Marine Art
Marine science sets sail to the art world
Marine science sets sail to the art world
Learning about the ocean

Learning about the ocean does not have to be restricted to formal education. ‘Marine Art’ proved that extramural activities can also be used to enhance ocean literacy and citizens’ involvement in marine and coastal processes.

‘Marine Art’ brought art students and teachers from the Academy for Visual Arts into contact with marine researchers from Ghent University, both located in Ghent (Belgium). By means of presentations, dialogues or visits to the research labs, the art students learned about the status of the ocean and about marine sciences. The aim was to ‘infect’ them with insights into and with curiosity about our current ocean knowledge, and to give inspiration for their work(s) of art. The enthusiasm of 1,250 participants resulted in 65 workshops and more than 300 drawings, paintings, graphics, sculptures, mixed media works, illustrations, photographs and animated films.

The end-point of the project was an exposition for the public at large (2 – 6 February 2013), where the artwork was confronted with the science that gave the initial inspiration for it. About 8,000 visitors came to admire the 2,000 square meters of art expo.

This publication reports about the process of ocean science communication, the interpretation by the art students, the work-in-progress and the resulting art expo. Unfortunately, due to the great enthusiasm we could only include a selection of what happened during this vibrant project.

Thanks to all!

Annelies Goffin & Nancy Fockedey, Flanders Marine Institute – VLIZ

Anatomy of marine animals
In order to assess the health of sea creatures, we need to examine both their superficial characteristics and inner appearance. It is imperative that one is familiar with the animal’s stature, to be able to determine whether the organs and tissues are healthy. Features that allow us to judge whether an organ is normal or abnormal are: its colour, form, structure and size. These traits are often studied using microscopic techniques: ultrathin tissue slices are prepared and subsequently examined through a microscope or scan. Scientists at UGent used these techniques to research, among others, whether dogfish are harmed by electrofishing, a newly developed fishing method that serves as an ecologically friendly alternative to traditional bottom trawl fishing. To be able to identify injuries, if present, one needs to know how the stature, organs and muscles of a healthy dogfish look.

The evening before the start of the Christmas holiday, a group of students from various adult courses were welcomed onto the campus of Veterinary Medicine in Merelbeke. Professor Annemie Decostere, and scientific partners Marieke Desender and Marjan Doom, shared with the students a glimpse of their world via presentations and a guided tour through the Museum of Morphology. The youth group - led by Wina Bogaert - were also eager to visit the museum. Even though the museum has an abundant collection of skeletons and models of diverse animals, the tour mainly focused on the sea creatures and how they have adapted for life in the sea.

"We often receive artists and art student at the Museum of Morphology. But this was the first time that we had to focus on marine animals. It was special for me, because I conduct research on sea mammals myself." (Marjan Dooms, curator at the Museum of Morphology)
Artwork 01:
Gulper eel
Caroline Dobbelaere, 3rd year Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Interwined electricity wire, oxidized wire, fine knitted wire
Size: L: 50cm, W: 20cm, H: 16cm

Artwork 02:
Ziebieste
Guy De Dapper, 2nd year Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Metal, malleable epoxy, wood
Size: L: 195cm, W: 28cm, H: 28 cm

Artwork 03:
Starfish
Vitalo Emilio, 1st year Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Metal, malleable epoxy
Size: 150cm
02 Building on the sea and seashore

Constructions
Protection
Wave energy
Materials & textures
Breaking waves
Jetties and dikes are true architectural constructions, on which waves and the water level exert a lot of pressure. Their most important function is to protect the land that lies behind them against too powerful and too high waves. The jetty must therefore be built high enough (to prevent any water from flowing over) but also must be able to break the force and energy of incoming waves without getting damaged. Prior to commencing with building, architectural engineers make numerous calculations and determine which materials and shapes are the most appropriate. To break waves a specific sloping plane is needed. While a porous skeleton of rubble helps to increase the current resistance. In addition to a hard sea wall of stone and concrete, a soft sea wall (sand replenishment or the enrichment of the beaches with sand) exists to help protect the coast and subsequently has a more natural appearance.

Animation art teachers Christel Degros and Ann Barbier wanted to challenge the lower grade students to make designs of cities in a world where the sea has completely washed over all the land. In preparation, Christel visited the laboratory of hydraulic engineer Peter Troch. They agreed that he would light-heartedly explain to the children how you can alter coastal constructions in a way that they can resist the force of waves, as well as about building on sea, the rising sea level and rising waves. After the presentation, Peter spoke to the children about their design and the scenario. For the adult students of diverse art courses, the same presentation was supplemented with more theoretical information about waves. Also during this session many questions were asked and impressions shared, not only by the surfers or sailors amongst them.

"My husband is seafaring and at home we talk a lot about the sea. Maybe that’s why I wanted to participate in MarineArt?" (Christel Degros, teacher Animation art)

"I have always been very fascinated by the sea, there is always something left to discover. At first sight a jetty may merely look like a few concrete blocks. But if you look more closely, you will find plenty of vegetation and life."

(Marriette Vande Vyvere, Mixed media)

"Being from Zealand, building at sea of course appeals to me. I created the work on the evening before the memorial day of the flood disaster of 1953. I have sought to portray the disaster, the Deltaplan and the impact it has had in my work. The dam that appears layer by layer in my work, eventually brought peace and balance for man and nature."

(Riny Dees-Roose, Graphic art)
Artwork 01: 
Stills from animated movie “De pechvis”
Pasha Levchenko, lower degree Animation art
Cut-out animation with paper 
Time: 30 sec

Artwork 02: 
Grow 
Marinette Vande Vyvere, specialisation year 
mixed media
Paraffin wax
Size: W:15cm, H:15 cm

Artwork 03: 
Emergo II 
Riny Dees-Rooze, 2nd year Graphic art
Dry needle prints
100x100mm, restauration paper, sticks
Size: W: 1270mm, H: 980mm
The sea as a museum

2D to 3D Drawings
Collections
Display
The word museum originates from the Greek word ‘mouse-on’, meaning study area, library and within this historical context it was seen as a place where the muses were honoured. Nowadays museums are generally perceived as places where art or science is being displayed. From a social point of view, museums play a key role in teaching scientific concepts to the general public. Just as how an exhibition on sea organisms enlightens people about the diversity of the seas. Our seas and oceans are home to a large spectrum of known and unknown species. It is estimated that 86% of all animals on earth live in the sea and that all large groups of organisms, “the phyla”, exist in the sea and are sometimes even exclusively found there. The Natural Science Museum in Brussels and the Zoology Museum of Gent University, have on display an elaborate collection of marine organisms. These organisms are used for research and during presentation for large audiences. There are also online sources that gather information about species such as the World Register of Marine Species and the Encyclopedia of life. The abundance of life forms in the sea and their diversity in shape appealed to many students resulting in them enthusiastically getting to work. Students of the sculpting workshop were evenly eager and took initiative to walk around and take in everything in the Zoology Museum, a permanent exhibition meant for biology students of the university. Those skeletons and mounted organisms - ranging from large to very small - that were displayed in a conventional manner, charmed them the most! Later the youth workshop, led by Celine Butaye and Karen van Gullik, visited and was provided with explanation by Dr. Tim Deprez, Dr Deprez, who is specialised in describing and studying species, also held an evening session for an audience of mature students from different courses. The vast number of shapes and structures of less common sea organisms were examined through microscopes. Students Illustration and Cartoon were assigned a special task: design a postcard and series of stamps based on the discoveries of the day!

“Our youth workshop lies in the basement of the Museum of Fine Arts (MFA). Working together with the Zoology Museum around the corner seemed like a very interesting opportunity. How does an art museum differ from a museum for (sea) animals? Are there any sea animals to be found in the artworks of the MFA? Can we create a piece of art out of sea creatures?” (Céline Butaye and Karen Van Gullik, teachers youth workshop)

“Being a taxonomist, I make detailed drawings of species that have only recently been discovered. I watched how the art students closely observed the specimens and created beautiful, accurate drawings. When their tutors advised them to add more dimension I felt it would ‘ruin’ the drawings, but I have to say that I am extremely enthusiastic about the end result.” (Tim Deprez, post-doc researcher, Marine Biology research group, UGent)

“It is actually funny to see youngsters, who are used to interactive museums filled with games, screens and buttons get excited over an old-fashioned, Russian style museum full of skeletons and cupboards with pots in which animals and organs are exhibited.” (Tim Deprez, post-doc researcher, Marine Biology research group, UGent)

“The fact that young children are stunned when you show them some strange sea organisms and a microscope is to be expected, but to see that it had a similar effect on adults, surprises me. Many had never used a microscope before, let alone a crab, queen crab or octopus up close. They were truly entertained!” (Tim Deprez, post-doc researcher, Marine Biology research group, UGent)

“It is actually funny to see youngsters, who are used to interactive museums filled with games, screens and buttons get excited over an old-fashioned, Russian style museum full of skeletons and cupboards with pots in which animals and organs are exhibited.” (Tim Deprez, post-doc researcher, Marine Biology research group, UGent)

“The abundance of life forms in the sea and their diversity in shape appealed to many students resulting in them enthusiastically getting to work. Students of the sculpting workshop were evenly eager and took initiative to walk around and take in everything in the Zoology Museum, a permanent exhibition meant for biology students of the university. Those skeletons and mounted organisms - ranging from large to very small - that were displayed in a conventional manner, charmed them the most! Later the youth workshop, led by Celine Butaye and Karen van Gullik, visited and was provided with explanation by Dr. Tim Deprez, Dr Deprez, who is specialised in describing and studying species, also held an evening session for an audience of mature students from different courses. The vast number of shapes and structures of less common sea organisms were examined through microscopes. Students Illustration and Cartoon were assigned a special task: design a postcard and series of stamps based on the discoveries of the day!”

From a social point of view, museums play a key role in teaching scientific concepts to the general public. Just as how an exhibition on sea organisms enlightens people about the diversity of the seas. Our seas and oceans are home to a large spectrum of known and unknown species. It is estimated that 86% of all animals on earth live in the sea and that all large groups of organisms, “the phyla”, exist in the sea and are sometimes even exclusively found there. The Natural Science Museum in Brussels and the Zoology Museum of Gent University, have on display an elaborate collection of marine organisms. These organisms are used for research and during presentation for large audiences. There are also online sources that gather information about species such as the World Register of Marine Species and the Encyclopedia of life. The Natural Science Museum in Brussels and the Zoology Museum of Gent University, have on display an elaborate collection of marine organisms. These organisms are used for research and during presentation for large audiences. There are also online sources that gather information about species such as the World Register of Marine Species and the Encyclopedia of life.

From a social point of view, museums play a key role in teaching scientific concepts to the general public. Just as how an exhibition on sea organisms enlightens people about the diversity of the seas. Our seas and oceans are home to a large spectrum of known and unknown species. It is estimated that 86% of all animals on earth live in the sea and that all large groups of organisms, “the phyla”, exist in the sea and are sometimes even exclusively found there. The Natural Science Museum in Brussels and the Zoology Museum of Gent University, have on display an elaborate collection of marine organisms. These organisms are used for research and during presentation for large audiences. There are also online sources that gather information about species such as the World Register of Marine Species and the Encyclopedia of life.

From a social point of view, museums play a key role in teaching scientific concepts to the general public. Just as how an exhibition on sea organisms enlightens people about the diversity of the seas. Our seas and oceans are home to a large spectrum of known and unknown species. It is estimated that 86% of all animals on earth live in the sea and that all large groups of organisms, “the phyla”, exist in the sea and are sometimes even exclusively found there. The Natural Science Museum in Brussels and the Zoology Museum of Gent University, have on display an elaborate collection of marine organisms. These organisms are used for research and during presentation for large audiences. There are also online sources that gather information about species such as the World Register of Marine Species and the Encyclopedia of life.
Artwork 01: Stamps and postcards
Illustration and Cartoon
mentored by Stijn Gisquière & Ineke Marynissen
Variety of materials and different techniques, graphic software

Artwork 02: Living in a box
HenKe (Henk De Fevere), 4th year Sculpturing
Metal, shells, beach finds, plastic, paint
assembly technique
Size: H: 50cm, W: 63cm, D: 12 cm

Artwork 03: Untitled
Children workshop
Museum of Fine Arts
mentored by Céline Butaye and Karen Van Gollik
Variety of materials, locker
Size: variable dimensions
Pencil drawings
Species richness
Registers
Adaptations
Changing environment

04 New species
Describing species is one of the oldest methodologies of biological scientific research. A new species is traditionally illustrated and described in detail. The researcher must have extensive knowledge of the various forms within the group to which the species belong. Although photography now allows objective illustration of the organisms, new species are still described on the basis of detailed drawings. This allows the merging of different observations and to make a 2D representation of a 3D organism. Model copies of newly described species are kept in museum collections to be used in the future for comparative research. Following specific rules, new species are assigned a bipartite Latin name: a genus and a species name. Although it is customary that the name is chosen according to certain rules and that it reflects a typical characteristic of the described species, there are numerous creative exceptions: *Abra cadabra* (type of mussel) and *Phialella zappai* (jellyfish named after musician Frank Zappa).

Marine biologist Tim Deprez of the Marine Biology research group attended classes at the art academy and found in his taxonomic work, for which new species are described and drawn in utmost detail, a good balance between his scientific and artistic skills. He invited teacher Veerle Van Nuffelen to the lab to brainstorm about microscopes, preserved animals in glass containers, taxonomical drawings and identification books. Next they went to the children workshop. He simulated that the class had been shipwrecked and had stranded on a deserted island. The animals they encountered there were all unfamiliar to them and had to be described. Tim Deprez had brought with him a collection of exotic animals and several microscopes for the children. They were asked to describe and come up with a new name for the species. Also a few teachers and adults let their imagination take them away and created new, scientifically unknown species and mutants.

“Children of this age (6-7 years) do not yet have the technical capability to draw realistically. They still make sense of everything using their imagination and expectations. That is why the enlarged drawings of (existing) species look like new, unfamiliar organisms.” (Veerle Van Nuffelen, teacher children workshop)

“Tim presented the material in a very playful way to my youngest group of 6-7 year olds, by starting off with talking about "Pirate Peter" and a shipwreck. He immediately caught the children's attention. For some of them the explanation that followed was still a bit too much. They wanted to directly start playing with the jars full of animals they had never seen before.” (Veerle Van Nuffelen, teacher children workshop)

“I also enjoyed introducing the fundamentals of my work to the youngest children (6-7 years). Probably for most of them it was their first time looking through a microscope and coming into contact with organisms which they didn’t know existed: a wow effect.” (Tim Deprez, post-doc researcher Marine Biology research group)

“Tim presented the material in a very playful way to my youngest group of 6-7 year olds, by starting off with talking about "Pirate Peter" and a shipwreck. He immediately caught the children’s attention. For some of them the explanation that followed was still a bit too much. They wanted to directly start playing with the jars full of animals they had never seen before.” (Veerle Van Nuffelen, teacher children workshop)

“I also enjoyed introducing the fundamentals of my work to the youngest children (6-7 years). Probably for most of them it was their first time looking through a microscope and coming into contact with organisms which they didn’t know existed: a wow effect.” (Tim Deprez, post-doc researcher Marine Biology research group)

“Children of this age (6-7 years) do not yet have the technical capability to draw realistically. They still make sense of everything using their imagination and expectations. That is why the enlarged drawings of (existing) species look like new, unfamiliar organisms.” (Veerle Van Nuffelen, teacher children workshop)

“Tim presented the material in a very playful way to my youngest group of 6-7 year olds, by starting off with talking about "Pirate Peter" and a shipwreck. He immediately caught the children’s attention. For some of them the explanation that followed was still a bit too much. They wanted to directly start playing with the jars full of animals they had never seen before.” (Veerle Van Nuffelen, teacher children workshop)
Artwork 01: Giants
Youth workshop mentored by Veerle Van Nuffelen
Enlarged print of drawings, wooden kube, blue ink, aquarell pencil, sepia bistre, charcoal
Size: L: 90cm, W: 90cm, H: 90cm

Artwork 02: Monsters of the sea
Youth workshop mentored by Viola van Damme
Paper-maché, tape, powder paint
Artwork 03: Evolution
Ingo Casteleyn 2nd year
Mixed media
Two-part work:
Standing: headlight, photo on mica
Hanging: wax, water, plastic

Artwork 04: Sea organ
Valerie Vanheule 2nd year Sculpturing
mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Paraffin wax

Artwork 05: Primeval mother
Danny Goovaert
Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Styrofoam, sponge
Size: H: 50cm
Deep sea

Extreme environment
Dark, cold, pressure
Luminous organisms
Creatures
Living fossil
For a long time the deep sea was thought to be ‘lifeless’. It was Darwin who was the first to suggest that the deep sea is a hideout for living fossils, after which researchers initiated expeditions and found there to be an unexpected, abundant array of species. Today, the deep sea can be explored using underwater robots (ROVs or Remote Operated Vehicles) which has led to a more heterogeneic picture than we thought possible. In this way, not only soft ground was discovered but also habitats such as hydrothermal vents and characteristic deep sea cold gas vents. These release large volumes of methane and sulphides. The fauna present at these sites live in symbioses with bacteria, who use the gases as an energy source and convert them into food for the organisms inside which they live. In other locations in the deep sea it is a matter of time before food from the surface water layers makes its way down: dead algae, marine snow, whale corpses, … The limited supply of food is without waste used by the diverse yet often strange looking and fluorescent deep sea creatures.

Many artists eagerly got to work, if not straight away, after an interesting presentation about the deep sea, by Professor Ann: a deep sea researcher. At the academy, she gave a presentation for several children workshops and groups of adults. The same presentation was later repeated by Katja Guiliñi and Dr. Nancy Fockeley from VLIZ for children workshops. The array of life forms that exist in the deep sea - without light, under high pressure and with little food - made people’s jaws drop and eyes widen. A lot of enthusiasm was expressed for the life and work aboard a research submarine, with its grippers attached to long cables and its innovative robots.

“I once saw a documentary about ship wrecks on TV which has always stayed at the back of my mind, so the ocean floor and the deep sea in particular, fascinate me enormously.” (Hilde Rosseau, Mixed media)

“I have boasted a lot to my family and friends about the project and talked about what kept me busy outside the sessions. I may not have made any works of art on the deep sea for the exposition, but when my grandkids came over, I drew deep sea creatures with them. Being the children of two biologists, they already seemed to know more about the topic than me.” (Annelies Coene, Sculpturing)

“After receiving the specific keywords from you regarding the deep sea and deep sea creatures, I started browsing about them online. We used the information I found to make a start in the youth workshop.” (Wina Bogaert, teacher youth workshop)

After a long time the deep sea was thought to be ‘lifeless’. It was Darwin who was the first to suggest that the deep sea is a hideout for living fossils, after which researchers initiated expeditions and found there to be an unexpected, abundant array of species. Today, the deep sea can be explored using underwater robots (ROVs or Remote Operated Vehicles) which has led to a more heterogeneic picture than we thought possible. In this way, not only soft ground was discovered but also habitats such as hydrothermal vents and characteristic deep sea cold gas vents. These release large volumes of methane and sulphides. The fauna present at these sites live in symbioses with bacteria, who use the gases as an energy source and convert them into food for the organisms inside which they live. In other locations in the deep sea it is a matter of time before food from the surface water layers makes its way down: dead algae, marine snow, whale corpses, … The limited supply of food is without waste used by the diverse yet often strange looking and fluorescent deep sea creatures.

Many artists eagerly got to work, if not straight away, after an interesting presentation about the deep sea, by Professor Ann: a deep sea researcher. At the academy, she gave a presentation for several children workshops and groups of adults. The same presentation was later repeated by Katja Guiliñi and Dr. Nancy Fockeley from VLIZ for children workshops. The array of life forms that exist in the deep sea - without light, under high pressure and with little food - made people’s jaws drop and eyes widen. A lot of enthusiasm was expressed for the life and work aboard a research submarine, with its grippers attached to long cables and its innovative robots.

“I once saw a documentary about ship wrecks on TV which has always stayed at the back of my mind, so the ocean floor and the deep sea in particular, fascinate me enormously.” (Hilde Rosseau, Mixed media)

“I have boasted a lot to my family and friends about the project and talked about what kept me busy outside the sessions. I may not have made any works of art on the deep sea for the exposition, but when my grandkids came over, I drew deep sea creatures with them. Being the children of two biologists, they already seemed to know more about the topic than me.” (Annelies Coene, Sculpturing)

“After receiving the specific keywords from you regarding the deep sea and deep sea creatures, I started browsing about them online. We used the information I found to make a start in the youth workshop.” (Wina Bogaert, teacher youth workshop)
Artwork 01:
Stills from the animated movie “Behold the mutated biodiversity: metamorphoses”
Animation art, high degree mentored by Christel Degros, Iva Cracco and Ann Barbier
Cartoon, line animation on paper
Time: 1 min

Artwork 02:
Stills from the animated movie “Deep sea”
Animation art, high degree mentored by Christel Degros
Greenkey technique: plastic canvas, old tools
Time: 2 min 41 seconds

Artwork 03:
Phantasms of the sea
Visual art mentored by Wino Roggevart
Pastels on black paper

Artwork 04:
Looking at the deep sea
Children workshop Claeys-Bouüaert mentored by Marianne Stevens
Fluorescent paint, paper, light, box
Size: W: 100cm, H: 60cm
Artwork 01: Whale in the deep sea
Solveig De Clippel, Graphic art 2nd year mentored by Marnix Everaert

Artwork 02: Shadow in the fog
Hilde Rosseau, Mixed media 1st year mentored by Hendrik Vermeulen
Installation: paraffin, metal, plaster, LED

Artwork 03: Untitled
Pia Cabuy, Painting 3th year mentored by Chris Vanheveren
Cryptic DNA Roundworms Identical

Look alikes
We can differentiate species by their appearance.

Sometimes the difference is visible with the naked eye, while at other times a microscope is needed. If they display no dissimilarities, biologists can conclude these are the same species. From the study of genes, it appears that what we originally consider to be one species often includes several hidden or ‘cryptic’ species. These cryptic species exist together, but cannot mate. In between the sand grains live very small (<2mm) roundworms, the nematodes. Recent research on the genes of identical looking roundworms often reveals hidden species. But according to Darwin’s theory, species that strongly resemble each other can never live together due to competition. So are we really dealing with species that strongly resemble each other, yet appear to be different species?

Explaining to primary school children that you are conducting research on cryptic species in the meiofauna was not the easiest task for Jelle Van Campenhout and Nele Demeester of the Marine Biology research group. Yet, they managed to bring the children into contact with the tiny sea monsters that live in between the sand grains. And the fact that you - just like identical twins - can have the same appearance, but can still be very different regarding what you eat and how you live. After the session, DNA was no longer unfamiliar to them.

"I had already started designing sea monsters with the children when Jelle came to visit the class. This timing was not ideal because the children struggled to see the link between my assignment and his story about small animals that live in between the sand grains and strongly resemble each other, yet appear to be different species." (Viola Vandomme, teacher children workshop)

"Initially I was afraid that the scientists would use too many difficult and technical terms, especially for my children’s workshop. But they really put a lot of effort into clearly explaining what they do." (Marie-Ange Demuysere, teacher children workshop)

"The project has changed a lot within the academy. It was a frequent topic of discussion between teachers. The topic was infectious, that doesn’t happen so often with other imposed themes. These are usually too broad and difficult to fill." (Marie-Ange Demuysere, teacher children workshop)

"It was a lot of fun to join the children in making crafts at the end. That way I could also find out what the children ended up doing. I do think however that a talk with the teacher and providing each other with mutual feedback (on the presentation and completed assignment) could have made the interaction between science and art even better." (Nele Demeester, PhD student Marine Biology research group)

"I am used to interacting with young children, but I had absolutely no experience talking about my research to children of that age group. I was very surprised about their intelligent questions at the end. Material I had skipped because I regard them as general knowledge.

"I am used to interacting with young children, but I had absolutely no experience talking about my research to children of that age group. I was very surprised about their intelligent questions at the end. Material I had skipped because I regard them as general knowledge." (Nele Demeester, PhD student Marine Biology research group)

"Initially I was afraid that the scientists would use too many difficult and technical terms, especially for my children’s workshop. But they really put a lot of effort into clearly explaining what they do." (Marie-Ange Demuysere, teacher children workshop)

"Initially I was afraid that the scientists would use too many difficult and technical terms, especially for my children’s workshop. But they really put a lot of effort into clearly explaining what they do." (Marie-Ange Demuysere, teacher children workshop)
Artwork 01:
Twins Children workshop mentored by Viola Van Damme
Fabric, paper, paint, white chalk, charcoal, East-Indian ink
Size: A3

Artwork 02:
Twins Children workshop mentored by Marie-Ange Demuysero
Test tubes, yarn, mirrors, cardboard, pencils
To eat and to be eaten

Food web
Copepods
Energy requirement
Mouth parts
Food webs in the sea are complex and vulnerable. At the bottom of the food web, bacteria and diatoms for example constitute the main food source for small animals such as roundworms and copepods (<1mm). These small animals, the meiofauna, are in turn an important food source for larger animals such as prawns, crabs and fish, which then again are eaten by, amongst others, large fish and humans. Who eats what and how much is researched in lab and field experiments. Copepods are one of the animals researched because they play a key role in the food web. There are many different species of copepods, each of a distinct form. They collect food using complex mouth parts which contain brushes and spikes. Next to observation also markers are added to their food to investigate how they metabolise it. In this manner, the food preference of a species and how much energy it provides them with can be researched as well as what happens when their environment is altered.

Marleen De Troch held 4 sessions for the children workshops of Vin Lenaerts and MarieAnge Demuyseere concerning the life and wellbeing of small copepods. Everything had to be moved for each new session requiring her to wake up extra early. Then she would drive her wagon to the riverbank of the Westerschelde in The Netherlands to slog in the mud and collect buckets of silt, as this contains numerous animals that children can observe through a microscope. But first these animals had to be picked out of the sludge on a light bench. Marleen told a captivating story, played a video and presented various beautiful pictures. Student Eva Werbrouck came along and told an interactive story about her research on copepods in Kenya.

"Marleen and Eva gave us a glance of such a beautiful and unfamiliar world." (MarieAnge Demuyseere, teacher children workshops, orientation year adults and painting)

"I believe that someone who stands before a class must be like a magician. He or she must be able to 'enchant' the children and captivate them with their story. I think that Marleen and Eva definitely managed to achieve this!" (Vin Lenaerts, teacher children workshops)

"It was wonderful to see the marvel on the children's faces; to see them staring with wide open eyes and mouths at the unfamiliar marine life. You sometimes forget that that amazement for marine life is what drives us researchers to keep on going." (Marleen De Troch, post-doc researcher Marine Biology research group)

"I get along very well with the teachers Vin and MarieAnge. Probably because artists and scientists have in common: good observation skills, astonishment and a lot of creativity." (Marleen De Troch, post-doc researcher Marine Biology research group)

"I can't smell the sea enough! Let's draw some more sea!" (Enthusiastically to the children while they were sketching the tiny animals living in between sand grains) (Vin Lenaerts, teacher children workshops)

"It can't smell the sea enough! Let's draw some more sea!" (Enthusiastically to the children while they were sketching the tiny animals living in between sand grains) (Vin Lenaerts, teacher children workshops)

"I can't smell the sea enough! Let's draw some more sea!" (Enthusiastically to the children while they were sketching the tiny animals living in between sand grains) (Vin Lenaerts, teacher children workshops)

"I can't smell the sea enough! Let's draw some more sea!" (Enthusiastically to the children while they were sketching the tiny animals living in between sand grains) (Vin Lenaerts, teacher children workshops)
/Artwork 01:
Eaten
Children workshop
mentored by Vin Lenaerts
Paper, colour pencils
Size: A3

/Artwork 02:
Eaten II
Children workshop
mentored by Vin Lenaerts and Marie-Ange Demuysero
Paper, variety of colouring techniques
Toxic algae
Marine toxins
Measuring techniques
Waste water
Micro pollutants

Poison in the sea / All water flows to the sea
The ever increasing world population and the mass production of chemical agents - including medicines, beauty products and pesticides - are responsible for our waste water containing a lot of pollutants. Due to the discharge of waste water, the drainage of farmland and precipitation, these pollutants end up in rivers, the sea and in the organisms that live here. The presence of these substances in our water is being researched as well as their effects (toxic, hormone altering, causing bacterial resistance) on humans and animals. This increase in influx of wastewater, in combination to the rising temperature (as a result of the greenhouse effect), has resulted in the ability of certain toxic algae (that in the past exclusively existed in tropical water) to now also bloom in our region. The poisons or toxins which these algae produce can also be taken up by sea creatures such as mussels or oysters and in this way lead to disease in humans.

Using modern appliances, the pollutants as well as the toxins in the seawater and in organisms can be accurately measured. Modern and innovative analysis techniques are being developed to detect very low concentrations in a reliable and extremely sensitive manner. Furthermore, research is also being conducted to determine how residual materials of medicines can be removed from wastewater through the development of advanced filtering processes. The water that flows towards the sea will then be purer.

Teacher Parcifal Neyt, together with 10 students Drawing, visited the chemical analysis laboratory in Merelbeke. Professor Lynn Vanhaecke guided the group around the diverse instruments used to analyse water and sediment samples for traces of chemical components. The instruments did little to trigger the imagination of the artists, but the images of harmful algal blooms intrigued them more. The painting students led by MarieAnge Demuysere were invited to visit the laboratory of the Organic Environmental Chemistry and Technology research group. The entire evening, Professor Kristof Demeestere and his PhD students Xander Van Doorslaer and Leendert Vergeynst illustrated their research methods used to detect micro-pollutants in (sea) water. Even a dilution experiment was carried out (with coffee and sugar) to highlight the low concentrations that are worked with. Also the pioneering research regarding the development of new water filtering techniques - to prevent certain residual parts of medicines from passing through the filter stations - was demonstrated with an experiment.
Artwork 01:
Famous oceanographers
Visual art, lower degree
mentored by Parcifal Neyt
Marble technique, oil paint on paper
Size: A3

Artwork 02:
Famous oceanographers
Drawing, specialisation
year mentored by Parcifal Neyt
Marble technique, oil paint on paper
Size: A3

Artwork 03:
All water flows into
the sea
Orientation year
mentored by Marie-Ange Demuyseere
Cardboard box, variety of materials
Size: A2

Artwork 04:
The water carrier
Micheline Beddeleem.
Sculpturing mentored by Goran Grahovac

Artwork 05:
Unhealthy sea
Kristof Rosseel,
Orientation year
mentored by Céline Bataye
Coloured water, plastic container, infusion, dust cloak
Power
Tide
Water movement
Wind- & other waves
Tsunamis

09
Waves
Different types of waves exist, depending on how they are formed. Wind waves originate when there is a taught wind above the ocean, while tidal waves originate due to the attractive forces of the sun and moon, wash waves develop from drainage after a rain shower and tsunamis from the shifting of the ocean floor.

Wind waves undergo a cycle: they are born in the sea during a storm with a taught wind and develop until they reach their maximum magnitude. They can propagate for several thousands of kilometers. When the wind waves end up in shallow water, they are able to change direction (refraction) or weaken (breach). Eventually the wind wave dies out on the beach or against a jetty.

The way in which a wave propagates is called kinematics. In the case of wind and tidal waves, the movement is based on elliptically shaped lanes of water molecules under the water surface. Wash waves and tsunamis are on the other hand a permanent displacement of a mass of water.

People that attended the session about waves, held by engineer Professor Peter De Troch, will surely never look at the sea in the same light. Peter talked about waves that are broken under the impact of the wind, enter a puberty phase during which they strengthen and find their way, after which they enter their adult life (during which they travel long distances without the driving force of the wind) and finally die in shallow water near the coast. He explained about waves that break, that integrate with each other and those that change direction, as well as about tidal waves, wash waves and tsunamis. To elucidate how waves behave, they were even compared to cyclists on a race track. This is a good example of how a theoretical research theme can be communicated in a comprehensible way to children and adults!

“I found the explanation about waves and tides very interesting, yet my work arose purely out of emotion and instinct. In the past I worked at sea. Nowadays I still visit the coast, but it can’t compare to the swell of the ocean.”

(Ann d’Heygere, Mixed media)

“The sessions by Peter Troch elicited a feeling of awe and fascination in me and my students for this century old, continuously ongoing nature phenomenon, waves at sea, and for how man strives to control it.”

(Céline Butaye, teacher of youth workshop and orientation year adults)

“I often use aluminum wire in my work. Shining coloured light on it, produces a tingling effect. It got me reminiscing about the rare occasion - on a warm summer eve - that I have seen the waves light up phosphorescently due to the bloom in the water.”

(Marinette Vande Vyvere, Mixed media)

“I often use aluminum wire in my work. Shining coloured light on it, produces a tingling effect. It got me reminiscing about the rare occasion - on a warm summer eve - that I have seen the waves light up phosphorescently due to the bloom in the water.”

(Marinette Vande Vyvere, Mixed media)

“Thanks to Marine Art I was able to delve deeper, together with colleagues, into a subject that has always interested me. It was nice to exchange ideas, attend lectures and anticipate the exhibition where we could see what the other art departments of our academy, as well as the children, had created. The interaction between and combination of science and art: I’m all for it.”

(Lina Ceulemans, Painting)

“Thanks to Marine Art I was able to delve deeper, together with colleagues, into a subject that has always interested me. It was nice to exchange ideas, attend lectures and anticipate the exhibition where we could see what the other art departments of our academy, as well as the children, had created. The interaction between and combination of science and art: I’m all for it.”

(Lina Ceulemans, Painting)

“Thanks to Marine Art I was able to delve deeper, together with colleagues, into a subject that has always interested me. It was nice to exchange ideas, attend lectures and anticipate the exhibition where we could see what the other art departments of our academy, as well as the children, had created. The interaction between and combination of science and art: I’m all for it.”

(Lina Ceulemans, Painting)

“I found the explanation about waves and tides very interesting, yet my work arose purely out of emotion and instinct. In the past I worked at sea. Nowadays I still visit the coast, but it can’t compare to the swell of the ocean.”

(Ann d’Heygere, Mixed media)

“The sessions by Peter Troch elicited a feeling of awe and fascination in me and my students for this century old, continuously ongoing nature phenomenon, waves at sea, and for how man strives to control it.”

(Céline Butaye, teacher of youth workshop and orientation year adults)

“I often use aluminum wire in my work. Shining coloured light on it, produces a tingling effect. It got me reminiscing about the rare occasion - on a warm summer eve - that I have seen the waves light up phosphorescently due to the bloom in the water.”

(Marinette Vande Vyvere, Mixed media)

“Thanks to Marine Art I was able to delve deeper, together with colleagues, into a subject that has always interested me. It was nice to exchange ideas, attend lectures and anticipate the exhibition where we could see what the other art departments of our academy, as well as the children, had created. The interaction between and combination of science and art: I’m all for it.”

(Lina Ceulemans, Painting)
Artwork 01:
Tsunami
Youth workshop mentored by Viola Vandomme
Paper, pastels
Size: A3

Artwork 02:
Swell
Ann d’Heygere 4th year
Mixed media mentored by Hendrik Vermeulen
Paraffin wax, nylon, pigment

Artwork 03:
Stills from the animated movie “Tsunami”
Brecht Ameije 3th year
Animation art mentored by Coert Vergnaeae and Carl Van Isacker
Whiteboard animation with whiteboard marker
Time: 39 sec
Artwork 04:
Wave
Marinette Vande Vyvere
Specialisation year Mixed media
mentored by Hendrik Vermeulen
Wire, lighting

Artwork 05:
Wave
Lina Ceulemans 4th year Painting
mentored by Chris Vanbeveren
Acryl on Canvas
Size: W: 115cm, L: 75 cm

Artwork 06:
Herald
Miriam Ooms 1st year Mixed media
mentored by Hendrik Vermeulen
Oil, jack, styrofoam, paint
The world’s climate is evidently changing, which is causing fish populations, other animal classes (octopuses and shells) and plants to shift towards poles. It inevitably also affects the ocean and seas. Changes in plankton are disorienting the food web, not in the least in the fast warming North Sea. Unusual whales and diatoms are suddenly appearing, via routes that are now ice free, back in ocean basins where they had long disappeared. Also, here and there, jellyfish invasions appear to be increasing in our warm, polluted and depleted seas. Furthermore, the sea level is rising due to both the melting ice packed on land and the expansion of water at higher temperatures. On the Belgian coast the average sea level has risen by 15-20 cm over the past 80 years and continues to rise at a rate of 2.5-3 mm per year. In order to cope with the alarmingly high expected sea level rise (15-95 cm) by 2100, a lot of creativity and research is necessary.

In contrast to the warming of the earth, the acidification of the ocean is a less well known phenomenon that results from our excessive CO2 emission. Since the start of the industrial revolution, approximately 1/3rd of carbon dioxide emitted due to human activity gets taken up by the ocean. As a result, the ocean water becomes more acidic while the carbonate (CO3²-) concentration (which corals, mollusks, crustaceans, and sea urchin need to build their lime skeleton or shell) drops. If the pH maintains to decrease in the future, this could imply that their skeletons and shells will dissolve or will form with difficulty or remain incomplete. These organisms that undergo calcification play a paramount role in the food chain, and coral and shell reefs contribute to the maintenance of species diversity in the sea, by serving as a habitat for numerous other organisms. How will all these animals respond to the acidification of the sea?

What effect does a low pH have on sea organisms? wondered the oldest kids of the children workshop taught by Veerle Van Nuffelen. Ann Vanreusel came to the studio to give some explanation. After a virtual dive into the deep sea, some experiments were carried out regarding carbon dioxide, pH, acidic fluids and dissolving shells and chicken eggs. From Experimental painting, the idea arose to look at the rise in sea level from the perspective of different disciplines. Due to popular demand, a trip to ‘Zeeheldenplein’ in Ostend was organized, with explanations delivered by hydraulic engineer Tina Mertens and marine biologist Jan Seys – who gave a broader insight into the effect of climate change on the sea and on the life within it. Due to overfishing, too many nutrients and the rise in the temperature of the sea, jellyfish are becoming more abundant. This had already been noticed by Oona De Keyzer and Annick Mahieu. After a session on jellyfish (during which jellyfish were even tasted!), together with their students from the children and youth workshops, they got to work and created an impressive construction using dozens of jellyfish.

“It has made me realize that marine science has much more to offer than fish, corals, and low and high tides. Also, I now appreciate that you can only work with what you already know and that you can only learn about the unknown! How do you discover the key words, which allow you to find a lot of information about the unknown on the internet?” (Veerle Van Nuffelen, teacher children workshop)

“The children found it very cool and they didn’t hesitate to show their knowledge of the sea. Our work arose from the story of a turtle that swallowed a plastic bag, thinking it was a jellyfish. It was also definitely a big plus that a scientist attended, as he was able to answer all the children’s questions.” (Oona De Keyser, teacher children workshop)

“I had difficulty understanding Ann Vanreusel: she expressed herself using lots of scientific terms. I was afraid that she would talk in a jargon way to the children in the class. But she truly delivered the information in a simple and comprehensible way, doing an excellent job! The short experiments also helped to demonstrate the principles.” (Veerle Van Nuffelen, teacher children workshop)

“Tina Mertens and marine biologist Jan Seys – who gave a broader insight into the effect of climate change on the sea and on the life within it. Due to overfishing, too many nutrients and the rise in the temperature of the sea, jellyfish are becoming more abundant. This had already been noticed by Oona De Keyzer and Annick Mahieu. After a session on jellyfish (during which jellyfish were even tasted!), together with their students from the children and youth workshops, they got to work and created an impressive construction using dozens of jellyfish.” (Miro (12 year), student children workshop)
Artwork 01: Fotouarium
Wim De Block 3th year
Photo art
Photos printed on “Tecco Glossy Ultra White”
Size: A4

Artwork 02: To much jellyfish
Children workshop
mentored by Oona De Keizer & Annick Mahieu
Plastic bags, strings, fabric, variety of materials

Artwork 03: Untitled
Michel Teerlinck, Experimental Painting 2nd year
mentored by Annick Mahieu
To stay fresh for longer

Shelf life
Atmosphere
Package
Decay
Bacteria
Fish and fish products have a very fast expiry date, resulting in them often ending up in the garbage bin. That is why intensive research is undertaken into the ways to postpone their expiry, so that the products are fresher when they reach the consumer. One of the most important techniques used to achieve this, is Modified Atmosphere Packaging (MAP). This process involves replacing the existing air inside the package with a composition of CO₂, oxygen and nitrogen. But which combination of gases leads to the longest shelf life? To answer this question, microbiological analysis techniques are used to investigate the growth of a number of bacteria present in packaged fish.

For a whole morning, Professor Frank Devlieghere opened the Laboratory of Food Microbiology and Food Preservation on the Coupure street exclusively for the orientation year for adults led by Marie-Ange Demuysere. After a presentation regarding the safe storage of food in general and of fish products in particular, a guided tour took place around the research laboratories and the experimental packaging units. A visit without a smell...

"Before we visited professor Devlieghere’s laboratory, our group had already elaborately discussed and brainstormed about how to undertake this task. I regretted doing that, because that Saturday morning we obtained so much new information and impressions, with which we could have created something completely different.” (Student from the orientation year adults)

"The opportunity to work together with the university was very interesting: to find myself in places I do not usually visit and to come into contact with people I do not typically encounter.” (Annelies Coene, Sculpturing)

"I followed both the session regarding the plastic packaging of fish products (by Frank Devlieghere) and the session about plastic pollution in the sea (by Colin Janssen). I noticed that the two scientists did not consult each other. I believe that an exchange of knowledge and insights would benefit both.” (Peter de Pauw, Mixed media)

"Before we visited professor Devlieghere’s laboratory, our group had already elaborately discussed and brainstormed about how to undertake this task. I regretted doing that, because that Saturday morning we obtained so much new information and impressions, with which we could have created something completely different.” (Student from the orientation year adults)
Artworks:
Wrapped Orientation year mentored by Marie-Ange Demuyser Cardboard boxes, clay, paint, plastic, paraffin Size: A2
Ripples in the sand
Underwater dunes
Observing with sound
Black smokers
Deep sea coral

12

Sandbanks
& ripples / Marine landscapes
It is sometimes said that we know more about the surface of the moon than the ocean floor. Of course the fact that the ocean floor is submerged under tens to thousands of metres of water, is one of the main reasons for this. There are numerous ways in which this sometimes complex ocean floor obtains its form. On our coast, mainly currents play an important role in this. Since the water depth and the distance are short, our ocean floor is well studied. Studies are carried out on the basis of bathymetric surveys, sampling and observing the floor using acoustic techniques.

That is how we discovered that our sea floor is composed of a landscape of complexly shaped sandbanks. Our Flemish sandbanks are covered by smaller sand dunes, on which even smaller sand ripples can be found. Knowledge about their appearance, composition and about how these marine landscapes are formed can help us predict which animal or plant communities, natural riches can exist here and what natural disasters can occur. This knowledge can then also be used to understand the even more unfamiliar and difficult to reach, deeper ocean floor. A beach walk at low tide between Bredele and Wenduine gives a good picture of the different small and big waves and ripples that can also be found in between and on sandbanks.

Geologist and professor David Van Rooij received three art teachers at the “Renard Center for Marine Geology” and informed them about the research carried out there regarding underwater landscapes and sea floors. The higher grade ‘animation film’, taught by Iza Cracco, even got a chance to go out at sea on the research ship Simon Stevin, where they could gain first-hand insight into how measurements are made. Geologist Vera Van Lancker attended the youth workshop of Gréline Butaye and Anton Retin to introduce the students to the world of sand. We learned how scientists investigate the form of sandbanks, sand dunes and sand ripples; how sand is constantly moving and repositioning itself; and that sand can take on all sorts of shapes and colours. So don’t just call sand ‘sand’!

Many students wanted more information about how the sea looks underwater, excluding the animals. By collaborating with the “Renard Center for Marine Geology” we delivered inspirational images to them: of sandbanks and sand dunes, coral reefs in the tropics and deep sea, but also of black smokers, deep sea troughs and mountains as well as the mid-Atlantic ridge.

"I had already made a start with my pupils, but WIZ insisted to come speak about the "other biodiversity". I have to admit that we acquired a lot of new knowledge from the story told by Annelies Goffin and Aina Hras Verbeek. It wasn’t just an explanation given by anyone, but by marine experts who deal with this topic daily." (Anrique Mahieu, teacher experimental Painting and Visual art)

"Since I sometimes see various surreal shapes on the Multibeam images we generate in our research, I imagined that this topic would also be of great interest to artists. I was intrigued to find out whether artists view these images in the same light." (David Van Rooij, professor at Renard Center for Marine Geology)

"On board of the research vessel Simon Stevin many sound recordings were made to incorporate into their animation. Strange, because geological recordings also work with sound signals that we sent and received and to what extent they bounce back." (David Van Rooij, Renard Center for Marine Geology)

"We were all gathered on the deck when David came running out of the control room with the message that we had missed "the moment of the day." When we later got to see the recordings, we couldn’t express the same enthusiasm, but we did admire David’s gusto.” (Iza Cracco, teacher Animation art)

"It was immediately obvious to me that I wanted to do something related to coral reefs.” (Anrique Mahieu, teacher children and youth workshop, experimental Painting)

"With my group of young students, we put together animation films regarding overfishing and plastic pollution. Apart from a scenario, also a décor had to be created in which the story is set. It is striking how the students think of the underwater world as merely a blue plane, while so many under water structures appear to exist.” (Danny De Vent, teacher Animation art)

"I was immediately convinced to participate in the project. I personally have a lot of contact with surfers, divers and sailors. They mainly work in the tropics, which has definitely made me want to do something related to coral reefs.” (Anrique Mahieu, teacher children and youth workshop, experimental Painting)
Artwork 01: And then there was sand... Animation art higher degree mentored by Iza Gracce Sand animation on photo and lightbox

Artwork 02: Underwater world Youth workshop mentored by Annique Mahieu Aquarium, water, beads

Artwork 03: Underwater world Youth workshop mentored by Annique Mahieu and Oona De Keyser Plastic, fabric, paint, buttons

Artwork 04: sandbanks Orientation year mentored by Céline Batise and Anton Retin Carpet, paper, paper tape, lots of paint

Size: L: 190cm, W: 140cm
Plastic waste
Litter
Micro particles
Entanglement
Suffocation

13 Islands made of debris
Inevitably you must have already noticed the increasing pollution on our beaches or you might have read in the newspaper about so-called garbage islands in the middle of the oceans. Rubbish in the sea is certainly a worldwide problem. Keep in mind, that for each piece of trash that floats around or washes up on the shore, five pieces lie on the ocean floor. Sixty to eighty % of all marine rubbish is plastic. Yearly, around 270 million tonne plastic is manufactured of which an estimated 10% ends up in the (marine) environment. On top of that, most plastics are difficult to degrade and therefore hang around tens to hundreds of years in our environment. The negative effects of this accumulation are: entanglement and suffocation. Research carried out by the UGent demonstrates that marine garbage is increasingly becoming an issue on our coast: did you know that on every kilometre of beach lies about 95 kg of garbage (of which 80-90% is plastic) and that per kg of sand 10 to 300 pieces of micro plastic (<1 mm) are present? Visible or invisible... it’s about time we take action.

In the press you must have heard about plastic pollution at sea: “plastic trash islands” or “great Pacific garbage patch” where the current brings together large and small fragments of plastic. Professor Colin Janssen and his colleagues research how serious the problem is in the Belgian part of the North Sea. How much plastic do you see on the beach and floating on the sea? And how much don’t we see because it’s lying on the sea floor or because it has been broken down and disseminated by the sun and sea into tiny particles that are no longer visible to the eye? Professor Janssen has twice delivered a presentation at the academy, once for the youth workshop and once for a group of mature students. The presentations were repeated by Ines Tavernier and Nancy Fockedey for various workshops. As a demonstration, garbage was collected from the beach and displayed. Standing around a mound of trash on the table, everyone could assess for themselves what one can find on the beach on an average day.

“To creatively solve a current problem had never really occurred to me. The issue of plastic pollution at sea was demonstrated well by confronting the class with real beach garbage and showing them pictures of animals in need (entangled or stomach full of plastic). It has made a lasting impression on the kids: a successful awareness process!” (Wim Van Cauweelen, teacher children-workshop)
Artwork 01: Plastic in the sea
Children workshop
De Buurt, De Krekel, Sint-Paulus mentored by Wim Van Cauwenberge
Papier-Machée, paint, plastic

Artwork 02: Ooh what a mess
Lower degree Animation art mentored by Iza Craveco
Animation with paper and plastic debris
Time: 33 sec.
Artwork 03: Untitled
Peter De Pauw 3th year
Mixed media mentored by
Hendrik Vermeulen
Plastic, debris, metal, paraffin

Artwork 04: Dead by ...
Gerda De Wolff first year
specialisation Painting
Paint, canvas

Artwork 05: Untitled
Sophie Coebeleux – Depraeter 2nd year
experimental Painting
Plastic, paint, canvas
I found it on the beach!
Although the beach may initially strike you as an empty stretch of sand, on and in between the grains of sand live numerous visible and invisible forms of life. If one looks clearly one can see many signs of life: small rolled up heaps of sand are an indication of buried lugworms; washed up weeds along the tideline or onto groynes; skeletons of sand hoppers and crabs; molluscs such as shellfish and yes, even flowers (sea rocket) can be found. Next to dead animals such as seabirds, washed up mammals and shells, there is also new life: egg capsules of whelks, sharks and rays and egg strings of squids or worms. The presence of man is also clearly noticeable. A large amount of garbage lies on or washes up onto the beach. There are also signs of long gone times: lumps of degraded peat (deposits of dead plant material). With a bit of luck you will also find culture historical treasures on the beach: from 16th century tobacco pipe heads from Gouda to plastic explosives from WWII. There is more to the beach than meets the eye.

Being a true man of the coast, Professor Colin Janssen told about things you can find on the beach. The youth workshop of Céline Butaye and Marieke De Munck found sand a big source of inspiration. They travelled to Ostend to make sand sculptures and later to see them be destroyed by the force of the rising water. They recreated miniatures of their sand sculptures in class. They received more information about sand from expert Vera Van Lancker: the differences in grain size, colour, shape and sorting.

"I visit the sea often and walk a lot on the beach. I also like collecting all sorts of things. I have always been very "sea minded", but by taking part in this project, my thoughts about the sea have changed. I have taken on a different perspective..." (Peter De Pauw, Mixed media)

"When creating works of art, you constantly start working with what you already know but this project has brought us into contact with material that has allowed us to take it a step further. Marine science is truly a completely different world!" (Iza Cracco, teacher Animation art)

"The fact that the project offered us a substantial base and that there is a common story behind all our tasks and the exposition was important. Otherwise, as art teachers, we really just do our own thing." (Elisabeth Makay, teacher children workshop).

"Photo: A lot of waste washes up on the beach, but also a lot of natural materials such as shells, wood, egg capsules..... This pile is the result of 4 hours search on 150m of beach."
/Artwork 01:
Sandcastles
Children workshop
mentored by Céline Brutay and Anton Retzin
Sand, glue, shells, seaweed

/Artwork 02:
Stranded
Benke Henk De Fevere)
4th year Sculpturing
mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Sand, polyester,...
Size: L: 280cm

/Artwork 03:
Untitled
Sophie Martens,
Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Plastic boxes, diversity of objects

/Artwork 04:
Drifted
Raj Eckhout, Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac
Wood, variable materials
15
Microworld in the mud

Mud
Layers
Bacteria
Colour
Due to the excessive use of fertilizers, too many nitrates get into our waterways. In the sediment of river floors—such as the Scheldt river—some bacteria are capable of removing nitrates from the overlying water. In some instances however, the nitrates merely get reduced by the bacteria to laughing gas (N2O). This is how bacteria play a critical part in the warming up of the earth, which is driven by greenhouse gases such as carbon dioxide (CO2), methane (CH4) and laughing gas (N2O). Through the use of core samples in the sediment, the bacterial species diversity in the area can be studied and also, those bacteria involved in nitrate removing processes can be isolated and identified. By further studying the DNA of these organisms, insight is gained into the genes involved in the nitrogen cycle.

Although it was microbiologist Helen Decleyre’s intention to take a group of students with her to the field (taking samples from the marshes of the Westerschelde), this was no longer possible due to the cold weather. Her research on micro life found in sludge of estuaries was instead demonstrated through a presentation and a tour of the laboratory of microbiology. Professor Anne Willems also came to join the group.

"I attended seven sessions of the project, including the microbiology session. The two female scientists put in a lot of effort, but still I was not convinced. Sessions about research on life in the sea, personally interested me more. Microbiology was a bit too conceptual for my liking." (Cathy Cortvriendt, Painting)

"I always find it interesting and inspiring to come into contact with people who think differently from me. Just like when I was standing at the expo looking at a particular work with a teacher of the academy. It was intriguing to realise that we both—each from our own life and world of thought—had a distinct interpretation about the same work. I find such meetings enriching." (Olivier De Clerck, professor at the research group Phycology)

"It was a very nice experience to work on a subject within the academy with both different teachers as well as various age groups. The children were so proud to see their work exposed together with the ‘artists’ work.’ (Oona De Keyser, teacher children workshops)

"In the distant past I studied teaching biology. I found the link with science very interesting; I immensely enjoyed myself and acquired a lot of new knowledge during the lectures and trips that you organised. Thanks for all your effort!" (Cathy Cortvriendt, Painting)

"I always find it interesting and inspiring to come into contact with people who think differently from me. Just like when I was standing at the expo looking at a particular work with a teacher of the academy. It was intriguing to realise that we both—each from our own life and world of thought—had a distinct interpretation about the same work. I find such meetings enriching." (Olivier De Clerck, professor at the research group Phycology)

"I attended seven sessions of the project, including the microbiology session. The two female scientists put in a lot of effort, but still I was not convinced. Sessions about research on life in the sea, personally interested me more. Microbiology was a bit too conceptual for my liking." (Cathy Cortvriendt, Painting)
Artwork 01: Swamp
Chris Decadt
specialisation year
Painting
Paint on canvas

Artwork 02: Untitled
Children workshop Het Trappenhuis mentored by Goran Grahovac
Paper, pencils, paint, pastels

Artwork 03: Untitled
Children workshop Het Trappenhuis mentored by Goran Grahovac
Agar, plastic containers, clay
Colours & shapes
Seadweed
Biotope
Micro & macro

16
Lettuce of the sea
Seaweeds contribute to the character of coasts, from the tropics to the polar circles. You have unquestionably already seen seaweed up close, when slipping on a jetty in Ostend or during low tide along the coastal rocks in Brittany. Seaweeds form a biotope where young fish and shellfish seek refuge against their attackers. Weeds serve as food for numerous animals such as periwinkles and common limpets, turtles, marine iguanas and even for humans. The numerous species take on an array of colours and forms. Through a combination of field work and laboratory experiments, ecological and historical factors that affect the makeup of weed communities are investigated. Also, DNA research provides information regarding the relationships between individuals on a local level as well as worldwide. This research allows the detection of changes in the species composition of weed communities that are the result of the introduction of exotic species or of the warming of the earth.

Frederique Steen, researcher at the phycology laboratory, presented information on large and small algae in a playful way to the children workshop taught by Marieke De Munck. Weeds expert Professor Olivier De Clerck organised a cosy evening session for adults in an overcrowded room at the academy. Here, we learned more about the abundant form and colour diversity of macro weeds and to what extent humans utilise them in all sort of applications. Professor De Clerck had brought with him part of his herbarium collection with dried weeds in addition to several beautiful picture books for the identification of macro weeds. The stunning patterns were attentively admired and photographed.
Artwork 01:
Seaweed
Youth workshop Huis van Alijn mentored by Marieke De Munck
Paint, canvas, paper, charcoal

Artwork 02:
Fleur Langerock 2nd year
Graphic art mentored by Vladimir Ivaneanu
Dry needle, chine-collé
Size: W: 21cm, H: 15cm

Artwork 03:
High as a tower and miles across
Monique Jansen 3th year
Graphic art mentored by Vladimir Ivaneanu
Woodcut, double print
Size: W: 70cm, H: 125cm

Artwork 04:
And then there was Kelp
Annelies Coene & Jolanda Zanetti 3th/4th
Sculpturing mentored by Maen Florin; Guy Timmerman, Corin Grahovac
Nylon stockings, imitation silk, sand, balloons
Size: L: 600cm W:300cm
Eating fish with a conscience
Every year the worldwide consumption of fish increases. This has a significant impact on fish populations and the marine environment. The populations of a significant number of fish species is overfished and some species even threaten to become extinct. Additionally, multiple fishing techniques destroy their habitat in the sea. Overfishing is thus in the long term not only detrimental for the marine ecosystem but also for the fishing business, which provides jobs to millions of people worldwide. Fishing must be approached from an ‘ecosystem perspective’ and it must take into account the most vulnerable of species and habitats. Alternative ecologically friendly fishing techniques are increasingly being developed. By purposely choosing for ‘responsibly’ and ‘sustainably’ caught fish you can limit your personal impact on the environment. A good choice considers the size of the fish population, its source, the fishing technique used and the fishing season. Want to know more? www.fishpop.be.

The taste of the fish on your plate is probably well known, but where does this fish come from, who caught it and are there still enough fish around? Arne Kinds works at the Institute of Agriculture and Fishery on sustainable fishing and came to the academy to talk about the research that is needed if we want to keep fish on the menu: how does that fish live, how is the catch followed up, kept from expiring, and most importantly, how can people become more aware of the fish they eat?

This proved a difficult task, but still, both youngsters and adults from different art departments started working on it.

“I was not aware that people are so actively researching various aspects of the sea, and I was also not aware of how far they have already come. On the other hand, it is also distressing to see that despite all our knowledge, we only see the condition of the ocean deteriorating.” (Annelies Coene, Sculpturing)

“I saw that the scientists got off to a good start; let’s let them continue! I do find it unfortunate that despite all the research carried out and the knowledge obtained from it, not more action is undertaken by the government. There is hardly any fish left in the sea…” (Henke (Henk De Fevere), Sculpturing)

“I was not aware that people are so actively researching various aspects of the sea, and I was also not aware of how far they have already come. On the other hand, it is also distressing to see that despite all our knowledge, we only see the condition of the ocean deteriorating.” (Annelies Coene, Sculpturing)

“I wanted to get to work without first attending a session. I was afraid to be steered into a particular direction. However, by working around an assigned theme you are challenged to think differently and to try something new. It is very inspiring and it allows you to make progress with your work.” (Myriam Grymonprez, Graphic art)

‘Photos 01 & 02: Beamtrawling is one of the fishing techniques used by fishermen. The net and tickler chains attached to the beam disturb the sea-bottom and the animals living in it.

‘Photo 03: Gurnard is offered as a good alternative to more overfished species such as sole or cod.'
Artwork 01:  
The lonely pebble  
Animation art, high degree mentored by Danny De Vent  
Cut-out animation, paper, paint, charcoal  
Time: 51 sec.

Artwork 02:  
Untitled  
Eric Fauconnier  
Sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac  
Oxidized iron

Artwork 03:  
S(c)ande  
HenKe (Henk De Fevere)  
4th year sculpturing mentored by Maen Florin, Guy Timmerman, Goran Grahovac  
Plastic, silicone, paint  
Size: W: 70cm, H: 125cm
Between the sand grains
Extremities
Environmental adaptations

Worms in micro and macro
Threadworms or ‘nematodes’ are small worms (<1mm) that exist from the tropics to the poles. They live in between sand grains at the bottom of seas, rivers and lakes. Meanwhile, already 28,000 species have been described, but it is estimated that 100,000 species exist. Especially the deep sea contains a large variety of species. In marine research, these animals are used to evaluate the seabed quality. However, nematodes are mainly known to be the cause of plant diseases causing them to destroy around 10% of the world’s crops. They can also cause disease in humans and other animals. Recently they have been used as an environmentally friendly means to fight insects. Surprisingly enough, they present many similarities to humans: they have intestines, muscles, nerves and their genes encode similar proteins. Because they are much simpler and transparent, reproduce only on certain days and can be frozen, they are the ideal experimental model. They are used to study the human ageing process as well as the mechanisms behind illnesses such as Alzheimer, obesity and cancer.

A group of 12 mature students eagerly accepted Nic Smol and Wilfriede Depraemer’s invitation to visit the Nematology Department of Ghent University. For each participant Nic had set up an experiment: under the binocular microscope tiny worms had to be picked up out of a liquid with thin needles and placed on a petridish. This thoroughly tested each person’s fine motor skills. The nearly invisible worms seemed to have found their way to the treat sitting on the other side of the petridish. In between, the students received information about research activities that takes place in the laboratory. The physique and lifestyle of nematodes – which is much more diverse in marine species than in land species – were enthusiastically introduced by means of a presentation and a video. But the most admiration was directed towards the taxonomic drawings of newly discovered species.

"I gained a lot from the sessions with the marine scientists. Even though you can nearly find everything online, when someone comes to personally talk about it, it has much more impact." (Henke (Henk De Fevere), Sculpturing)

"I admired and was fascinated by the way Prof. Wildrida Depraemer based her scientific work on art. She has an eye for composition, she puts her whole soul into her work and is very involved, just like an artist." (Luc Everaert, Painting)

"The project and the explanations inspired me to make something different from the usual. It encourages you to look at something from a different perspective as well as to think and work differently.” (Henke (Henk De Fevere), Sculpturing)

"At our academy we have all kinds of students: young and old, poor and rich, from a low and high educational background. For many it was a very good opportunity to work together with the university. Some were even very proud of this experience." (MarieAnge Demuysere, teacher children workshop, orientation year adults and Painting)

"I admired and was fascinated by the way Prof. Wildrida Depraemer based her scientific work on art. She has an eye for composition, she puts her whole soul into her work and is very involved, just like an artist.” (Luc Everaert, Painting)
Artwork:
Molusca caenogastropoda neolepetosidae Nr. 10013
HenKe (Henk De Fevere)
4th year sculpturing
Shell, silicone, nylon, metal fabric, polyester
Size: L: 36cm, W: 13cm, H: 24 cm
Pearls of the sea

Diversity of shapes
Diatoms
Food source
Oxygen production
Glass houses
Diatoms are miniscule creatures that are usually not visible by the naked eye. They are found everywhere where there is water. In the sea they are part of the phytoplankton but they are also found in between the sandgrains of the ocean floor. They form the basis of the foodweb and are an important dietary component for several small sea animals. Diatoms form a cell wall which comprises of silica; it looks like a glass capsule. They present an enormous morphological variety, from disk and star shaped to oblong. Also, they often form colonies. Due to their extraordinary shapes they are rightly considered the pearls of the sea. Although they are not closely associated with plants, they make use of chlorophyll. Yet they are not green, but a glistening gold colour due to the reflection of sunlight from their pigments and the chlorophyll. They undergo photosynthesis during which CO₂, water and sunlight are converted to sugars while oxygen is released. Together, all diatoms in the sea are responsible for the production of 1/5th of the world’s oxygen, so for every 5th breath we take, we should really be thanking the diatoms!

Marine biologists Lander Blommaert and Ines Tavernier visited various children workshops - led by Veerle Van Nuffelen and Elisabeth Makay - as well as the first year drawing class led by Joëlle Servais. They brought along live diatoms, a microscope and a presentation in addition to many images of highly magnified samples. Their shape variety, glass capsule and their critical role in the food chain, were an inspiration to many in the academy. Therefore, Professor Koen Sabbe invited a group of higher grade students studying sculpting, graphic arts and Painting, to the laboratory. A tour at the laboratory made sure that diatoms became a real source of inspiration.
Artwork 01:
Diatoms
Children workshop De Klaverdries mentored by Elisabeth Mekay
Charcoal; bister
Size: L: 50cm, W: 35cm

Artwork 02:
Glass pearls of the sea
Children workshop De Feniks mentored by Veerle Van Nuffelen
Pâte de verre; white ink on black paper; light
Size: L: 120cm, W: 80cm, H: 60cm
Artwork 03: Diatom: cupcake of the sea
Drawing 1st year higher degree mentored by Joëlle Servais
Paper cupcakes; pencil; cardboard boxes, led-lights

Artwork 04: Diatosea
Myriam Grymonprez 3th year Graphic-art
Fabric objects: dry needle on PVC, printed in fabric
Size: L: 70cm, W: 50cm, H: 10cm
Ground: inked PVC plates
Size: L: 400cm, W: 280cm
Just like all animals, also marine fish and mammals can get sick. The ‘disease’ often goes unnoticed, until a large percentage of the population dies. Autopsies are carried out to determine the cause of death, during which the animal’s internal and external appearance are inspected for any visible abnormalities. Additionally, small tissue samples are obtained from the various organs and are investigated microscopically or analysed for the presence of bacteria, viruses, parasites and toxic chemicals. On the basis of the results, a diagnosis is then sought. This allows more efficient treatment and control strategies to be developed.

Eric Cox visited the academy to deliver two sessions to the children workshop (8-12 years) of teacher Parcifal Neyt. Referring to pictures and simple graphics, Eric told about the research that occurs in the laboratory in Merelbeke. The children were intrigued by the story about spot disease in dolphins in dolphinaria, although the professor had difficulty getting the children to understand the principle of defense and vaccination. Through questions and answers a lot of doubts were resolved.

Spot disease is a serious bacterial infection that can be fatal for dolphins. Infection can arise from coming into contact with infected fish or infected water. There is little known about the presence of these bacteria in dolphins. That is why an epidemiological study was carried out to look for antibodies in dolphins. Treatment of diseased animals can be achieved using antibiotics, although these are often administered too late because dolphins only portray symptoms when the disease is already far along. Hence, vaccinating dolphins in dolphinaria and zoos is recommended. This vaccine already exists for pigs, but not yet for dolphins. Research is still undertaken to determine how to make the vaccine effective for dolphins.

The 17-18 year old students of the children workshop led by Wina Bogaert - came to visit the veterinary medicine campus in Merelbeke. They were overwhelmed by the diverse marine research activities that take place there. Koen Chiers, Professor of veterinary pathology, provided explanation about the mysterious skin blisters that North Sea fish have recently been portraying. Inspired by the images of tissue sections that are used during microscopic analysis, the students got to work.
Artwork 01:
Unhealthy marine animals
Visual Arts, lower degree
mentored by Parcifal Neyt
Coloured pencil on black paper, syringes and catheters

Artwork 02:
Dead Fish
Sophie Cochetens-
Degroeter, Experimental Painting 2nd year
mentored by Aniek Mahieu
Oil paint, canvas
Size: H: 40cm, W: 40 cm
Participating scientists, art teachers, mentors and artists (adults)

Ann De Winne
Caroline Butruelle
Annelies Coene
Peter De Pauw
Eric Fauconnier
Gudrun Bliek
Johan Panet
Katrien Heijse
Laurent Camierman
Mathias Spriet
Joëlle Servais
Marnix Everaert
Chantal Devos
Jan Mees
Geraldine Lacave
Tim Deprez
Christel Degros

Ann Dupré
Caroline Dubbelaere
Annamie Geldof
Eric Reynaert
Gudrun Bliek
Mirjam Gremyomprez
Nico Van Geever
Roos Verhavert
Karen Van Gulik
Hendrik Vermeulen
Maen Florin
Hendrik Vermeulen
Oona De Keyzer
Vigdis De Caunter
Sara Everaert
Katja Guilmn
Jacques Van Bruaene
Helene Decleyre
Lynn Vanhaecke
Tim Deprez

Ann Van den Berge
Catharina Bossaert
Claudia De Angelis
Eric Tollenaere
Guido De Corte
Inge Castaleyn
Luc Van Duyst
Nicole Ozor

Ann Leijman
Daniëlle De Meulemeester
Freddy Velsype
Guy Dapper
Guy Vandevelde
Iza Dikhdin

Adinda Baro
Geert Vangruwe
Fleury Langerock

Kurt De Franck
Agnes Vlaeyen
Ann Costenoble

Els De Carne
Anne d’Heygere
Anne Van den Berghe

Cathy Courtriendt

Barbara Steyaert
Dany Govaert
Riny Dees-Rooss
Rob Roosterhof

Frederik Allegaert
Gerald Wolff

Hendrik Wanters
Isabelle Van Impe

Karlien De Temmerman
Kathleen Vercruysen

Peter Baiecke
Siege Verwest

Luc De Porro
Lucy Everaert

Marie-Angé Demuyserse
Inge Deceunynck

Céline Butaye
Marie-Ange De Muynck

Annelies Goffin
Marije De Muynck

Annie Van Geever
Francesca Pasotti

Carl Van Isacker

Peter De Pauw

Sofie Vansteelandt

Ann Duquesne

Ann Van Mansart

Marie-Jeanne Dewettinck

Marie-Jeanne De Smet

Marianne Geeroms

Oona De Keyzer

Parcial Nuyt

Vincent Aerts

Penny Provost

Koen Chiers


David de Wolf

Kurt De Franck

Agnes Vlaeyen

Ann Costenoble

Els De Carne

Geert Vangruwe

Goran Grabovac

Guy Timmerman

Anne d’Heygere

Anne Van De Sype

Thanks to all!

and all artists from the children and youtgh workshops!
Participating research groups from Marine@UGent

Faculty of Sciences, Department of Biology, Research Group Nematology
Prof. Wim Vanroij, Prof. Marc De Batist
www.milieutox.ugent.be

Faculty of Sciences, Department of Biology, Research Group Marine Biology
Prof. Niels Van Langenhove, Dr. Katja Guilini, Dr. Marleen De Troch, Nele De Meester, Jelle Van Campenhout, Jan Reubens, Francesca Pastoti, Arne Kindt
www.marinebiology.ugent.be

Faculty of Sciences, Department of Biology, Research Group Phycology
Prof. Olivier De Crock, Frédérique Steen
www.phycology.ugent.be

Faculty of Sciences, Department of Biology, Research Group Proteostasis and Aquatic Ecology
Prof. Koen Sabbe, Lander Blommaert
www.proteostasis.ugent.be

Faculty of Sciences, Department of Geology and Soil Science, Renard Centre of Marine Geology
Prof. Koen Sabbe, Lander Blommaert
www.umg.ugent.be

Faculty of Sciences, Department of Biochemistry and Microbiology, Laboratory of Microbiology
Prof. Anne Willems, Helen Decleyre

Faculty of Engineering and Architecture, Department of Civil Engineering, Research Group Coastal Engineering, Bridges and Roads
Prof. Peter Troch
www.ugent.be

Faculty of Bioscience Engineering, Department of Sustainable Organic Chemistry and Technology, Research Group Environmental Organic Chemistry and Technology
Prof. Kristof Demaestere, Prof. Jo Dewulf, Prof. Herman Van Langenhove, ir. Leendert Vergeynst, ir. Xander Van Dooren
www.ugent.be/bidaactien/research/enovc

Faculty of Bioscience Engineering, Department of Applied Ecology and Environmental Biology, Research Group Environmental Toxicology and Aquatic Ecology
Prof. Colin Janssens, Ines Tavernier
www.miidiostox.ugent.be

Faculty of Bioscience Engineering, Department of Food Safety and Food Quality, Laboratory of Food Microbiology and Food Preservation
Prof. Frank Devlieghere, Prof. Mieke Uyttendaele
www.foodSciences.ugent.be/idLFMFP

Faculty of Veterinary Medicine, Department of Parasitology, Virology & Immunology, Laboratory of Immunology
Prof. Eric Cox, Dr. Geraldine Lasare
www.vetimmunology.ugent.be

Faculty of Veterinary Medicine, Department of Morphology
Prof. Annemie Decostere, Marieke Desender, Marjan Dison
www.vet.med(de)morphologie/rd

Faculty of Veterinary Medicine, Department of Pathology, bacteriology and poultry diseases, Laboratory of Pathology of domestic pets
Prof. Koen Chiers
www.ugent.be/idl/dpt/department?ugentid=D105

Faculty of Veterinary Medicine, Department of Veterinary Public Health and Food Safety, Laboratory of Chemical analysis
Prof. Lynn Vanhaecke
www.vet.ugent.be

*The marine science center of excellence Marine@UGent from Ghent University is an interdisciplinary consortium which aims to promote and facilitate the collaboration between these research groups and with the Flanders Marine Institute (VLIZ). The cooperation between 30 research groups from 6 faculties (Bio-Engineering, Sciences, Engineering & Architecture, Law, Veterinary Medicine, and Medicine & Health Sciences) will result in innovative results and boost marine science and technological innovation in Belgium. More information on the research groups and the consortium: www.marineatugent.be

Participating ateliers from the Academy for Visual Arts Ghent

Visual arts (general) – children
teachers: Patrick Baelle, Elsa De Carne, Barbara De Geriter, Oona De Keyzer, Marieke De Munck, Marie-Ane Demuyser, Goran Grabovac, Vin Lenaerts, Anouk Mahieu, Elisabeth Makay, Paulefay Neyer, Marianne Stevens, Wim Van Caeseneerde, Rob Van de Putte, Viola Van Domme and Veerle Van Nuffelen

Visual arts (general) – young
teachers: Wina Bogaerts, Céline Butaye, Oona De Keyzer, Marieke De Munck, Anouk Mahieu, Anton Retsin, Karen Van Gulk

Visual arts (general) – adults
teachers: Céline Butaye, Inge Decuyper, Marie-Ane Demuyser and Guy Timmerman

Animation – children
teachers: Ann Barbier, Izra Craeco, Danny De Vent, Christel Degros

Animation – young
teachers: Ann Barbier, Izra Craeco, Danny De Vent, Christel Degros

Animation – adults
mentored by: Ann Barbier, Izra Craeco, Carl Van Isacker and Geert Vergauwe

Sculpturing – adults
mentored by: Wim Florin, Goran Grabovac and Guy Timmerman

Painting – adults
mentored by: Inge Decuyper, Marie-Ane Demuyser, Anouk Mahieu, Jacques ’t Kindt, Chris Vanbeveren and Koen Ys

Drawing – adults
mentored by: John Gelaude, Mathieu Michel, Parcifal Neyt and Joelle Servais

Mixed Media – adults
mentored by: Hendrik Vermeulen

Illustration & Cartoon – adults
mentored by: Oona De Keyzer, Stijn Goosique and Inke Marynissen

Graphic art – adults
mentored by: Vigeis De Cauwer, Martinx Everaert and Ivanseanu Vladimir

Photo art – adults
mentored by: Rudi Bogaerts, Reinhart De Grendel, Lieven Herreman, Lieven Neirinek, Virginie Schreyen, Mari van Roy and Marieke Verfaillie

Ceramics – adults
mentored by: Evelyn De Winter, Fiorella Stinders, Annouk Thys and An van den Akheele

Participating ateliers from the Academy for Visual Arts Ghent

Visual arts (general) – children
teachers: Patrick Baelle, Elsa De Carne, Barbara De Geriter, Oona De Keyzer, Marieke De Munck, Marie-Ane Demuyser, Goran Grabovac, Vin Lenaerts, Anouk Mahieu, Elisabeth Makay, Paulefay Neyer, Marianne Stevens, Wim Van Caeseneerde, Rob Van de Putte, Viola Van Domme and Veerle Van Nuffelen

Visual arts (general) – young
teachers: Wina Bogaerts, Céline Butaye, Oona De Keyzer, Marieke De Munck, Anouk Mahieu, Anton Retsin, Karen Van Gulk

Visual arts (general) – adults
teachers: Céline Butaye, Inge Decuyper, Marie-Ane Demuyser and Guy Timmerman

Animation – children
teachers: Ann Barbier, Izra Craeco, Danny De Vent, Christel Degros

Animation – young
teachers: Ann Barbier, Izra Craeco, Danny De Vent, Christel Degros

Animation – adults
mentored by: Ann Barbier, Izra Craeco, Carl Van Isacker and Geert Vergauwe

Sculpturing – adults
mentored by: Wim Florin, Goran Grabovac and Guy Timmerman

Painting – adults
mentored by: Inge Decuyper, Marie-Ane Demuyser, Anouk Mahieu, Jacques ’t Kindt, Chris Vanbeveren and Koen Ys

Drawing – adults
mentored by: John Gelaude, Mathieu Michel, Parcifal Neyt and Joelle Servais

Mixed Media – adults
mentored by: Hendrik Vermeulen

Illustration & Cartoon – adults
mentored by: Oona De Keyzer, Stijn Goosique and Inke Marynissen

Graphic art – adults
mentored by: Vigeis De Cauwer, Martinx Everaert and Ivanseanu Vladimir

Photo art – adults
mentored by: Rudi Bogaerts, Reinhart De Grendel, Lieven Herreman, Lieven Neirinek, Virginie Schreyen, Mari van Roy and Marieke Verfaillie

Ceramics – adults
mentored by: Evelyn De Winter, Fiorella Stinders, Annouk Thys and An van den Akheele
Marine Art

Marine Art is a unique project in which the Flanders Marine Institute (VLIZ) brought art students and teachers from the Academy for Visual Arts of Ghent into contact with the marine researchers from Ghent University. By means of a presentation, a dialogue or a visit to the lab, the art students learned about the status of the ocean and about marine scientific work.

The aim was to enhance the art students’ ocean knowledge and observation skills, to arouse curiosity about the seas and ocean, and to give inspiration to the creative process. The enthusiasm of 1,250 participants resulted in 65 workshops and more than 300 drawings, paintings, graphics, sculptures, mixed media works, illustrations, photographs and animated films. This report wants to document the process, the progress and the resulting artwork; complemented with quotes and pictures.

Marine Art to enhance Ocean Literacy

Ocean literacy is about understanding the ocean’s influence on people and the influence of people on the ocean. It is also about assessing what the general public knows, wants to know and should know about the ocean. By redressing the lack of ocean-related content in science education standards and instructional materials in informal educational initiatives (aquaria, museums, media, etc.) it will lead to more public involvement and active participation. Ocean literacy is a prerequisite for Europe’s quest for a more marine-oriented society and economy. It prepares an entire community for a closer relationship with the sea.