



eBULLETIN

The Edinburgh International Science Festival is back, and so is the special edition of the Beltane Public Engagement Network eBulletin!

Now at its 25th Edition, the Festival runs from 23 March to 4 April. As usual, there is a wide-reaching programme that can be accessed in full at <http://www.sciencefestival.co.uk/>. With this bulletin, we bring you a selection of the events organised, supported, or hosted by, the Beltane partners.

Bookings can be made online or by phoning the Booking Hotline: 0844 557 2686

Content List

[Heriot-Watt University Events for Adults](#)

[Napier University Events for Adults](#)

[University of Edinburgh - Events for Children](#)

[University of Edinburgh - Events for Adults](#)

[The Royal Botanic Gardens – Events for Children](#)

[The Royal Botanic Gardens – Events for Adults](#)

[Our Dynamic Earth](#)

[The Royal Society](#)

[The Royal Observatory](#)

Heriot-Watt University Events for Adults

Edinburgh Rebooted

Edinburgh is a tale of two cities – the unplanned sprawl of the Old Town in contrast with the organised flow of the New Town, which came out of necessity in the face of pollution and overcrowding. So how would we redesign our city to face current and future environmental and social challenges?

<http://www.sciencefestival.co.uk/whats-on/categories/talk/edinburgh-rebooted>

The Dark Arts of Innovations

Join Vivienne Parry along with Gerry Mulligan from W L Gore and Associates, Lee Innes from Moredun Research and Professor Alan Miller from Heriot Watt University for a panel discussion exploring the techniques and outcomes of science and industry's latest approaches to innovation.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/the-dark-arts-of-innovation>

E2: The Edinburgh Enlightenment Exchange Futureshock

2013's Enlightenment Exchange once again celebrates thinkers and thinking, but this time with a focus on the future. Forecasting the future is a preoccupation for humans and, many believe, other species. This year's diverse line-up includes theoretical physicist Dr Charles Wang, sci-fi author Justina Robson, seismologist Roger Musson and Financial Mathematician Dr Timothy Johnson each offering different approaches to the study and prediction of the future.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/e2-the-edinburgh-enlightenment-exchange-futureshock>

Napier University Events for Adults

Sensory Dining

Comedian and broadcaster Steve Mould is joined by scent technician Erika Duffy and scientists Professor Charles Spence, Professor Mark Miodownik and Dr Julia Simner for a dining experience that will intrigue and excite your palette. Savour sensuous flavours, smells and textures as you tease out the mysteries of the menu. Dinner will never be the same again!

<http://www.sciencefestival.co.uk/whats-on/categories/activity/sensory-dining-1404>

University of Edinburgh - Events for Children

Finding Higgs Boson

The existence of the Higgs Boson particle was predicted many years ago by The University of Edinburgh's Professor Peter Higgs, and now it looks like scientists may have found it! Come and meet particle physicists and learn about the amazing discoveries that are taking place right now.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/finding-higgs-boson>

Pop-up Engineering

Pop-ups may look simple, but they are magical devices based on ingenious engineering mechanisms. Choose your pop-up design and get to work, making flat cardboard shapes spring into exciting 3D models before your very eyes.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/pop-up-engineering-1400>

Discover Our Earth

Geoscientists at The University of Edinburgh are leaders in investigating the awesome forces which have shaped our world. Discover how the Earth was formed and find out how science can help us track the changes taking place on our planet as they happen.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/discover-our-earth>

The Energy Challenge

Chemists at The University of Edinburgh are working on new types of renewable energy - join them as they share their discoveries.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/the-energy-challenge>

Bio-Discoveries

Biologists at The University of Edinburgh are investigating everything from how to fight tropical diseases to how butterflies avoid being eaten. Look down the microscope and join them to make some exciting discoveries of your own.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/bio-discoveries-1387>

The Sci-Fun Roadshow

Join the fun at this exciting interactive exhibit featuring more than fifty incredible activities. Control lightning, see a hole in your hand, solve a crime, become part of a human circuit and then relax in our spinning chair.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/the-sci-fun-roadshow>

Secrets of Symmetry

Our planet is full of beautiful mathematical patterns and symmetries – from man-made buildings to the natural world. Learn how to spot and understand these patterns, then create your own to take home.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/secrets-of-symmetry>

Human and Animal Medicine

How do scientists keep humans and animals healthy? Take part in hands-on activities with real medical and veterinary scientists from The University of Edinburgh and see their cutting edge work for yourself – from the work of a vet to the workings of the human heart and much more.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/human-and-animal-medicine-1396>

Powerful Patterns

Find out how we can use mathematics to create interesting, intricate and clever patterns. This fun workshop explores the symmetries of shapes, helping you use tiles of all shapes and colours to create your own fantastic designs.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/powerful-patterns>

Intelligent Robots

The latest humanoid robots really push the boundary between humans and machines, taking new technologies to the limit. Find out how robots are able to interact with people intelligently. You may even get the chance to put your skills to the test in a human versus machine face-off.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/intelligent-robots>

The Chemistry Show

How can we make environmentally friendly cars? Why might a farmer taste a field? And why would someone from Germany know the answer to this question?

<http://www.sciencefestival.co.uk/whats-on/categories/show/the-chemistry-show-1382>

University of Edinburgh - Events for Adults

Healthy Lunches: Understanding Childhood Epilepsy

Epilepsy is the most common neurological disorder in childhood; as common as diabetes. But 70% of its causes remain unknown. There has been progress in identifying single gene epilepsies but in the majority of people it seems to arise spontaneously with no family history, suggesting environmental factors could be the cause. Dr Richard Chin from The University of Edinburgh leads this interactive lecture on the key questions that are informing current childhood epilepsy research.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/healthy-lunches-understanding-childhood-epilepsy>

Patterns in Nature

What roles do the laws of maths and physics, the forces of nature, play in creating the myriad of eye-popping formations that colour and pattern our world? In both living and non-living systems, nature creates the most intriguing patterns from the repetition of just a few simple rules. *Patterns in Nature* celebrates the glorious beauty, symmetry and complexity of this process. Take a walk through some of nature's most stunning visual creations and discover the secrets of how and why these patterns are formed.

<http://www.sciencefestival.co.uk/whats-on/categories/exhibition/patterns-in-nature>

Life DIY

We've made the first synthetic organism; and there is a book about DNA, made from DNA. So what's next? Discover why the FBI is so interested in the developments affecting 'life' as we know it and how synthetic life can be controlled with electricity.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/life-diy>

Scotland's Marine Renewables: Making it Happen

The awesome power of the sea is embedded in the Scottish psyche, inspiring great art and magnificent engineering. Professor David Ingram from The University of Edinburgh and journalist and broadcaster Lesley Riddoch host a panel of experts to address the challenges of developing our waters as a renewable energy source and discuss its social and cultural implications.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/scotland-s-marine-renewables-making-it-happen>

The False Memory Archive: A Discussion

The False Memory Archive project is a psychological experiment examining how we perceive our autobiographical histories and the errors and distortions our brains create. Artist Alasdair Hopwood, the archive's creator, and psychologist Professor Christopher French invite Professor Richard Wiseman, Dr Caroline Watt and Professor Sergio Della Sala to respond to the archive in a series of presentations, reflecting on the idea of false memories as 'truths' and examining how the creative aspects of autobiographical memory can be objectively identified.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/the-false-memory-archive-a-discussion>

Scottish Science and Innovation

Scotland has a strong presence in scientific research, but does not currently translate this knowledge into a profitable, high-tech, industry-based economy. So how would Scottish science respond to independence or so-called 'devo-max'? Would these political changes send us to new heights or see us struggling to maintain our position?

<http://www.sciencefestival.co.uk/whats-on/categories/talk/scottish-science-and-innovation>

Healthy Lunches: Aspirin a Day?

In 500BC Hippocrates discovered that extract of willow bark could ease aches, pains and fever. Salicylic acid, the active ingredient, was tamed by modern medicine to become aspirin. Recently, researchers have found evidence this compound may have a protective effect against some forms of cancer. Dr Lesley Stark of the Medical Research Council Institute of Genetics and Molecular Medicine explains how her team are working to target its powerful effect at cancer cells alone.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/healthy-lunches-aspirin-a-day>

Medicine and Me

Explore the questions and issues surrounding our relationship with pharmaceuticals and the advent of 'personalised medicine' in this fascinating discussion chaired by Life Technologies' Peter Silvester. He will be joined by Professor Sheila McLean, Emeritus Professor of Law and Ethics in Medicine at the University of Glasgow; Professor David Porteous, Chair of Human Molecular Genetics and Medicine at The University of Edinburgh and Professor Anna Dominiczak, the University of Glasgow's Regius Professor of Medicine.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/medicine-and-me>

Faith in the Future

Lesley Riddoch chairs a fascinating panel discussion with Professor Michael Northcott from the University of Edinburgh, Professor Stephen Reicher from The University of St Andrews, Dr Rebekah Widdowfield from the Scottish Government and Morag Wilson from WWF Scotland.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/faith-in-the-future-the-church-and-our-environment>

Dirty Electronics: Data Trails

Build a synth and become part of a collaborative sound-sculpture and performance in this hands-on workshop conceived by Dirty Electronics' John Richards. The resulting penny-drop synthesiser will create a unique data trail and sound every time it is played. Take your synth straight home or accept our invitation to play it in the opening performance of Data Trail at Inspace the same evening.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/dirty-electronics-data-trails>

Out of Thin Air: Surviving High Altitude

High altitude presents unique challenges for the human body. Reactions can range from mild sickness and confusion to life-threatening conditions affecting the heart, lungs and brain. Professor A Mark Evans and Dominika Dykiert from The University of Edinburgh, mountaineer Geordie Stewart and Dr Kenneth Baillie from The Roslin Institute discuss how we adapt to altitude in the short and long term and explore the challenges it presents for climbers, athletes and communities.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/out-of-thin-air-surviving-high-altitude>

Maxwell and the Mobile Revolution

Professor Peter Grant from The University of Edinburgh reflects on Maxwell's legacy and the developments in cellular communication technologies that have allowed our mobile to move from 'bricks' to sleek devices with multi-purpose functionality. High-tech start-up expert Tamara Roukaerts will discuss augmented-reality technology for smart phones, reveals just what the future might look like as increasingly the mobile phone sees and understands information like the human brain.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/maxwell-and-the-mobile-revolution>

LI-Fi: Data through Illumination

We've all heard of wi-fi but what about li-fi? Li-fi is a wireless communication system that uses the optical part of the electro-magnetic spectrum. Join Professor Harald Haas of The University of Edinburgh and spin-off company PureVLC as he explores the science behind this new technology that could integrate into existing lighting in our homes and offices, changing the landscape of communication and solving the impending overload of our existing wireless networks.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/li-fi-data-through-illumination>

Human Hybrids: Perspectives on Human –Animal Exchange

Some modern commentators fear emerging scientific technologies that seek to repair and replace the tissues, cells and organs of human bodies could start to blur lines between humans and animals. In this public symposium, scientists from The University of Edinburgh: Dr Gill Haddow, Paul De Souza, Dr Calum MacKellar, Director of Research, Scottish Council on Human Bioethics, Hugh Whittall, Director of the Nuffield Council of Bioethics join Dr Shawn Harmon to examine these fears from a wealth of social and scientific perspectives.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/human-hybrids-perspectives-on-human-animal-exchange>

Stem Cells: A Vision of the Future

Inspiring people of all ages about science, the University of Edinburgh's Tam Dalyell Prize for Excellence in Engaging the Public with Science Lecture and Award is in 2013 awarded to Professor Clare Blackburn and Dr Amy Hardie. Join this year's prize winners for the Award Ceremony and a fascinating presentation exploring the history, biology, hopes and fears of stem cell research.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/stem-cells-a-vision-of-the-future>

The Royal Botanic Gardens – Events for Children

Expedition Botanics

Join Expedition Botanics and experience the adventure of 21st century plant-hunting in Malaysia. From packing for your expedition to identifying your finds, experts will be on hand from 11am to 5pm throughout the Glasshouses and Garden to guide you and help you learn new skills. Your expedition will take up to 2 hours with last entry at 3.45pm

<http://www.sciencefestival.co.uk/whats-on/categories/activity/expedition-botanics>

Forestry DNA Detectives

Join scientists from Forest Research to help search out the answers to some challenges.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/forestry-dna-detectives>

Birds on Expedition

Many of the world's bird species undertake spectacular migrations throughout the year. But why do they migrate, how do they find their way and how do they survive such arduous journeys?

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/birds-on-expedition>

DNA Discovery Trail

Follow the trail, test plant DNA and discover how information found in plant cells can be used to improve crops, maintain biodiversity and even help the police link evidence to crime scenes.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/dna-discovery-trail>

Pesky Pests and Dangerous Diseases

Join their pioneering scientists to find out more about the Scotland Rural College's work and see if you have what it takes to be a 'disease discoverer'.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/pesky-pests-and-dangerous-diseases>

Disease Explorers

Wanted – budding disease detectives with a sense of adventure for a journey of discovery and fun. Can you help in our quest to keep animals healthy and happy?

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/disease-explorers>

Food Trek

Join staff from the University of Aberdeen's Rowett Institute to try your hand at some fun food science and discover your survival essentials.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/food-trek>

The Royal Botanic Gardens – Events for Adults

Designed by Nature

Art and design inspired by nature goes back to the dawn of human creativity. Join Professor Stephen Blackmore, Queen's Botanist and author of Green Universe in conversation with fashion designer Professor Helen Storey who has produced fashion and textile designs based on the first 1000 hours of human life. Using microscopes and lenses, you'll have the chance to explore the microscopic world for yourself.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/designed-by-nature>

Stargaze with Mark

Fresh from co-hosting Stargazing LIVE with Professor Brian Cox, Mark Thompson, AKA the people's astronomer and author of the new book A Dawn to Earth Guide to the Cosmos is back with a night that sees the awesome nature of the Cosmos brought down to Earth.

Join Mark and local astronomers for a fascinating and accessible guide to the beauties of the night sky and some top tips on looking up.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/stargaze-with-mark>

Eating Aliens

From sika deer to American crayfish, invasive species are upsetting the natural order of ecosystems on land and sea. If the culprits are tasty, could the obvious solution be to eat them? Join the discussion over a meal of delectable invasive species.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/eating-aliens>

Forager's Breakfast

Foraging expert and author Miles Irving will lead you on a morning walk around the Botanic Garden to identify edible wild plants and offer hints and tips on using foraged foods in cooking. Includes breakfast.

<http://www.sciencefestival.co.uk/whats-on/categories/interactive/forager-s-breakfast>

Introduction to Plant Identification

Have you ever wanted to identify wildflowers and plants while out for a walk?

Let Phil Lusby, Head of School of Horticulture at the Royal Botanic Garden Edinburgh be your guide to plant guides as he introduces wildflower keys and shows you how to use them confidently.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/introduction-to-plant-identification>

Our Dynamic Earth

Science Live: Explore Your Universe

This exciting, hands-on show uses cutting-edge research by the Science and Technology Facilities Council to let us marvel at the spectacular world of physical science.

<http://www.sciencefestival.co.uk/whats-on/categories/show/science-live-explore-your-universe>

Beat the Expert

Take the challenge to 'beat the experts' at their own game, discover what Scotch Mist has to do with our understanding of the atom and find out about cutting-edge research on space, spectrometry and smashing particles together.

<http://www.sciencefestival.co.uk/whats-on/categories/activity/beat-the-expert>

One Day Digital!

Choose from a range of workshops with industry gurus and learn how to create your own website or app, print in 3D, design a computer game or character, programme or code using Raspberry Pi computer, or build your own gadget. We'll even keep the creative juices flowing with a free lunch.

<http://www.sciencefestival.co.uk/whats-on/categories/workshop/one-day-digital>

The Royal Society

Stem Cells: A Cure for Blindness?

Retinal degeneration is leading cause blindness in the western world. Drug treatments currently available can only slow the disease's progress and are not always successful. Dr Rachael Pearson, from University College London, has helped to develop a therapeutic approach that replaces lost cells with functioning ones to restore vision. Professor Mandy Maclean joins her to discuss how this research could revolutionise treatment visual impairment in the future.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/stem-cells-a-cure-for-blindness>

The Royal Observatory

Stargaze with Mark

Fresh from co-hosting Stargazing LIVE with Professor Brian Cox, Mark Thompson, AKA the people's astronomer and author of the new book A Dawn to Earth Guide to the Cosmos is back with a night that sees the awesome nature of the Cosmos brought down to Earth.

Join Mark and local astronomers for a fascinating and accessible guide to the beauties of the night sky and some top tips on looking up.

<http://www.sciencefestival.co.uk/whats-on/categories/talk/stargaze-with-mark>

Astronomy's Bright Future

In an era of space telescopes, giant radio telescope arrays and planetary rovers, we are undoubtedly set to learn much more about our universe and our place in it, but what are the biggest challenges – scientific and political – and opportunities facing international astronomers?

<http://www.sciencefestival.co.uk/whats-on/categories/talk/astronomy-s-bright-future>