NaturArchy
Towards a Natural Contract

Exhibition
24/5 - 29/9/2024
An exhibition resulting from two years of research and collaboration at the intersections of art, science, and policymaking at the European Commission’s Joint Research Centre – EU Science, Research and Innovation.

A partnership between JRC SciArt and iMAL.
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What have they done to the earth?
What have they done to our fair sister?
Ravaged and plundered and ripped her and bit her
Stuck her with knives in the side of the dawn
And tied her with fences and dragged her down...

*Jim Morrison, When the music’s over, 1967*

We must decide on peace amongst ourselves to protect the world, and peace with the world to protect ourselves.

*Michel Serres, The Natural Contract, 1990*
Curatorial Concept
NaturArchy: Towards a Natural Contract

*NaturArchy: Towards a Natural Contract* explores different ways of being in relation to the natural world. Embracing the arts for systemic change, informed by cutting-edge scientific research and public policy discussions, this exhibition proposes to reconsider our attitudes towards nature and the non-human by probing issues of deep ecology, rights of nature, sustainability, decentering the human, and the decolonising of nature. It does so by starting from the idea of granting legal personhood and rights to nature and its constituent elements, from forest and rivers to the air we breathe and the complex ecosystems that all our lives depend on. Only by including nature into our social contract will we be able to tackle the multi-layered challenges of environmental degradation that we face.

The sixteen newly commissioned artworks on show provocatively call to re-imagine a sense of place and belonging in the world and to respond to the entangled and symbiotic relationship between human and environment. From the Ocean to water flows, from contamination and bacteria to climate tipping points, to pollinators and landscapes of natural hazards; from natural and artificial intelligence to nonhuman values, forests, lands, soils, composting; from grief and mourning to rituals, wonder and collective action - these works envision new possible ways to connect and of co-existence, to go beyond the exploitation and violence that characterize our relationship with the natural world.

Artistic expressions are powerful means to stimulate interest in scientific reasoning, as well as to motivate the commitment to socio-environmental issues. Art is able to shape relational values connecting people and the natural world in ways that can help deliver behavioural change by bridging the emotional human-nature disconnect. Intersecting science and law, reason and style, art and judgment, policy and imagination, NaturArchy wants to re-imagine western relations of human and non-human, in an attempt to ensure legal personhood to Nature’s many wonders, be they stardust or DNA.
Born from two years of deep inquiry, research and collaboration between artists, scientists and policymakers, which began with a Summer School at the European Commission’s Joint Research Centre (JRC) in 2022 in Ispra, Italy, and continued with artistic residencies in 2023, these works call for play and exploration of new possible configurations of our natural/cultural heritage.

The *NaturArchy* exhibition has been developed in collaboration with iMAL, Art Center for Digital Cultures & Technology, based in the heart of Brussels. A public programme of talks, workshops, performances, rituals, walks and more will run May–September 2024. An exhibition catalogue with international contributions on art and environment, documenting some of the deep collaborative research at the intersections of art, science and policymaking will be available in autumn 2024.

**A focus on Art & Science—for—Policy**

The creative collaborations of artists and scientists have a huge potential for fostering transformation and innovation as well as to engage communities and re–interpret our histories. They offer ways to handle less extreme forms of specialisation and therefore allow cross–fertilisation of ideas. This deepens a shared understanding of how to encourage dialogue and collaboration between disciplines and ways of being, as well as opening up to inter/transdisciplinary approaches. As such, it is also an exercise in applied democracy, in what we call a *democracy of disciplines*: bringing art and science together allows ways of knowing to meet through engaging with all our senses — aesthetics and aethesis, in the original Greek meaning of the word “αισθάνομαι”, to experience. This in turn fosters a novel space of discovery, helping to reconnect in new ways to phenomena through aesthetic experiences. What happens when SciArt mingles with policy making and heritage? What languages are spoken, what narratives are woven, what experiences are moulded and what awareness and sensitivities are created?
The Exhibition
The exhibition is spread throughout three main rooms of iMAL.

As we enter iMAL we are invited to imagine we were living in NaturArchy: explore contaminated water cocktails and take a sip of Bruxelles au Quotidien (Nonhuman Nonsense), the memory of human metamorphoses (Coline Ramonet–Bonis) and interspecies co-existence (Lawrence Malstaf). A pirate radio station by Le Biais Vert incites audiences to broadcast their take on NaturArchy and the Natural Contract.

The first floor is dedicated to the interdependencies of earth and human systems. Play with complex and fragile pollinator network systems (Yiannis Kranidiotis, Sam Nester & Giovanni Randazzo); explore soil formation, growth, decay and knowledge systems (Ingrid Mayrhofer–Hufnagl & Ingrid E.M. Ogenstedt); and take your time to explore how relations and flows of matter, matter (Jemma Woolmore).

The main exhibition hall proposes journeys through bold new perspectives: new plastic ecologies (JD Whitman), contested water landscapes (Penelope Cain), ocean pathways (Kristin Bergaust), tipping points (Yiannis Kraniditios), new water cartographies (Ingrid Mayrhofer–Hufnagl), post–wildfire ecologies (Margherita Pevere), indigenous cosmologies (Gala Berger & Metsá Rama) non–human values (Claus Schoening), and a vision of symbiotic futurity (Sam Nester & Marina Wainer).

Sit back. Imagine the environment not as a backdrop, imagine nature not as a thing to be taken or exploited, but as a being with intrinsic value and full juridical rights. Cancel the tired subject–object dichotomy between person and environment, the obsolete opposition of nature and culture; do away with conditions of mastery, appropriation and submission; understand the human as dependent on the natural world, matter and reciprocity. A real Green Deal requires a systemic change of ground.
Curated by Caterina Benincasa, Claudia Schnugg, Ingeborg Reichle, and Adriaan Eeckels in partnership with iMAL and the strategic and artistic advice of Paul Dujardin. Public Programme curated by Celine Charveriat.


Acknowledgments: Virginia Bernardi for her invaluable work throughout all aspects of this project; Chiara Perucconi and Desislava Stoyanova for their endless support and patience; Desislava Strezova and Magdalena Moracova for support with communication, administration and vision; Jolita Butkeviciene for trust and guidance; Fabio Taucer for moving us forward; Jutta Thielen–del–Pozo for her guidance support encouragement and brilliant mind; Sabine Henzler for everything and more; Lucia Garcia for joining the adventure and believing in it; Thomas Bernadet and dream crew for making this happen (and how!); Yannick Antoine, Elie Bolarde and the iMAL team for the patience and support and for making it happen; Patrick Moermans without which we’d still be digging; Sabine van der Hoorn for her constant support; Naouma Kourt for being there, always, and expanding; Dario Sciascia for joining us throughout, for the runs and fun; all the JRC and EC colleagues and researchers for feeding these encounters in art and science—for—policy with your brilliant knowledge and ideas; and the innumerable people that have helped supported guided sustained nurtured the project throughout these two and more years of fun and development.
The Artworks
Interspecies activists taking over an art museum?

Kittiwakes seagulls used to live in enormous colonies on remote islands in the Arctic Ocean, but due to environmental changes they are currently under threat of extinction. These birds have recently been migrating to Arctic cities like Tromsø, in the north of Norway. Three years ago, an ever-growing colony of kittiwakes, behaving almost as interspecies activists, took over the Tromsø art museum. Loud noises, intense smells and multitude of nests on windowsills and ledges triggered an equally loud outcry from the locals of this otherwise peaceful town. Three light and mobile tripod structures with sculptural nesting modules on top were developed in collaboration with researchers and placed next to the building’s façade. The nests the birds made in these new “hotels” could carefully and slowly be moved away from the building. Harmony with the locals was restored as the colony followed.

Curatorial note
A proposal around living in interspecies communion with Kittiwakes Seagulls in the city of Tromsø.
HAUNTED WATERS

Artist
Nonhuman Nonsense (SE/LV)

Scientist
Caterina Cacciatori

Collaborations
TBA21 Ocean Comm/unity

Medium
Haunted Water Samples, Spirits, Menu

Let the ghost contaminants speak

“Welcome to the Haunted Waters Bar—a growing collection of contaminated waters. Here, you’ll find a menu featuring a variety of water samples from around the world, submitted by activists, scientists, swimmers, citizens, and friends. Some samples come from lakes, rivers, and the sea, while others are filled from the tap. While they may all look similar, each water is haunted by a multitude of ‘spirits’ telling different stories—stories that speak of the past, of decisions made by those in power, of struggles, accidents, wars, greed, and action.”

Curatorial note
Collecting myths, values, and stories around water bodies and contaminations, and the meeting of scientific investigation of the unseen juxtaposed with local myths and stories—an invitation to know the invisible toxins in our daily water.
AQUEOUS MEMORIES

Artist
Coline Ramonet-Bonis

Medium
printed fabric, ceramics

On the wet, fluid thoughts of water

“Aqueous Memories plunges visitors into the wet, fluid thoughts of water, which hold and connect us with the memory of human metamorphoses on earth. It also tells the story of waters stained by oil, black water that carries stories of extractivism and colonialism. As these waters flow and spread out into space, gradually they also seep into ourselves.”

Curatorial note
Interweaving hydrofeminism and evolutionary ecology, this wallpaper proposes the exploration of an interspecific aqueous membrane while becoming the moult of the surrounding walls. It aims to remind audiences of our nature as bodies of water, and how, as such, we carry within us the memories of the sea.
A radio station for human—nonhuman alliances

The Heterotopia is an ‘other space’, a concrete place that houses the imaginary, the physical location of the utopia. In 2022, the collective Le Biais Vert produced the web series Diamant Palace, the first episode of which, “Nature doesn’t exist”, developed with anthropologist Philippe Descola, is presented in this installation. The radio space serves as a mediating instrument to renew the relationships between humans and non-humans with wonder and to imagine, dream, contemplate or tell stories about possible tomorrows. Nos Futurs Radio is a performance space, a meeting place and a platform for expressing thoughts, a laboratory for post-capitalist imagination, available to minds who think and act with attention to diversity, collectivity and plurality.

Curatorial note
Activate the NaturArchy in you! Explore the video Nature does not exist. And have your say around NaturArchy at this pirate radio station. Pick up the mic and tell, sing or whistle your stories of nonhumans, more-than-humans and rights of nature. An invitation to contribute to the Natural Contract.
Who will speak for pollinators?

“Anthos is an immersive, interactive light and sound installation that highlights the importance of pollinators and demonstrates our anthropogenic effect on them. The audience enters an immersive space where they can experience the simulation of a plant–pollinator network, based on European biodiversity models. Live data from CO₂, temperature and humidity sensors are projected in the space, and affects the complex system controlling the visualisation. The work aims to uncover potentially hidden secrets about plant–pollinator networks, their functions, and to show how the climate crisis is putting ever more strain on this natural and fragile system.”

Curatorial note
Between complexity and dependencies, the ever—more fragile world of pollinators is mapped with the science of complexity and human agency influences common futures. An invitation to experience and think about the intricate interconnections of pollinators, plants, nonhumans and humans at a time of global biodiversity loss.
COMPOS[T]ING

Artist
Ingrid E. M. Ogenstedt (SE)
Ingrid Mayrhofer-Hufnagl (AT)

Scientists
Jonah Lynch, Jaime Gomez Ramirez, Calogero Schillaci, Arwyn Jones

Medium
Sculptures (wood, clay/soil, grass, seeds) + a digital twin + knowledge map

Building with growing and decaying matter

“The large-scale artwork combines various crafting knowledge and materials with a wide range of aesthetic, mechanical, and physical characteristics as well as environmental responsiveness. The tripartite artwork (physical sculpture, digital sculpture and poetic knowledge map) functions as a composition of knowledge (human and non-human) that leads us forward and backward at the same time. The physical sculpture Earthbreakers* links to soil and local traditional building materials, whilst Digital Compos[t]ing explores soil formation and transformation processes beyond immediate human perception as they occur over extremely lengthy periods.”

Curatorial note
Appreciate soil composition, formation and erosion in connection to planetary boundaries. Connection to roots, use, undervalued knowledge, and the importance of these for sustainable futures - an invitation to celebrate growth and decay and local materials as essential components of construction.

*The large-scale Earthbreakers sculpture is to be seen at Parc du Cinquantenaire, Brussels
THESE RELATIONS ARE FOREVER

Artist
Jemma Woolmore (NZ)

Collaboration with
Caterina Cacciatori, Sandra Coecke
Irene Guerrero Fernández, Saskia Vermeylen

Medium
4–channel video installation, sculptural installation

New rituals for contaminated times

“The installation weaves together agricultural policy, toxicology, water quality research, environmental law, and art around the common theme of chemical pollution. The scientific practices of four women researchers are conveyed and re–imagined following the thread of Endocrine Disrupting Chemicals (EDC’s), which permeate food, soil, and water, and are increasingly more persistent and everlasting in daily lives. The four screens form a space across which the collaboratively created rituals are performed. The women communicate, stepping up at key moments to symbolically take part in each of the four rituals, showing support across time and space.”

Curatorial note
This work addresses fertility, community and (more–than–human) health, telling stories that explore the power of positive imaginaries. Through ritual and storytelling this artwork opens up liminal spaces that explore the power of positive imaginaries – offering a way of ‘staying with our troubles’ whilst envisioning alternative ways of being in the world.
PLASTIC MAGNITUDES

Artist
JD Whitman (US)

Scientist
Andrea Valsesia, Jessica Ponti
Marisa Sarria Pereira, Dora Mehn

Medium
Community collected sheet
plastic, marine plastic debris, Inkjet paper

Magnitudes of new plastic ecologies

“Plastic Magnitudes is a community-specific, immersive art installation illuminating research from the Joint Research Centre Commission on plastic particulates and their potential threat to humans as they enter the food chain as microplastics and nanoplastics. Inspired by the flow of plastic particulates through water supply systems and the digestive tracts of mussels, the installation juxtaposes visual imagery from plastic particulate research laboratories with images of environmental plastics.”

Curatorial note
Digging deeper into reflection of “human-created ecologies” that become more entangled with natural ecologies as they start to become more and more difficult to see—an invitation to think about the consequences of our appropriations. A captivating, multisensory experience will place viewers at the centre of the highlighted research, connecting them directly as contributors to the problem and solution.
LAMENT

Artist
Margherita Pevere (IT)

Collaboration with
Diana Vieira, Céline Charvériat, Lucia Iglesias Blanco, Ivan Penov

Medium
Performance + installation with burnt soil microbiome, moss, burned wood, glass sculptures, cello and live electronics.

Ecologies of the burnt & landscapes that grieve

“Lament explores post—wildfire ecology in soil, offering a space where ecological and more—than—human death and grief are dignified and where fires are treated as a phenomenon that belongs to the co—evolution of ecosystems and humans. At the same time, the work engages with current ecological shifts and fractures, encompassing changing fire regimes, vulnerable ecosystems, and their less perceivable but highly relevant interplay with soil. The work combines ecological observation, bioart, sculpture, exchange with scientists and independent experts, musical composition, philosophical inquiry and encounters with communities who experienced devastating wildfires. The installation also includes a “Resilient Scars Map” co—created with the community from Santa Comba Dão (PT), an area that faced a devastating wildfire in 2017.”

Curatorial note
Tracing overlooked stories of transformations in post—wildfire environments through soil and community engagement. An invitation to contemplate on regeneration and ecological grief after raging fire.
INVISIBLE SEEDS

Artist
Gala Berger (AR/FR)
Metsá Rama (Pilar Arce) (PE)

Scientist
Irene Guerrero Fernández

Medium
Natural pigments, acrylic paint, thread embroidery on tocuyo fabric. 320 × 260 cm

Indigenous and scientific knowledge systems meet on food and agriculture

“Invisible Seeds is an embroidered and painted textile by the Shipibo–Conibo artists community. Produced mostly by women, Shipibo art represents an entire system of communication with plants and plant life. The artwork addressing the relationships between territory, human beings, non-human forms, and the spiritual worlds. It focuses on the complex systems of planting, harvesting, and treating agricultural products that sustain life in the Amazon, and addresses a model of dialogue and co-responsibility in the decision-making processes between the artists and agricultural researcher involved.”

Curatorial note
Indigenous and scientific knowledge intersect around food and agriculture. Ancient knowledge systems of indigenous people come face-to-face with modern-day science: woven and painted strands of old and new. An invitation to re-evaluate understandings of our agricultural system, and to reconsider ancient practices of care and sustainable farming practices.
OCEAN CONNECTIONS

Artist
Kristin Bergaust (NO)

Scientist
Guillermo García Sánchez
Evangelos Voukouvalas

Medium
2–channel video installation
(full wall), sound, 4K resolution, 05:45 min

When the Oslo Fjord recounts of changing times

“In visual representations, oceans are often shown as blue, empty fields or voids. Ocean Connections aims to instil these unseen spaces with stories and movement, to discover a kinship to life in the oceans. The project investigates processes within ecosystems which are influenced by ocean flows. Whilst focusing specifically on the Oslofjord environment in Norway, the title Ocean Connections points to interconnectedness of all oceans. We cannot really tell where the Oslofjord ends, as it runs into Skagerrak and joins the North Sea which then flows into the Atlantic Ocean. Employing a combined means of storytelling, the work aims for an immersive, circular experience of biodiversity and ecological connections on a global scale.”

Curatorial note
Ocean Connection recounts of the disturbances, flows and changes in the Oslo fjord as biodiversity and ecological connections across the ocean shift on global scale. It is an invitation to see the complexity of mathematics and biodiversity in the ocean’s mesmerising lapping.
The Tipping Point

Artist
Yiannis Kranidiotis (GR)

Scientist
Frank Dentener

Medium
24 custom metronomes, environmental data, visualizations

The invisible thresholds that sustain life

“The Tipping Point is a data driven light and sound kinetic installation of 24 custom metronomes and a video projection. The artwork highlights the urgency and the increased risk that one or several tipping elements in the climate system might cross a critical threshold, with severe consequences for global climate, ecosystems and human societies. The metronomes move, driven by sets of past, present and projected future, environmental data linked to five major climate tipping points. The temporal journey through data is reflected by the metronomes’ tempo, as the beats intensify over time. A final cacophony reflects the mounting urgency of the climate crisis. Then, all metronomes halt abruptly, and a critical tipping point is reached as the room falls silent.

Going beyond highlighting 5 different tipping point, the artwork also refers to another tipping point: the tipping point when society finally starts to act.”

Curatorial note

Incremental changes and even their major (irreversible) events are beyond direct human perception and understanding, but these events trigger changes to happen even faster or more intensely—an invitation to imagine future events embedded in what happens today and confront the urgency of the unbearable.
WITH SALT AND ROCKS IN OUR VEINS

Artist
Penelope Cain (AU)

Scientists
Graziano Ceddia, Luca de Felice, Alan Belward

Medium
Web-crawler interactive virtual landscape projection, sound, fibreglass, water, ceramics

When will peripheries be heard?
On the danger of doing the same all over again

“This project considers the entangled rights for water, between nature and humans, through the entry point of contested water in the Atacama desert. Once an ancient seabed and now a site of saline water mining for lithium extraction, this remote desert site with its unique salt water dependent ecosystem is intimately entangled with the push for a lithium-focused energy transition away from fossil fuels and necessary response to anthropogenic climate change.”

Curatorial note
The deep entanglement of social and economic systems and their implications on nature, biodiversity, and human activities; effects of decisions cannot always be locally experienced, or become manifest at remote places that are out of sight for many. What are the effects of centres of power on global commons?—an invitation to consider the externalities of a nascent exploitation and its trade.
SPECTRAL[S] OF NATURE

Artist
Ingrid Mayrhofer–Hufnagl (AT)

Scientist
Alan Belward, Elahe Rajabiani, Luca De Felice

Medium
Audiovisual installation and four 3D printed sculptures, video (color) | sound, 15:00 min, loop

Through the deep & winding histories of water creatures

“Spect(al)s of Nature is a work informed by scientific earth observation research on surface water. It is a product of speculative cartography that takes inspiration from the maps in the Atlas of Global Surface Water Dynamics, expanding them into 3D objects, which represent water creatures. Each sculpture represents a specific water body—the Aral Sea, Balbina dam, Pantanal wetland and Brahmaputra River. The history of how these water bodies have changed, morphed and adapted throughout forty years of earth observation is visible in the depth of the sculpture, providing a thought-provoking representation of the evolving landscape.”

Curatorial note
Mapping water bodies via the visible and invisible spectrum and their change through time — new water cartographies to stimulate critical reflection of how we perceive water bodies also through the morphologies of these bodies throughout time.
How to give a voice to non-humans?
Towards a Parliament of Beings

“Is it possible for humans, to envision a politics that transcends the human domain? Within Politics in Disguise, the conventional image of a speaking politician is transformed to embody a mushroom that, through a complex process of translation, delivers a speech that challenges our traditional understanding of governance. As a member of the fungi kingdom, it asserts its capability to represent not only animals but also plants, and even unicellular organisms, more effectively than Homo sapiens, an ape-derived species, is able to.”

Curatorial note
Human and non-human values, confrontation with value systems, opening up a space of reflection about their own values—an invitation to reflect on the consequences of having animals as partners in democracy.
SYNOCENE

Artist
Marina Wainer (FR)
Sam Nester (AU)

Collaboration with
Isabel Hupont Torres, Lucia Iglesias Blanco

Medium
Spatial sound installation, fog, light

Imagine a future beyond the Anthropocene

“Synocene is an immersive spatial sound installation that explores a de-centered view of our anthropocentric experience of the natural world, to imagine a future beyond the Anthropocene. Audiences to this work will discover the many narratives created by human experiences of nature in a hybrid writing with AI, along with forest soundscape recordings from within Natura 2000 sites. To achieve the current version of the installation, a citizen engagement workshop took place in the Glengarriff Harbour and Woodland Natura 2000 site (Ireland), where the local community explored new forms of interaction and perception within their forest.”

Curatorial note
On co-creating futures with nature, humans and AI. An interplay of “senses”, come together in this immersive sound and fog installation. An invitation to reconsider ‘nature’ through a collaborative process of human voices, nonhuman spaces and AI storytelling.
Digital catalogue of the exhibition available at
science-art-society.ec.europa.eu/naturarchy-catalogue
iMAL is a space for artistic practices around the creative and critical use of new technologies. iMAL connects a community of artists, thinkers, makers, and citizens from Belgium and abroad and offers a completely renewed infrastructure to support a programme focusing on research, production and presentation.

The Joint Research Centre (JRC) is the Commission’s science and knowledge service and provides independent scientific advice and support to EU policy, in order to tackle the interlinked and complex challenges faced by our society. Operating at the interface between science and policy, the JRC wants to strengthen its capacity to be a key partner in helping to identify solutions to such challenges.

Its Science and Art project (SciArt) brings together scientists with artists and policymakers to discuss matters of concern, not only to the JRC and the European Commission but also more widely to society. It brokers, curates and communicates transdisciplinary exchanges and encounters around given topics of interest. It operates on a bi-annual cycle, Resonances, during which the topics are elaborated jointly by artists and scientists. The end of each cycle is marked by exhibitions of the works at a venue of relevance as a way to engage with the public, foment conversations with citizens and create cultural products of contemporary relevance. Resonances have taken place on the topic of Food (2015), Fairness (2017), and datami - Big Data, digital transformation and Artificial Intelligence (2019). The current cycle features the topic NaturArchy: towards a Natural Contract (2022–2024).
Trees, forests, rivers, mountains, seas, stardust, DNA — imagine the environment not as the backdrop of our activities. Imagine objects of nature not as items to be appropriated or exploited, but as subjects with intrinsic value and full juridical rights.

— NaturArchy

How do we decolonise our take on nature? How do we give a voice to underrepresented knowledge in policymaking? Embracing the arts for systemic change, NaturArchy proposes to re—consider our imaginaries on nature and the non—human.

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