



L-Università
ta' Malta

The potential of citizen science

Prof. Alan Deidun

Open Science: The Future of Scholarly Communication
Wednesday 24 February 2021
Online Seminar

organised by the University of Malta Library and **OpenAIRE**

Contents

- What is citizen science?
- Citizen science has come of age.....
- A few applications of citizen science....
- How do you excite potential citizen scientists?
- The validation challenge
- The local citizen science experience

Citizen science defined.....

Citizen science "covers a range of different levels of participation: from raising public knowledge about science, encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to setting scientific agenda and co-designing and implementing science-related policies".

- Citizen science may be performed by individuals, teams, or networks of volunteers. Citizen scientists often partner with professional scientists to achieve common goals.
- Large volunteer networks often allow scientists to accomplish tasks that would be too expensive or time-consuming to accomplish through other means.
- Many citizen-science projects serve education and outreach goals.
- These projects may be designed for a formal classroom environment or an informal education environment such as museums.



Citizen science has come of age (finally)!

eu-citizen.science Search About Blog Events Forum Moocs Login Signup en f t i + Add

Welcome to the platform for sharing Citizen Science projects, resources, tools, and training


Search for citizen science resources, projects, tools, training, and more....

The static part of the platform has recently been translated into 11 languages. Do you want to help with translation? [Please click here](#)

All Projects Resources Training Organisations Our Gold Star Selection

Training

23 results in Training, click [here](#) to see all of them



ENGLISH

- Level 3 'Participatory science' - Participation in problem definition and data collection
- Level 2 'Distributed intelligence' - Citizens as basic interpreters
- Level 1 'Crowdsourcing' - Citizens as sensors

Citizen Science

- Awareness to environmental or scientific issue
- Producing scientific outputs
- Achieving temporal and geographical
- Creating joyable & engaging experiences
- Using resources


Featured Training

Citizen Science Typologies

Interactive Resource (Website)

Best practices

Typologies



ENGLISH


Featured Training

Introduction to Citizen Science

Interactive Resource (Website)

Introduction to CS

Introduction Citizen Science Characteristics



ENGLISH

Featured Training

Leading a 'Train the Trainer' workshop

Interactive Resource (Website)

Best practices

Citizen science has come of age (finally)!



EN English

EU Funding Programmes promoting the development of citizen science programmes around Europe.....

Home > H2020-SWAFS-2019 CITIZEN SCIENCE

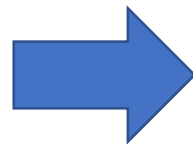
H2020-SWAFS-2019 CITIZEN SCIENCE



Proposed Mission: **Mission Starfish 2030: Restore our Ocean and Waters**

Report of the Mission Board
Healthy Oceans, Seas, Coastal and Inland Waters

Independent
Expert
Report



Our aim is therefore that **every European citizen becomes a citizen of our ocean and waters**. This, in itself, is an objective of the Mission: engaging, inspiring and motivating citizens to fully apprehend our ocean and waters as a common good. In other words, creating a community of citizens who value the ocean and waters as a common good and a natural capital to preserve, who want to engage in the Mission's goals to know, restore and protect the ocean and waters, as well as to enjoy them with sobriety and care for them collectively.

All channels should be used: education of all generations, citizen voluntary engagement such as beach clean-up initiatives, citizen science, and ocean-literacy initiatives for the public at large. This will be embodied in a European regeneration voluntary corps, a pan-European ocean literacy coalition of civil society organisations, schools, museums, aquaria, cultural centres and events, a pan-European "blue education" programme and a pan-European strategy for marine science.

The scale of citizen science campaigns.....

jellywatch.org



From the global scale....

HOME MARK SIGHTING ALL SIGHTINGS VELELLA JELLYFISH FACTS JELLYFISH VIDEOS

Google Play Search

Apps Categories Home Top charts New releases

My apps Shop Games Kids Editors' Choice Account Payment methods Play Points New

Invasive Alien Species Europe
European Union Education ★★★★★ 28
Everyone L-Università ta' Malta Faculty of Science
This app is available
You can share this with Family Library
Add to Wishlist

To the regional/European scale....

To the local/national scale.....

Interreg Mediterranean AMAre

AMAre Project
Funded under the Interreg MED Programme (2014 - 2020), the AMAre (Actions for Marine Protected Areas) project is conceived to aid Mediterranean countries in the conservation and management of designated marine protected areas by developing shared methodologies and geospatial tools for assessment, monitoring, analyses and effective stakeholders' engagements.

Description
If you are a diver, a snorkeler or even a swimmer, you certainly know the **noble pen shell** (also known as fan mussel, or as nakira or nakira (a-harr colloquially). It is an **emblematic Mediterranean endemic species** and is also the largest bivalve (a two valved hinged shelled mollusc) in the Mediterranean Sea. Its shell can reach more than one metre in total length. It usually lives in sandy bottoms in coastal areas, and is generally associated with seagrass meadows and can be found up to a depth of

Noble Pen Shell (*Pinna nobilis*) survey

Pinna nobilis **Pinna rudis**

View results

EU funds for Malta 2014-2020 INTERREG-MED PROGRAMME 2014-2020 Project part-financed by the European Union European Regional Development Fund (ERDF) Co-financing rate: 85% EU Funds; 15% National Funds

MINISTRY FOR EUROPEAN AFFAIRS AND EQUALITY (MAG) MEMORANDUM SECRETARIAT FOR EUROPEAN FUNDS AND SOCIAL DIALOGUE

Potential applications of citizen science campaigns

- Acquisition of observations of disparate phenomena possible (e.g. jellyfish blooms, arrival of alien species, passage of migratory species, presence of microplastics on beaches, etc)
- Collection of long-term monitoring data
- Means of informal education
- Means of fostering greater awareness about particular thematics
- Means for the general public to influence policy-making
- Overall, one of the key tools for **evidence-based policy-making!**

The scientific impact of citizen science campaigns

Examples of most recent peer-reviewed publications making use of local citizen science campaign data



BioInvasions Records (2020) Volume 9, Issue 4: 827–833

Rapid Communication

A bonanza of angelfish (Perciformes: Pomacanthidae) in the Mediterranean: the second documented record of *Holacanthus ciliaris* (Linnaeus, 1758)

Alan Deidun^{1,*}, Johann Galdies¹ and Bruno Zava^{2,3}



BioInvasions Records (2019) Volume 8, Issue 1: 108–112

Rapid Communication

Much can change in a year: the Massawan mantis shrimp, *Ergosquilla massavensis* (Kossmann, 1880) in Sicily, Italy

Paola Gianguzza¹, Gianni Insacco², Bruno Zava^{2,3}, Alan Deidun⁴ and Bella S. Galil^{5,*}



BioInvasions Records (2020) Volume 9, Issue 2: 223–227

Rapid Communication

Far from home....the first documented capture of the genus *Elops* (Actinopterygii, Elopidae) from the Mediterranean

Alan Deidun^{1,*} and Bruno Zava^{2,3}



Aquatic Invasions (2020) Volume 15, Issue 1: 44–62

Special Issue: Proceedings of the 10th International Conference on Marine Bioinvasions
Guest editors: Amy Fowler, April Blakeslee, Carolyn Tepolt, Alejandro Bortolus, Evangelina Schwindt and Joana Dias

Research Article

***Symplegma* (Ascidiacea: Styelidae), a non-indigenous genus spreading within the Mediterranean Sea: taxonomy, routes and vectors**

Alfonso Ángel Ramos-Esplá¹, Ghazi Bitar², Yassine Ramzi Sghaier^{3,4}, Melih Ertan Çinar⁵, Alan Deidun⁶, Jasmine Ferrario^{7,*} and Aylin Ulman⁷

The scientific impact of citizen science campaigns

Journal of Coastal Research	SI	85	316-320	Coconut Creek, Florida	2018
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Is citizen science a valid tool to monitor the occurrence of jellyfish? The Spot the Jellyfish case study from the Maltese Islands

Marija Pia Gatt[†], Alan Deidun^{**}, Anthony Galea[†] and Adam Gauci[†]

[†]Department of Geosciences,
Faculty of Science, University of Malta, Msida, Malta.



www.cerf-jcr.org

Putting multi-annual citizen science data to good use!

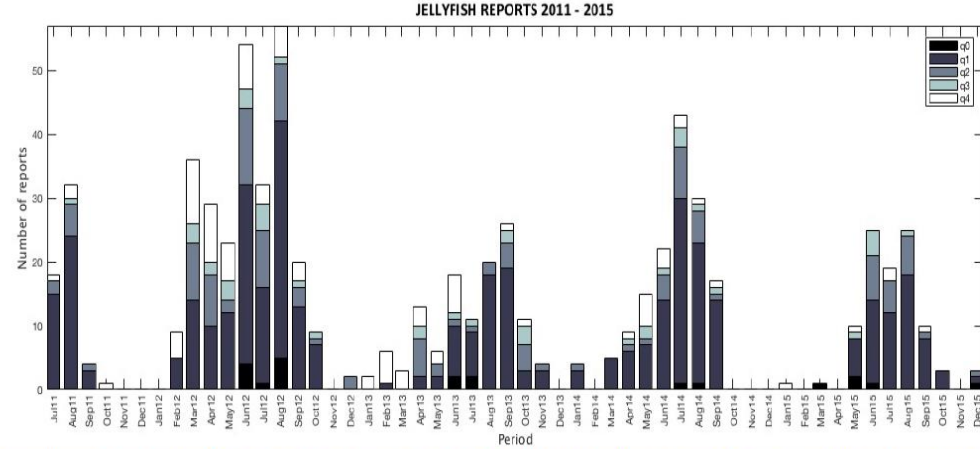


Figure 2. The number of monthly jellyfish reports received for the July 2011 – December 2015 period. The legend represents the 5 abundance classes of jellyfish sighted, where Q0 (black) represents 0 jellyfish reports, Q1 represents 1-5 jellyfish reports, Q2 6-20 jellyfish reports, Q3 21-50 jellyfish reports and Q4 (white) >50 jellyfish reports.

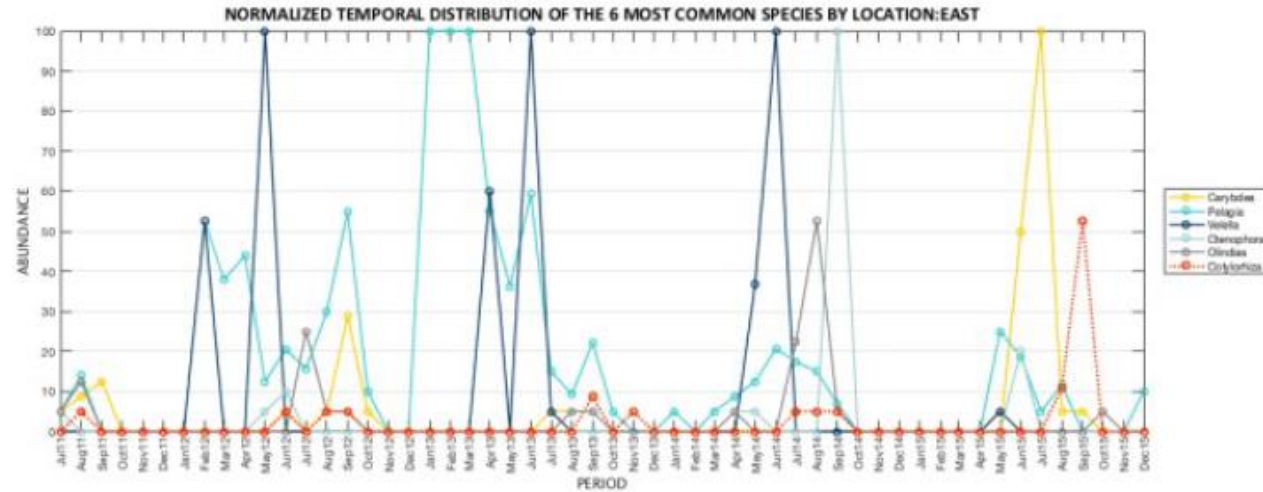
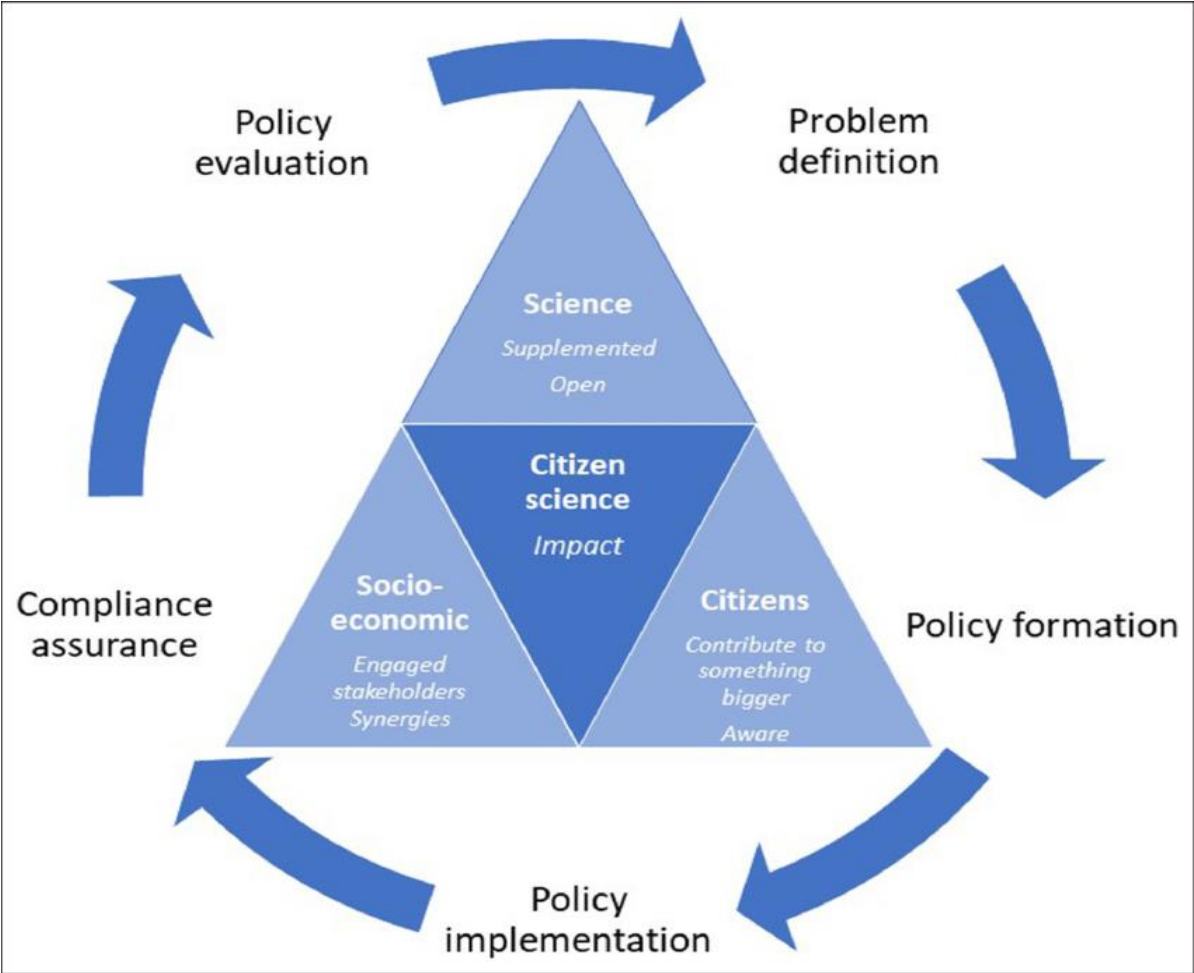


Figure 3. The normalized temporal distribution of the six most common species reported along the eastern flank of the island of Malta.

The policy impact of citizen science campaigns



PROJECT
SUPPORTED
BY:



Malta
Tourism Authority



MINISTERU GHALL-IŻVILUPP SOSTENIBBLI,
L-AMBJENT U T-TIBDIL FIL-KLIMA



JUNE 2019

The ocean literacy impact of citizen science



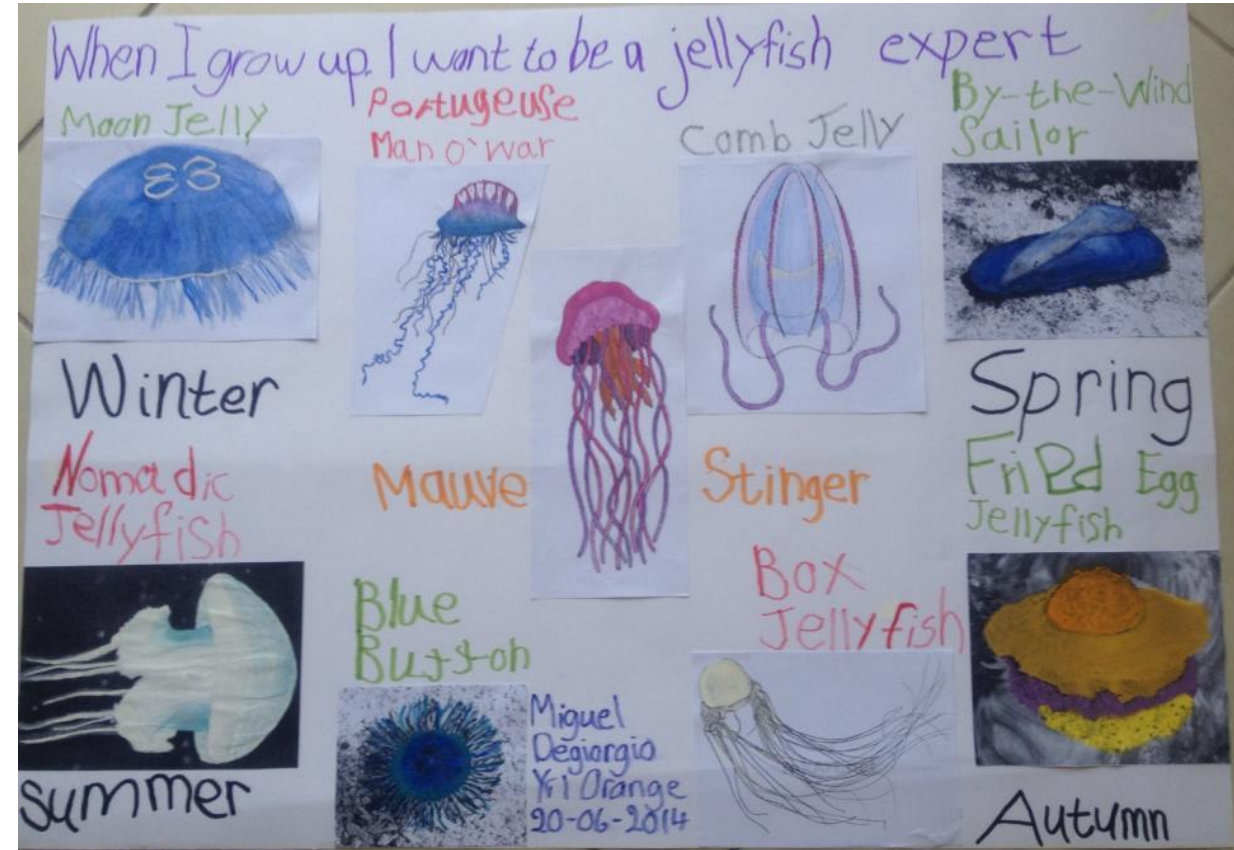
Ocean literacy is an understanding of the **ocean's** influence on you—and your influence on the **ocean**. There are seven Essential Principles of **Ocean Literacy** comprising 45 Fundamental Concepts.

The Ocean We Need
for the Future We Want



One Planet, One Ocean

The ocean literacy impact of citizen science



Ocean literacy is an understanding of the **ocean's** influence on you—and your influence on the **ocean**. There are seven Essential Principles of **Ocean Literacy** comprising 45 Fundamental Concepts.

The community/societal impact of citizen science



Generalities

Some jellyfish species may sting humans, determining local reactions and occasional systemic effects. Treatment of jellyfish envenomation aims to attenuate venom effects, prevent further envenomation from residual jellyfish pieces, and keep in check occasional systemic reactions, including shock.

Depending on the jellyfish species, there is evidence and consensus on oral/topical analgesics, hot water and ice packs as effective painkillers. For a few species (see below), a short application of domestic vinegar may prevent further discharge of unfired jellyfish stinging cells left on the skin.

Most treatment approaches are presently founded on relatively weak evidence and further research is strongly recommended. Dissemination of appropriate treatment modalities is deployed in the framework of MED-JELLYRISK to better inform and educate those at risk. Adequate signage will be placed at beaches to notify beach goers of the jellyfish risk.

WARNING: seek immediate medical attention if shock or breathing difficulties occur.



QUESTION: Since when have jellyfish been around?
ANSWER: Jellyfish are among the oldest creatures on Earth oceans, and they have been around for at least 650 million years. This means they appeared about 400 million years before the dinosaurs did!

QUESTION: How many different species of jellyfish exist worldwide?
ANSWER: There are about 1000-1500 known species (or types) of jellyfish in oceans worldwide.

QUESTION: What is the composition of a jellyfish?
ANSWER: Jellyfish, as their popular name implies, are mostly (90-95%) water in composition, with salts and proteins accounting for just 5-10% and 5-10% of their body mass, respectively.

QUESTION: How long do jellyfish live?
ANSWER: Most species of jellyfish live for a maximum of a number of months to a few (2-3) years, but some are known to possess a wide potential for regeneration and rejuvenation, supporting a much longer life span as different life stages (resting cysts, polyps).

QUESTION: Which are the largest jellyfish species in the world?
ANSWER: Among the largest species of jellyfish, the lion's mane (*Cyanea capillata*) can reach a diameter of ~2 meters (~7 feet), with tentacles extending ~15 meters (50 feet); the Portuguese jellyfish (*Mastigias nomada*) can grow up to ~2 m in diameter and weigh over 200 Kg (450 pounds), ranking as one of the heaviest invertebrate species worldwide.

QUESTION: Do jellyfish have a role to play in marine ecosystems?
ANSWER: Jellyfish are top predators in the oceans. They prey on planktonic organisms like crustaceans, copepods, and fish larvae and eggs. Thus, jellyfish are both predators of fish and their competitors for food.

QUESTION: Why and how do jellyfish sting?
ANSWER: Jellyfish use stinging cells (cnidocytes) to capture prey and discourage predators. Stinging cells fire a spiny filament and inject venom into prey or predator tissues. A cuticle is mistaken as a potential prey or predator, so stinging cells eventually discharge their venom into the victim's skin. Some jellyfish have minor effects on human skin, but a few others may inflict painful stings or sea even lethal (e.g., the Australian sea wasp, *Chironex fleckeri*) to humans.

QUESTION: Can you treat all jellyfish stings in the same way?
ANSWER: No, there are different venom categories. Some are diamed by heat, some are not. Stings of some species may require the application of cooling packs to affected body parts to reduce local effects of envenomation (pain, dermatitis, erythema).

QUESTION: Do any marine species consume jellyfish?
ANSWER: Jellyfish are a resource for many marine species: some pelagic molluscs (e.g., the blue angler - *Glaucus atlanticus* - feeds on *Velella* related fish, sea turtles, and sea birds feed on jellyfish; juvenile fish can seek refuge from predators, using jellyfish tentacles as a shield, such as the juveniles of mackerel which use the tentacles of the fireball jellyfish (*Cyanea* subulata).

QUESTION: What is a jellyfish bloom?
ANSWER: Jellyfish populations may exhibit sudden outbreaks, resulting in huge numbers of individuals within restricted areas. These are usually referred to as blooms. Although different jellyfish species might bloom at the same time, blooms normally consist of a single jellyfish species.



Citizen science in environmental management

Nevis 2nd Annual Lionfish Hunt Fete

Save the ocean, Eat lionfish

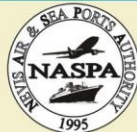
**PRIZES
TO BE WON**

- for fish caught on the day
- *most lionfish caught by local fishermen
 - *biggest lionfish caught by local fishermen
 - *most pounds caught
 - *smallest caught
 - *best hotel team

Sale of Lionfish Lunches & Drinks
Lionfish Cooking & Cleaning
Demonstrations

Sunday 29th March 2015
at Nevis Yacht Club
Oualie Beach
11AM-3PM

Contact Nevis Historical and Conservation Society, Tel 869-469-5786 / 661-3070



Designed By:



To solicit the control of marine IAS

As an early warning system....

ATTENZIONE al pesce palla maculato è tossico e non va mangiato!

Il pesce palla maculato, *Lagocephalus sceleratus* è entrato in Mediterraneo nel 2005 attraverso il Canale di Suez. È una specie tropicale tra le più invasive dei nostri mari. La colonizzata buona parte del bacino orientale ed è attualmente in espansione geografica. La sua presenza in acque italiane è stata registrata per la prima volta nel 2013, nell'isola di Lampedusa. Da allora, altri esemplari sono stati catturati nel canale di Sicilia, nel mar Adriatico ed in Spagna. Si distingue facilmente da altri pesci palla per la presenza di macchie scure sul dorso.

● Molto rara ● Occasionale ● Comune

❌ Pesce palla maculato - Lagocephalus sceleratus
MOLTO TOSSICO al consumo - potenzialmente mortale

La foto ma mostra le sue proprietà anche dopo la cottura.

I pesci palla sono tutti tossici al consumo e per questo ne è vietata la commercializzazione. Si ricorrono al consumo per la pelle secca, squame e per le membrane prodotte ai due grandi dotti materni laterali. La specie presente viene catturata in acque italiane solo occasionalmente.

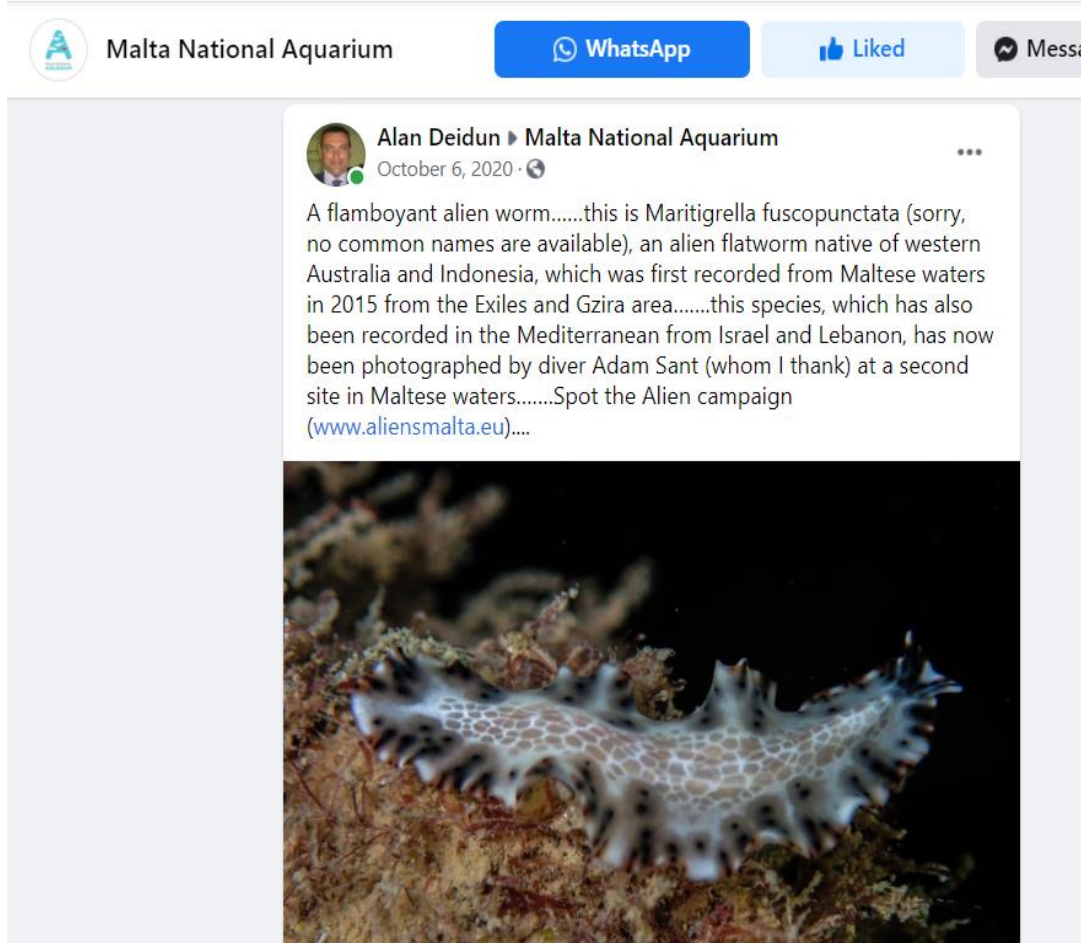
Lagocephalus lagocephalus
TOSSICO al consumo

Sphoeroides pacificorum
TOSSICO al consumo

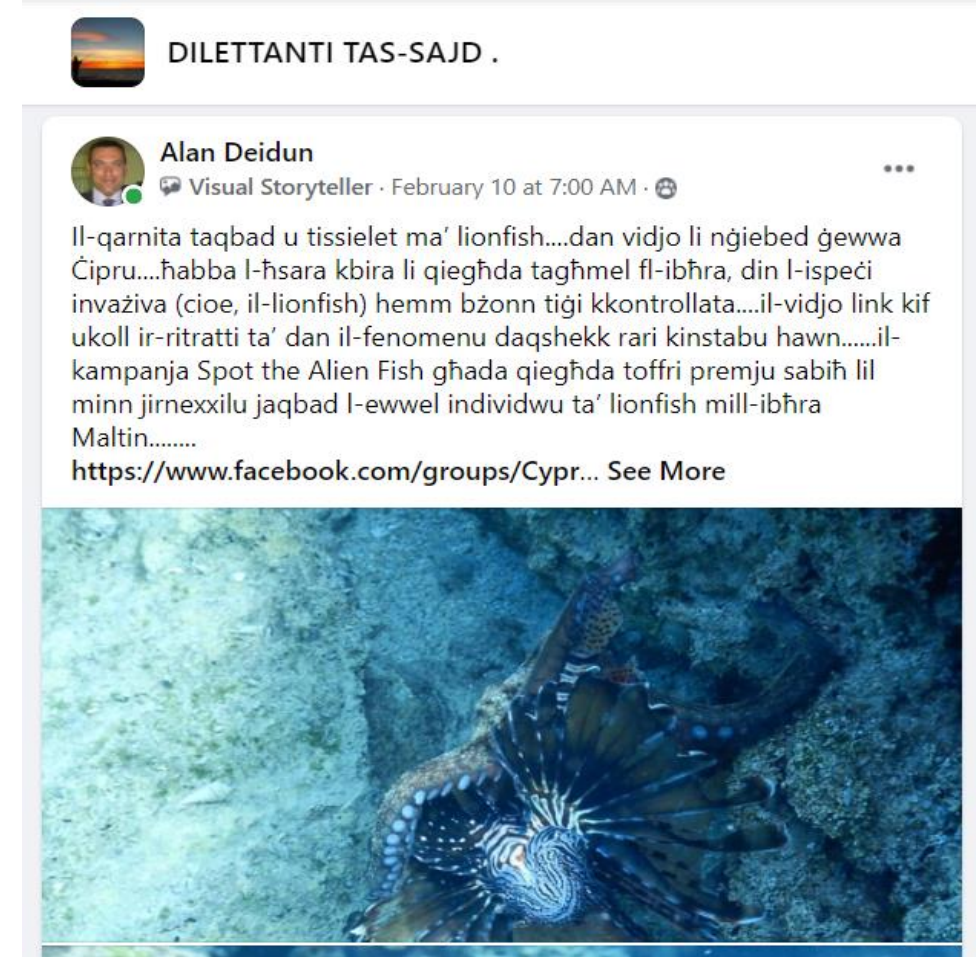
HAI CATTURATO UN PESCE PALLA?
SEPARALO DALLA ALTRE CATTURE
EVITA IL CONSUMO
FAI UNA FOTO
SEGNA LA TUA OSSERVAZIONE

Email: spaccapalla@npsambiente.it Tel: +39 0650074033/34; 001 6114044

How do you excite potential citizen scientists?



Provision of information and feedback on a continuous basis on social media, in both languages!



Through engagement and empowerment!

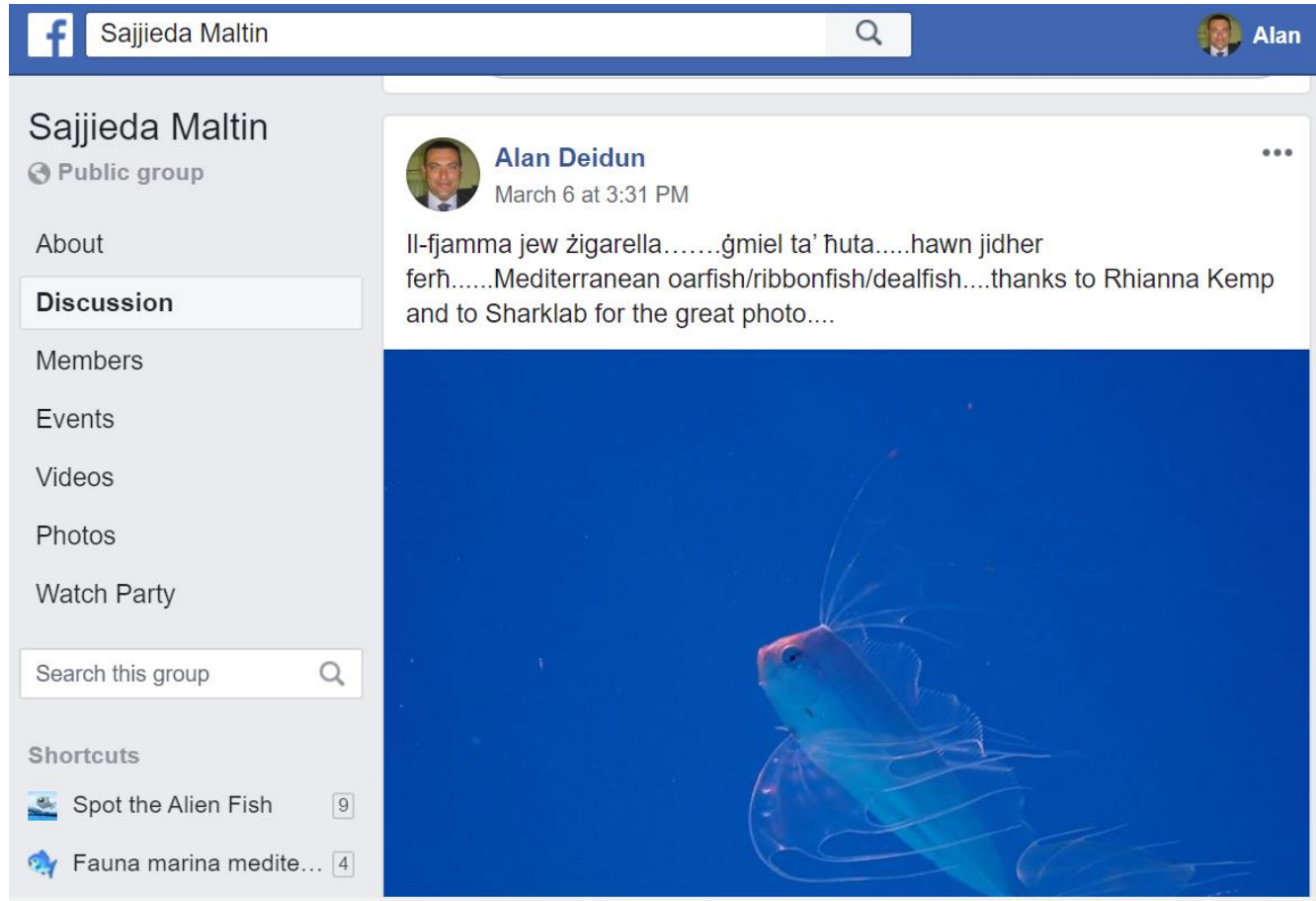
Tapping into Local Ecological Knowledge (LEK)



Engagement with SCUBA divers to unlock untapped knowledge



Engagement of fishermen through unexpected channels



The screenshot shows a Facebook group interface for 'Sajjieda Maltin'. The post is from Alan Deidun, dated March 6 at 3:31 PM. The text of the post is in Maltese: 'Il-fjamma jew žigarella.....ġmiel ta' ħuta.....hawn jidher ferħ.....Mediterranean oarfish/ribbonfish/dealfish....thanks to Rhianna Kemp and to Sharklab for the great photo....'. Below the text is a large image of a ribbonfish (Oarfish) swimming in blue water. The left sidebar shows group navigation options: About, Discussion, Members, Events, Videos, Photos, Watch Party, and a search bar. There are also shortcuts for 'Spot the Alien Fish' and 'Fauna marina medite...'. The top navigation bar includes the Facebook logo, the group name 'Sajjieda Maltin', a search icon, and the user profile 'Alan'.



Hello



Do you know what fish is this?

How do you excite potential citizen scientists?

JPI
OCEANS

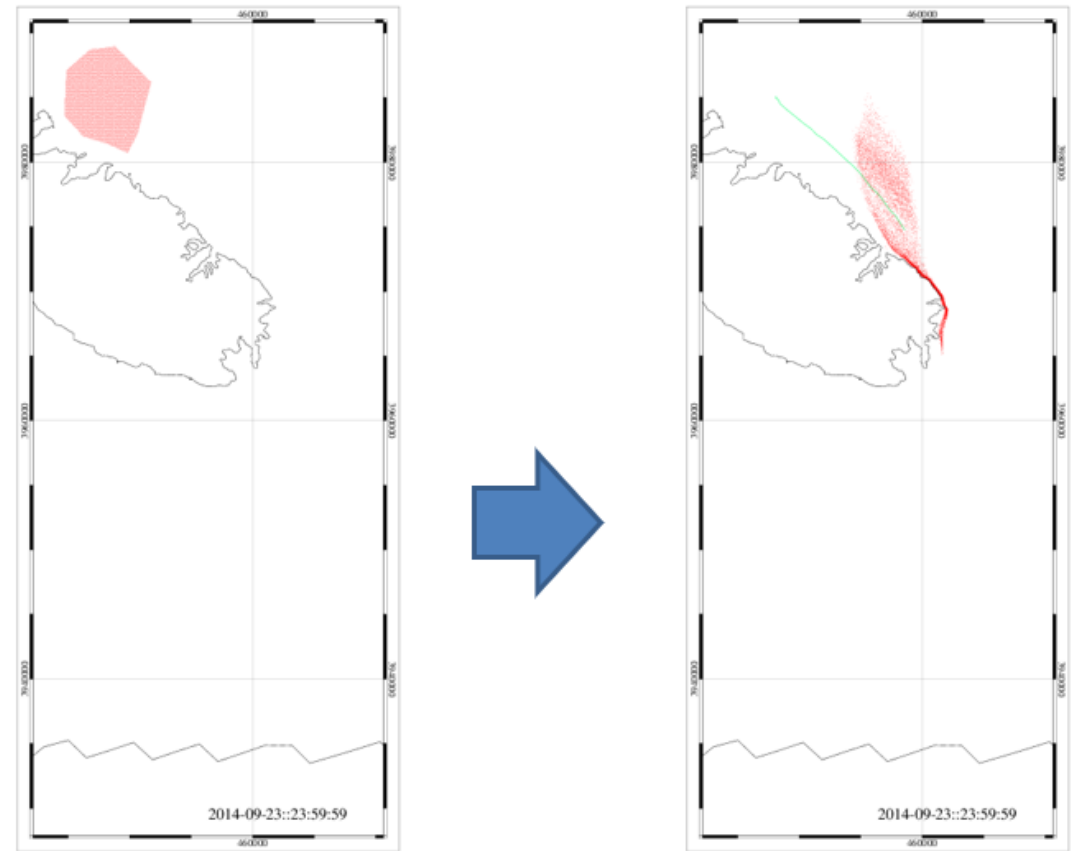


Through engagement and empowerment!

How do you excite potential citizen scientists?

The screenshot shows the 'Spot the Jellyfish' website. At the top, it says 'SPOT THE JELLYFISH' in large red letters, followed by 'An IOI-KIDS initiative' and 'specifically dedicated to children and youngsters, parents and teachers'. Below that, it says 'Supported by the International Ocean Institute and the Physical Oceanography Research Group'. There are navigation links: 'Home', 'Jellyfish Report Form', 'Jellyfish Report Map', 'Learn About Jellies', 'Articles', and 'Back to IOI-Kids'. A section titled '~ Jellyfish Report Map ~' says 'Thanks to all the Jellyfish reports we've received, you may now track reported jellyfish movements yourself. Click on the circles to see a breakdown of reports.' Below this is a satellite map of the North Sea with red circles of varying sizes indicating jellyfish reports. A 'Year' filter is on the left with checkboxes for years from 2010 to 2020, all of which are checked. On the right side of the page, there are several cartoon jellyfish and a menu with options: 'Weather & sea forecast', 'Jellyfish Guidebook', 'Play IOI-KIDS GAMES', 'Sting Treatment booklet', and 'Jellyfish Factsheet'. At the bottom, there is a disclaimer: 'All figures are based on the Number of jellyfish reports received from the public NOT the number of jellyfish spotted. Therefore, while we hope this application may help you avoid stinging jellyfish, you should continue to be careful whenever entering the water.'

Visibility of report – recognition of contribution



Role in jellyfish dispersion model validation

Through engagement and empowerment!

How do you excite potential citizen scientists?

YouTube Premium^{MT}

alien species whats the big deal



Invasive alien species: what's the big deal?

WATCH:

https://www.youtube.com/watch?v=7W00u_ugd2k

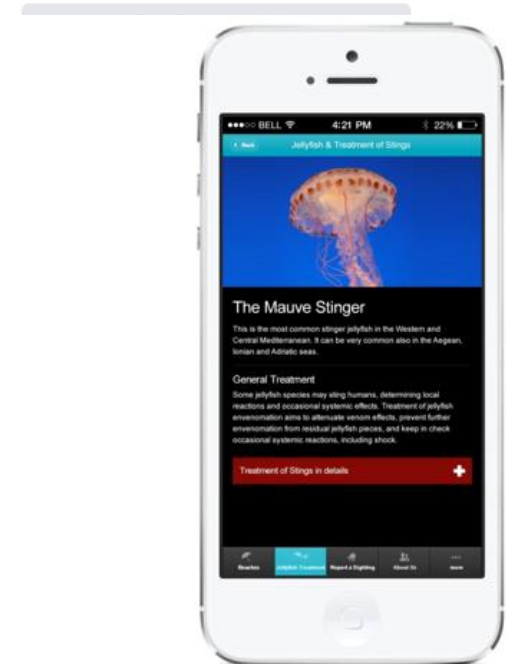
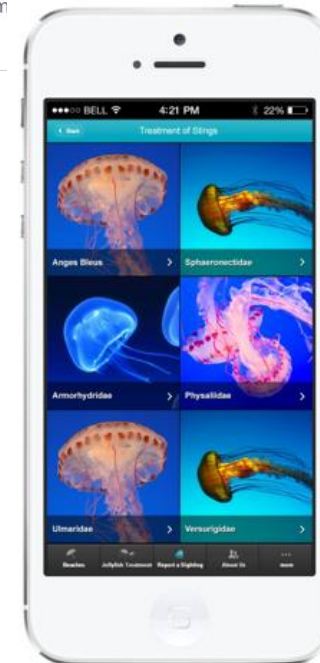
And also through innovative approaches!

How do you reach out to potential citizen scientists?



Spot the Alien
@aliensm

Seaside Boards
Social Media
Smart Phone Apps
Brochures
Websites



Advancing Citizen Science

for Coastal and Ocean Research

Position Paper 23



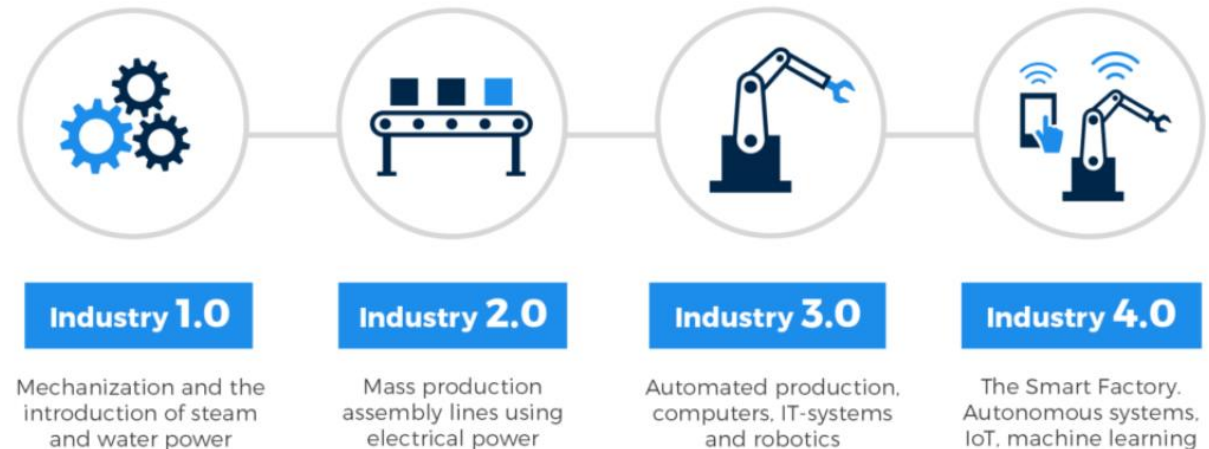
The focus on citizen science

KEY CHALLENGES AND OPPORTUNITIES PROVIDED BY CITIZEN SCIENCE	
Challenges	Opportunities
Recognition of scientific value	Timely data from disperse sources
Maintaining scientific rigour and data quality	Power to address large knowledge and funding deficits
Involvement of Citizen Scientists representing a broad spectrum of society	Educating public about environmental policy issues such as biodiversity
Political and financial guarantees for action on findings	Participatory democracy

The albatross around the neck of each CCC – VALIDATION! AI to the rescue!

- **Industry 4.0** is the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things and cloud computing. **Industry 4.0** creates what has been called a “smart factory”.
- Such protocols are increasingly being applied to the marine domain, promoting Blue Growth in the process

The Four Industrial Revolutions



AI to the rescue!

Article

Automating Jellyfish Species Recognition through Faster Region-Based Convolution Neural Networks

Adam Gauci ^{1,*}, Alan Deidun ¹ and John Abela ²

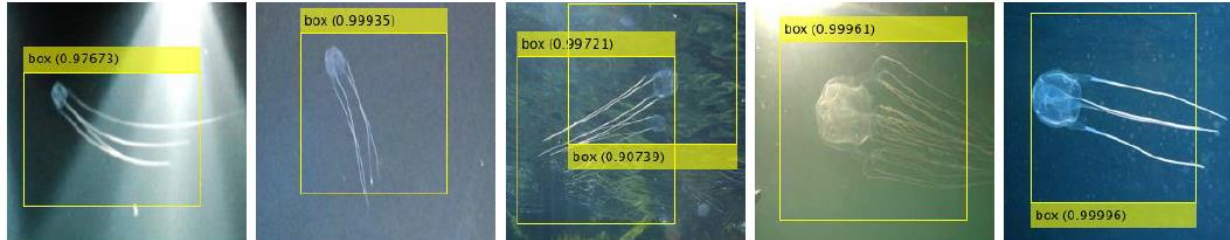


Figure 4. Output by classification model 5 for *Carybdea marsupialis* (box jellyfish).



Figure 5. Output by classification model 5 for *Cotylorhiza tuberculata* (friedegg jellyfish).



Table 4. Precision, recall, f_1 score and κ metrics for predictions by the five classification models.

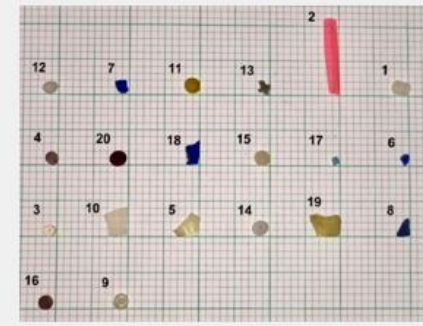
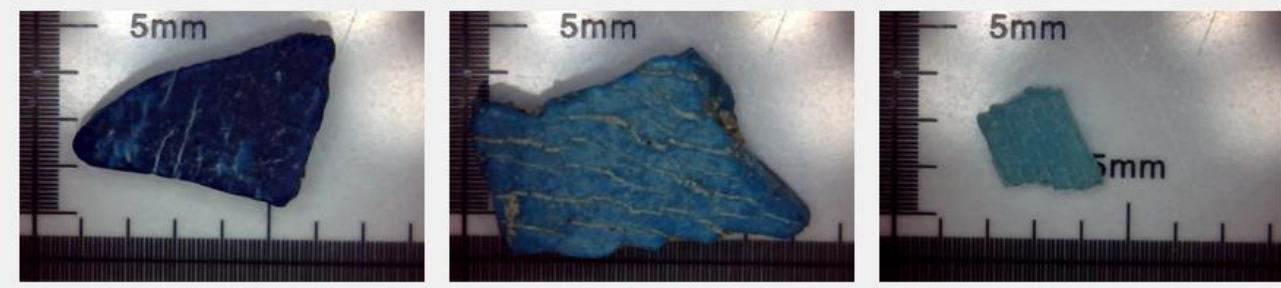
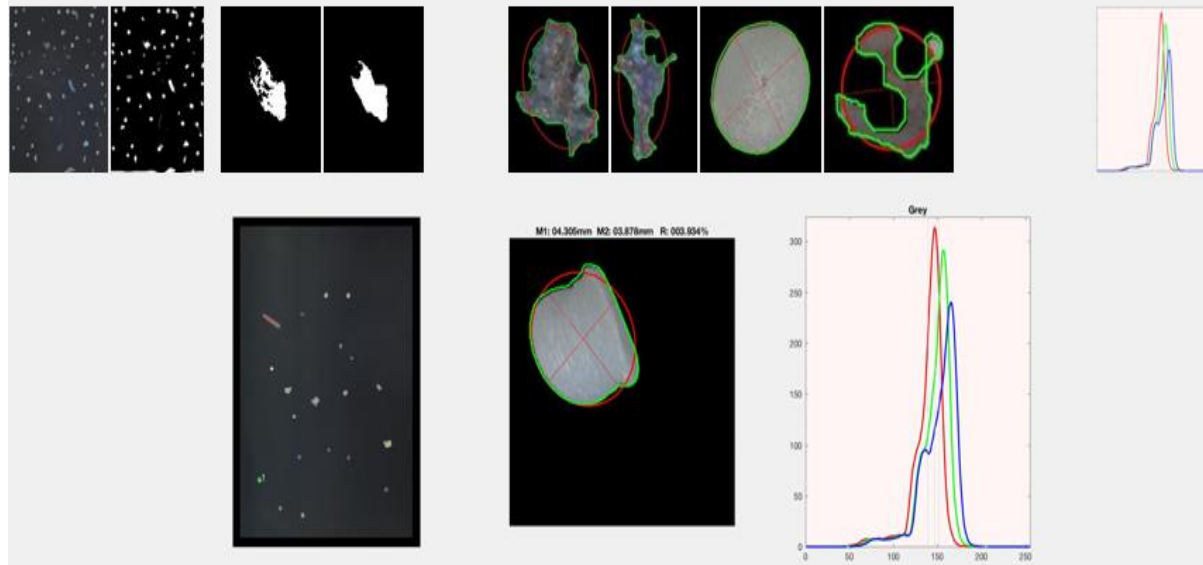
Model	Species	Precision	Recall	f_1 Score	κ
1	<i>Carybdea marsupialis</i>	0.92	0.90	0.91	0.92
	<i>Cotylorhiza tuberculata</i>	1.00	0.95	0.97	
	<i>Pelagia noctiluca</i>	0.90	0.87	0.88	
	Salps	0.91	0.98	0.94	
	<i>Verella vellella</i>	1.00	0.98	0.99	
2	<i>Carybdea marsupialis</i>	0.97	0.93	0.95	0.95
	<i>Cotylorhiza tuberculata</i>	1.00	0.95	0.97	
	<i>Pelagia noctiluca</i>	0.92	0.90	0.91	
	Salps	0.93	1.00	0.96	
	<i>Verella vellella</i>	0.98	1.00	0.99	
3	<i>Carybdea marsupialis</i>	0.98	1.00	0.99	0.96
	<i>Cotylorhiza tuberculata</i>	0.95	0.98	0.96	
	<i>Pelagia noctiluca</i>	0.91	0.98	0.94	
	Salps	1.00	0.98	0.99	
	<i>Verella vellella</i>	1.00	0.90	0.95	
4	<i>Carybdea marsupialis</i>	0.95	0.95	0.95	0.92
	<i>Cotylorhiza tuberculata</i>	1.00	0.85	0.92	
	<i>Pelagia noctiluca</i>	0.81	0.88	0.84	
	Salps	0.93	0.98	0.95	
	<i>Verella vellella</i>	0.98	1.00	0.99	
5	<i>Carybdea marsupialis</i>	0.98	1.00	0.99	0.99
	<i>Cotylorhiza tuberculata</i>	1.00	1.00	1.00	
	<i>Pelagia noctiluca</i>	1.00	0.98	0.99	
	Salps	1.00	1.00	1.00	
	<i>Verella vellella</i>	1.00	1.00	1.00	

AI to the rescue!



Automating the characterisation of beach microplastics through the application of image analyses

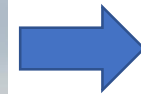
Adam Gauci ^a, Alan Deidun ^a, John Montebello ^a, John Abela ^b, Francois Galgani ^c



Sample	Manual grid measurement (mm)		Microscopic analyses (mm)		Algorithm output (no. of pixels)		Algorithm output (mm)		Max error (mm)	Max error (mm)
	major axis	minor axis	major axis	minor axis	major axis	minor axis	major axis	minor axis		
3	4.0	4.0	3.3	3.3	95.08	77.72	3.98	3.20	0.68	0.10
4	4.0	4.0	3.5	3.8	89.77	86.43	3.75	3.61	0.25	0.19
8	6.0	4.0	5.6	3.7	135.13	66.78	5.65	2.79	0.05	0.91
13	4.0	4.0	4.8	4.0	107.68	85.90	4.50	3.59	0.30	0.41
17	2.0	2.0	1.8	2.2	76.452	53.31	3.20	2.23	1.40	0.03
18	8.0	4.0	7.4	4.5	164.84	102.19	6.89	4.27	0.51	0.23

Proof of concept achieved – next step is the incorporation of algorithm within smart phone app for citizen science implementation

A sampling of local citizen science campaigns



SPOT THE JELLYFISH

An IOI-KIDS initiative

Project supported by the Women Youth and the Sea programme of the International Ocean Institute (IOI)

This activity is intended to raise awareness about the sea, especially with children, through direct involvement in a citizen science approach to monitor jellyfish swarms in local waters.

Reporting a Jellyfish Sighting

There are 4 simple ways to report a sighting

- Leaflet** Simply fold and staple the filled leaflet as indicated and then put a stamp on it and drop it into a post box.
- Website** Visit www.ioikids.net/jellywatch to fill a quick and easy online form.
- SMS** Use this example for SMS & EMAIL reports
79 222 278 **24/07/10 am, F, 21, 5**
- eMAIL** ioi-moc@um.edu.mt

Whichever way you send a report, be sure to give the following:

- WHEN** the jellyfish were sighted (date and AM or PM)
- WHICH** species of jellyfish were sighted (refer to jellyfish cards)
- WHERE** the jellyfish were sighted (which beach)
- QUANTITY** of jellyfish (approx. number in the area)

* Where possible send / attach a photo of the jellyfish

Jellyfish Advice

What to do if stung?

- Soak or rinse the area in sea water. DO NOT use hot water as this releases more venom.
- Apply alcohol to the area.
- DO NOT rub the area.
- DO NOT apply ice or hot water.
- Remove tentacles with a stick, card, or a pair of tweezers.
- Wear protective clothing.
- Avoid picking up dead jellyfish.

How to avoid being stung?

- Wear protective clothing.
- Avoid picking up dead jellyfish.

IOI Kids is a website dedicated to the sea for major education and awareness projects. It is a child friendly website providing information, training, awareness and knowledge about the sea and coastal environment through the use of online games, interactive websites and educational products. IOI Kids provides a resource space for children to explore as well as adults, currently parents and teachers to integrate their lessons, projects and experiences in the sea with their own local spots.

PROJECT ORGANISERS: MALTA, IOI-KIDS, FRIENDS OF THE SEA AT THE UNIVERSITY OF MALTA, THE IOI - MALTA OPERATIONAL CENTRE



SPOT THE JELLYFISH

An IOI-KIDS initiative

Get involved this summer, learn about jellyfish and tell us their whereabouts!

Reporting a Jellyfish Sighting

WHEN the jellyfish were sighted (date and AM or PM)
WHICH species of jellyfish were sighted (refer to jellyfish cards)
WHERE the jellyfish were sighted (select area from map)
QUANTITY of jellyfish (approx. number in the area)

* Where possible send / attach a photo of the jellyfish

Sending a Report

Leaflet Simply fill in this form, put a stamp on it and drop it into a post box.

Website Visit www.ioikids.net/jellyfish to fill a quick and easy online form.

SMS / Email Send your report as an SMS on 79 222 278 OR as an email to ioi-moc@um.edu.mt

Jellyfish Advice

What to do if stung?

- Soak or rinse the area in sea water. DO NOT use hot water as this releases more venom.
- Apply alcohol to the area.
- DO NOT rub the area.
- DO NOT apply ice or hot water.
- Remove tentacles with a stick, card, or a pair of tweezers.
- Wear protective clothing.
- Avoid picking up dead jellyfish.

How to avoid being stung?

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Filling the Leaflet

Step 1) Write the date when the jellyfish were spotted (top right)
Step 2) Fill the 2 white boxes on the card of the jellyfish spotted, telling us approximately how many jellyfish you saw and the area in which they were seen (see map below for the area reference number)

Date of sighting: / /

Thanks for your help!

<2010

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Reporting a Jellyfish Sighting

WHEN the jellyfish were sighted (date and AM or PM)
WHICH species of jellyfish were sighted (refer to jellyfish photos)
WHERE the jellyfish were sighted (name of the bay)
QUANTITY of jellyfish (approximate number in the area)

Sending a Report

Website Visit www.ioikids.net/jellyfish to fill a quick and easy online form.

SMS / Email Send your report as an SMS on 79 222 278 OR as an email to ioi-moc@um.edu.mt

'No jellyfish observed' reports are also welcome!

Jellyfish Advice

What to do if stung?

- Soak or rinse the area in sea water. DO NOT use hot water as this releases more venom.
- Apply alcohol to the area.
- DO NOT rub the area.
- DO NOT apply ice or hot water.
- Remove tentacles with a stick, card, or a pair of tweezers.
- Wear protective clothing.
- Avoid picking up dead jellyfish.

How to avoid being stung?

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- Avoid picking up dead jellyfish.

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Painful Sting

Man-of-war jellyfish
Box jellyfish
Portuguese man o' war
Nematocyst jellyfish

Mild / No Sting

By-the-wind sailor
Comb Jellies
Cigar jellyfish
Fried egg jellyfish
Moon Jellyfish
Sea lung

Please keep any jellyfish not listed here alive and contact us on 79604109 for immediate collection.



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Sending a Report

WHICH? WHICH? HOW MANY? HOW MANY?

Website Visit www.ioikids.net/jellyfish to fill a quick and easy online form.

Email Send your report to ioi-moc@um.edu.mt and alan.deidun@gmail.com

'No jellyfish observed' reports are also welcome!

Seen a species of jellyfish not shown in this poster? take a good photo or keep the specimen alive in a bucket full of seawater. contact us on 79604109 or 23403704 for collection of specimen. Take photos of jellyfish seen where possible.

Sting treatment advice

- Use only SEANTHETER for rinsing and cleaning. NEVER use tweezers.
- Remove any attached tentacles with tweezers, card or stick.
- DO NOT apply alcohol.
- DO NOT rub the area.
- For species A - apply mixture of Bicarbonate and seawater.
- For species B - apply hot packs or hot water immersion for 10-20 minutes.
- For species C - apply ice or cold packs.

Seek immediate medical aid if you have difficulty breathing or swallowing, chest pain or intense pain in the area. Public Health Contact Number: 71224071

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Painful Sting

Man-of-war jellyfish
Box jellyfish
Portuguese man o' war
Nematocyst jellyfish

Mild / No Sting

By-the-wind sailor
Comb Jellies
Cigar jellyfish
Fried egg jellyfish
Moon Jellyfish
Sea lung
Blue Button
Crystal Jellyfish

Spot the Jellyfish – kicked off in June 2010 – recognised as an example of citizen science good practice!

The evolution of seaside boards



The Spot the Jellyfish campaign turns 10!

NewsPoint > News > Features > 2020 > January > The Spot the Jellyfish campaign turns 10!

In Projects 13:13, 28 Jan 2020

Share:



The **Spot the Jellyfish** citizen science campaign, initiated by [Prof. Aldo Drago](#) as a joint initiative between the Physical Oceanography Research Group within the [Department of Geosciences](#) and the [International Ocean Institute \(IOI\)](#), celebrates its 10th anniversary next June. The campaign,

See More



Horizon 2020: Video campaign

PROJECTS 08:45, 11 Mar



UM academics develop first-ever made-in-Malta hip joint replacement

PROJECTS 10:41, 10 Mar

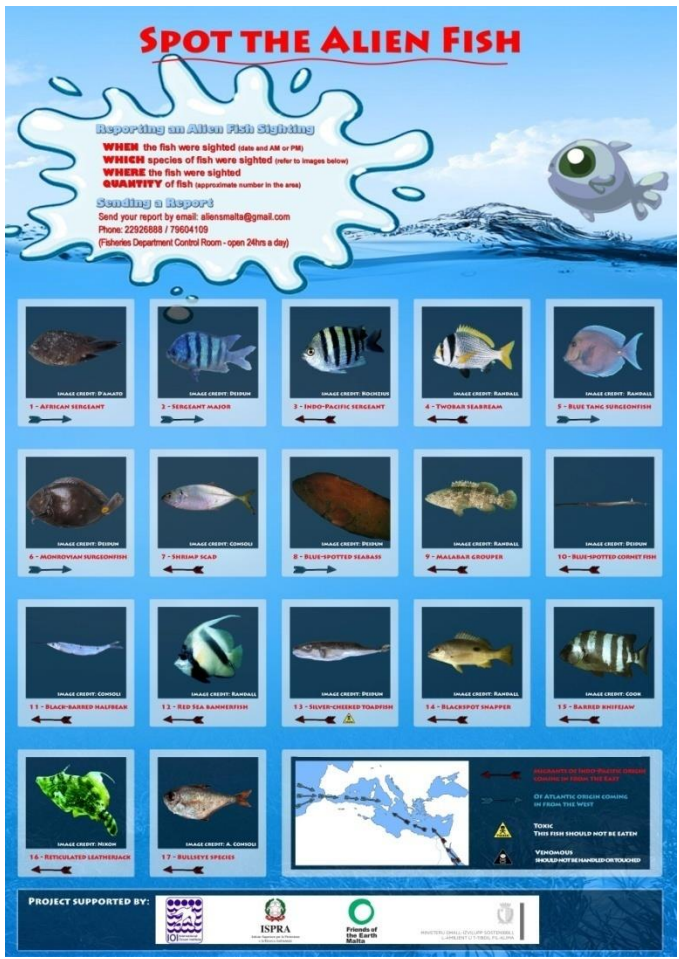


UM's Quality Assurance Committee undertaking mock audit exercises

PROJECTS 08:01, 10 Mar

Categories

A sampling of local citizen science campaigns



Citizen science – design of user-friendly brochures is crucial!

A sampling of local citizen science campaigns

SPOT THE ALIEN

Reporting an Alien Sighting

WHEN the alien were sighted (date and AM or PM)
WHERE species of aliens were sighted (refer to images below)
WHERE the aliens were sighted
QUANTITY of aliens (approximate number in the area)

Sending a Report
 Phone: 79604109
 Send your report by email: alienmalta@gmail.com
 Visit www.aliensmalta.eu to fill a quick and easy online form





1 - LUMPY BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



2 - GREEN ALGAE
CALOSPORA TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



3 - GREEN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



4 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



5 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



6 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



7 - GREEN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



8 - GREEN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



9 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



10 - BLUE JELLYFISH
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



11 - WHITE JELLYFISH
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



12 - GREEN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014

PROJECT SUPPORTED BY:




JUNE 2014


SPOT THE ALIEN

Reporting an Alien Sighting


WHEN the alien were sighted (date and AM or PM)
WHERE species of aliens were sighted (refer to images below)
WHERE the aliens were sighted
QUANTITY of aliens (approximate number in the area)

Sending a Report
 Phone: 79604109
 Send your report by email: alienmalta@gmail.com
 Visit www.aliensmalta.eu to fill a quick and easy online form







13 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




14 - CRAB
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




15 - CRAB
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




16 - CRAB
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




17 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




18 - GREEN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




19 - PUFFERFISH
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



20 - BROWN ALGAE
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014




21 - SHELL
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



22 - SHELL
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



23 - SHELL
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014



24 - JELLYFISH
SPERMATOPHYTES TARTAGIENSIS
 EAST TOWN AREA IN MALTA
 2014

NATIVE RANGE

- A - ATLANTIC
- C - COSMOPOLITAN
- I - INDIAN OCEAN
- P - PACIFIC OCEAN
- R - RED SEA
- U - UNKNOWN

TAXONOMIC GROUP

- RED ALGAE
- GREEN ALGAE
- SEAGRASS
- JELLYFISH
- FLATWORM
- CRUSTACEAN
- MOLLUSC
- SCHIZOPHORA

Remember to fill in the location of the sighting

East Town Area in Malta

West Town Area in Malta

North Town Area in Malta

South Town Area in Malta

Take photos of alien seen where possible

Citizen science – design of user-friendly brochures is crucial!



dakujem
grazzi
efcharisto
obrigada
tatan
havala
dekuji
spasibo
paldies
kiitos
obrigado
Thank You
blagodarya
tack
Merci
dekui
gracias
dzieki
multumesc
Dank u
Danke
grazie
koszi