

# Interreg



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European Regional Development Fund

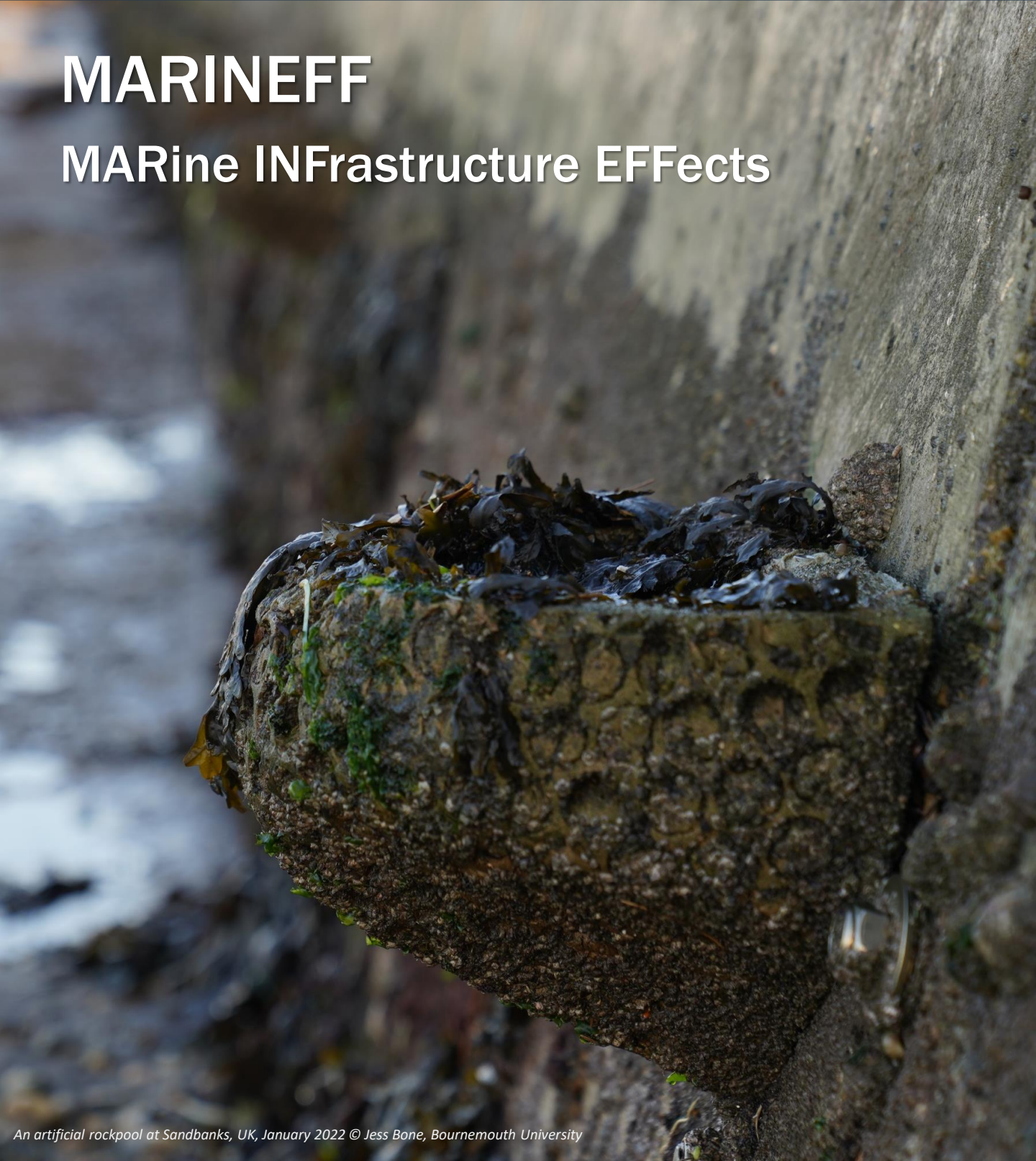


**MARINEFF**  
infrastructures maritimes biomimétiques

Edition 11  
February 2022

# MARINEFF

## MARine INFrastructure EFFects



# How to get involved

If you are interested in keeping up to date with all current project activities, you can subscribe to mailings, follow us on [Facebook](#), [Twitter](#), [YouTube](#) and [LinkedIn](#), or visit the website.

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## Mailings sign-up

To sign-up to future Marineff mailings, including this quarterly newsletter, click [here](#).

Please note, upon sending an email to this address, you will be automatically signed up to the Marineff mailing list and included in future newsletter communications. Information on how your data is handled can be found at:

[www.ciria.org/marineff](http://www.ciria.org/marineff)

To unsubscribe from mailings, please click [here](#) and enter your email. If you are subscribed, this will remove you from the database.



## Further information

To find out more about the Marineff project, go to:

<http://marineff-project.eu/>



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*Right and inset: The breakwater blocks have proven popular with velvet swimming crabs (*Necora puber*).*



© Maxime Navon,  
University of Caen

## In a nutshell

Welcome to the eleventh edition of the Marineff newsletter and the first of 2022! Winter is always a quieter time of year for our marine researchers, with unfavourable tides and weather thwarting fieldwork, particularly if it involves boats or diving. We are looking forward to breaking free of the winter chill and getting back in the sea this spring. No doubt it will bring us new species as the communities on our eco-engineered modules continue to evolve.

This newsletter will bring you news of the latest artificial rockpool surveys, boat trips with University of Southampton students, and photogrammetry results from the boat moorings on the north coast of France. Project partner National Museum of Natural History, France, feature in our final partner profile, introducing you to the team that capture fantastic underwater photos.

And finally, we share some of the latest cutting edge research to be published in the field of eco-engineering. We also have some more 'dates for your diary' of upcoming Marineff events and other events of interest.

© Maxime Navon, University of Caen



## Students Join University of Southampton to Visit the Oyster Prisms

The native oyster population of the Solent, UK, is too low for commercial exploitation. The reason for the Calshot oyster prism deployment was to attract settlement by native oysters. We continue to undertake surveys looking for naturally occurring oysters. In September 2021 University of Southampton final-year Marine Biology students, led by Ken Collins and Antony Jensen, surveyed the local seabed using Marineff equipment. A GoPro camera mounted on a sledge was towed over the seabed with the images relayed to a surface screen and recorder.



© Ken Collins, University of Southampton







### Artificial rockpools – a year and a half later

It has been six months since the last artificial rockpool survey at Bouldnor and Sandbanks, UK, and the transition from summer to winter has revealed more species. Our year and a half interval survey found nine native oysters (*Ostrea edulis*) at our Sandbanks site (three pictured above), and other species of interest including a snakelocks anemone (*Anemonia viridis*, pictured below, left), a chiton (*Lepidochitona cinerea*, pictured below, central), the seaweed hen pen (*Bryopsis plumosa*, pictured below, central), and a collection of snails tucked away in the external rockpool pockets (*Littorina saxatilis*, *Littorina obtusata*, *Steromphala umbilicalis*, below, right) – the perfect snail habitat.



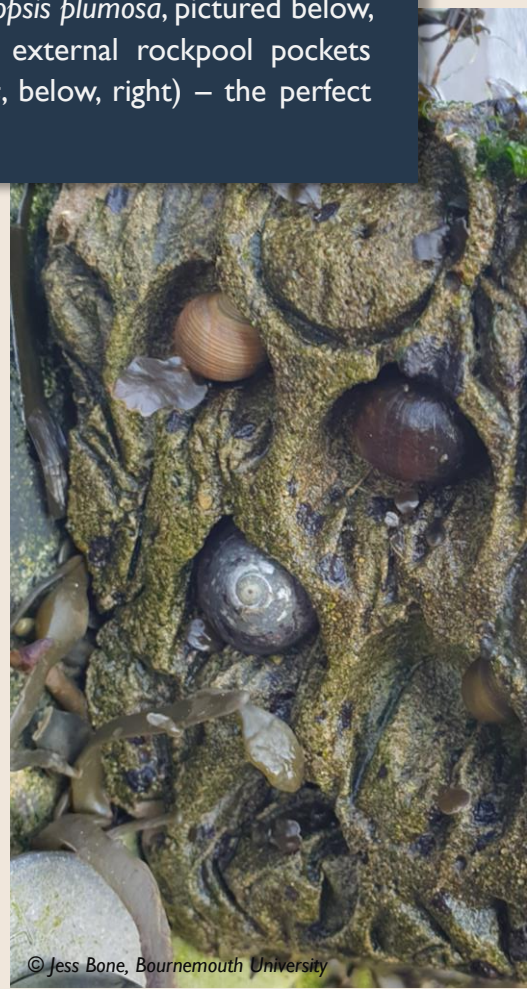
© Jess Bone, Bournemouth University



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© Jess Bone, Bournemouth University



## The evolution of artificial rockpools...

Through these photos we can see the initial colonisation of the ephemeral green seaweed *Ulva* sp. gradually reduce over time, to be replaced with perennial brown Furoid seaweeds.

3 months post-installation – October 2020



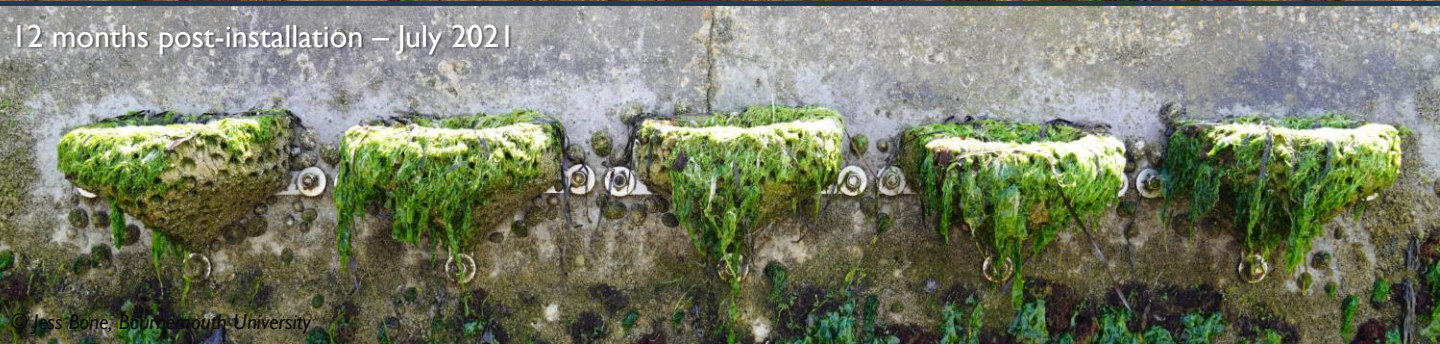
6 months post-installation – January 2021



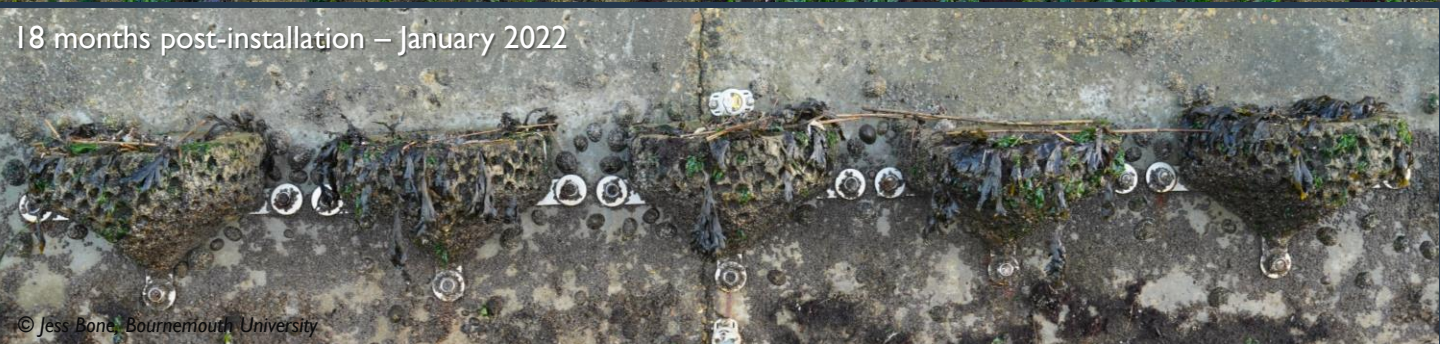
9 months post-installation – April 2021



12 months post-installation – July 2021



18 months post-installation – January 2022





## Diving on the Boat Moorings in St Malo Bay

The first year of scientific and participatory monitoring of the colonisation of boat moorings in the bay of St Malo, France, has been successfully completed. A total of 14 participatory dives were carried out between May and October 2021 by 'Ambassador' divers. This represents a total of 356 quadrats (measuring grids) made on the boat moorings and on the natural environment. The data is being analysed but is already showing very interesting results, affirming the quality of the data collected.

Scientific monitoring continues with new surveys carried out at the end of January 2022 on all the boat moorings (4 sites in total). The data collected during 2021 are being used for the development of a method for identifying benthic species through the photogrammetric models produced. However, we can easily observe the increase in the complexity of the fauna of the boat moorings through these photogrammetric models. On the left are examples of the boat moorings located on the Fetlar site, France, in January (left, top), April (left, middle) and November 2021 (left, bottom). Initially, the mooring was heavily colonised by barnacles (close to 100% coverage). Then, patches of colonial sea squirts appeared to increasingly take precedence over barnacles. Then, the solitary sea squirts (*Pyuridae*, *Ciones*, *Ascidella*, etc.) gradually covered the mooring and filled in the cracks and crevices. Today, there are nearly thirty fixed species (ascidians, barnacles, hydroids, bryozoans, sponges, gastropods, etc.) and several species of fish (groupers, wrasse, blennies, and gobies etc.) and crustaceans (spider crabs velvet swimming crabs) within the boat mooring.



Three months post-deployment – January 2021

© Valentin Danet, National Museum of Natural History, France



Six months post-deployment – April 2021

© Valentin Danet, National Museum of Natural History, France



One year post-deployment – November 2021

© Valentin Danet, National Museum of Natural History, France

# National Museum of Natural History, France

## In focus

The marine station of Dinard, France, of the National Museum of Natural History (MNHN), has been involved in the study of coastal marine ecosystems for many years through several multidisciplinary research teams (rocky reefs, sedimentary habitats, amphihaline fish, sharks and rays, etc.). These teams and the skills acquired and developed (acoustic telemetry, otolithometry, aquatic animal facilities, diving rebreathers, photogrammetry, etc.) create a better understanding of the consequences of

environmental changes and human activities on ecosystems and organisms that inhabit them.

Within the Marineff project, the Museum is responsible for the creation, implementation and monitoring of the colonisation of eco-engineered boat moorings in the bay of Saint Malo, in France. For this, the MNHN has set up a scientific protocol as well as a citizen science program.



Left: Valentin Danet, Scientific Engineer and Scientific Diver. Responsible for the Marineff project at the Dinard marine station and specialises in species dependent on rocky substrate.

Right: Quentin Ternon, PhD student in marine ecology and scientific diver. Currently doing a thesis as part of the Marineff project on the study macrobenthic and demersal community structure in subtidal rocky ecosystems.



Left: Eric Feunteun, professor of aquatic ecology at the MNHN, specialist in coastal marine and amphihaline migratory fish (eels, lampreys, shads, etc.). With over 3000 dives to his credit, he specializes in studying the responses of temperate reef ecosystems to environmental pressures of climate change and pressures from human activities. He directs the Dinard marine station and the Coastal Geoecology Center of the EPHE in Dinard, which host nearly 60 scientists specializing in the ecology and conservation of coastal marine environments.



Right: Frédérique Ysnel, Lecturer at Rennes I University, holder of CAH B (CPS), attached to MNHN- CRESCO for research as team leader of the Rennes site. He is co-responsible for the Natural Heritage and Biodiversity Masters and the DU BIOEM (Biomonitoring of Mediterranean Marine Ecosystems in Scuba Diving: Monitoring Methods and Tools). He is involved in the Marineff project as co-supervisor of the Marineff thesis and in the animation and organization of the Citizen Science program.



# Reading list for spring 2022

Hot off the press is a paper by Marineff project researcher Bone *et al.* entitled “Estuarine Infauna Within Incidentally Retained Sediment in Artificial Rockpools” which has been published in *Frontiers in Marine Science*. Authors found that mud that was incidentally deposited in artificial rockpools hosted infauna typical of disturbed estuarine mudflats. These findings suggested that sediment-retentive features on vertical coastal structures may provide eco-engineering solutions for depositional environments. [Take a look at the open access article here.](#)

DOI: 10.3389/fmars.2021.780720

Dodds *et al.* have published a paper in *Journal of Environmental Management* entitled “Material type influences the abundance but not richness of colonising organisms on marine structures”. A meta-analysis of 46 studies revealed that abundance and species richness did not display ‘consistent patterns of difference between artificial and natural substrates or between eco-friendly and standard concrete.’ [Read more here.](#)

DOI: 10.1016/j.jenvman.2022.114549



## Dates for your Diary

4<sup>th</sup> – 5<sup>th</sup> April 2022



[Young Coastal Scientists and Engineers Conference at Bournemouth University, UK](#)

3<sup>rd</sup> – 5<sup>th</sup> May 2022



[Marineff International Conference at ESITC Caen, France](#)

9<sup>th</sup> – 11<sup>th</sup> May 2022



[Sustainable Management of UK Marine Resources Conference in Bristol, UK](#)

5<sup>th</sup> – 8<sup>th</sup> September 2022



[ECSA 59 Symposium in San Sebastian, Spain](#)

## Don't forget!

You can find us on:





FROM MATERIALS AND INFRASTRUCTURES TO MARINE ECOSYSTEMS:  
INTERACTIONS AND NEW APPROACHES

**MARINEFF**  
MARine INfrastructures EFFects



New date!  
3rd-5th May 2022

BULLETIN #3

ESITC Caen  
1 rue Pierre et Marie  
Curie  
14610 EPRON  
Normandie, FRANCE



## INVITATION

ESITC Caen, lead of the European Project MARINEFF, and its partners invite you to participate in the Marineff International Conference, being held in Caen (Normandy, France) in May 3rd-5th 2022. This conference, as a part of the MARINEFF project, will gather researchers, representatives from industry and other stakeholders to highlight research and case studies about the ecological maritime infrastructures, from construction materials, design to marine biodiversity.

Payments and registration : <https://www.esitc-caen.fr/marineff-event>

## The MARINEFF project

The MARINEFF project was selected under the European cross-Broder Cooperation Programme INTERREG V/A between France (Channel) England, co-funded by the ERDF. It brings together 9 French and British partners. The Marineff project's goal is to enhance and protect coastal and transitional water ecosystems in cross-border Channel regions. The project aim is to realise new biomimetic infrastructures to improve the initial ecological status of water, by at least 15%.

**Interreg**   
France ( Channel ) England  
European Regional Development Fund



EUROPEAN UNION

Website : <http://marineff-project.eu/en/>





# FROM MATERIALS AND INFRASTRUCTURES TO MARINE ECOSYSTEMS: INTERACTIONS AND NEW APPROACHES

## PLANNING

Schedule time	May 3rd	May 4th	May 5th
8:00 - 9:00 am	Opening event		
9:00 - 9:30 am	External lecturer	External lecturer	
9:30 - 10:00 am	Room A   Co-chair ?	Room A   Co-chair ?	
10:00 - 10:30	Break & Poster session n°1	Break & Poster session n°3	Transport
10:30 - 12:30 am	Session n°1	Session n°5	Cherbourg or Ouistreham sightseeing ?
12:30 - 2:00 pm	Lunch break		
2:00 - 4:00 pm	Session n°2	Session n°6	
4:00 - 4:30 pm	Break & Poster session n°2	Break & Poster session n°4	
4:30 - 6:30 pm	Session n°3	Session n°7	
			Transport
7:00 - 9:00 pm	Welcoming reception	Closing event	

The full paper must be submitted at : [ourelie.gerault@esitc-caen.fr](mailto:ourelie.gerault@esitc-caen.fr)

## ORGANIZING COMMITTEE

- o BOUTOUIL Mohamed (chairman)
- o LEBRUN Jérôme
- o DUFEU Matthieu
- o SEBAIBI Nassim
- o BOURGUIBA Amel
- o LEPAGE Mathieu
- o GERAULT Aurélie
- o EL MENDILI Yassine
- o COUBE Marie-Caroline

## Scientific committee

- ANDERSEN Jens (UK)
- AUZAS Mickael (FR)
- BERTRON Alexandra (FR)
- BOURGUIBA Amel (FR)
- BOUTOUIL Mohamed (FR)
- CLAQUIN Pascal (FR)
- COLLINS Ken (UK)
- DAUVIN Jean-Claude (FR)
- DUBOIS-BURGER Isabelle (FR)
- EL MENDILI Yassine (FR)
- FABIEN Aurélie (FR)
- FEUNTEUN Eric (FR)
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- GUIRAUD Patrick (FR)
- HERBERT Roger (UK)
- HUBERT Philippe (FR)
- IWANAMI Mitsuyasu (JP)
- JENSEN Antony (UK)
- LENFANT Philippe (FR)
- SALGUES Marie (FR)
- SEBAIBI Nassim (FR)
- WILLEMY Charles (FR)
- YSNEL Frédéric (FR)
- to be continued...

## Registration and payment

The payments and the registration must be done on "site ESITC Caen" at :  
<https://www.esitc-caen.fr/marineff-event>

### After April 1st, 2022:

Full registration 500 euros  
Students 300 euros

### Before March 30th, 2022:

Full registration 400 euros  
Students 200 euros

## NEW DATES

- o Deadline submission of full paper: Jan 14th, 2022
- o Notification of full paper acceptance : Feb 11th, 2022
- o Payments and registration deadline (has to be done ASAP) : Mar 30th, 2022

## Location

ESITC Caen  
1 rue Pierre et Marie Curie  
14610 EPRON  
Normandie, FRANCE

## Venue



## For more informations

Matthieu Dufeu (Project manager) - [matthieu.dufeu@esitc-caen.fr](mailto:matthieu.dufeu@esitc-caen.fr)