

SLIGO
SCIENCE
FESTIVAL



EXPLOSIVE SCIENCE

CREATING OUR FUTURE

6th —14th November 2021

IT Sligo
An Institiúit Teicneolaíochta, Sligo

abbvie

A Blended Experience of Live & Virtual Events

sligosciencefestival.ie

sfi
Fondúireacht Eolaíochta Éireann
Da bhfuil romhainn
Science Foundation Ireland
For what's next

SLIGO SCIENCE FESTIVAL 2021

6th —14th November 2021 **Part of National Science Week**

A BLENDED EXPERIENCE

This year's Sligo Science Festival including the Sligo Science Fair will be a blended delivery of Live, In-Person events and Online events. Please look for the 'LIVE' or 'ONLINE' symbols.



Online



Live

Please note that you are required to book your places on all activities in 2021. To guarantee your place please book via our website.

sligo
science
festival
.ie

For schools activities please contact
Oli Melia
melia.oli@itsligo.ie

Sat
6th

The Sligo Science Fair Workshops

12.00 - 5.00 pm
Four science workshops
Public Event (All Ages)

Sun
7th

The Sligo Science Fair

12.00 - 5.00 pm
Family event explaining science in a fun way
Public Event (All Ages)

The majority of the Sunday Science Fair will take place outdoors – please wear appropriate clothing

Mon
8th

Automata - Mechanical Art

Online Workshop with Fire the Inventor
10.00am & 11.30am
Primary Schools only

Music to Your Ears

Online Science Show with Science Made Simple
10.00am & 11.30am
Primary Schools only

Airheads

Live Science Show with Eureka Edinburgh
9.30am, 11.30am & 1.30pm
Primary Schools only

Alzheimer's Disease: Your Risk & How to Reduce it!

Online Talk with Prof Marina Lynch
7.00pm
Public Event (12+)

Tue
9th

Primary Science Day at the Organic Centre, Rossinver

Live Science Workshops
10.00am – 2.00pm
Primary Schools only

Water and the SDG's

Webinar with Dr Timothy Sullivan
11.00am
Secondary Schools only (Ages 12-16)

'One Health'- human health & the protection of natural habitats

Online Talk with Dr Riona Walsh
7.00pm
Public Event (12+)

Mind your Microbes: The Microbiota-Gut Brain Axis'

Online Talk with Dr Niall Hyland
8.00pm
Public Event (12+)

Wed
10th

Forces & Energy Science Show

Online Science Show with The Amazing Wonderstruck
10.30am & 1pm
Secondary Schools only (ages 12-14)

Airheads

Live Science Show with Eureka Edinburgh
9.30am, 11.30am & 1.30pm
Primary Schools only

Science of De-extinction

Webinar with Dr Helen Pilcher
11.00am
Secondary Schools only (Ages 12-16)

Chemistry in the Movies

Online Talk with Dr. John O'Donohue
7.00pm
Public Event (15+)

Life Changing

Online Talk with Dr Helen Pilcher
8.00pm
Public Event (12+)

Thu
11th

Forces & Energy Science Show

Online Science Show with The Amazing Wonderstruck
10.30am
Secondary Schools only (ages 12-14)

"Have I got your attention?"

Webinar with Dr Yvonne Lang
11.00am
Secondary Schools only (Ages 12-16)

Natures Secret Circus

Live Science Workshop with Circus 250
9.30am & 12.30pm
Primary Schools only

Grandpa's Great Escape - Kite Making workshop

Online Workshop with Anyone 4 Science
10.00am & 11.30am
Primary Schools only

Fri
12th

Cookie Crimes

Online Workshop with Science Made Simple
9.30am & 11.00am
Primary Schools only

Forensic Workshop

Dr. Fiona McArdle and B.Sc.(Hons) Forensic Investigation & Analysis Students
In-person Workshop 1: 10 am - 1pm
In-person Workshop 2: 2.30 pm - 4.30pm
Suitable for Secondary School 5th Year and TY Students

Explosive Life – How Microbes Changed the Earth (and will continue to do so)

Online Talk with Dr Shane O'Reilly
7.00pm
Public Event (Age 12+)

Lapwing and other Breeding Waders of Bunduff, Co Sligo

Online Talk with Michael Bell
8.00pm
Public Event (All Ages)

All week

The Sligo Science Trail in city centre shop window

SLIGO SCIENCE FAIR

**Saturday 6th
& Sunday 7th
November**

**12.00 — 5.00pm
each day**



Crankpot Machine Art Workshop with Fire the Inventor



**12.15pm, 1.45pm &
3.45pm**

(max 30 participants per session)
IT Sligo Main Canteen

Crank up some science, engineering and moving art in this creative technology workshop. Using a take away noodle pot, chopsticks, cable clips and a bent piece of wire, you can build a hand-powered machine driven by a crankshaft, and learn how it works. Then let loose your inner crack pot and come up with some whacky designs. Plenty of art and craft materials are provided.

Plus, there will automata on show that can be brought to life by turning the handles. Suitable for all (younger children may need adult help).

SHOWS & PERFORMANCES

Family event explaining science in a fun way

The Annual Science Fair will include a wide range of performances, interactive displays and demonstrations for all the family to enjoy. Experiments, Discovery and lots of fun guaranteed for both children and adults.



Circus Science Workshop with Dr Ken Farquhar



**12.30pm, 2.00pm &
4.00pm**

(max 30 participants per session)
IT Sligo Black Box Theatre

Dr Ken's Science Circus Workshop is a fabulous fantastic hour of unusual hands-on science activity.

Blast off, land on the moon and learn how to Juggle. Discover the acrobatic forces of balancing. Magically throw knots into a string. All without the need for a safety net!

Be aware family and friends will be amazed watching these new skills and school teachers may collapse as pupils explain how it works!!!!!!

Saturday will be 3 timed advanced bookable workshops inside IT Sligo and 1 Online workshop.

Sunday will be drop in demonstrations and activities outside in the Sligo market and shows taking place inside IT Sligo.

All inside activities are advanced bookings only. Outside activities are 'drop In'.

Exploration Dome with Martin Conroy



**12:00pm, 12:30pm, 1.00pm, 1.30pm, 2.30pm
3.00pm, 3.30pm, 4.00pm & 4.30pm**

The 20 minute **online** Planetarium experience that gives children a chance to interact with the planets and stars in our universe. Exploration Dome is a mobile and online virtual STEAM (Science, Technology, Engineering, Arts, Maths) service. Our planetarium service is one of the most sought-after planetariums in Ireland.

Our shows are not only about Astronomy. We also include Maths, Biology, Geography, Physics, and Earth Sciences. All shows have innovative presentations, combined with narration and digital lessons that are designed to inspire.



WORKSHOP DAY

**Saturday
6th November**

12.00pm – 5.00pm

Advanced booking required

Please book workshop
places online at

**sligo
science
festival
.ie**



The Amazing Wonderstruck Air Powered Rockets



**12.00pm, 1.30pm &
3.30pm**

(max 30 participants per session)
IT Sligo room B1082

Participants work in pairs or individually to build paper and card rockets. Once complete, we launch the rockets from our custom built launchers, supplying launch pressures up to 100 psi! The main STEM topics covered in this workshop are: Forces, Aerodynamics & Friction, as well as more holistic skills such as team working, communication, investigation etc.

OPEN FAIR DAY

**Sunday
7th November
12.00pm – 5.00pm**

**Audiences limited
to 75 people –
Book your place at**

**sligo
science
festival
.ie**

**All other activities are
'Drop in'**

IN-PERSON SHOWS

**Advanced booking
required**

The Science of Bubbles Show with Sue McGrath

12.00pm, 2.00pm & 4.00pm

IT Sligo Room A0004

Have you ever wondered why bubbles float? Why we can see rainbows in bubbles? Why bubbles are round? Can we make bubbles in other liquids? To answer these questions we have to enter the Magical World of Bubbleology.



Circus Science with Dr Ken Farquhar

12:15pm, 1.30pm & 2.45pm

IT Sligo Room A0005

Roll up, roll up. It's time to check out the science behind the circus.

Champion juggler & scientist Dr Ken explores the scientific principles behind skilful circus tricks and dangerous stunts.

Hold onto your seats as he eats fire, cracks whips and juggles 5 beanbags - all in the name of science.

You will find out why jugglers love gravity, how clowns use 'the force' like a Jedi and if unicyclists keep moving to stay still.

It's science but not as you may know it!!!



Mad Professor

1.00pm, 2.30pm & 4.00pm

IT Sligo Room A0006

Fun and interactive science experience. Join the Mad Professor on a journey through many principles of science seeing how everyday items help shape the world of science.

AbbVie Supporting Science Education

abbvie

IT Sligo Hume Hall

AbbVie's commitment to promoting science within our communities is exemplified by the company's three-year sponsorship of the Sligo Science Festival. AbbVie's support has helped the festival undertake exciting initiatives including performances, educational exhibits and STEM-focused engagements with local schools.

This year, employees from AbbVie's manufacturing facilities in Sligo will be joined by special guests to deliver a number of exciting, interactive science-focused shows throughout the day. This is an event that parents and kids will not want to miss!

More details to be announced soon.



Wonderstruck Rocket Show

1.00pm & 3.00pm — IT Sligo Aurivo Theatre

The Wonderstruck Rocket Show is a rip-roaring scientific romp through the history of rockets and reaction engines in general. The show is crammed with physics and chemistry and laced with a liberal dose of history.

We are pretty sure that this is one of the most spectacular shows you're going to see. It includes a full-size working Rocket Car, gun powder, the incredibly messy Krispie Rocket, a working jet engine, the Wonderstruck Bed of Doom, more gunpowder, some very loud explosions and a 3 metre fireball. We guarantee that you will be talking about this show for a long time to come!



OPEN FAIR DAY

**Sunday
7th November**

12.00pm – 5.00pm

For more information on these Drop in activities and performances go to

**sligo
science
festival
.ie**



Nature Challenge with Michael Bell

All day Drop In

Learn all about the wonderful world of nature to be found in and around Co Sligo. Quizzes to test your nature knowledge, live mini beasts to handle and bones from the second largest animal in the world that were found in Sligo!

OUTDOOR EVENTS

Drop in, In-Person, Demonstrations, Performances & Interactive Activities



Science Experiments on the Street with Eureka Edinburgh

12:00pm, 12.40pm, 1.20pm, 3.00pm, 3.40pm & 4.20pm

Find Craig and Nic around the Fair to discover a little bit of street science. Explore the amazing power of air and the fun you can have with it. Watch a little bit of science magic and of course we'll have plenty of fun with our coke fountain!



Victoria Walker's Chemical Crew

1.00pm, 2.30pm & 4.00pm

Investigate what happens when the worlds of dance and science collide!!

Find out when the Victoria Walker's "Chemistry Crew" Dancers perform an explosive jazz dance that will blow your mind!!! Watch as our dancers combine the raw materials of music, movement, space and time to create the must see event of the Science Fair.

Join our experiment and explore dance in one of our workshops with our professional dance teacher and her "Chemistry Crew". For any budding performers you will also have the opportunity to join our Chemistry Crew in the finale. Add your X Factor to our secret formula!!!



The Wonder of Marine Life with Robin Barry

All day Drop In

Experience the wonderful magic of the Marine World around us and learn how to identify different sea shore species edible and non-edibles, such as shellfish, seaweed plants, fish, birds and mammals emphasizing the importance of protecting marine life from the dangers of plastics entering our waterways. Join Robin for a journey of marine life discovery.

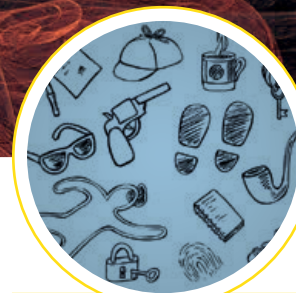


Power of Levers with Fire the Inventor

All day Drop In

Come and try crushing tins and squashing plastic toys, balancing bricks and penguins on a see-saw, testing your strength and even lifting the world, at Fire the Inventor's interactive stall

How? By using the incredible power of levers, of course. The hands-on demonstration machines and activities show how levers increase your strength and can make you laugh. And all the while leveraging some scientific thinking about how they work.



CSI - Murder Mystery

Interactive activity with Anyone 4 Science

All day Drop In

Fancy yourself as a forensic scientist solving crime scene mysteries? Come along to our murder mystery event at the Sligo Science Fair. We will teach you 2 laboratory tests regularly used by forensic scientists and then you will test the evidence from the suspects and the crime scene. Your next task will be to work out who is guilty. This family friendly event will be a walk through activity with testing stations and fun CSI facts.

OPEN FAIR DAY

OUTDOOR EVENTS

Continued



All-Ireland Pollinator Plan with Leif Barry

All day Drop In

Leif Barry is an environmental scientist from the Burren in Co. Clare. Leif is a Bumblebee recorder for the National Biodiversity Data Centre. Learn all about our many wild pollinators and how to provide them with nectar and pollen sources so they can survive and thrive. Identification aimed at Adults, parents and children. Come along and learn how to become a citizen scientist!



Soil Makers with the Organic Centre

All day Drop In

The Organic Centre's drop in workshop explores the science of soil making, a DIY guide to recycling food and garden waste, demonstrating what you can do at home in a small space and in a short space of time. Saving the Planet in the modern world! Child and Adult friendly.

Birdwatch Ireland

All day Drop In



A National Conversation
on Research in Ireland

Creating Our Future

All day Drop In

"Creating Our Future" is a national conversation on research in Ireland. Science Foundation Ireland want to hear your opinions and ideas on what researchers should explore to create a better future. Please drop by the stand and submit your idea. There are a variety of ways available to do this including online forms, voice recordings to video recordings

Primary School Science

12.00 – 2.30pm

Exciting experiments and activities demonstrated by primary school pupils from Sligo town and county.

Sligo Bay Lifeboat Services

All day Drop In

Take the opportunity to meet the volunteers and members of Sligo and Leitrim emergency services, hear their stories and see the equipment they use.

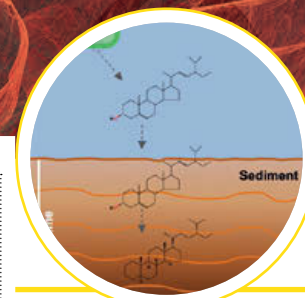


Kitchen Chemistry with St Angela's College

Cooking up a Chemical Storm

All day Drop In

Students from St Angelas's College will blow your minds with their chemical wizardry just using a few ingredients from the kitchen cupboard! Come along and learn how to make DNA, rain clouds, elephants' toothpaste and lots more!



A geologist, a biologist and chemist walk into a field...

All day Drop In

How do scientists study the complex chemistry and biodiversity of our environment? How do they relate that to what life and conditions were like in Earth's ancient past? We will walk through the steps involved in tackling these questions, from working in the field, to using chemistry and advanced laboratory equipment to understand these precious samples. Be prepared to roll up your sleeves and get your hands dirty!

Dr. Shane O'Reilly is a research scientist and lecturer at IT Sligo. Shane studies biomolecules that are produced by organisms and how, under the right conditions and with a bit of luck, we can use organic molecules as molecular fingerprints to understand the world around us and molecular fossils to understand our past.



Nemo le Science Magician

All day Drop In

Come and see Nemo le Science Magician at the Sligo Science Fair! – Is it magic, is it science – What do you think? – Can you also learn a trick?

The Mountain Rescue Team

All day Drop In

The Mountain Rescue Team displays its equipment and abseiling techniques.

Sligo Garda Siochana

All day Drop In

Members of the local Garda Siochana talk about crime prevention.

Sligo Fire Department

All day Drop In

SCIENCE WEEK

A BLENDED EXPERIENCE

This year's Sligo Science Festival including the Sligo Science Fair will be a blended delivery of Live, In-Person events and Online events. Please look for the 'LIVE' or 'ONLINE' symbols.

The Sligo Science Festival website offers further information on the festival and allows you to book onto activities at the festival. Go to sligosciencefestival.ie

8th —13th
November 2021

Please note that you are required to book your places on all activities in 2021. To guarantee your place please book via our website.

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science
festival
.ie

For schools activities please contact Oli Melia - melia.oli@itsligo.ie



Online



Live

Mon
8th



Music to Your Ears

Online Science Show with Science Made Simple

10.00am & 11.30am

Primary Schools only event

Find out how our ears pick up sound, and how they can be damaged by loud music. Uncover the mysteries of how CD players and MP3 players work and have some fun with synthesised voices! We'll show you all kinds of unusual ways to make sound and music, including the ultimate 'hands-free' instrument and one you can play with a blowtorch!

Automata - Mechanical Art

Online Workshop with Fire the Inventor

10.00am & 11.30am

Primary Schools only event

Exercise your students skills while learning some basics about mechanical movement in this creative technology online workshop. Using a mix of pre-made parts, chopsticks, a cardboard box, and a load of art and craft materials, you can engineer a moving toy or automata that bursts into life at the turn of a handle.

Once booked onto this online workshop, you will receive the schools kit to join in the workshop live via zoom on the day.



Airheads

LIVE- In-Person Science Show with Eureka Edinburgh

9.30am, 11.30am & 1.30pm

Primary Schools only event

Who you callin' Airhead?! Steve has a new hobby. He's a bit of an air head. Long suffering friend Barbara wants to know more, though soon she'll wish she'd never asked.

Join them for the World premiere of this ridiculous adventure of nonsense, one-upmanship and hovercrafts*. Who knows? You might even learn something along the way. This entertaining and educational science show experiments with air, pressure and Bernoulli's principle.

*Contains actual hovercraft



Alzheimer's Disease: Your Risk and How to Reduce it!

Online Talk with Professor Marina Lynch

7.00pm

Public Event (12+)

Marina Lynch is Professor (Emeritus) of Cellular Neuroscience in Trinity College Dublin. She received a BSc from the National University of Ireland, Galway and a PhD from Trinity College. She subsequently trained in King's College London and in the National Institute for Medical Research, Mill Hill London before returning to an academic post in Trinity College Dublin. She has served on the Board of Trinity College, was Director of the

Trinity College Institute of Neuroscience and has been the scientific lead on several PhD training programmes.

Her research focuses on understanding how brain function deteriorates with age especially in the context of aging and Alzheimer's disease.

An important part of this work is assessing whether inflammation is an important factor and whether this might explain some differences between males and females.

She has won a number of awards and has published 250 articles on her work.

The talk will start with some interesting brain facts and consider differences between males and females and will continue to describe changes that take place in the brain with age and in Alzheimer's disease. Some surprising findings from the so-called Religious Orders Study, in which nuns agreed to donate their brains to research in 1994, will be described as will strategies to reduce risk of disease.

PRIMARY SCIENCE DAY AT THE ORGANIC CENTRE



**Live,
In-Person
Primary
Schools event**

Booking required:
Contact Oli Melia - melia.oli@itsligo.ie

Each workshop runs 3 times:
10.00am, 11.15am & 1.00pm

Tuesday 9th November

10am – 2.00pm

**The Organic Centre,
Rossinver Co Leitrim**



Nature on our Doorstep
with Michael Bell

Learn about the nature that lives all around us with Michael Bell of Nature Learn. Michael will talk about many of the animals and plants that share our neighbourhood and plenty of hands on activities to look at. Be prepared to go on a minibeast safari around the grounds of the Organic Centre.



**Automata –
Mechanical Art
Workshop**

with Fire the Inventor

Exercise your students skills while learning some basics about mechanical movement in this creative technology online workshop. Using a mix of pre-made parts, chopsticks, a cardboard box, and a load of art and craft materials, you can engineer a moving toy or automata that bursts into life at the turn of a handle.



**Make your own
Bug Farm with
Eureka Edinburgh**

*Join Eureka Edinburgh and
make your own bug farm!*

First up, you'll learn a little bit about entomophagy (eating insects) and the work of the charity 'Bugs For Life', co-founded by Eureka Edinburgh's own Craig Macfarlane, with a community in Benin, West Africa. Then, it's time to get creative and design and decorate your own bug farm ready for your very own insects – darkling beetle larvae, otherwise known as mealworms, an extremely popular edible insect. To finish, if you are feeling adventurous enough, you can try some mealworms for yourself in a tasty treat – yum!

Water and the SDG's

**Online Webinar with
Dr Timothy Sullivan**

11.00am

Secondary Schools only event
(Ages 12-16)

Join Dr Timothy Sullivan, Director at the UNEP GEMS/ Water Capacity Development Centre as he discusses water and the SDG's.

Further details on this talk will appear on the science festival website.

depressed individuals have a very different microbial makeup when compared to healthy subjects. What is not understood, however, is what changes first. Is someone prone to be depressed and then that impacts the gut? Or is it a feedback loop, where one feeds into another?

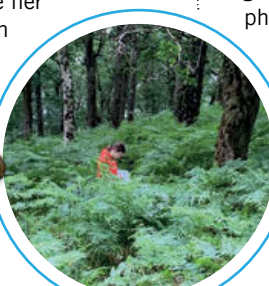
'One Health' - human health & the protection of natural habitats

**Online Talk with
Dr Riona Walsh**

7.00pm

Public Event (12+)

Riona is a PhD researcher in NUIG, who is taking a 'One Health' approach to studying the disease ecology, epidemiology, and awareness of Lyme disease in Ireland. She is passionate about highlighting the parallels between promoting human health and the protection of natural habitats. In her talk, Riona will cover the 'One Health' approach to human health and environmental protection, and will then go on to outline her own research on Lyme disease in Ireland.



Mind your Microbes: The Microbiota-Gut Brain Axis'

**Online Talk with
Dr Niall Hyland**

8.00pm

Public Event (12+)

"I'm gutted"; "trust your gut"; "I've got butterflies in my stomach"; "it's just a gut-feeling". The English language is filled with phrases that connect our gut with emotions. Is there a connection between our gut and our brain. Studies have shown that stressed or

Niall is a Senior Lecturer in the Dept. of Physiology at University College Cork and an Investigator at the Science Foundation Ireland supported research centre, APC Microbiome Ireland.

Niall received a BSc (Hons) in Biomedical Sciences from the University of Ulster and PhD in Pharmacology from King's College London and completed training at Louisiana State University Medical Center in the USA and at the University of Calgary in Canada.

He has published over 45 peer reviewed articles, has a H-index of 26 and co-edited the book, 'The Gut-Brain Axis. Dietary, Probiotic, and Prebiotic Interventions on the Microbiota'. He has represented Ireland on the Steering Committee of the European Society of Neurogastroenterology and Motility and recently completed his term as Vice President-Meetings at the British Pharmacological Society.

Wed
10th

Forces and Energy Science Show

Online Science Show with The Amazing Wonderstruck

10.30am & 1.00pm

Secondary Schools only event (ages 12- 14)

In this exciting 30-minute journey through some of the fundamental concepts of physics Peter from Wonderstruck explores the science and history of rockets. Along the way you'll see a real hybrid rocket motor in operation, our world-famous exploding breakfast cereal and a lightbulb made from pickled vegetables and plenty more.

Just sit back and get ready for some spectacular science!

**School performances
Wednesday & Thursday.**

**Public All Ages Family Show
- Thursday 6.30pm.**



Airheads

**Live, In-Person
Science Show with
Eureka Edinburgh**

9.30am, 11.30am & 1.30pm

Primary Schools only event

Who you callin' Airhead?! Steve has a new hobby. He's a bit of an air head. Long suffering friend Barbara wants to know more, though soon she'll wish she'd never asked.

Join them for the World premiere of this ridiculous adventure of nonsense, one-upmanship and hovercrafts*. Who knows? You might even learn something along the way. This entertaining and educational science show experiments with air, pressure and Bernoulli's principle. *Contains actual hovercraft



Science of De-extinction

**Online Webinar with
Dr Helen Pilcher**

11.00am

Secondary Schools only event

Could woolly mammoths walk the Earth again? Could Jurassic Park become reality? Could Elvis Presley be resurrected from a sample of hair bought on eBay? De-extinction – the ability of scientists to bring extinct species back to life – is fast becoming reality and the implications are both profound and far-reaching. Join tea-drinking, biscuit-nibbling science and comedy writer Helen Pilcher as she explores the limits of scientific possibility and the cutting edge science making de-extinction a reality. A former stem cell biologist gone rogue; Helen Pilcher is author of 'Bring Back the King: the New Science of

De-extinction' and 'Life Changing: How Human's are Altering Life on Earth.'



Chemistry in the Movies

**Online Talk with
Dr. John O'Donoghue**

7.00pm

Public Event (15+)

This short and snappy talk will take a scientific and filmographic look at how chemists and chemistry have been portrayed in the movies. It will use short clips and simplified graphics to talk about the topic in an engaging and light-hearted format. The movies chosen for this discussion are based around a number of themes; problem solving, plot devices,

chemical companies and people. Details about where and how to access the relevant movies in Ireland will also be provided (Netflix, Youtube, Apple etc). We hope this talk will give you the inspiration to start your own chemistry movie marathon! This talk is aimed at adults as there are some references to movies and themes which are certified 15.

Dr John O'Donoghue is the Royal Society of Chemistry (RSC) Education Coordinator for Ireland. On behalf of the RSC he supports trainee and established science teachers through the development, adaption and provision of CPD and resources based on the Irish curriculum. He is based at the School of Chemistry, Trinity College Dublin (TCD) where he teaches chemistry to non-science students and coordinates the unique chemistry education and public engagement (EPE) course for science PhD students.



Life Changing

**Online Talk with
Dr Helen Pilcher**

8.00pm

Public Event (12+)

For most of the last 3 billion years, life on Earth was shaped by natural forces.

Species were crafted slowly across millennia. Then, a few hundred thousand years ago, along came a bolshie, big-brained primate that decided to call itself 'human.' The Earth's natural history came to an end as humans began to deliberately shape the evolution of living things. Now we live in a post-natural era. We share our planet with golden gnus, pizzly bears and spider goats. Cloned polo ponies thunder up and down the polo field, and scientists are becoming able to resurrect extinct species. Evolution has become railroaded, and now our reach extends far beyond those animals that we can physically touch. Even the most remote environments bear the hallmarks of human activity, and there is not a single living species anywhere that is unaffected by our actions. Join writer Helen Pilcher as she explores the changing relationship between humans and the natural world, and shares stories from the front line of evolution.



Thu
11th

Forces and Energy Science Show

Online Science Show with The Amazing Wonderstruck

10.30am - Secondary Schools only event (ages 12- 14)

6.30pm - Public Event (All Ages Family Show)

In this exciting 30-minute journey through some of the fundamental concepts of physics Peter from Wonderstruck explores the science and history of rockets. Along the way you'll see a real hybrid rocket motor in operation, our world-famous exploding breakfast cereal and a lightbulb made from pickled vegetables and plenty more.

Just sit back and get ready for some spectacular science!



Natures Secret Circus

Live, In-Person Science Workshop with Circus 250

9.30am & 12.30pm

Primary Schools only event

Learn how to tumble, juggle and roll like a circus performer in your own local landscape. There are beguiling patterns, intriguing shapes, extraordinary contours woven through nature – the wind whipping the grass, the arch of a branch, the piling of two rocks on top of each other. The circus is full of patterns too – the rings drawn by the hula hoop, a tumbler's backflip, one acrobat balancing on another's shoulder.

In Nature's Secret Circus, participants are taught about the local landscape through circus tricks and shapes inspired by the natural world about them. Because Nature looks even more fabulous when you're upside down!



Please note that you are required to book your places on all activities in 2021. To guarantee your place please book via our website.

For schools activities please contact Oli Melia - melia.oli@itsligo.ie



Grandpa's Great Escape - Kite Making workshop

Online Workshop with Anyone 4 Science

10.00am & 11.30am

Primary Schools only event

Inspired by the David Walliams story, this workshop looks at the history of flight and the various machines humans have designed over the years in their quest to fly.

We will consider materials and how we can make them strong. The children will all make their own kite.

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"Have I got your attention?"

Online Webinar with Dr Yvonne Lang

11.00am

Secondary Schools only event (Ages 12-16)

Dr Yvonne Lang is a lecturer in the School of Science, IT Sligo. She is actively involved in raising awareness about environmental issues through research and outreach activities. She has also engaged in initiatives to facilitate discussions of "Science in our Daily Lives".

"Have I got your attention?" explores the advances technology has made to improve our connectedness while paradoxically resulting in a possible loss of connection and communication.



A cat's journey to Ireland: Who came before Pangur Bán?

Online Talk with Dr Alex Jamieson

7.00pm

Public Event (All Ages)

Cats are one of the most popular pets in Ireland today, yet we know very little about how and when they got here. Did they arrive thousands or just a few hundred years ago? Who brought them here and where did they bring them from? With the help of cutting-edge scientific techniques, we can answer these questions.

This talk will take you on a journey from the origins of domestic cats in Western Asia and North Africa to their arrival in Ireland. Cat attendance is strong encouraged, if well behaved.

Alex has recently finished her PhD at the University of Oxford and is now a postdoctoral researcher. She works on ancient DNA in the field of Archaeology. Her current research is looking at the interactions between domestic cats and wildcats across Europe.



Forensic Autopsy Pathology: Critical forensic basics and case studies

Online webinar with Dr. Paul Hartel

8.00pm

Dr Hartel is lead consultant pathologist at Sligo University Hospital and Honorary Senior Lecturer in Pathology at National University of Ireland, Galway School of Medicine and Clinical Associate Professor at West Virginia University School of Medicine. He is a certified forensic death investigator with the West Virginia Office of the State Medical Examiner and has served as expert witness for US and Irish Law firms and has consulted for many US hospitals. Dr Hartel is a Fellow member of the College of American Pathologists, American Society of Clinical Pathology, Royal College of Physicians in Ireland and Faculty of Pathology, and Diplomate of the American Board of Pathology. He also enjoys lecturing, teaching and research.

Fri
12th

Forensic Workshop

Dr. Fiona McArdle and B.Sc. (Hons) Forensic Investigation & Analysis Students

In-person Workshop 1:
10.00am - 1.00pm

In-person Workshop 2:
2.30pm - 4.30pm

IT Sligo Room: Ecology laboratory C2001

Suitable for Secondary School 5th Year and TY Students

Max 16 students per workshop
(Subject to Covid19 restrictions and requirements on the date)

Booking required:

Contact Dr. Fiona McArdle
mcardle.fiona@itsligo.ie

Please note that you are required to book your places on all activities in 2021. To guarantee your place please book via our website.

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Cookie Crimes

**Online Workshop with
Science Made Simple**

9.30am & 11.00am

Primary Schools only event

Who has eaten all the cookies?! This interactive

problem-solving workshop for class groups challenges you to some serious sleuthing - find out who the secret muncher is!

In this workshop, we present a problem for you to solve using investigation, discussion and a few scientific techniques. We'll learn a little about chromatography, fingerprinting and DNA to help us pose ideas and work out what might have happened to our cookies. A little simple equipment is required to join in with the experiments, all of which can be found around the classroom.

Explosive Life – How Microbes Changed the Earth (and will continue to do so)

Online Talk with Dr Shane O'Reilly

7.00pm

Public Event (Age 12+)

The Earth has been shaped by biology, especially microorganisms, for billions of years. In this talk, we will travel through time and across the Earth, to highlight how the 'unseen majority' are the ultimate recyclers and team players. We will also see that, not only can we thank them for much of modern society, but how they can help us achieve a sustainable society for future generations.

Dr. Shane O'Reilly is a research scientist at the cross-section of life sciences, chemistry, and geology. Shane specialism is the use of lipids (or fat), hydrocarbons and other organic molecules as molecular fossils or fingerprints. Shane earned his degree and PhD from Dublin City University; he spent several years as a researcher in Massachusetts Institute of Technology and University College Dublin. He has also worked in research policy and public engagement in Science Foundation Ireland. Shane joined IT Sligo as a lecturer in April 2021



Lapwing and other Breeding Waders of Bunduff, Co Sligo

**Online Talk with
Michael Bell**

8.00pm

Public Event (All Ages)

Michael Bell, Chair of the Sligo Branch of BirdWatch Ireland, will talk about his survey work over the last five years studying lapwing and other breeding waders at Bunduff in Co Sligo. In recent decades many of these bird species have declined dramatically across the general countryside in Ireland and the talk will outline how the birds are faring at Bunduff.



ROADSHOWS

Science Roadshows for Children in the Northwest

Science roadshow, '*Natures Secret Circus*' in association with County Sligo LEADER Partnership Company Limited. For further information please contact ktonry@sligoleader.com

Science roadshow, '*Airheads*' in association with Sligo County Libraries. For further information please contact pkeane@sligococo.ie

AbbVie Schools Roadshow

AbbVie employees from their manufacturing sites in Sligo are participating in company supported outreach that's focused on promoting science role models currently active in the Irish workplace. The company's employees are aiming to drive greater student awareness of the rewarding career opportunities that can be unlocked by studying STEM subjects. In previous years, AbbVie employees visit schools and the company hosted tours and activities at their sites. This year, the AbbVie STEM team are again hoping to showcase their work virtually.

If your school is interested in a virtual session with the AbbVie team, contact karen.gordon@abbvie.com

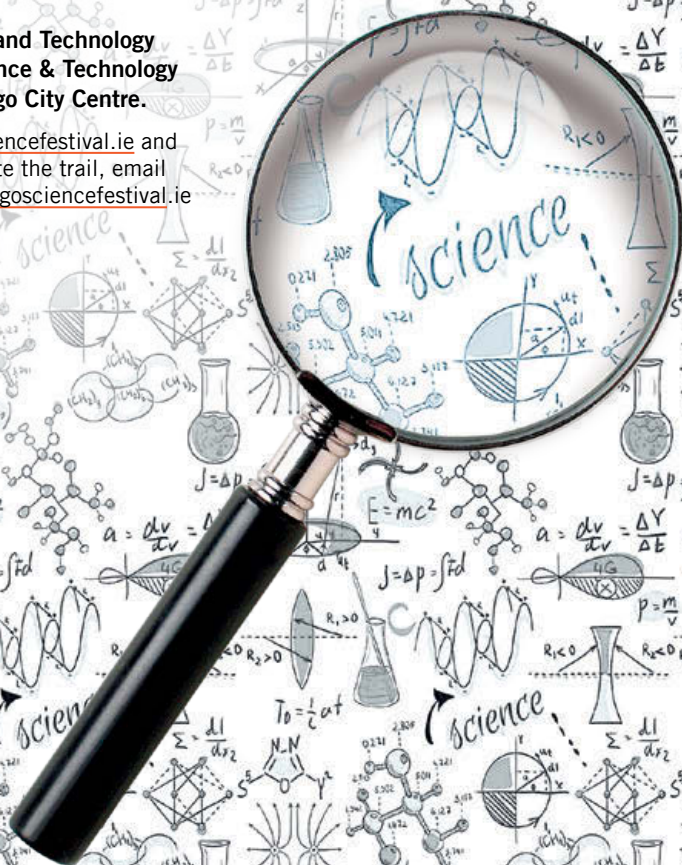
abbvie

THE SLIGO SCIENCE TRAIL

SCIENCE OBJECTS IN SHOP WINDOWS... CAN YOU FIND THEM ALL?

IT Sligo Science, Engineering and Technology Departments have placed Science & Technology objects in shop windows in Sligo City Centre.

Download the map from sligosciencefestival.ie and start the hunt. Once you complete the trail, email your completed maps to info@sligosciencefestival.ie to enter the prize winning draw.



THANKS

Sligo Science Festival Organisers
sincerely thank Partners, Local Businesses
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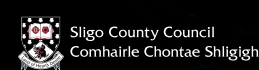
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