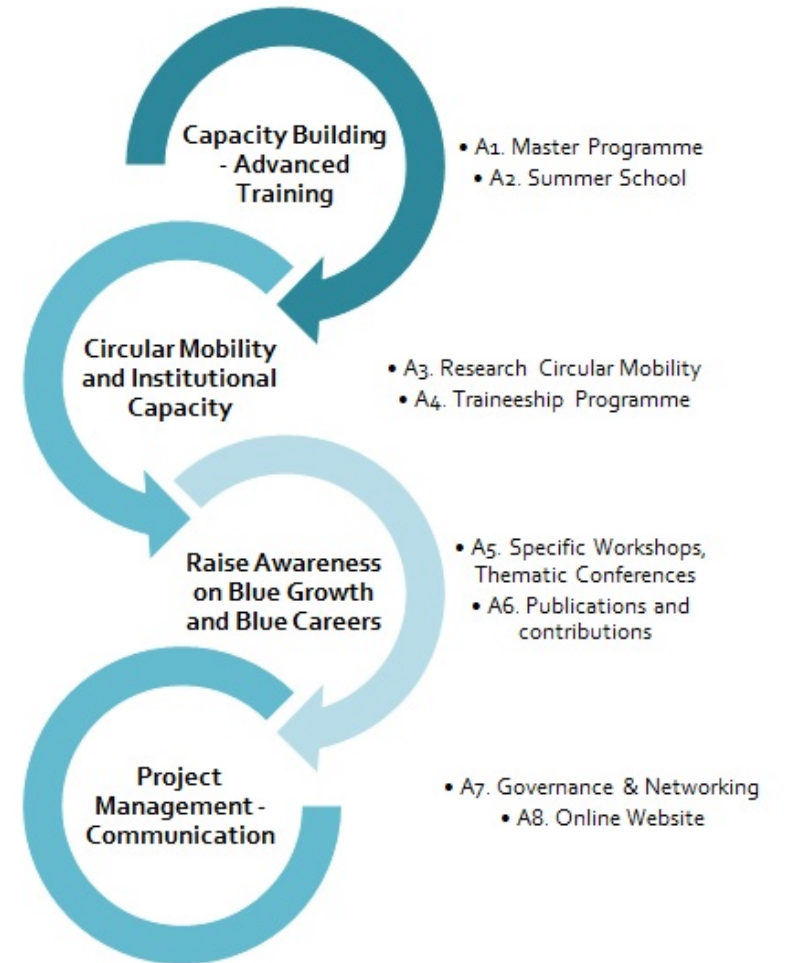
- Algeria
- Italy
- Malta
- Mauritania
- Morocco
- Libya
- Portugal
- Spain
- France
- Tunisia

1. National Institute of Oceanography and Applied Geophysics – OGS (Italy)
2. Algerian National School of Marine Sciences and Coastal Management- ENSSMAL (Algeria)
3. Libyan Authority of Natural Science Research and Technology - ANSRT (Libya)
4. University of Malta (Malta) • University of Nouakchott Al Aasriya – UNAA (Mauritania)
5. National Institute of Oceanography and Fisheries of Mauritania - IMROP (Mauritania)
6. Polytechnic University of Madrid - UPM (Spain)
7. Higher Institute of Fisheries and Aquaculture of Bizerte - ISPAB (Tunisia)
8. Euro-Mediterranean University of Fez – EUMF (Morocco)
9. Chouhaib Doukkali University - UCD (Morocco)
10. Centre for Marine Sciences of the Algarve – CCMAR (Portugal)
11. Aix Marseille University – AMU (France)



## Expected Results

- A1. Master Programme: 20 to 25 students per year
- A2. Summer School: 30 to 35 students per year
- A3. Research Mobility: 1-2 Researchers hosted by a Project Partner per year
- A4. Professional Traineeship: 1-2 Researchers hosted by a Project Partner per year
- A5. Specific Workshops, Conferences: Minimum one conference per year (General outreach: approx. 50 per year) / Minimum one thematic workshop per year (20 to 25 participants per year)
- A6. Further contributions, Publications
- A7. Project Management: A network of 11 Mediterranean institutions actively engaged in the euro-med region
- A8. Online Portal Management: Content creation on the [www.bluegrowth.inogs.it](http://www.bluegrowth.inogs.it) official portal



<http://bluegrowth.inogs.it/>

Research, Innovation and Higher Education

Summer School

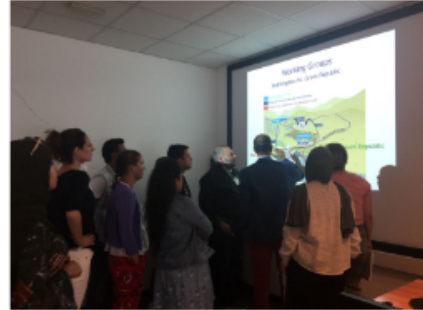
The 5+5 Dialogue

About Blue Growth

# Summer School on Sustainable Blue Growth

find out more

## SUMMER SCHOOL 2018



10 days

197 applications

27 participants

18 Countries

15 Women 12 Men

12 Master 10 PhD

Full scholarship



## SUMMER SCHOOL 2019

5 days

600+ applications

36 participants

24 Countries

22 Women 14 Men

19 Master 12 PhD

Full scholarship



# SUSTAINABLE BLUE ECONOMY

SUMMER SCHOOL 2014 - 2019



4000  
applications



244  
participants



27  
Countries



24-50  
Years old



100%  
Fellowship





## ADVANCED MASTER

### FIRST EDITION (2018)



87  
applications

21  
participants

8  
Nationalities



7 Men 14 Women

15 Master 6 PhD

13  
Employed

9 fees 6 full fell.

### SECOND EDITION (2019)



47  
applications



16  
participants



9  
Nationalities



9 Women 7 Men



2 PhD 14 Master



8  
Employed



12 full fell. 4 fees



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## KEY FEATURES

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12 months

3 face-to-face sessions:

- Spring session (2 weeks in March);
- Summer session (2 weeks in June);
- Autumn session (2 weeks in September).



English



From 10 to 25  
participants

From all the Mediterranean and Black Sea  
countries.



3.200,00 €

Scholarships including full fellowships (covering  
registration fees, travel and accommodation) and  
partial fellowships (covering the registration fees  
only) will be available.



Multidisciplinary

Oceanography (physics, chemistry and biology),  
marine biology, geology, geophysics, geochemistry,  
environmental engineering, ecological modelling,  
climate study, coastal zone management,  
environmental economy and related fields.



Trieste, Italy

University of Trieste - main campus, Piazzale Europa  
OGS building, via Beirut 2, Grignano.

## DIDACTIC CONTENTS

Soft skills enhancement, traineeships, job-oriented activities, networking events

First session

Introducing blue  
economy issues and  
resources

Second Session

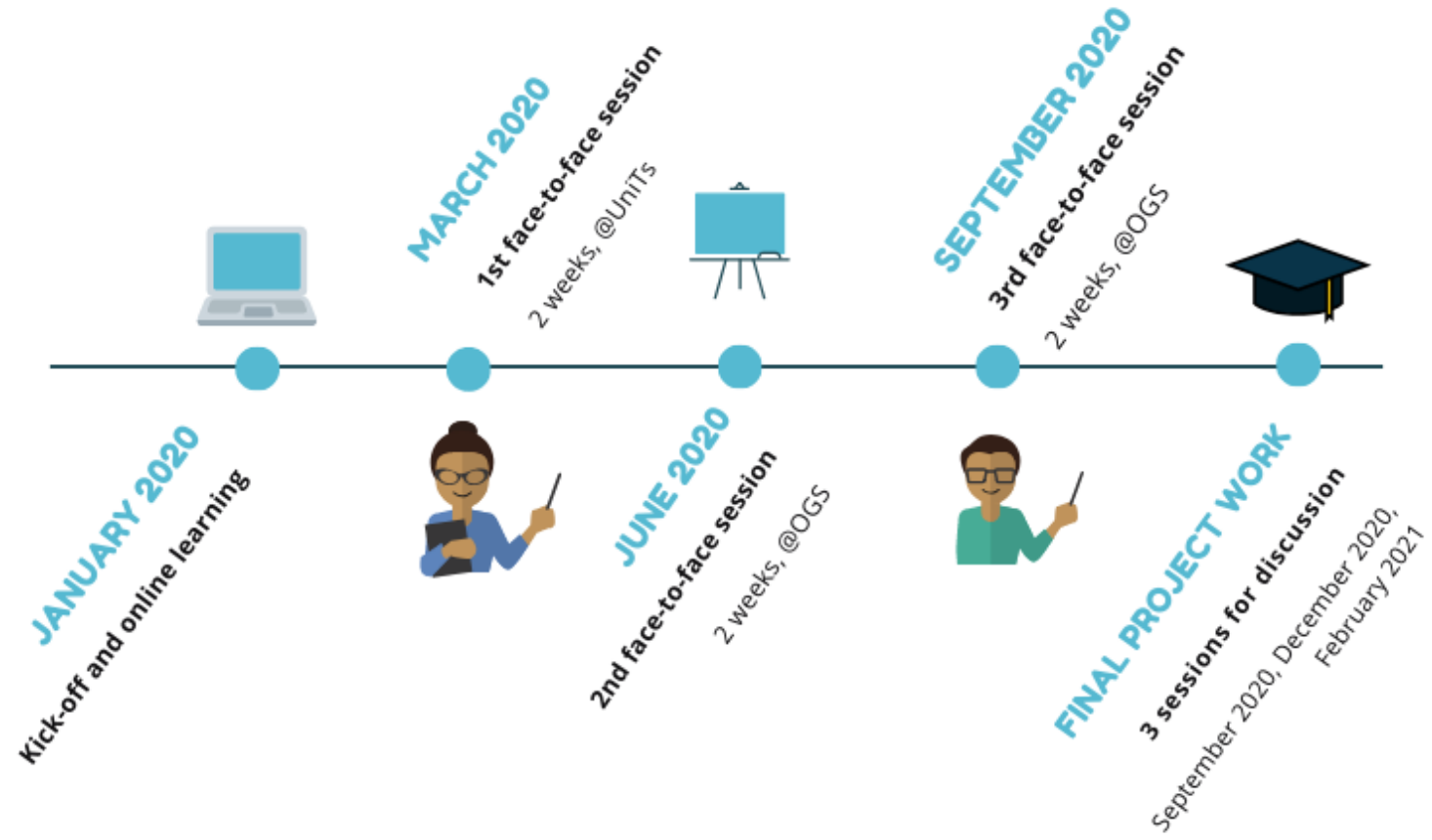
Tools for assessing  
and  
developing strategies

Third Session

Instruments and  
policies  
for integrated blue  
growth

E-learning platform: virtual classroom - online tests and evaluations







## SUPPORTING INSTITUTIONS



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Union for the Mediterranean  
Union pour la Méditerranée  
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The Abdus Salam  
International Centre  
for Theoretical Physics



The World Academy of Sciences  
for the advancement of science in developing countries



Autorità di Sistema Portuale  
del Mare Adriatico Orientale  
Porti di Trieste e Monfalcone

# Deep Blue

Developing Education and Employment Partnerships for a  
Sustainable Blue Growth in the Western Mediterranean Region

## PARTNERSHIP

OGS	National Institute of Oceanography and Applied Geophysics	ITALY
USFAX	University of Sfax	TUNISIA
UPM	Polytechnic University of Madrid	SPAIN
ISPA	Higher Institute of Fishing Technologies and Aquaculture	TUNISIA



## KEY FIGURES

- January 2019 – December 2020 - 24 months
- 4 Partners
- 3 Mediterranean Countries
- 3 Advanced Trainings
- 1 Study Visit
- 30 Fellowships (from 3 to 6 months)
- 3 Final dissemination events

## CONTEXT/ OBJECTIVE

- It focuses on the main concerns related to a sustainable marine environment, such as the development and sharing of tools for monitoring and assessing environmental impacts of specific maritime activities, the use of marine spatial planning, and the correct exploitation of marine resources.
- The DEEP BLUE project aims at developing skills, building capacities, and enhancing the geopolitical dialogue through increased international scientific cooperation (Science Diplomacy).

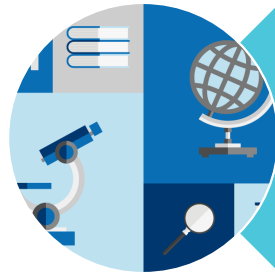
## EXPECTED RESULTS

- Consolidate a network of Western Mediterranean partner countries higher education institutions, research centres and private companies in the marine and maritime sector.
- Establish new innovative ideas based on collaborations from public and private stakeholders
- Share existing data and adopt common methodologies in field related to marine science for a common knowledge
- Promote the mobility of young professionals in the region, increasing brain circulation and exchanging good practices in the sectors related to Blue Economy
- Raise awareness on Blue Economy challenges and opportunities across the Mediterranean
- Increase the visibility of the scientific work in fields related to Sustainable Blue Growth

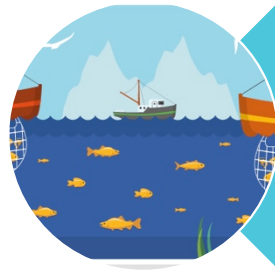




(1) **Advanced training** for local authorities, municipality officers and representatives of the private sector, on marine spatial planning and its application for fisheries and aquaculture. Lead: OGS



(2) **Training-of-trainers** for young professionals in the field of marine sciences on environmental monitoring techniques to manage the environmental impacts on fisheries and aquaculture. "Advanced" Lead: Uni Sfax



(3) **Advanced training for trainers** on the effective management and sustainable development of fisheries resources. Lead: ISPA



**Study Visit** to the "Trieste System" a hub for science, business and society interactions in a wide geographical area such as North-East of Italy and Central Eastern Europe during the European Science Open Forum (ESOF 2020).

Lead: OGS

Professional and Research scholarships: **Job Shadowing** programme for young professionals in the marine and maritime field (PhD students, researchers, high qualified professors).

Lead: OGS-UPM







Co-funded by the European  
Maritime and Fisheries Fund

## European Maritime and Fisheries Fund (EMFF)

- The EMFF is the fund for the EU's maritime and fisheries policies for 2014-2020. (Information on funding after 2020 is available here: EU budget: Commission proposes a new fund to invest in the maritime economy and support fishing communities)
- It is one of the five European Structural and Investment (ESI) Funds which complement each other and seek to promote a growth and job based recovery in Europe.

Source: [https://ec.europa.eu/fisheries/cfp/emff\\_en](https://ec.europa.eu/fisheries/cfp/emff_en)

- **European Maritime and Fishery Fund (EMFF)**
- European Agency for Small and Medium-sized enterprises (EASME)
- **Sustainable Blue Economy Call 2017**
- Strand 3: Blue networks in the Med. Job creation, innovation and entrepreneurship in the blue economy of the Mediterranean Sea.
- **AIM** - To accelerate the development of the blue economy in the Mediterranean through closer cooperation between public and private maritime stakeholders.
- It will support skills, innovation, entrepreneurship as well as job diversification and local communities' empowerment.
- Specific Objective A: **Education and Skills**



The funded projects: database

<https://ec.europa.eu/easme/en/emff-projects>

# The European Maritime And Fisheries Fund 2014-2020

## €6400<sub>M</sub>

Allocated in total from 2014-2020.

To help fishermen adapt to sustainable fishing, create jobs for the sector and diversify economies in coastal communities.

The EMFF assists Member States to co-finance operational programmes and projects, to reach the objectives of the reformed Common Fisheries Policy.

It is one of the five European Structural and Investment Funds which complement each other to deliver more jobs, welfare and growth in the EU.



## €4340<sub>M</sub>

### Sustainable Fisheries

Making fisheries and aquaculture more sustainable and profitable:

- Ensuring and creating sustainable jobs
- Local development and support to fisheries areas
- Marketing and processing



## €580<sub>M</sub>

### Control and Enforcement

To monitor compliance with the European Common Fisheries Policy and protect a fair access to healthy stocks:

- Access to fishing grounds
- Controlling fishing effort, TACs and quotas
- Other technical measures to improve selectivity and sustainability



## €520<sub>M</sub>

### Data Collection

To collect the data the scientists need to improve our knowledge of the seas and the long term management of our fisheries:

- Understanding and monitoring of commercial species
- Dynamics of single stocks and mixed fisheries
- Ecological modelling of regional basins



## €71<sub>M</sub>

### Blue Economy

To unlock sustainable growth and job creation from our seas and oceans, in areas such as:

- Maritime surveillance (CISE)
- Improved knowledge of the seas and ecosystems
- Enabling rational exploitation of new marine resources (e.g. energy, biotech)

thank you!