

# STEAM ART COLLABORATION

THE FUSION OF RESEARCH AND ART



EXHIBITION GUIDE



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## Acknowledgements

Science Foundation Ireland and the Discover Primary Science and Maths Programme would like to extend our thanks to all involved in the STEAM Art Collaboration.

Thank you to the artists involved in creating the artworks shown in this exhibition and for becoming involved in this initiative: David Beattie, Shevaun Doherty, Peter Nash, Liing Heaney and Ed Devane. Thanks also to illustrator Sarah Coyne who created the STEAM Art Collaboration logo and illustrations, along with musicians Tiiva and Boa Morte.

Thanks to the SFI Research Centres' researchers and Education and Public Engagement teams who collaborated with artists to inspire the artworks and develop primary school resources for the project: FutureNeuro, APC Microbiome, Lero, iCRAG and CONNECT.

This would not have been possible without the volunteers involved in selecting the SFI Research Centre projects and Artists. Thanks to Olivia Jackman, Cáit MacArdle, Neil Dundon, Jacek Kibilda, Katya Nesterenko, Nabin Paudel, Bryan Hogan and Dolores Melgar.

Finally, a big thank you to the SFI Education & Public Engagement team, SFI Communications team and all those who expressed an interest in the project; including the 15 shortlisted artists, artists who applied at the initial stages of the project and all researchers who put forward expressions of interest to get involved.



## Introduction to the STEAM Art Collaboration

The STEAM Art Collaboration is a new Discover Primary Science and Maths initiative within SFI which aims to invite primary learners and their wider communities to explore five artworks inspired by science, technology, engineering, arts, and maths (STEAM).

Science Foundation Ireland (SFI) commissioned five artworks whereby each artist paired up with an SFI Research Centre, to create an artwork which interprets an element of scientific research. The purpose of this project is to captivate and inspire the audience to delve into both the fields of science and art, and the possibilities these collaborations present for the future of our world.

STEAM is a joint approach which integrates STEM (science, technology, engineering and maths) disciplines with the Arts. It focuses on how these disciplines are complimentary to each other and interconnected. Both disciplines seek to understand the world around us and the STEAM approach is extremely beneficial in the context of innovation, science communication, public engagement and education. STEAM can help us to understand societal challenges in broader cultural contexts and to engage with these challenges in more impactful and creative ways.

This exhibition is for everyone, whether you're interested in the arts or science, or both. We hope that this exhibition will inspire you to learn more about both the scientific and the artistic topics communicated by these artworks. There is power in creating together and these collaborations represent a range of possibilities which inspire curiosity, encourage discussion and celebrate creativity.

All information on the STEAM art Collaboration and the 3D exhibition space can be found at [www.sfi.ie/engagement/art-collaboration](http://www.sfi.ie/engagement/art-collaboration).

### The Perfect Pairings

The STEAM Art Collaboration initially came about to engage primary school learners with cutting edge research through a creative lens. A focus on equality of each professional discipline, art and science, and 50:50 collaboration between the chosen artist and researchers was integral to this project. We endeavoured to create the opportunity to bring artists and researchers together who may not have the possibility to collaborate with each other as part of their day-to-day work.

To kick the project off, SFI sought expressions of interest from researchers in SFI Research Centres and from artists across multiple disciplines in October 2020, and were overwhelmed with the positive response, the interest in the initiative and the calibre of those who wished to be involved. Due to the level of interest, a group of volunteers assisted in selection of the final five projects as part of the STEAM Art Collaboration.

All five project teams have undertaken extraordinary work and the artworks you will see at the exhibition are a culmination of months of hard work and dedication. Artist and researcher teams met regularly to discuss details of the research, to explore ideas and to uncover the possibilities presented by using a joint approach to explore the challenges and societal impacts associated with each topic. An air of enthusiasm, excitement, dedication and innovation has been palpable across all teams involved in the project, and the artwork outcomes are both unique and phenomenal.

### What to Expect from the Virtual Exhibition

We hope you enjoy your exploration of the artworks created for the SFI STEAM Art Collaboration. Five incredible artworks are presented in a virtual setting at this exhibition, offering the opportunity to delve into the creative processes, and explore the scientific research that inspired these artworks. The online virtual exhibition will run from 20th May 2021 until 20th August 2021.

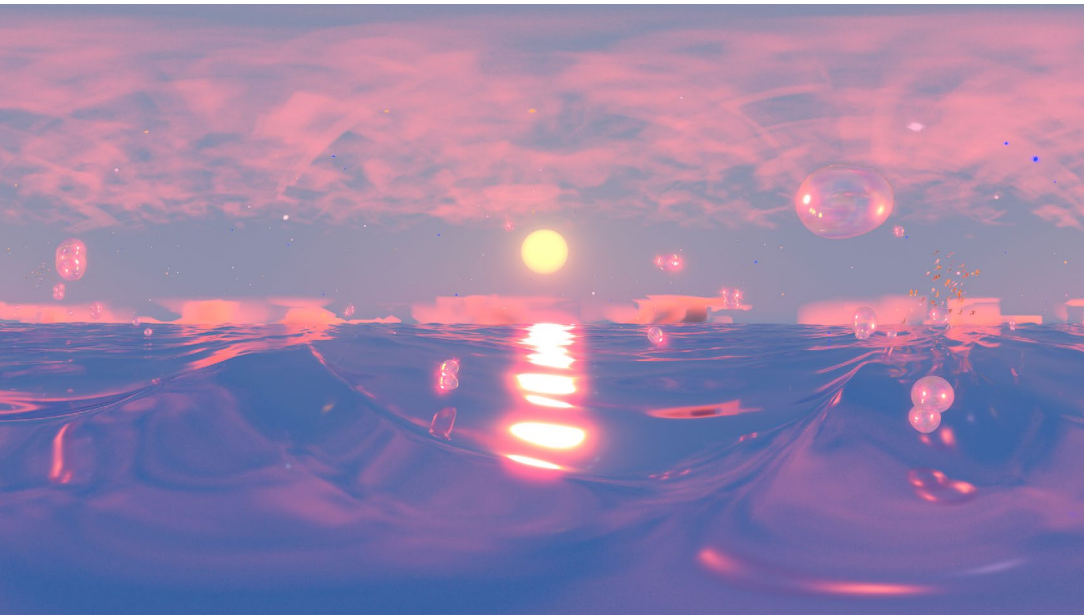
There are also five educational resources to accompany each artwork that can be found at [www.sfi.ie/engagement/art-collaboration](http://www.sfi.ie/engagement/art-collaboration) and can be completed in the classroom or at home.

# CAIBLEADH

1iing Heaney X iCRAG

## *Caibleadh*

- 1iing Heaney, 2021
- 3D, 360°, VR Animation
- Duration of video: 4 minutes 40 seconds
- YouTube link: <https://tinyurl.com/Caibleadh>

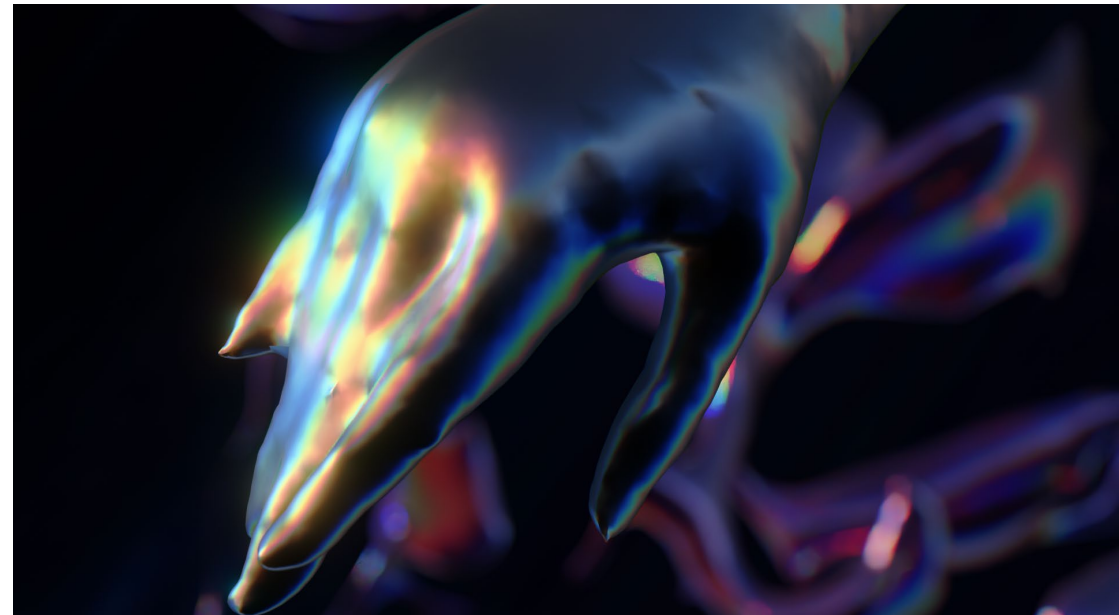


Sunset Bubbles, Video Still from *Caibleadh*

## Artist Statement

By 1iing Heaney

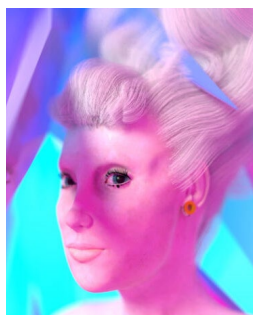
'Caibleadh', a VR 3D animated film made in collaboration with the iCRAG SFI Research Centre for Applied Geosciences, explores the otherworldly environment of the ocean. Using engaging colours, textures, objects, and sound, the viewer is positioned in the place of a scientific instrument. We follow its descent into the sea to explore an unknown and alien world. This is inspired by the research process of iCRAG where researchers deploy instruments at the surface of the water, and record their descent into the unknown. This film combines data gathered by scientific equipment, underwater photographs, and creative interpretation to visualise the ecosystem, formations, and movement on the seafloor. 'Caibleadh' details a speculative environment where technological interventions interact with natural entities.



Hands, Video Still from *Caibleadh*

This film allows space for audio and visual conversations between natural, mechanical, and mythological creatures to take place. Under the waves, animals, machinery, robotic arms and sea creatures interact with soft and delicate movement. The accompanying soundscape, developed in collaboration with the musician Tiiva, further combines sounds from field recordings, hydrophones, and folk song. This combination of sensorial audio-visual elements will make visible the complex ecosystem and formations previously unknown under the water.

### About the Artist



1iing heaney is a visual artist from Bray, Co. Wicklow. She uses CGI film and print to explore interactions between technology and geological time. She graduated from NCAD with first class honours in Fine Art Media & Visual Culture in 2015. In 2020, 1iing completed an animation Certificate in Pulse College, Dublin.

Selected exhibitions and achievements include ZAZ10TS, a group digital installation in Times Square, New York (2020), solo exhibitions, 'Hyper-' in Pallas Projects/Studios (2019) and 'Terrestrial/Satellite' in 126-Artist Run Gallery, Galway (2018). 1iing has received support from the Arts Council through the Visual Arts Bursary (2020) and the COVID-19 Response Award (2020). She has also received support through the Wicklow Arts Office for the Strategic Project Award (2020), and the Artist Bursary (2016 & 2019). Artist residencies include RES 1, Lay of the Land, Co. Kerry (2019), the Emerging Irish Artist Residency Award, Burren College of Art (2016), and the Cultural Dialogues Residency, Mart, Dublin (2016).

1iing has an on-going collaboration with the artist Emily Aoiheann. With whom, she has co-designed shows 'Smiling Devil', Dance House, Dublin (2017), 'Mother of Pearl', and 'Sorry Gold', both presented in the Project Arts Centre, Dublin in 2019. 1iing also teaches workshops in the 3D animation software Blender in Block-T, Dublin 8. Recently, 1iing has been working with Mermaid Arts Centre, Bray in the co-facilitation of the Youth Film Project, Temple Carraig Secondary School, Greystones.

### Music by Tiiva

Tiiva is an artist and producer based in London who writes raw emotional pop songs and music inspired by nature, falling in love and the peaks and troughs of hedonism in a landscape that is always changing. They compose honest and emotive music and sound, drawing on organic samples, field recordings and chopped loops that they weave into their own unique textures. Having released a series of singles and remixes, Tiiva has been working with visual artist and collaborator 1iing heaney to create a soundscape of music and sound design for Caibleadh.

### Research Centre Statement

By Dr Fergus McAuliffe, Eoghan Daly, Dr Mark Coughlan and Andrew Trafford

iCrag, the SFI Research Centre for Applied Geosciences, is pleased to collaborate with visual artist 1iing Heaney in an exploration of our marine geoscience research. Much of our research takes place in the sea, from the shallows of the Irish Sea to deep marine canyons in the Atlantic Ocean offshore Ireland. Our researchers Dr Mark Coughlan, Eoghan Daly and Andy Trafford use cutting-edge technology in the fields of seismics and acoustics to image the seabed for areas suitable for renewable wind energy farms, understand how the sea and seabed change over time, and deliver greater insight into the environment and behaviour of marine mammals.

The artistic interpretation of our work created by 1iing Heaney allows the viewer to experience our work from a unique, immersive viewpoint. Taking the viewer from the surface of the sea all the way down to the sea bed 1iing's artistic piece expertly brings light to an environment of darkness and sound to a place of echoes, murmurs and stillness. The piece is perfect for primary school learners to experience life in the deep sea and how our researchers are exploring its mysteries.

## About the Research Centre

# iCRAG

iCRAG is the SFI Research Centre for Applied Geosciences. We are a team of researchers creating solutions for a sustainable society.

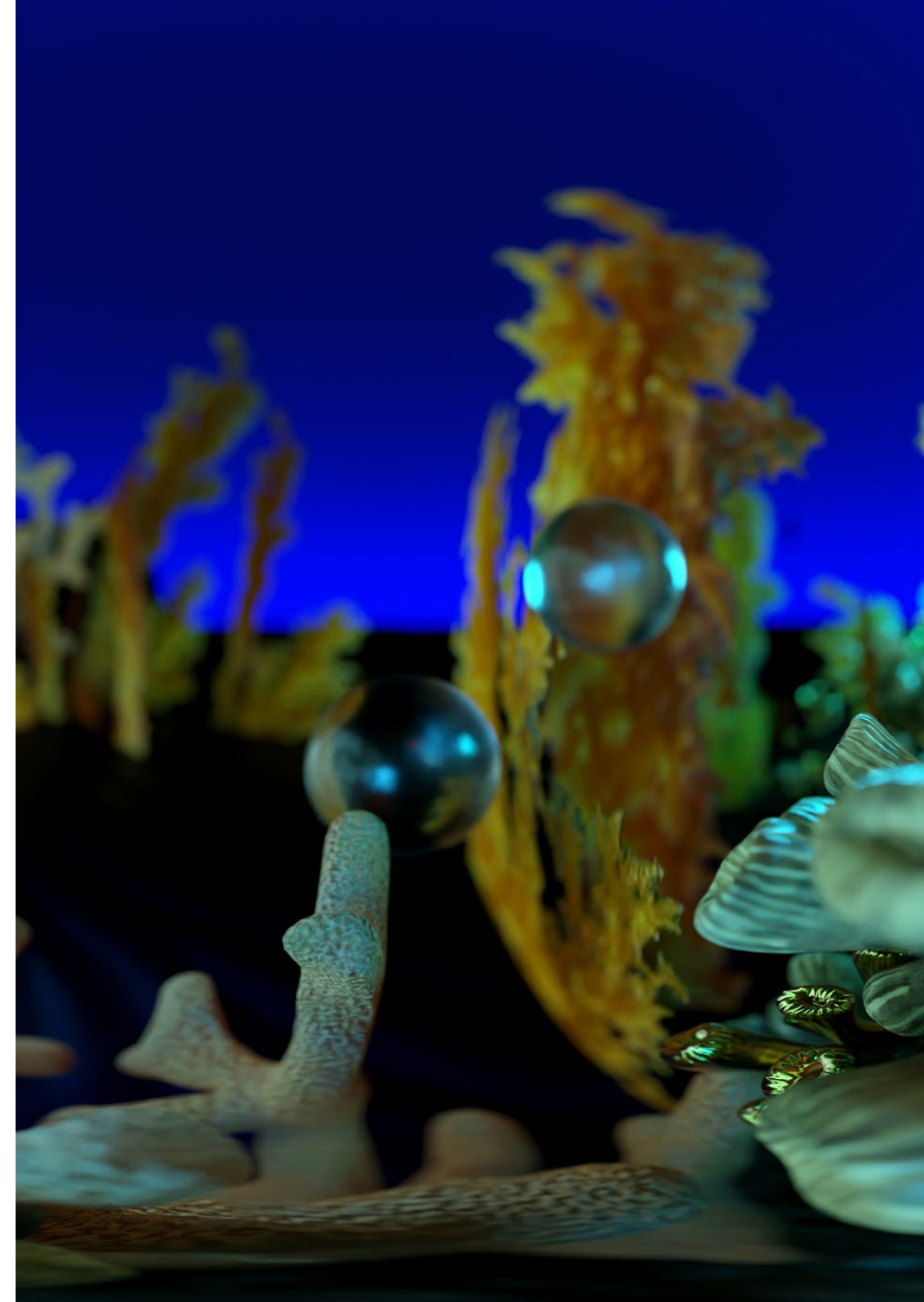
We develop innovative science and technologies to better understand the Earth's past, present, and future and how people are connected to it.

We drive research in areas that are critical to society and the economy, including:

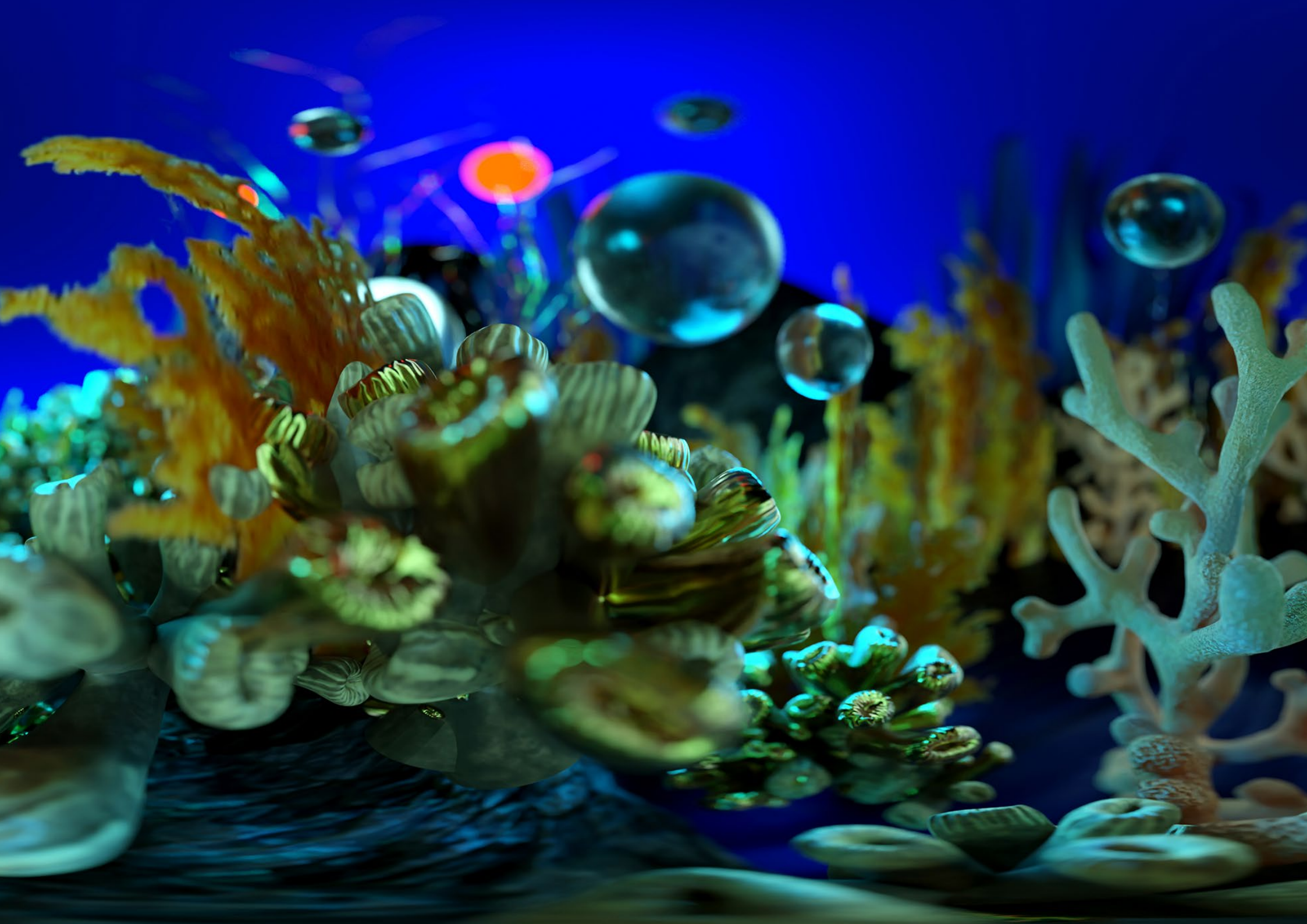
- ▶ Sustainable discovery of energy resources and raw materials required for decarbonisation.
- ▶ Securing and protecting groundwater and marine resources.
- ▶ Protecting society from Earth's hazards such as flooding and landslides.

Underpinning these research challenges is our work in enabling methodologies in the areas of geophysics, geochemistry and 3D modelling, along with our research on the public perception and understanding of geosciences.

iCRAG, the world leading SFI Research Centre in applied geosciences hosted by UCD, comprises 150 researchers across eight universities and institutions. iCRAG is supported by Science Foundation Ireland, the European Regional Development Fund, Geological Survey Ireland and industry partners.









# THE INVISIBLE MADE VISIBLE

Shevaun Doherty X APC Microbiome

## The Invisible Made Visible – Triptych

- Shevaun Doherty, 2021
- Linoprint
- Dimensions: 83cm x 29cm

## The Invisible Made Visible – Video

- Shevaun Doherty, Cormac Gahan & Boa Morte
- Film: <https://tinyurl.com/TheInvisibleMadeVisible>
- Duration: 5 minutes 14 seconds



The Invisible Made Visible, Linoprint Triptych

## Artist Statement

By Shevaun Doherty

The Invisible made Visible is a project that explains the scientific process of Covid PCR testing through the creative process of lino-printing. I teamed up with Professor Cormac Gahan from APC Microbiome, which is where all the genome sequencing for COVID-19 in Ireland takes place using PCR.

As a botanical and nature artist, my artwork is inspired by the organic forms found in nature. Usually I begin with a subject, and then consider the creative process. However, this project was different in that the idea of the process came first.

I want to convey to an audience the idea of replication, which is an essential part of PCR testing. I decided that lino-printing would be a good visual analogy of the testing process. Both processes involve replication, accuracy, and patience. By filming the creative process of making lino prints, the PCR process could be explained in a way that would engage younger audiences.



The Invisible Made Visible, Video Still

We are constantly hearing about waves of COVID-19, so I took my inspiration from the sea, avoiding the stereotypical images of viruses and syringes. Jellyfish seemed to be the perfect choice. They are fascinating and intriguing, but we also want to socially distance ourselves from them! I was very inspired by the work of Ernest Haeckel, a 19th century artist and scientist who created beautiful images of jellyfish. With a little imagination, I could turn the long tentacles into strands of DNA that divide and entangle together, describing the process of PCR.

There are three stages to PCR- Denaturation, Annealing and Extension, so I have created a triptych with each piece describing a stage of the process.

Cormac provided the narrative and the music for the project, and I aligned my images with his words. I am delighted with the way it turned out. Our goal was to describe the process of PCR testing but to also convey the idea that PCR is a way of controlling the virus and restoring calm.

### About the Artist



I am a botanical and natural history artist living in Kildare. I am very interested in biodiversity, and often use my work to raise awareness about endangered species and habitat loss. I became involved in the All-Ireland Pollinator Plan in 2015, designing their cover image, and in 2018, painted a series of bee stamps for An Post.

My work is very detailed and scientifically accurate. I wouldn't describe my work as scientific illustration – I like to use colour and movement to capture a lifelike representation

of the subject. This year, my painting of the rare Golden-eye lichen was selected for an exhibition at the National Gallery, and I have just finished the designs for the Irish Europa stamps, 2021. The theme is Endangered Wildlife, so I painted the elusive White Prominent moth, the Freshwater Pearl Mussel, and the fabulous Kerry slug. I use specimens and photographs as reference but very often the photographs don't capture the right pose, so I work in collaboration with the experts to understand the relevant features. The final image needs to be both realistic, accurate and visually appealing.

I paint in watercolours, working on both paper and calfskin vellum. Painting on vellum is challenging, but the colours are often more vibrant and luminous as the paint sits on the surface, rather than sinking into the tooth as it does with paper. Vellum painting also gives a unique quality to the work, like the work on old manuscripts.

I am a visual storyteller, and I am especially passionate about engaging children with my work, as they are the future custodians of the natural world we live in. I would love the opportunity to move beyond just the visual, and to create a body of work that also encompasses the senses of sound and touch, inspiring wonder, and appreciation for nature.

I was interested in this project as I thought it would be a wonderful way of using art to further my own knowledge in areas of biodiversity and explore my creativity.

### Music by Boa Morte

This artwork is accompanied by music from Boa Morte, a four-piece alternative folk band from Cork. Originally formed in 1998, the musicians include Paul Ruxton (vocals, guitar, bass), Cormac Gahan (vocals, guitar, bass, keyboard), Bill Twomey (guitar) and Maurice Hallissey (drums). Boa Morte formed in Cork in 1998, rising from the dust of a couple of ragged but respected indie bands. Having released three critically-acclaimed albums, their third album launched in 2019, "Before There Was Air".



Boa Morte

## Research Centre Statement

By Dr Cormac Gahan, Dr Aimee Stapleton and Shevaun Doherty

The polymerase chain reaction (PCR) is a procedure that is used across the globe to diagnose COVID-19 through specific detection of Coronavirus SARS-CoV-2.

However, PCR has many other uses, from forensic science to molecular cloning and vaccine research. In APC Microbiome Ireland we routinely use the approach to analyse the contribution of specific gut bacteria to human health and disease. Despite the ubiquity of the term 'PCR' in our current newsfeed, there is a general lack of understanding of what it involves and how it underpins research and diagnostics across medical and life sciences.

The fundamental basis of PCR is that it is a method to greatly amplify a specific target molecule (DNA or RNA) in a biological sample. In swabs from patients with COVID-19, the virus is present in relatively miniscule amounts. The PCR approach precisely identifies a virus-specific target and uses an amplification process to ensure we can now easily detect this target, thereby making the invisible visible.

The features of PCR, including the specific chemical cycles and the process of amplification, reflect the processes of design, printing and copying that are widely used in the visual arts. Through collaboration with renowned visual artist Shevaun Doherty we will communicate the concept of PCR through the process of creating unique lino prints. The resulting work will represent a visually captivating artistic statement, whilst the lino printing and copying process will form the basis of practical workshops that will be carried out in classrooms and galleries across the country.

## About the Research Centre



The APC Microbiome Ireland SFI Research Centre, founded as the Alimentary Pharmabiotic Centre in 2003, is about people working together across the boundaries of traditional research sectors. The APC has created a lively trans-disciplinary environment with clinicians, clinician-scientists and basic scientists from diverse backgrounds working in teams, sharing ideas and resources. Although focused upon the magic and mysteries of the gastrointestinal bacterial community, (the microbiota), the scale and scope of the work has become one of the fastest moving areas of biology, of relevance to all branches of human medicine and veterinary science and is of growing importance to the economic welfare of society.





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# SHIFTING PATTERNS OF LIGHT

David Beattie X FutureNeuro

## Shifting Patterns of Light

- Mixed Media, Installation
- David Beattie, 2021
- Film: <https://tinyurl.com/Shifting-Patterns-of-Light>

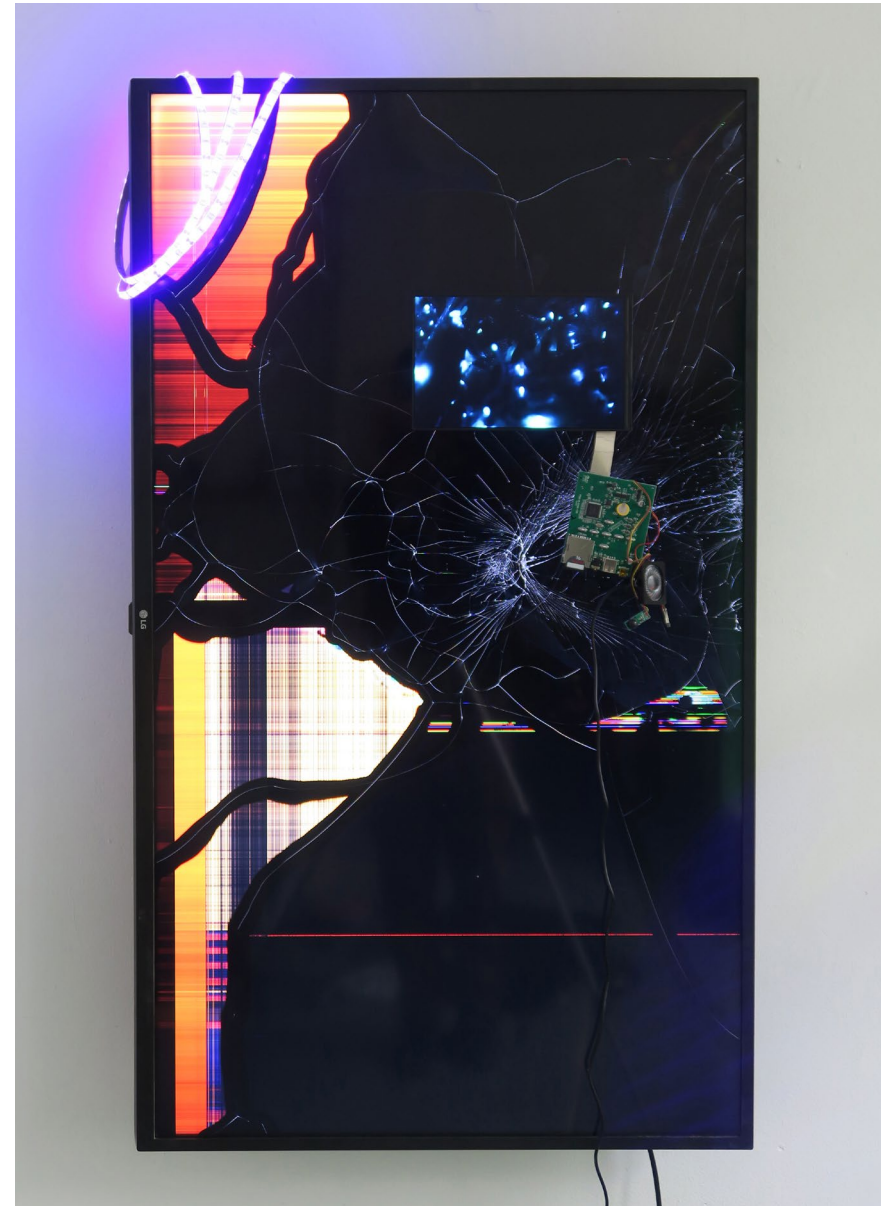
## Interferometer

- Photography
- David Beattie, 2021
- Interactive Website: [www.shiftingpatternsoflight.com](http://www.shiftingpatternsoflight.com)

## Artist Statement

David Beattie's new work explores epilepsy and neural activity, finding ways to represent and think about this research as a material experience.

Through this process he looks at comparisons between hyper-connectivity in the brain, deep neural networks in computing, bacterial bioluminescence in marine life and rhizomatic root systems in nature. The resulting work consists of multiple elements including a sculptural video installation, cast objects, a series of photographs and an interactive web interface.



Shifting Patterns of Light, Installation

## About the Artist



David Beattie is an artist and lecturer based in Dublin. Assembled from a variety of everyday materials his work is realised through sculpture, photography and sound. He was awarded the Harpo Foundation Award (2010) and was a recipient of the Hennessy Art Fund for IMMA collection (2016). Recent commissions include The Walker Plinth (Derry, 2020), Reflectors (Bray, Co. Wicklow, 2019), and Patterns of Illumination (Griffith Barracks Multi-denominational School, Dublin, 2018). His work has been exhibited in Pittsburgh, New York, Toronto, London, Brussels, Paris, and throughout Ireland.



Interferometer, David Beattie

## Research Centre Statement

By Dr Susan Byrne, Dr Katherine Benson, Dr Cristina Reschke and Ciara Courtney

One aspect of the research at FutureNeuro focuses on epilepsy. 40,000 Irish people have a diagnosis of epilepsy and almost 30% of those do not respond to current treatment methods.

The piece you will see is inspired by neurons which are specialised brain cells responsible for transmitting signals to other nerves, muscles, or glands. They transmit messages using electrical signals and chemical messages which are passed through the body. A neuron is said to be 'firing' when it transmits a signal.'

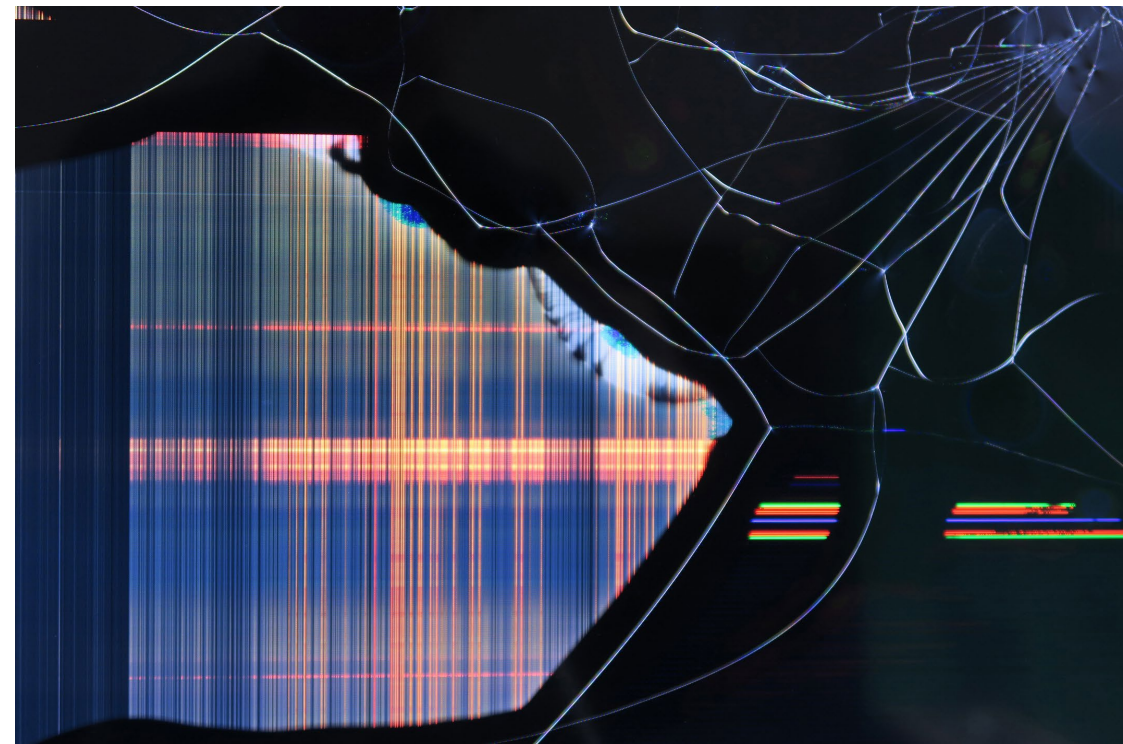
In people who have epilepsy, changes to neuronal connections and the way they fire can result in seizures. During a seizure, the rapid spread of electrical and chemical signals in the neurons of the brain can make interpreting and processing incoming sensory signals difficult (like visual, sensory and auditory information).

The researchers at FutureNeuro study epilepsy as a large, collaborative team. This team includes clinicians, scientists, geneticists, and researchers who are all committed to improving outcomes and wellbeing which can transform the lives of patients with epilepsy.

## About the Research Centre

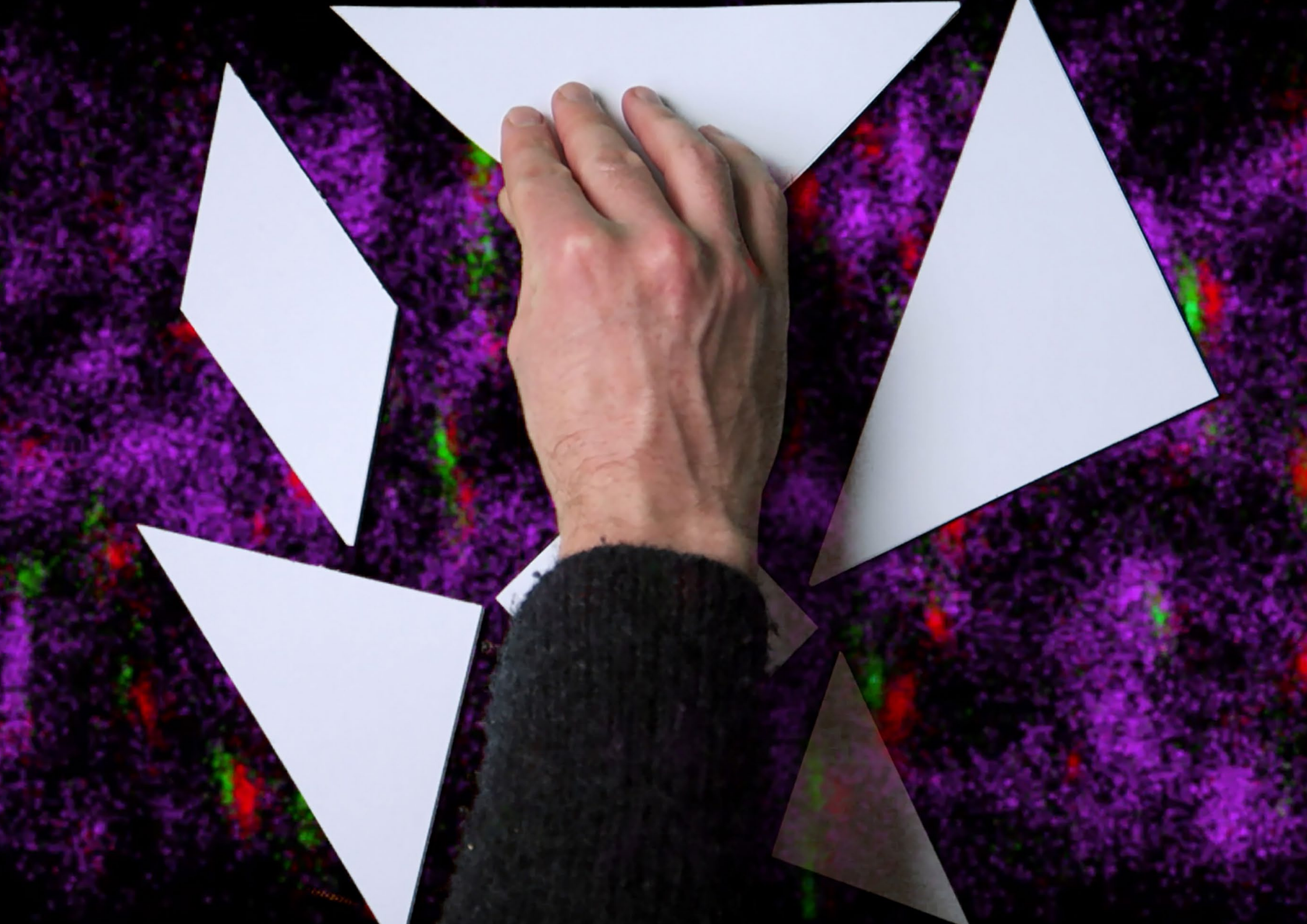


FutureNeuro is the SFI Research Centre for Chronic and Rare Neurological Disease, hosted by RCSI University of Medicine and Health Sciences. Its partner institutions are Trinity College Dublin, Dublin City University, National University of Ireland, Galway, Waterford Institute of Technology, University College Cork and University College Dublin. The FutureNeuro objective is to change the patient journey through research informed by the needs of both patients and neurologists. This includes developing rapid and accurate tools for diagnosis, the development of therapies to modify brain networks, technologies to enable patients to monitor their own health and well-being, and linking this to Ireland's national imaging, diagnostics and eHealth infrastructure.



Close-up of Shifting Patterns of Light by David Beattie



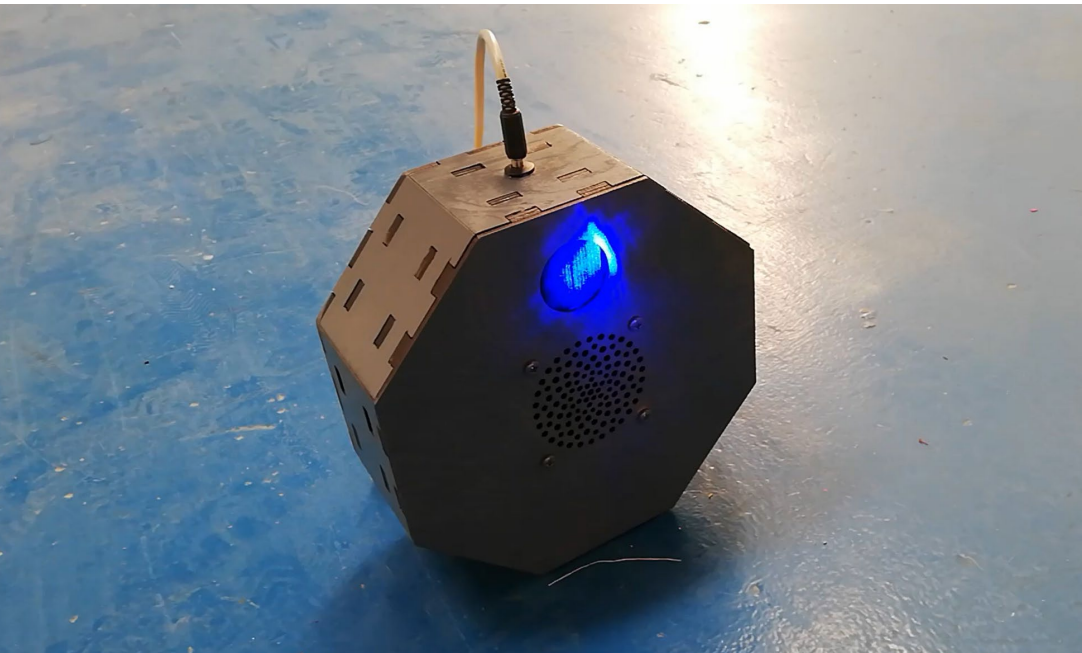


# ROTATION RELAY

Ed Devane X CONNECT

## Rotation Relay

- Ed Devane, 2021
- Mixed Media, Installation
- Rotation Relay Video: <https://tinyurl.com/RotationRelay>
- Duration: 1 minute 55 seconds

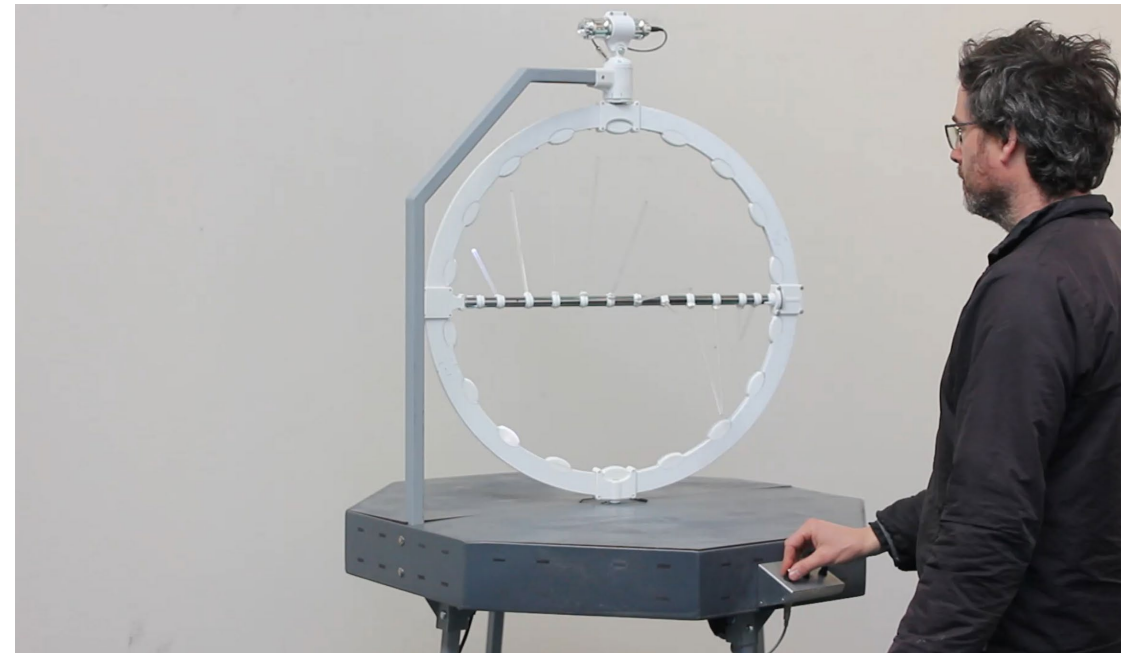


Rotation Relay – sound box, Video Still

## Artist Statement

By Ed Devane

Rotation Relay is a musical gyroscope, that can rotate in X, Y and Z axes, and each of these rotational speeds is user controllable via an interface. The different axes interact with each other via LEDs and magnetic sensors to trigger tones in a sequence. This musical information is transmitted as an encoded audio signal through a laser beam and received at another location. The artwork is an interpretation of various quantum states including teleportation and superposition, and draws from cutting edge laser satellite communication that will be used by CONNECT when the technology matures.



Rotation Relay, Installation with artist, Ed Devane



## About the Artist



Ed Devane is a sound artist and instrument designer based in Donegal. His work explores interactive and collaborative experiences through the media of sound and motion, where the public are invited to become active participants rather than passive viewers.

Ed maintains a design studio in Donegal, Ireland, and since 2018 has been trading under the name Soniphorm, offering educational experiences and audio products.

He has previously worked as a technician in NCAD Dublin

and teaching assistant in University of Limerick to interaction design and music technology students.

Ed has also worked with a range arts organisations to deliver workshops in instrument building and music production including DCCOI, Creative Ireland, The Ark, Regional Cultural Centre in Donegal, Galway Arts Centre, the Hunt Museum, FabLab Limerick, Sirius Arts, Science Gallery Dublin and Edinburgh International Science Festival.

## Research Centre Statement

By Jerry Horgan and Dr Deirdre Kilbane

Our research is on 'Quantum Communications via Space'. We are looking to use quantum properties to secure and enhance the next generation of communications (data transfer) networks, which will include nano-satellites, or cubesats. These cubesats can be about the size of a pringles tube and which will be in a low-earth-orbit or about 35 times closer than the satellites traditionally used. As they are so close, they are also incredibly fast, and are actually faster than fibre optic over long distances, say between countries.

Security is based on two specific quantum properties, entanglement and teleportation. This is where two photons (little beams of light) are linked to each other no matter how far apart they might be and that information (data) can be sent across that distance by physically interacting with just one of them.

We are using the property of superposition to enhance the communications, by increasing the capacity of the data transfer. Communications networks currently use bits (usually ones and zeroes or up versus down) to represent data, with superposition the data can be in more than one position (think of a coin spinning on its side, you see both heads and tails at the same time) which can be used to represent more data at a time.

This is shown in the artwork, where the light represents the photon, which can be up or down, and left or right. The laser and speaker demonstrate the properties of entanglement and teleportation.

## About the Research Centre



CONNECT is the world leading Science Foundation Ireland Research Centre for Future Networks and Communications. CONNECT is funded under the Science Foundation Ireland Research Centres programme, which has established a network of SFI Research Centres focusing on key research areas in Ireland. The centre is co-funded under the European Regional Development Fund.

CONNECT brings together world-class expertise from ten Irish academic institutes to create a one-stop-shop for telecommunications research, development and innovation.

Rotation Relay, Installation







# MACHINE'S EYE VIEW

Peter Nash x Lero

## Machine's Eye View

- Mixed Media, Photography Series
- Peter Nash, 2021
- Full 26 Images: <https://tinyurl.com/MachinesEyeView>
- Duration: 1 minute 44 seconds

## Artist Statement

By Peter Nash

How does the machine see?

Using the specific example of a self-driving car, this work seeks to understand the differences in how a machine sees, compared to our own human viewpoint.

Peter Nash has built an immersive physical world from recycled materials, incorporating traditional methods of drawing, making and set building to narrate the journey of an autonomous vehicle. Nash has created a unique perspective, that of a machine, in order to explore the many hazards, situations, conditions and challenges encountered on a simple drive into town.



Car overtaking cyclist from the 26-image series by Peter Nash



Car in the countryside from the 26-image series by Peter Nash

Based on research conducted by the expert team at Lero, Peter Nash has built an immersive physical world from recycled materials, incorporating traditional methods of drawing, making and set building to narrate the journey of an autonomous vehicle. Nash has created a unique perspective, that of a machine, in order to explore the many hazards, situations, conditions and challenges encountered on a simple drive into town.

### About the Artist



Peter Nash is a multi-disciplinary artist currently based in Cork City. Informed by an ongoing research into pre-internet sources of knowledge and methods of communication, his practice includes drawing, printmaking, animation, and sculpture.

Peter Nash obtained a BA Honours Degree in Fine Art (Sculpture) from Sheffield Hallam University, England in 2003 and graduated in 2016 with an MA in Art & Process from CIT Crawford College of Art and Design, Cork.

Recent exhibitions have included: The Future is Not Necessarily Set in Stone, Studio 12, Backwater Artists Group, Cork (2019), I Remember Nothing, I Remember This, Garter Lane Arts Centre, Waterford (2019), See You Tomorrow, Sirius Arts Centre, Cobh (2019), Terra Incognita, Skibbreen Arts Festival (2018), Stockton Contemporary, Stockton on Tees, England (2018), The Paradise of The Heart, TACTIC Gallery, Cork (2018), Exit Strategy, Clonmel Junction Festival (2017).

### Research Centre Statement

By Professor Martin Mullins and Clare McInerney

From Lero perspective this project examines the differences that arise when we consider a machine driving compared to a human driver. Decisions are made in a different way and yet these decisions can have moral consequences. For hundreds of years, with Immanuel Kant as a key staging point, we humans were thought to have unique insights in the areas of morality. The challenge for future programmers is to allow cars to think ethically. It is not only a technical challenge but a philosophical one.

All this is intimately related to the work of Peter Nash, ways of seeing – to borrow a phrase from John Berger – is a prerequisite for the ‘good car’ and Peter’s work addresses this phenomena of how future cars will see the road and see all of us.



## About the Research Centre



Lero, the SFI Research Centre for Software, brings together expert software teams from universities and institutes of technology across Ireland in a co-ordinated centre of research excellence with a strong industry focus. Lero's research spans a wide range of application domains from driverless cars to artificial intelligence, cybersecurity, fintech, govtech, smart communities, agtech and healthtech. Hosted by University of Limerick, Lero's academic partners include Dublin City University, Trinity College Dublin, University College Dublin, Maynooth University, National University of Ireland Galway, University College Cork, Dundalk Institute of Technology, Munster Technological University, Waterford Institute of Technology and Limerick Institute of Technology. Lero's overall vision is to establish Ireland as a location synonymous with high-quality software research and development, to the extent that 'Irish software' can enter the lexicon in the same way as 'German automotive' or 'Scandinavian design'.

Work in Progress, Peter Nash

Image far right: Machine's Eye View School Children by Peter Nash







## Project Teams

**Caibleadh:** Iiing Heaney with research input from Dr. Fergus McAuliffe, Dr. Mark Coughlan, Eoghan Daly and Andrew Trafford of iCRAG SFI Research Centre for Applied Geosciences.

**The Invisible Made Visible:** Shevaun Doherty with research input from Dr. Cormac Gahan and Dr. Aimee Stapleton of APC Microbiome. Music by Boa Morte.

**Shifting Patterns of Light:** David Beattie with research input from Dr. Cristina Reschke, Dr. Susan Byrne, Dr. Katherine Benson and Ciara Courtney of FutureNeuro.

**Rotation Relay:** Ed Devane with research input from Jerry Horgan and Dr. Deirdre Kilbane of CONNECT.

**Machine's Eye View:** Peter Nash with research input from Prof. Martin Mullins and Clare McInerney of Lero.

## Artist Details

**Iiing Heaney** | [www.iiing.com](http://www.iiing.com) | [wiki1iing@gmail.com](mailto:wiki1iing@gmail.com)

**Shevaun Doherty** | [www.shevaundoherty.com](http://www.shevaundoherty.com) | [shevaun@shevaundoherty.com](mailto:shevaun@shevaundoherty.com)

**David Beattie** | [www.david-beattie.net](http://www.david-beattie.net) | [info@david-beattie.net](mailto:info@david-beattie.net)

**Ed Devane** | [www.eddevane.com](http://www.eddevane.com) | [edjdevane@gmail.com](mailto:edjdevane@gmail.com)

**Peter Nash** | [www.peternash.org](http://www.peternash.org) | [peter.nash7@gmail.com](mailto:peter.nash7@gmail.com)

## Illustrator Details (Inside Cover & Brain Logo)

**Sarah Coyne** | [www.sarahcoyneillustrations.com](http://www.sarahcoyneillustrations.com) | [sarahcoyneillustrations@gmail.com](mailto:sarahcoyneillustrations@gmail.com)

## Project Management & Curation

Hannah Dunne & Marina Mulligan

## Online Exhibition and More Information

[www.sfi.ie/engagement/art-collaboration](http://www.sfi.ie/engagement/art-collaboration)

## SFI Contact Details

For more about the STEAM Art Collaboration contact [primaryscience@sfi.ie](mailto:primaryscience@sfi.ie) or [info@sfi.ie](mailto:info@sfi.ie). All SFI Research Centre contacts can be found at <https://www.sfi.ie/sfi-research-centres/index.xml>.









