

State of art

AdSWiM project | WP2 | Municipality of Udine

Steering Committee Meeting | online | 07/05/2020

Activities in WP2: TO DOs per PP to sum up (from Zadar meeting)

Activities in WP2: TO DOs per PP...to sum up

Printing to do per PP

- Flyers
- 1 rollup x event
- 1 poster

Events per PP

- organization of "at least 1 workshop" at local/national level
- Participation at at least 2 major events in the field
- 1 press release per event

Website

- Contribution to website contents
- PPs make a page within proper Institution website with following info:
 - Title - description of the project – partners – overall budget

PP contribution to:

- 2 Articles/publications showcasing project outputs in journals or specialised magazines (1 at the end of 2019/ 1 at the end of project)
- 2 Infographic videos:
 - One at the beginning + one at the end

Contribution per country to:

- 1 visitor programme (5 study visits) to include relevant locations of project (Depuration plant Udine, plant in Split, treated wastewater discharge points) and draft tailored visit tours:
- 2 visits for schools / 2 visits for citizens/ 1 visit for experts

Activities in WP2 from the beginning of the project

We have organised

- > 1 kickoff project conference a 2 partners press conferences for media;
- > 1 partners' meeting, 3 meetings with local governance bodies and 1 with national (Croatian Ministry of Environment and Energy);
- > 2 scientific and technical events;
- > 4 student's events with labs.

We have participate in

- > 2 big national on the spot events that involved more than 60.000 citizens on the national level;
- > 2 two scientific congress by presenting and received an accreditation for 3 posters;
- > 5 international technical workshops on national and international levels with more than 50 SMEs involved;
- > 2 project Interreg overlapping meeting for create synergies on Interreg Programme level.



ZAVOD ZA JAVNO ZDRAVSTVO ZADAR





FESTIVAL dell'ACQUA
 BRESSANONE 13/15 maggio 2019 - Forum Brixen
 VENEZIA 10/11 ottobre 2019 - Fondazione Guerini Stampala

XVIII CONGRESSO ABC Urbino (PU) 24-27 June 2019

Interreg Italy - Croatia AdSWIM

Total Mercury in seawater of Central Adriatic Sea
 L. Girolami*, G. Truzzi, S. Illuminati, F. Vagnoni, G. Scarpone, S. Surnelli, A. Arribaldi
 *Department of Life and Environmental Sciences, Marche Polytechnic University, Via Bucci Bianchi, 43127 Ancona, Italy
 †Department of Food Environmental and Animal Science (DEAS), University of Udine, via del Colonnato 10E, 33100 Udine, Italy

[Link among PPs](#)



Activities in WP2 from the beginning of the project

- > presented our research work in 10 publications;
- > appeared in more than 25 press clippings on local, national traditional media reaching almost 300.000 readers and media posts with more than 500.000 followers;
- > gave 3 radio interviews ad 1 TV reportage;
- > created a professional LinkedIn network with more than 315 professionals, experts and media contacts;
- > created 3 FB pages, 1 twitter, 1 youtube channel, and 1 website with regular updates;
- > elaborated a communication strategy with **one common campaign and visual identity, promotional materials** (project leaflets (300 per partner), event flyers, didactic labs leaflets, depurator visit leaflets, 8 different personalised gadgets (pencils, notepad, posters, rollups, labels, towels, soaps, folding fan) in 3 languages.

Activities in WP2 from the beginning of the project

PRESS CLIPPINGS by YEAR saved on intranet

SOCIAL CHANNELS activities copies on intranet

2019 statistics and targets

Adriatico, nasce la rete transfrontaliera per il trattamento dei reflui

Progetto Interreg Trn Ops, Università di Udine, Cofe e Croazia per il monitoraggio degli sfi in mare

Disabili? No, fuori dal comune. Un casting per attori "speciali"

Nel vivaio la ricerca di compagnie e talenti per il film "La ragazza degli sfi" che lo sceneggiatore Massimo D'Alonzo gira proprio a Trieste in primavera

AP Adriatico "Bat 200" dopo 1.700 miglia e oltre cinquanta tappe

Alcune immagini dal viaggio

Nighe, pesci d'acqua pura. Miramare rilancia i piani per la salute dell'Adriatico



21 OTTOBRE 2019 - Sabina Suman (Adswim Project)

Progetto AdSWiM: uso gestito delle acque depurate per la qualità del mare

Strategia comune per la salvaguardia del mare tra i gestori degli impianti di depurazione delle acque reflue che coinvolgono l'Adriatico



CAEL S.p.A., uno dei dodici partner del progetto Interregionale Italia - Croazia **"AdSWiM"**, ha ospitato ieri la delegazione dei partner croati della Facoltà di ingegneria Civile, Architettura e Geodesia dell'**Università di Zagabria**, guidata dal prof. **Đuro Anđelić**, per un primo incontro bilingue finalizzato alla gestione più efficiente e ottimizzata degli impianti di depurazione e trattamento delle acque reflue urbane che salvaguardano l'Adriatico.



Activities in WP2: what has been done from January 2020

> **Communication, training and dissemination activities and consolidation of the project results.**

- One shared awareness campaign **“Do you Sea?”** and its claim **“The Sea is One, its care Belongs to Everybody”** embraces all our initiatives, events, workshops and trainings gathered in our editorial shared plan, based on International Days that celebrates **water, sea, research, health and issues of the Agenda 2030** that are related to our work and includes all media channels and different supporting materials and gadgets.

The campaign has been developed using 3 main images - a woman on sea mattress, a man on the sea mattress and kids on the sea mattress in order to involved all target groups.

Till now we have produced two main campaign images: **“woman”** (used from November till May), **man** that will be used from June till September and **“Kids”** that will be used from September to December 2019. If the project continues in 2021, we will return back to the **“woman”** campaign.

We have added [some new gadgets](#) (towels, folding fan, soap in leaves, pencils) and personalised them for the partners' use (UNIUD, Municipality of Udine, CAFC, UNIVPM, UNIST-FGAG).

Živiš li MORE?

Projekt AdSWiM - za bolju kvalitetu Jadranskog mora i svih njegovih stanovnika

U ponedjeljak, 8. lipnja 2020. godine, obilježavamo Svjetski dan oceana.

Dvanaest partnera projekta AdSWiM iz Italije i Hrvatske zajedno surađuje protiv onečišćenja morske vode kako bi poboljšali kvalitetu Jadranskog mora i obalnih voda s inovativnim tehnologijama u praćenju kvalitete, obradi i gospodarenju gradskim otpadnim vodama. Pomozite nam, da zaštitimo i sačuvamo naše more:



NEMOJ ZAGADITI



RECIKLIRAJ



PONOVO UPOTRIJEBI

Jadransko more je jedno. Briga o njemu pripada svima.



je partner u projektu



Europski fond za regionalni razvoj
www.italy-croatia.eu/adswim



Do you SEA?

AdSWiM Project - for a better quality of the Adriatic Sea and a healthier habitat for all

On Monday June 8 we are celebrating the World Oceans Day 2020.

AdSWiM twelve partners from Italy and Croatia are working together against marine water pollution to improve the quality of Adriatic Sea and coastal waters with innovative technologies in quality monitoring, treatment and management of urban wastewater. Help us to protect and preserve our sea:



DO NOT POLLUTE



RECYCLE



REUSE

The Adriatic sea is one. Its care belongs to everyone.



is a partner of



European Regional Development Fund
www.italy-croatia.eu/adswim



The «man on the mattress» campaign will be launched on June 8 to celebrate the World Oceans Day, according our strategy.

VIK from Split will published a promotional water invoice/bill with a back cover that will present the project and the celebration of the June 8 with a call to action for the consumers to protect and preserve our Sea.

The target are household of 4 cities and 9 municipalities of the splitsko dalmatinska county.

VIK will have the possibility to repeat the promotion in the next months.

A press release of the day will be produced.

Do you SEA?



Because Our Sea matters.



Adriatic Sea protection, Biotech and managed use of wastewater

- PROJECT DURATION: 01.2019 - 12.2020
- ERDF: 1.750.347,66
- TOTAL BUDGET: 2.035.703,13

DESCRIPTION

The project investigates and tests innovative treatments, new analytical devices and new chemical and microbiological parameters to maintain and improve the environmental quality of Adriatic sea coastal area through an effective management of wastewater.



The leaflet for the guided visit to the depuration plant, personalised for CAFC, Italian version was developed.

Interreg Italy - Croatia AdSWiM
European Regional Development Fund

EUROPEAN UNION

Vivi il MARE?

AdSWiM: uso gestito delle acque depurate per la qualità del mare Adriatico

Una visita al depuratore

Per raggiungere gli obiettivi, seguiamo la nostra campagna #AdSWiM #doyouuse #viviilmare. Guardate il video sui nostri canali social.

CAFC spa è una società completamente pubblica, con sede a Udine, e gestisce il servizio di innalzamento nella maggior parte del Friuli (170 comuni su 134). I cittadini residenti che usufruiscono dei suoi servizi sono circa 426.000 abitanti. L'azienda gestisce così 500 impianti per il trattamento delle acque reflue (depurazione e depurazione) di cui 4 con potenziale superiore a 100.000 A.E. Le attività comprendono i quotidiani controlli di verifica e sorveglianza sulla qualità dell'acqua potabile distribuita e il controllo di efficienza dei depuratori di acque reflue. L'azienda ha un personale di 3.500 dipendenti e 300 A.E. di ricavo. CAFC spa è un'azienda a partecipazione paritetica (50% Interreg, 50% Regione Friuli Venezia Giulia).

AD INIZIARE LA VOSTRA VISITA!

ADSWiM
it-ly-croatia.eu/web/adswim
#AdSWiM
#doyouuse
#viviilmare

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OBIETTIVO

La salvaguardia delle acque e la gestione più efficiente e ottimizzata degli impianti di depurazione e trattamento delle acque reflue urbane che coinvolgono l'Adriatico.

IL VIAGGIO DELLE ACQUE

L'acqua è una delle risorse più importanti del nostro pianeta ed è indispensabile a ogni forma di vita. Purtroppo, molte fonti di inquinamento la minacciano e per questo è necessario utilizzare particolari tecnologie per "ripulirla" prima che venga bevuta o che si diffonda sostanze inquinanti. Le grandi industrie moderne producono notevoli quantità di liquidi di scarto, soprattutto acque reflue che sono riversate nell'ambiente. Lo stesso fanno anche le aziende agricole, gli allevamenti di animali e le abitazioni private. Le acque reflue contengono spesso **sostanze inquinanti**, sia organiche (ossia formate da composti del carbonio e per lo più prodotte da esseri viventi) sia inorganiche, che possono mettere seriamente in pericolo la vita di animali e piante, se raggiungono i corsi d'acqua naturali. Possono mettere in serio pericolo anche la salute delle persone se raggiungono le **falde acquifere**, vale a dire i **depositi d'acqua naturali** da cui attingiamo l'acqua potabile. Per questo le acque di scarico devono essere ripulite prima di essere disperse nell'ambiente per mezzo di appositi impianti detti **DEPURATORI**.

IL DEPURATORE

È un impianto che consente di rimuovere le sostanze inquinanti dalle acque reflue essenzialmente utilizzando due metodi che spesso coesistono in un unico impianto:

- quello meccanico** che filtra e separa inizialmente dall'acqua sostanze di diversa consistenza, rimuovendo i residui più grossolani, che altrimenti potrebbero intasare le tubature e danneggiare i macchinari. All'inizio di un impianto di depurazione si trovano griglie e barre che bloccano i detriti (fase di **grigliatura**), che poi vengono bruciati o depositati in una discarica. La fase di **disabbattatura** serve successivamente a eliminare sabbie, polveri e ghiaia. Questa fase avviene per decantazione (facendo cioè depositare le particelle solide mentre l'acqua scorre lentamente un apposito canale) o sfruttando la forza centrifuga. In questo secondo caso l'acqua è messa in un contenitore a forma di cono che è fatto ruotare, in modo che i materiali pesanti siano sospinti contro la parete esterna e cadano verso il basso. Segue poi la **disoleatura** che rimuove dalla superficie del liquido gli oli, i grassi e le altre sostanze più leggere dell'acqua.
- quello biologico** che utilizza batteri che digeriscono le sostanze organiche. Una volta tolta la maggior parte delle sostanze inorganiche, inizia il trattamento in cui vengono eliminate le sostanze organiche biodegradabili. Questo compito è affidato non a macchine, ma a batteri, che nutrendosi di queste sostanze le trasformano in composti più stabili e meno dannosi per l'ambiente. In altre parole, si riproducono, ma a velocità molto più elevata, i processi che si verificano normalmente in natura. Ai liquami sono aggiunti, in un apposito reattore, fanghi batterici attivi, detti **bioflocchi**, formati da milioni di batteri tenuti insieme da una sostanza gelatinosa. L'ultimo trattamento è la **disinfezione** tramite diversi sistemi, come l'aggiunta di sostanze clorate. I raggi UV e l'ozono che eliminano eventuali batteri e virus che hanno resistito fino a qui. L'acqua depurata è poi in genere scaricata in un lago o un fiume; a volte viene anche utilizzata per irrigare i campi o nell'industria.

I materiali di scarto accumulati durante questo processo di depurazione devono essere portati verso le discariche di rifiuti. I fanghi, invece, una volta avvenuta la digestione vengono disidratati e possono essere utilizzati per fertilizzare i campi. Durante la digestione si forma molto gas metano che può essere riutilizzato per produrre energia. Leggi europee definiscono le caratteristiche che deve avere l'acqua per poter essere scaricata nei fiumi, nei mari e nei laghi. Il nostro progetto sta testando e sviluppando un **sistema di monitoraggio** rapido e innovativo che utilizza biosensori ottici per **misurare gli indicatori di inquinamento microbiologico** che determinano la qualità delle acque di balneazione costiere. Inoltre, stiamo **valutando innovativi sistemi di disinfezione**, ovvero di **fotodisinfezione**, nel trattamento delle acque reflue urbane e controlliamo l'acqua marina agli scarichi per verificare la presenza di inquinanti che potrebbero alterare la qualità delle acque di balneazione. Insomma, detto in poche parole: **controlliamo le acque reflue e il loro viaggio fino al mare in modo che queste non danneggino l'ambiente marino**. Non solo - ci siamo chiesti anche se attraverso i nostri metodi innovativi **il depuratore potrebbe essere utilizzato come uno strumento per migliorare il livello dei nutrienti del mare**, che, per cause esterne e per i cambiamenti climatici, scarseggiano e riportare così l'ambiente del mare Adriatico di nuovo in equilibrio. I risultati di questo progetto saranno noti a fine 2020.

The leaflet for the laboratories for children and schools, personalised for UNIUD and the Municipality of Udine and for UNIVPM, Italian version were developed.

Interreg Italy - Croatia AdSWiM
EUROPEAN UNION

Vivi il MARE?

AdSWiM:
uso gestito delle acque depurate per la qualità del mare Adriatico

I laboratori didattici

AD INIZIARE A SPERIMENTARE!

Per raggiungere gli obiettivi, abbiamo bisogno di tutti voi. Seguite la nostra campagna #adswim #viviilmare. Guardate il video sui nostri social e sul sito itdy-croatia.eu/web/adswim per capire come potete aderire e collaborare a mantenere il nostro mare pulito!

La sua cura appartiene a tutti.

Interreg Italy - Croatia
Questo progetto è sostenuto dal contratto di fondo europeo di sviluppo regionale Interreg Italia-Croazia.

UNIVERSITÀ DEGLI STUDI DI UDINE
Durante il percorso didattico sarete accompagnati dai ricercatori e dagli operatori dell'Università degli studi di Udine e del Comune di Udine.

UNIVERSITÀ DEGLI STUDI DI UDINE
700 ricercatori, il dipartimento di Scienze agrarie, ambientali, alimentari e animali e organizzato in 12 facoltà. La facoltà di Scienze di Udine ha oltre 15.000 studenti e 700 ricercatori, il dipartimento di Scienze agrarie, ambientali, alimentari e animali è organizzato in 12 facoltà.

AdSWiM
AdSWiM coordina il progetto, i loro ricercatori hanno competenze in ingegneria, microbiologia e ingegneria della gestione dell'acqua per progettare e realizzare impianti di depurazione e recuperare materiali e energie di depurazione.

Comune di Udine in numeri
L'Unione comunale è interessata allo sviluppo economico e sociale del Comune di Udine. Il Comune di Udine ha oltre 15.000 abitanti e 700 ricercatori, il dipartimento di Scienze agrarie, ambientali, alimentari e animali è organizzato in 12 facoltà.

Interreg Italy - Croatia AdSWiM
Questo progetto è sostenuto dal contratto di fondo europeo di sviluppo regionale Interreg Italia-Croazia.

OBIETTIVO La salvaguardia delle acque e la gestione più efficiente e ottimizzata degli impianti di depurazione e trattamento delle acque reflue urbane che coinvolgono l'Adriatico.

IL VIAGGIO DELLE ACQUE
Il sistema di approvvigionamento consente il rifornimento dell'acqua dalle sorgenti, dai fiumi e dai torrenti, dai laghi, dai bacini artificiali e anche dai mari. L'acqua dopo essere stata trasportata attraverso le tubature e ripulita dalle impurità e dai batteri, esce microbiologicamente pura dai nostri rubinetti. A completamento del ciclo idrico, l'acqua piovana e quella già utilizzata per le attività quotidiane, cioè, gli scarichi domestici e quelli industriali, passa attraverso le tubazioni sotterranee della rete fognaria urbana fino agli impianti di depurazione detti anche **DEPURATORI** dove è sottoposta ad un lungo trattamento meccanico, biologico e disinfectante. Le acque ripulite si riversano nei canali, nei fiumi fino a confluire nel mare.

LAB 1
E come per magia, l'acqua sporca va via!
Costruiamo insieme un mini depuratore e scopriamo come funziona un impianto di depurazione dell'acqua. Pronti? Si inizia...

1. Creiamo dell'**acqua sporca**: versiamo dell'acqua in un contenitore e sporchiamola con terriccio, foglie, sabbia, erba...
2. Prendiamo un vasetto e ritagliamo un **filtro** (carta assorbente) a forma di cerchio un po' più grande della base del vaso.
3. Mettiamo il filtro che abbiamo ritagliato sul fondo del vaso e copriamolo con della **sabbia** fino a metà altezza e uno strato di **sassolini**.
4. Mettiamo il vaso su un **contenitore vuoto trasparente** e versiamo l'acqua sporca nel contenitore attraverso il vasetto.

Osserviamo:
L'acqua che arriva nel nuovo contenitore è più pulita ma non ancora potabile! I nostri 3 filtri (i sassolini, la sabbia e la carta assorbente) hanno trattenuto una certa quantità di detriti. Un vero impianto di depurazione utilizza filtri e altri processi per eliminare microbi nocivi, batteri e virus che consentono ai nostri fiumi e mari di ricevere acque pulite.

Approfondiamo:
Quanti tipi di acqua sporca produciamo? Quanti tipi di acqua sporca conosciamo? (ad esempio, acqua di fognatura, acqua con grassi sospesi, acqua di prima pioggia...) Le acque sporche influiscono sulla vita del fiume o del mare in cui vengono scaricate? L'acqua ripulita invece si può riutilizzare? E il depuratore cosa altro produce? E noi? Possiamo fare qualche cosa per aiutare a proteggere l'ambiente?

LAB 2
Vita in una goccia d'acqua
Avviciniamoci al microscopio e esploriamo la goccia d'acqua potabile e la goccia d'acqua che viene da una pozzanghera.

Approfondiamo:
L'acqua è tutta uguale? Chi vive in una goccia d'acqua? L'acqua ha un sapore? Vi siete mai chiesti, se le sostanze che arrivano nel mare, anche dalle acque depurate, possono essere "confini" per le alghe o altri esseri marini? Cosa sono i nutrienti del mare? E se i nutrienti sono troppi? Cosa accade? Ma esistono anche alghe "cattive" e tossiche? Come possiamo proteggere il nostro mare?

The first draft of the BROCHURE templates in ITA has been produced.



Activities in WP2: what has been done from January 2020

> Other Materials

We also produced 4 creativity for **Seasonal greetings** on new year Easter wishes.

posted on AdSWiM social channels, mailings and website and through PPs Channels .



but facts sustainable
2020



Not only wishes but facts
for a sustainable
2020



Have a blessed,
natural and
sustainable
easter



Have a blessed,
natural and
sustainable
easter



Activities in WP2: what has been done from January 2020

> 1 video infographics in 2 languages launched on March 22nd in occasion of the World Water Day;

The infographic launch has been done on Adswim social channel and the Infographic is loaded on Adswim Youtube Channel that was opened for the occasion.



Activities in WP2: what has been done from January 2020

> **Training didactic modules for primary school teachers has been designed** with the involvement of the Regional Agencies Environmental experts with the aim of using an innovative and interactive model of teaching that focuses on the end user rather than as a mere transmission of information. The modules are organised in 4/5 meetings. The invitations to the schools and teachers have been done in January 2020 and 5 primary schools classes approved to join the programme and the didactic lab in **Udine** and 1 in **Fano** (PesaroUrbino province). Partners involved till now in the project are: **UNIUD, CAFC, OGS, UNIVPM, Municipality of UDINE**. The teaching programme has been planned to start first in January, then it was postponed on **September to December 2020 and probably will be postponed due to covid lockdowns**.

- [Italian versions can be found on drive intranet](#)
- [English version can be found on drive intranet](#)

NOTE: COVID lockdown and the consequences are putting this activity on risk.
How can we prevent and intervene to complete the activity?

Activities in WP2: what has been done from January 2020

> Didactic labs and school visit program done before lockdown

FEBRUARY, 15

[Univpm Università Politecnica delle Marche](#), Department of Life and Environment (DISVA) participates in two projects of the Scientific Degree Plan: PLS in Biology and Biotechnology (as a partner) and PLS in Natural and Environmental Sciences (as a national coordinator with 28 other partners). The University staff intervenes directly in High Schools stimulating interest in scientific subjects, bringing awareness on university topics and the required levels of preparation. In collaboration with the PLS program, our researchers presented ADSWIM project to the students of [#LiceoScientificoLeonardodaVinci](#) Jesi (AN) that is actually one of the best Secondary school with scientific orientation of the Ancona province in Italy.

The event was promoted on website and social media.



Activities in WP2: what has been done from January 2020

CANCELLED or postponed DUE COVID LOCKDOWN

> **Didactic labs and visit program designed for primary school children / teenagers and lockdown**
This labs were elaborated with the aim of teaching the process of water depuration through simple and playful expressions that convey technical project issues and results with experiencing and experimenting. 1 UNIVPM planned an event with the involvement of 100 youngsters **and overlapping with WATERCARE project in Ancona on March 5**, 1 event was planned with CAFC and UNIUD in **Udine on March 22**, 2 primary schools classes approved to join the labs at the Natural History Museum in **Udine and 1 in Fano on March 23**, CAFC organised a guided tour for a secondary school to the DP of **San Giorgio di Nogaro on March 27**. **On April 20**, Metris and UNIST-FGAG in **Pula and in Split** **planned to participate to local edition of the National Science Festival with labs and open days** and ZIJ Zadar confirmed the participation in **Zadar Science Festival** as well.

These activities were approved in December 2019 by the ESOF scientific committee and are included in the PROESOF 2020 initiatives for the shared promotion and add value to the project
They should have been developed from January to June as the ESOF was planned in June.



Activities in WP2: what has been done from January 2020

> **Didactic labs and visit program designed for primary school children reprogrammed**
ESOF is postponed on 02-06.09.2020. We can promote our events and used the logo on our materials and presenting it in our reports by that time.

Some of the **initiatives with schools** (labs and workshop dedicated to the journey of water and the depuration process, to the microscope water observation and insights on the conscious use of the water resource (do not pollute, recycle and reuse) in **Udine and Fano will be reprogrammed** by UNIUD, Municipality of Udine and UNVPM.

METRIS, ZJZ Zadar and UNIST-FGAG **have postponed the events in Pula, Zadar and Split on October, 12-17, 2020.**

VIK is **willing to organise a visit to DP, if possible and the Municipality of Pescara as well.**

NOTE: COVID lockdown and the consequences are putting this activities on risk. How can we prevent this risk and reprogrammed the activity?

Activities in WP2: what has been done from January 2020

What we have done to cope with Covid19 emergency and the laboratories with children

> [1 Kids' corner online](#), thanks to our kids and families participation, and created 2 flipbooks online.

The first one called **FLOWERS OF HOPE** by Anna Annibaldi UNIVPM is the first project elaborated thanks to the researcher Anna Annibaldi specialized in Analytic Chemistry that is also a mum who is staying safe at home with her kids in Fano (Italy) related to water capillarity. The short flipbook and the poster was promoted on social media and website. Two videos with experiments were published [on PP's adswim FB profile](#).

Click on the image

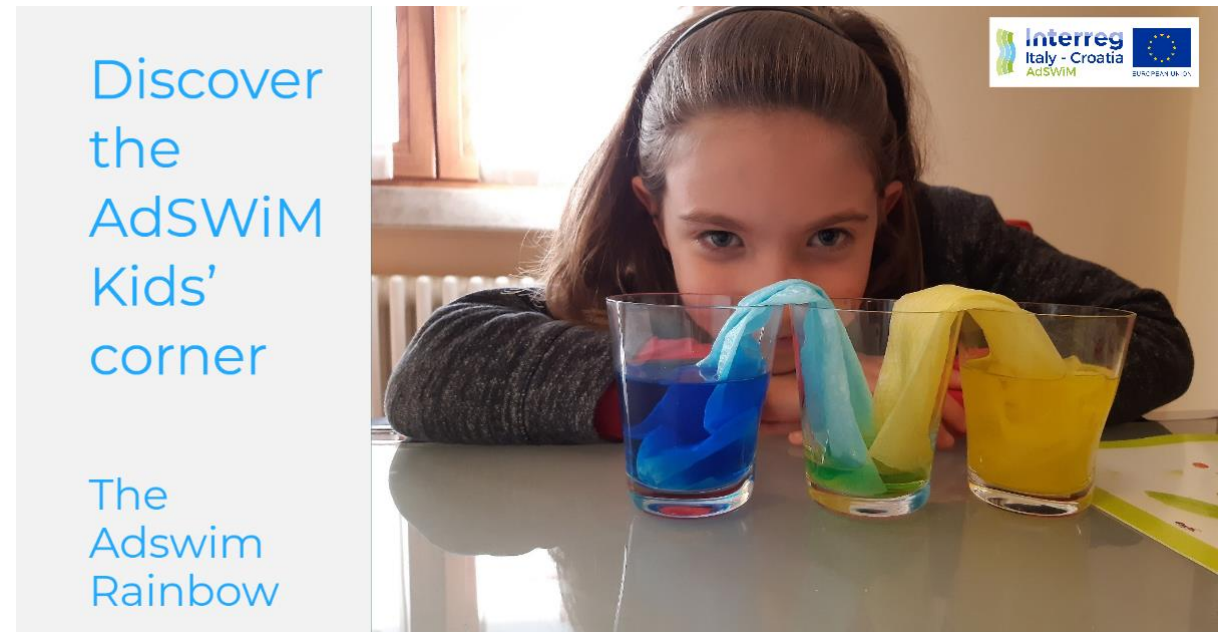


Activities in WP2: what has been done from January 2020

What we have done to cope with Covid19 emergency and the laboratories with children

> 2 Kid's corner online [the AdSWiM RAINBOW](#) by Anna Annibaldi (UNIVPM): How can you move [#water](#) from one cup to another without pouring it? A simple hands-on experiment with a series of clear cups and paper towels lets kids explore this question. There will be plenty of opportunity for discussion of capillary action, absorption, gravity, and siphoning! [#stayhome](#) [#staysafe](#)

Click on the image



Activities in WP2: what has been done from January 2020

What we are planning to do to cope with Covid19 emergency and the laboratories with children

> 3, 4 and 5 Kids' corner will be promoted online in May, June, July. The design has already been developed thanks to the materials collected by Sabina Susmel (UNIUD), Agnese Presotto (Mun.UD) and Anna Annibaldi (UNIVPM).



Activities in WP2: what has been done from January 2020

> Meetings and programmed events off line

FEBRUARY



A joint working meeting between the AdSWiM and WATERCARE project teams in Split-Dalmatia County was held on February 3. The meeting was attended by Nikša Jajac, Dean of the **Faculty of Civil Engineering, Architecture and Geodesy in Split**, and Anđelko Katavić, Head of the Management Board for Economy, EU Funds and Agriculture.

Activities in WP2: what has been done from January 2020

> Activities and programmed events on line

JANUARY

Greetings new year social campaign on FB, Twitter, LinkedIn, website.

Metris 10 years celebration and project presentation with media conference organised in Pula on last week of December and press release and media promotion in January on PP's channels and project channels.

Education's Day online social campaign celebrated on January 24 promoting our labs and trainings on FB, Twitter, LinkedIn, website.

FEBRUARY

Women in Science day online Campaign on February 11, dedicated to all our project scientists that has reached 4664 persons with the post on FB.

Activities in WP2: what has been done from January 2020

> Activities and programmed events on line

MARCH

Women's Day online short sport Campaign for the March 8 celebration on FB, Twitter, LinkedIn, website.

World Water Day project campaign with a press release published on March 22 by UNIUD, CAFC and Municipality of Udine and [local media](#) and [UNIUD e-magazine](#) and social media to launch the you tube channel and the first video infographics in 2 languages, article on [LINKEDIN network](#) group, and post on Twitter and FB, seen almost by 3000 people. We have made specific posts that have been published as complete or as answer son the pages of:

1. UN-WATER with 131,900 followers
2. World Water Day 2860 followers
3. National Council of Geologists with 2043 followers
2. Euronews: 70,413 followers
3. Trieste city of science with 2784 followers
4. Trieste NEXT
4. QUARK TV show friends and about a 20 of other pages.



Activities in WP2: what has been done from January 2020

> Activities and programmed events on line

APRIL

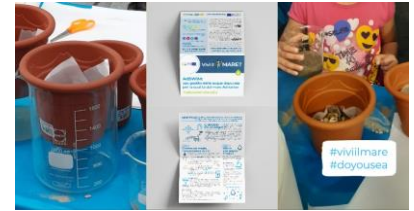
World Health Day with PP7 and the presentation of [Zavod za javno zdravstvo Zadar](#), committed to [#health4All](#) [#salutepertutti](#) [#zdravljezasve](#) and to the protection of the environment since 1944. Today the Institute has highly educated rejuvenated professional staff, qualified to perform professional and scientific research activities. One of them prof. Jadranka Sangulin, the head of the Department of Environment and the Sea and of the laboratories that explains: *“We are examining and evaluating the composition and quality of wastewater, surface and groundwater, sea and sediment, the eco toxicological properties of wastewater, and the composition and quality of waste and we perform all the professional environmental work. Thanks to ADSWIM funds we have purchased the Continuous Flow Analyser (CFA) for the measurements of nutrients in the [#seawater](#). In continuous flow analysis (CFA), a sample is injected into a flowing carrier solution passing rapidly through small-bore tubing. The CFA and discrete analysers are used in environmental applications for measuring analyses like ammonia, chloride, nitrite, and phosphate, etc.”*

Published on all social media and website article, a press release published on local/regional media press [ZADARSKI LIST](#).



Activities in WP2: what has been done from January 2020

> Activities and programmed events on line



APRIL

[Italian's National Sea Day Campaign](#) promoted on April 11 as an article [on the project website](#) and linkedin article ad posts, FB and twitter posts and a press release. Shared on PPs social media.

Dedicated to the awareness of young people, and not only, to the defense and protection of the sea through the organization of events, shows and exhibitions, activities and moments of confrontation organized in collaboration with the General Command of the Coastal Guard in order to develop the concept of "citizenship of the sea". Our [#AdSWiM](#) project that focuses on the protection of the sea and the most efficient and optimized management of urban wastewater treatment and depuration plants involving the Adriatic, have planned a series of initiatives with schools in the regions of [#Marche](#), [#Abruzzo](#) and [#FriuliVeneziaGiulia](#). School events and workshops, also approved by [#PROESOF](#) [#Trieste](#) dedicated to the journey of water and the depuration process, to the microscope water observation and insights on the conscious use of the water resource (do not pollute, recycle and reuse), will be reprogrammed in the future, as soon as possible, but now, more than ever, it is important to [#stayhome](#) and [#staysafe](#). In the meantime, our [#sea](#) takes a breath and regenerates itself. [#doyousea](#) [#adswimproject](#) [#beprepared](#)

Activities in WP2: what has been done from January 2020

> Activities and programmed events on line



APRIL

[The Earth'DAY Campaign](#) promoted on April 20 through social media and PPs media and an article on project website. [#EarthDay2020](#). 70 percent of the planet's surface is covered with water: all the water on Earth already exists. We can't make more. We can only track it, predict it and protect it as it cycles around our world. That's why preserving the water, keeping our environment clean, fighting for trash free seas by promoting sustainable behaviour and identifying the sources of debris and dealing with wastewater management is so important. To celebrate the occasion, our project has planned three on spot events in [#Croatia](#): in [#Pula](#) with [#MetrisResearchCenter](#), in [#Zadar](#) with the [Zavod za javno zdravstvo Zadar](#) , in [#Split](#) with [FGAG - Fakultet građevinarstva, arhitekture i geodezije u Splitu](#) in relation to [Festival znanosti](#) (the Science National Festival), a manifestation aiming to bring science closer to the public, during which scientists and students make popular lectures, workshops, panels planned in April and postponed on October 12-17.

Activities in WP2: what has been done from January 2020

> Publications on scientific magazines

[Viviana Scognamiglio](#) and [Amina Antonacci](#) are involved in Adswim research and in the development of **biosensors/bioassays for the assessment of seawater biotoxicity in the Adriatic**. Their latest research work, thanks also to Adswim involvement, was published in:

Bartolucci, C., Antonacci, A., Arduini, F., Moscone, D., Fraceto, L., Campos, E., ... & Santander, J. M. P. (2020). [Green nanomaterials fostering agrifood sustainability](#). TrAC Trends in Analytical Chemistry, 115840.

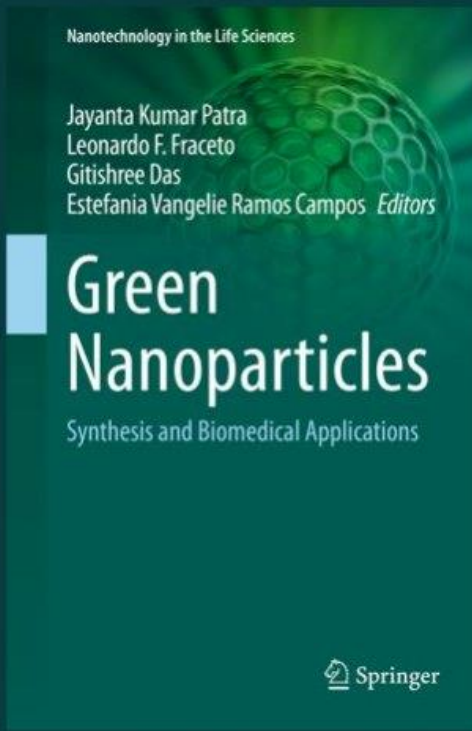
Antonacci, A., & Scognamiglio, V. (2019). [Biotechnological Advances in the Design of Algae-Based Biosensors](#). Trends in biotechnology.

Scognamiglio, V., & Arduini, F. (2019). [The technology tree in the design of glucose biosensors](#). TrAC Trends in Analytical Chemistry, 115642.

Castrovilli, M. C., Bolognesi, P., Chiarinelli, J., Avaldi, L., Calandra, P., Antonacci, A., & Scognamiglio, V. (2019). [The convergence of forefront technologies in the design of laccase-based biosensors-an update](#). TrAC Trends in Analytical Chemistry.

Antonacci, A., & Scognamiglio, V. (2019). [Photosynthesis-based hybrid nanostructures: electrochemical sensors and photovoltaic cells as case studies](#). TrAC Trends in Analytical Chemistry.

We promoted the publications also on [project website](#) and social channels.



IC -CNR STEM Women Viviana Scognamiglio, and Amina Antonacci authors pp. 117 - 149 "Nanobiosensors for Bioclinical Applications: Pros and Cons". Their work was supported by AlgaeCB Bilateral Project Italy-Morocco 2018/2019 and AdSWiM Interreg Project Italy-Croatia 2019/2020.

Activities in WP2: what has been done from January 2020

> Publications on scientific magazines

The publication written and led by the Anton Dohrn Zoological Station of Naples in collaboration with the Marche Polytechnic University on sea species which establish a mutual aid network and thus become more resistant to the negative effects of acidification (February 28).

We published the news made by [ANSA](#) also on social channels.

Activities in WP2: what has been done from January 2020

> Publications: a Degree thesis

A degree thesis was discussed on February 24, by UNIVPM thesis student Matteo Fanelli, who has become also an ADSWIM contractor with a scholarship since May 1. Here the first two slides of the presentation of the texts (publication on FB / online is not feasible according to the access regulations, but obviously we can mention it in our report.

Università Politecnica delle Marche
Dipartimento di Scienze della Vita e dell' Ambiente

Corso di Laurea Magistrale in:
Rischio Ambientale e Protezione Civile

LIVELLI DI NUTRIENTI E BIODISPONIBILITÀ IN MARE ADRIATICO

Nutrients levels and bioavailability in the Adriatic sea

Tesi di Laurea Magistrale di:
Matteo Fanelli



Relatore:
Dott.ssa Annibaldi Anna

Primo Correlatore:
Dott. Accoroni Stefano

Sessione straordinaria febbraio 2020
Anno Accademico 2018/2019

INTRODUZIONE

AdSWiM Project



Managed use of treated urban Wastewater for the quality of the Adriatic Sea

Connette istituti di ricerca, municipalità e gestori degli impianti di depurazione per conservare e migliorare la qualità delle acque marine (**Water Framework Directive 2000/60/EC**)



PARTNERS

- LEADER – Università di Udine
- PP1 – Comune di Udine
- PP2 – CAFC SpA
- PP3 – OGS – Istituto Nazionale di Oceanografia e Geofisica sperimentale
- PP4 – Università Politecnica delle Marche
- PP5 – CNR – Consiglio Nazionale delle Ricerche, Istituto di Cristallografia
- PP6 – Comune di Pescara
- PP7 – Institute of Public Health Zadar
- PP8 – Izvor Ploče, Public Institution for Public Utilities
- PP9 – Split Water and Sewerage Company
- PP10 – Research Center for Materials of Region of Istria
- PP11 – University of Split, Faculty of Civil Engineering, Architecture and Geodesy

Activities in WP2: what has been done from January 2020

> Publications: a poster


For the occasion of WORLD WATER DAY , UNIVPM students elaborated and presented a POSTER: “WATER – the blue gold of the Earth” .



Activities in WP2: what has been done from January 2020

> Publications on other traditional media

NEWSPAPER

March 30. In the column **OLTRE IL GIARDINO** Il Piccolo di Trieste today on the Science page, we meet the researcher Mauro Celussi of the OGS who tells us about his "hunt for bacteria" in the deepest seas and his work for the ADSWIM project. Mauro's profile  We have published the news on website and also on [social media](#).

OLTRE IL GIARDINO

MARY B. TOLUSSO

MAURO DELL'OGS DÀ LA CACCIA AI BATTERI NEI MARI PIÙ PROFONDI

È nato a Pordenone ma vive a Trieste da venticinque anni Mauro Celussi: «E poi mia madre è triestina, ma si è trasferita a Pordenone da piccola, quando i triestini lavoravano con gli americani – dice – per cui quando sono giunto a Trieste era come rivivere tutte le storie che mi raccontavano i miei nonni». Laureato in Scienze naturali, ha poi conseguito il dottorato di ricerca a Siena in Scienze polari. Oggi lavora all'Ogs: «La mia tesi di laurea è stata svolta in quello

che si chiamava Laboratorio di biologia marina, che oggi corrisponde alla Sezione mare con sede ai Filtri di Aurisina. Dopo di che ho avuto la fortuna di rimanere disoccupato solo cinque mesi, prima impegnato con una borsa di studio fino al ruolo di ricercatore e strutturato». Il suo campo di studio è l'ecologia microbica: «La mia ricerca esamina il comportamento dei batteri in mare. È un settore molto sfaccettato per cui ho la possibilità di spaziare parecchio. Per esempio ora mi sto occupando di due

questioni che possono sembrare distanti. Da un lato sono il referente per Ogs di un progetto Italia-Croazia che si chiama AdSwim e ha lo scopo di valutare i sistemi di miglioramento del trattamento delle acque reflue urbane. In questo contesto la mia attività è valutare l'effetto di nuove tecnologie sull'efficienza dell'immissione in mare di patogeni, cioè quanto i nuovi sistemi possono abbattere la carica di microorganismi patogeni. Dall'altra parte mi occupo anche del funzionamento dei batteri nei sistemi

marini profondi. Sono ambienti poco studiati perché poco accessibili e perciò ci danno molta soddisfazione in termini di nuove scoperte. Ho appena concluso una ricerca sul Mare di Ross per studiare come i batteri riescano a manipolare la sostanza organica che arriva nel sistema profondo». Le passioni di Mauro sono la musica: «Soprattutto quella degli anni '90». E i viaggi: «Trasferite spesso unite alla musica, viaggio per assistere a grandi concerti». —



Mauro Celussi dell'Ogs

Activities in WP2: what has been done from January 2020ù

> Publications on other traditional media

NEWSPAPER



April 24. CAFC published a press released on the water monitoring in relation to [#Coronavirus](#). On the local magazine [IL FRIULI](#), Cafc monitors wastewater in the front line next to the [Università degli Studi di Udine \(University of Udine\)](#) in sampling. CAFC Ltd manages the Integrated Water Service (aqueduct, sewerage and purification segments) of 120 Friuli Central Area municipalities with 500 Waste Water Treatment Plants. This is the "wastewater-based epidemiology" research in which Cafc makes its indispensable contribution to the fight against the pandemic, joining the international and European study in collaboration with the Polytechnic of Engineering and Architecture and with the Department of Agri-Food Sciences of the University of Udine. We published the news on our social media channels and PP's channels. An article and a press release was done.

Activities in WP2: what has been done from January 2020

> Publications on other traditional media

RADIO

April 2. Four our project partners were on air live today at 16.00 on [#SCONFINAMENTI](#), a daily radio RAI 3 space dedicated to the Upper Adriatic basin. The appointment conducted by Ornella Serafini will be focused on water. And for those who will not be able to follow the live broadcast, check for the podcast FVG [#RADIORAI3](#). The programme was promoted also on website, social media and through a [press release and Quiuniud e-magazine](#).



Activities in WP2: what has been done from January 2020



> PROJECTS SLAM

To mark the [30th anniversary of Interreg](#), the European Commission and Interact organise an Interreg 30 years Project Slam during the European Week of Regions and Cities (10-15 October, Brussels).

In this special edition of the Interreg Project Slam, six projects will share their story on stage in front of an audience of more than 200 people, including the top EU politicians and peers from regions all across Europe.

AdSWIM project has been asked to take part to the competition, therefore the application form has been filled out and sent to MA in April. MA has selected 8 projects and ADSWIM is among the selected ones. They prepared a short story on the project activities and sent to the Interreg competition. The results of the final shortlisted project who will go to Brussels and present the project will be known on May 9.



ZAVOD ZA JAVNO ZDRAVSTVO ZADAR



Activities in WP5: what has been done from January 2020

> Report on legislative analysis

The Municipality of UDINE will prepare a report on legislative analysis of Italian and Croatian legislation on WWT and we will draft some proposals for cross border WW shared management systems. At the moment there are On going the procedures to select the legal expert in charge of current legal situation report preparation and the proposal for the cross border integrated legislative system.

> **Workshops and technical training modules** based on legal contents and cross border water management analysis will be organised to try to promote harmonization in the field of water management and treatment. A meeting was held in November by CAFC, UNIUD and PP1 in order to define the modality of this workshop. A proposal to arrange this meeting during the final conference was challenged. |

Activities in WP2: what we have postponed/frozen due to COVID emergency

> **EVENTS/WORKSHOPS/LABS NEEDED TO BE DEFINED**

MAY 21-24.

[May 21-24 Tipicità in Blu ad Ancona - SEA Festival, Ancon](#), Labs for kids and presentation of the Campaign with UNIVPM. ?

SEPTEMBER 27

CAFC, [Udine Marathon](#)

SEPTEMBER 28, OCTOBER 20 / and from January to March 2021?

Workshops and school labs in UDINE and Fano with the Municipality of UDINE, CAFC and UNIUD.

NOVEMBER 27 [Researchers' night](#), Sharper Trieste , Ancona (UNIVPM), Rome (IC-CNR).

NOVEMBER 20-22. [SEALOGY Fair](#) in Ferrara in collaboration with project ECOMAP (UNIUD in definition).

SEPTEMBER TO DECEMBER / spring 2021?

Didactic modules for primary school teachers with ARPA.

DECEMBER

Final conference.

WORKSHOPS: LIVORNO, PARMA; ROME (UNIUD; UNIVPM, IC –CNR)

Activities in WP2: possible new scenarios

COVID EMERGENCY LOCKDOWN CONTINUES.....

ONLINE TRAININGS/WEBINARS?

VIDEO PRODUCTIONS?

PUBLICATIONS ON MAGAZINES?

PROJECT CHANGES ?

Activities in WP2: what has been done from January 2020

> Social media and social invitations EXTRA news

While we are continuing with digital com activities (check on ADSWIM linkedin (341 members), FB 3 profiles (58+70+69 members), twitter (22), website and materials production on intranet drive), through social media we have received several direct invitations that maybe useful for the future activities. We can consider the invitations also as a sign of a good reputation online. Through linkedin channel we have received the following direct invitations that we shared through mailing to the partners:

1) **FREE WEBINAR FOR ENGINEERS, UTILITIES MANAGERS AND POLICY MAKERS IN THE WATER SECTOR:** An introduction to the Nereda aerobic granular sludge on **Tuesday 21 April 2020 at 14:00 CET (13:00 GMT)** With about 80 projects either operational or under construction worldwide, Nereda technology (is treating domestic and industrial wastewater to the highest standard. It uses a quarter of the footprint of conventional wastewater treatment technology, and 30% less energy. In this introductory session we will cover what the drivers were for Nereda technology's development, how it works and what its advantages are. In addition, we will highlight the partners that we work with and the current status of the technology. To register for the first in a series of sessions, please email Mariëtte Doeff at mariette.doeff@rhdhv.com and she will send you your sign-in instructions.

Website: <https://www.royalhaskoningdhv.com/en-gb/nereda/about-nereda-technology>

Activities in WP2: what has been done from January 2020

2) Through direct message on linkedin/twitter **the EU4Ocean Coalition** invites us to participate in an international survey that addresses teachers, school managers, staff from ministries of education [open Blue Schools](#), as well as its components and application criteria. The Network of European Blue Schools will serve as meeting point for schools, teachers and students and professionals in marine science education. The objective of this survey is to involve experienced educational professionals, and to understand the gaps and needs on ocean topics in school curricula. On the basis of the results a handbook will be developed that will support your work. Your collaboration is crucial to assist the [EU4Ocean Coalition](#) in developing the [Network of Euro](#) are committed towards a more ocean literate society through the development of ocean-related projects and the engagement with the community. Your opinion is extremely valuable to us! To participate, please fill out this survey [here](#) by **30 April 2020**; it should not take more 15 minutes. Give feedback.

3) **June 8. The world ocean's day.** We have planned events with schools and visits and on March 22 we have published on youtube our video <https://www.youtube.com/channel/UCIkAN1VGAluaVJ7gArxIL1A>. Difficult to say how the general situation will be in June, but it is quite obvious that a public event with people gathering t will be difficult to celebrate and that we are going postponement of those activities in Autumn (?). The international association contacted us through twitter to join the digital [#WorldOceansDay](#). In the spirit of "Together we can", coupled with the creativity each one of us has, we would like to know what your digital plans will be. Will it be a live streamed music event, a webinar, an Instagram campaign showcasing the 30x30 petition signing, an online art creation, videos on action ... What can we create? And to add to your creativity, it would be wonderful to focus on this year's [Conservation Action Focus](#) – to protect 30% of the Earth's land and ocean by 2030.

LINK: <https://worldoceansday.org/world-oceans-day-is-on/>

4) An invitation by **GREEN-Bocconi University and Urban Europe Research Alliance** (UERA - <https://jpi-urbaneurope.eu/>), in collaboration with the Journal of Urban Ecology has arrived to participate on the November 27, 2020 to an international workshop how to achieve the SDGs through local action. Send abstract in 600 words to green@unibocconi.it. **Deadline June 15th**. Full papers, October 1.



Activities in WP2: what has been done from January 2020

- 5) Direct invitation to attend the **34th International Conference on Nanomaterials and Nanotechnology** during **November 23-24, 2020 at Edinburgh**, Scotland. Contact: andrianasamron@gmail.com <https://nano.materialsconferences.com/>
- 6) Direct invitation for 3 days conference called **Remtech Europe** with free entrance in Italy for next **23-25 September 2020**. <http://remtechexpo.com/index.php/it/> Have a look here to the brief video of edition 2019 with 10k visitors 300 exhibitors 50 conferences 8 live demos: https://www.linkedin.com/posts/remtechexpo-ferrara-fiere-56a409147_remtech-expo-2019-video-report-e-arrivato-activity-6584808978511986688-PWYQ".
- 7) **Talking about Ferrara, SEALOGY FAIR** that we have programmed to attend it was postponed. In agreement with the BolognaFiere parent company, Ferrara Fiere Congressi promptly redefined the location of SEALOGY®, the first European exhibition on the Blue Economy: initially set from 6 to 8 March, the event is postponed to **20-22 November 2020**. This choice it is also dictated by the concurrence with the World Fisheries Day (21 November), established to safeguard one of the leading sectors of the blue economy, with a view to sustainability and social justice. Further organizational details on the event, which is the Ferrara Fiere brand, will be communicated later, also by the Interreg programme.
- 8) **Alessandro Miani, president of Italian SIMA (Società Italiana di Medicina Ambientale / Italian Society of Environmental Medicine) is asking us through direct contact** if we can give him some information about us, something in writing, more technical in order to cooperate. In December they did a seminar dedicated to the value of water: <http://www.simaonlus.it/?p=3382> There is currently no FVG committee within SIMA, maybe it could be interesting for you in urban planning and their official information body is <https://www.italiaambiente.it/>. This is their site: <http://www.simaonlus.it/>


Contacts

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