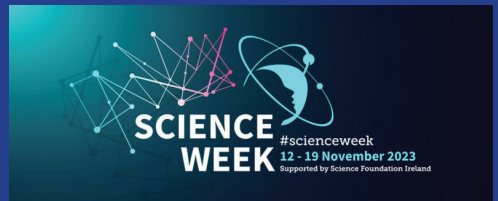


SCIENCE WEEK POP UP

PROGRAMMED BY
AISLING MURRAY



FRIDAY - EVENTS

14.00 - 15.00

PILLOSOPHY (WITH SARAH GUERIN):

What is the future of human health? How will we maintain our health in 2040/2050? How will our medical treatments be different then and what are the answers to the difficulties that we will encounter in the future? 'Pillosophy' brings together three of the brightest young minds in Ireland giving their perspectives on what lies ahead for healthcare in Ireland and beyond. Our panel of researchers will share their experiences and discuss their work and how it can revolutionise how we maintain our health and treat illness.

15.00 - 16.00

WHAT DOES IT MEAN TO BE HUMAN?

During Science Week this year the public will be asked to consider what it means to be human in today's world, and how the decisions we make today will impact the people and world of the future. In this discussion Jonathan McCrea facilitates a panel discussion on some of the themes that will be explored this year in asking what really makes us human?

PARTICIPANTS:

- | | |
|-----------------------|--|
| Kevin Mitchell | Neuroscientist and author of a new book about free will. |
| Robert Ross | Senior Lecturer in Computer Science at TU Dublin and Funded researcher at ADAPT, Ireland's AI research centre. |
| Sophie White | Author and columnist. |
| Ruth Freeman | Director, Science for Society, Science Foundation Ireland |

16.00 - 16.20

QUEER KINGDOM WITH THOMAS GREEN

A talk about the diversity of sex and sexual behaviour across the animal kingdom (and more)! The animal kingdom has been existing outside of human constructs of gender and sexuality for millennia, so why is it we call this behaviour in ourselves 'unnatural'? It is only in recent decades that science has begun to gain insights into the ways in which animals defy societal norms of gender and sexuality, but it is still limited by its own biases. From mushrooms that have over a thousand biological sexes to male giraffes who have more homosexual sex than heterosexual sex, there are entire fields of research to be founded from these blind spots. Come learn about the diversity of sex and sexual behaviour and discover how the historical and present biases of humans have detrimentally influenced our own view of the world.

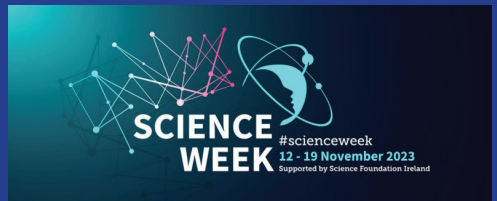
16.20 - 16.40

BITCH: Lucy Cooke introduces the animals and scientists who are reinventing the female of the species.

Bitch: what does it mean to be female? Humans may be the perpetrators of misogyny but they are not its only victims. For centuries female animals have been marginalised and misunderstood by the scientific patriarchy. In BITCH Lucy Cooke introduces the animals and scientists who are reinventing the female of the species. This critically acclaimed best-seller will change how you think about sex, sexual identity and sexuality in all animals, including us. One of the Telegraph's top 50 books of 2022, BITCH was adapted into the BBC Radio 4 series Political Animals and is now on the syllabus at UCL, Princeton and other major international universities.

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16.40 - 17.00

LUCY COOKE & THOMAS GREEN IN CONVERSATION

16.00 - 18.00

REWILDING: In conversation with Eoghan Daltun.

Are humans leaving behind a future we can be proud of? An in conversation discusses the human impact on environment and what society can learn and gain from rewilding.

18.00 - 19.00

EP 2023 SCIENCE GAMESHOW

Curiosity Showdown - The Science Gameshow (w Shaun Ussher, David Robert Grimes, Aoife McLysaght, Grace Darcy & more)

Welcome to the electrifying fusion of science, art, and laughter at the Curiosity Showdown science game show. Join a dynamic panel of brilliant scientists, charismatic science communicators, and talented artists as they delve into the fascinating interplay between science, art and the world around us. This captivating show explores the intriguing realms of peculiar questions, amazing discoveries, and gazes into the speculative futures both near and far.

Sit back, relax, or join in on the fun, and have a laugh as our panellists engage in hilarious challenges, share thought-provoking insights, and uncover the unexpected connections between science, creativity, and the human experience. Let the games begin!

19:00 - 20:00

SOUND AND MUSIC FUTURES: (with SARC & Martin Clancy plus special guests)

Can technology help or hinder human creativity? From AI to Spatial Audio, new musical instruments and interaction, the making of sound and music is going through yet another revolution. What lies ahead and what opportunities will the future bring? Music has a long history of innovation, constantly developing creative uses of technologies and techniques for expression and communication. Collaboration between artists, researchers and technologists is key to this development. In this conversation we discuss current, emerging and ever more accessible technologies and how they shape the development of sound and music. We ask questions about the role of AI in the creative process, how to creatively work with spatial audio techniques embedded in streaming platforms and live setups, what are the expressive opportunities of new bespoke musical instruments and interactions. We frame the conversation in the context of sound and music playing a role in social consciousness and how it can be used for activism and awareness raising of issues such as inequalities and the environmental crisis.

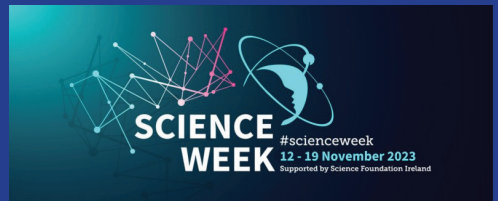
20:00 - 21:00

INFINITY LOUNGE: Immersive AI experience w Jonathan McCrea & Scott McDonnell.

Join broadcaster and DJ Jonathan McCrea, animator Scott McDonnell (Jam) and their team of "assimilators" as they perform a live set using YOUR material to create music and visuals with the power of Artificial Intelligence. Grab a cocktail (recipe devised by AI, of course), listen to completely unique music devised by algorithm and watch your wildest dreams take shape with the help of software like Midjourney and Kaiber. Expect trippy visuals, great sounds and a slightly unusual taste...

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FRIDAY - EXHIBITS

THE 'ART OR AI?' MUSEUM OF VERY MODERN ART (WITH ADAPT RESEARCH CENTRE)

AI-generated art tools like DALL-E, Midjourney and Stable Diffusion are changing how we view art and creativity. But as humans, how good are we at distinguishing a classic from an artwork generated by a machine? The 'Art or AI?' Museum of Very Modern Art will have you scratching your head to figure out your Dalís from your DALL-Es. Browse the gallery. Ask yourself is this machine art or a Monet masterpiece. Note your answers and check your scores. Share your thoughts on this rapidly-evolving technology: Is there anything AI can't do? Does it have a place when it comes to art and creativity? Where do you see things going from here?

VIRTUAL FIELD TRIPS: COGNITIVE REPRESENTATIONS AND PERSONAL EXPERIENCES OF COVID-19 (GARETH W. YOUNG).

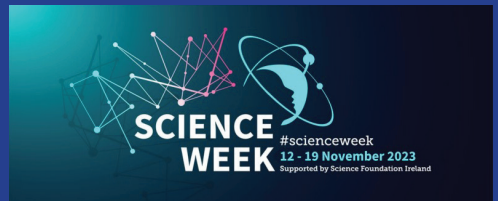
The coronavirus disease 2019 (Covid19) was first identified in December 2019, resulting in a sustained global pandemic. The impact of the pandemic was deeply felt among particular groups, such as young people, disabled people, and people living in areas of poverty. Diminished social interaction, mental health and the implications for personal well-being, healthcare concerns, and financial stress were widely reported as contributing factors. However, these issues' precise nature and impact have been challenging to capture and articulate through conventional quantitative research practices. As lockdowns ebbed and flowed, vaccines rolled out, and employment sectors began to formulate and execute plans to return to work, the project captured personal accounts of the pandemic by integrating place-based photogrammetric 3D media and social virtual reality (VR) technology. Community participation as an artistic co-creative practice was made possible through open-source tools, multimodal site-specific 3D data, and a social VR platform. This way, we undertook a uniquely creative form of storytelling and content creation, capturing cognitive representations as 3D digital media and first-hand reports. We then used a phenomenological approach to analyze the collected subjective data. This way, the data analysis revealed shared experiences, health, life events, environment, technology, and employment themes. Our participants detailed personal experiences of the global pandemic phenomenon within these thematic areas. They used VR to share their individual and collective experiences and to engage in community support via a virtual field trip practice-based methodology

UNLEASH YOUR INNER SUPERHUMAN WITH X-RAY VISION AR! (PRIYANSH JALAN)

Get ready for a mind-blowing experience as we blend superhero powers with Augmented Reality (AR)! Our research demo will show you the amazing fusion of X-ray vision capabilities and AR technology, taking your perception to a whole new level of awesomeness! Picture this: you can see through objects and surfaces like Superman, all thanks to cutting-edge computer vision and image-processing wizardry. Say goodbye to guesswork and hello to super-powered situational awareness! But that's not all! Our demo will blow your mind as we reveal the anatomy of your own body. Yes, you heard it right - you get to see your own anatomy in stunning 3D! It's like having your very own superhero x-ray goggles, right at your fingertips.

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Now, imagine the endless possibilities! In medicine, doctors can get a superhero-like view inside patients, making diagnoses easier and treatments more precise. Engineers can check the insides of structures and equipment, ensuring everything is rock-solid without breaking a sweat. Exciting, huh? But wait, with great power comes great responsibility! We're aware of the ethical concerns, so rest assured, our AR X-ray vision tech is all about responsible use and data protection. Your secrets are safe with us!

So, gear up for an unforgettable journey into the realm of superhuman perception! Our X-Ray Vision in AR research is set to redefine how we see the world - literally! Get ready to unleash your inner superhero and join us on this epic adventure! Don't miss out - it's going to be a blast!

FROM VIRTUAL TO REALITY... AND BACK! (DALILA BURIN).

Have you ever experienced the world through your virtual body? What if this virtual body could influence your real one? Now you can try it!

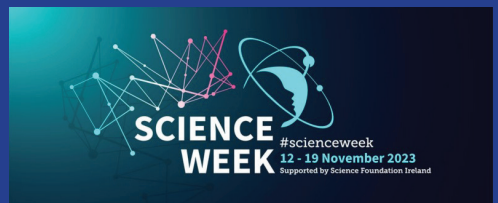
As we are about to enter the metaverse age, immersive virtual reality (IVR) is becoming more and more part of our everyday life. Fully immersive 3D computerized environments deliver the user a feeling of being surrounded by a different world; more importantly, we experience the virtual world with our own virtual body, also called avatar, that becomes a medium between our physical body and the virtual environment. However, achieving the plausibility and the realism necessary to create this virtual illusion is challenging as it requires a combination of high-grade graphics with knowledge about the brain and how it represents the body and its movements. The Graphics, Vision, and Visualisation Group (School of Computer Science and Statistics, TCD) explores computer graphics, character animation, virtual humans and perception to study how virtual avatars should be ideally designed to be better embodied ("from real to virtual") and how the virtual avatars affect the real persons' body ("from virtual to real"). At our stand at the Electric Picnic Festival, people will have the possibility to experience in first person what it feels like to embody a virtual avatar by wearing an IVR visor; interestingly, this avatar may have different somatic features (skin color, clothes, body shape) or it can perform different actions (moving while the person is sitting) and this illusion can trigger subjective (having the feeling of moving) or physiological (changes in heart rate) effects.

THE CIRCUS OF CLIMATE HORRORS (ICARUS CLIMATE RESEARCH CENTRE, MAYNOOTH UNIVERSITY).

Humans have engineered the climate crisis, but can we engineer our way out of it? Meet and experiment with the greenhouse gases warming our world, but which are normally invisible. Blow bubbles that will float on the Sea of CO₂; see for yourself how much gas is produced by everyday activities like driving, barbecuing, or boiling the kettle. At the centre of our mini-Big Top, explore the effects of a changing atmosphere through carnival sideshow games offering showing why it's so hard for heat to escape the Earth's atmosphere as the gas composition changes. The Big Top's stripes reflecting warming the world has experienced since 1850 - and where we'll go next, unless we can rapidly decarbonise our lives. Based on research from the Irish Climate Analysis and Research Units (ICARUS) at Maynooth University.

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ROBOTS AND LASERS (MAYNOOTH UNIVERSITY DEPARTMENT OF ELECTRONIC ENGINEERING)

How does technology change the way humans view the world? The Robot Soccer Champions of Europe take us on an exploration of two of the fastest-moving fields in technology under one roof. Come and play frisbee with Spot the robot wonder-dog, or mix your own music by bending lasers and dancing in the Photon Fountain. Split the light around you to see the hidden world of the honeybee, or combine all the technologies to experience the realities of driving a robotic rover on another planet.

PROTEIN-I (UNIVERSITY COLLEGE DUBLIN)

With increased awareness of the environment there is a desire from consumers to move towards a diet with lower levels of animal protein and in particular red meat. Data from the Irish food consumption surveys show that animal protein contributes 63% to the total protein intake with plant protein accounting for 37%. However, a wide range of foods contribute to plant protein intake with the top contributors being bread, fruit and vegetables. There is huge scope to improve the nutritional quality and contribution of these and other foods to our total plant protein intake. In particular, enhancing the nutritional quality of cereals and legumes offers benefits of not only delivering protein but also other key nutrients and fibre. The project Protein-I brings together a multi-disciplinary team working across the food system to deliver solutions for protein diversification and develop new value chains for crops in rural Ireland. The Protein-I game is designed to get you to think about where we find protein in the diet and to get you to think about protein. Have a go and maybe think about how you could diversify your diet to incorporate more plant-based protein.

SARC: CENTRE FOR INTERDISCIPLINARY RESEARCH IN SOUND AND MUSIC, (QUEEN'S UNIVERSITY BELFAST)

SARC will present a series of demos showcasing current practices. These include binaural listening of spatial field recordings and Interactive Virtual Reality Music Performance. A number of SARC researchers will be present at the stall to talk about ongoing projects and answer any questions. SARC was established in 2001 as the Sonic Arts Research Centre at Queen's University Belfast. Reflecting a broadening in interdisciplinary research scope, the centre was re-framed as the Centre for Interdisciplinary Research in Sound and Music as part of a re-launch celebrating 20 years of the SARC building in 2024. Current membership consists of 42 academics from across six Schools at Queen's, 23 PhD students and 2 visiting scholars. The membership reflects research interests across performance, composition, sound art, interaction and instrument design, musicology, digital signal processing, ethnography, documentary making, audio-visual, immersive experience, broadcast, urban space, architecture and language. Critical mass and breath of research activities makes SARC one of the largest research centres focusing on sound and music. SARC's research remit addresses all forms of sound and music from a variety of perspectives including the human, cultural, physical, social, spatial, creative, environmental, technological. This makes for a highly interdisciplinary research environment with outputs ranging from creative practice, experimental study, technological development, scholarship and participatory projects. Director: Professor Pedro Rebelo.