



# TECHFEST



Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No. SC010349

30 YEARS OF TECHFEST'S SCIENCE FESTIVAL



## SCIENCE FESTIVAL 2023

SUN 29 OCT > SAT 18 NOV

JOINT PRINCIPAL SPONSORS



[techfest.org.uk](https://techfest.org.uk)

Scottish Charity No. SC010349



# A NOTE FROM TECHFEST'S JOINT PRINCIPAL SPONSORS 2023

bp and Shell are proud to jointly sponsor the TechFest public programme, an annual celebration of the wonders of Science, Technology, Engineering and Mathematics (STEM).

This year's event marks 30 phenomenal years of TechFest delivering innovative and empowering STEM education to the North East of Scotland, and we are excited to celebrate this tremendous milestone with them and all of you.

The festival's public programme is always bursting with exciting interactive events that encourage attendees of all ages to explore the multi-faceted world of STEM, and this year is no exception. From insightful presentations to fascinating shows to hands-on workshops, there is something for everyone to enjoy.

Thank you for supporting TechFest 2023, and we hope you have a wonderful time.



**Doris Reiter**  
**Senior Vice President**  
**bp North Sea**



**Simon Roddy**  
**Senior Vice-President Upstream**  
**Shell U.K. Limited**



# WELCOME TO

## TECHFEST

### PUBLIC PROGRAMME

### 2023



## IMPORTANT INFO!

### Age Classification

This key will help you identify which events are suitable for each age group. The appropriate symbols will be highlighted under each event.

**F = Suitable for Family**

**Y = Suitable for Young Adult**

**S = Suitable for Student**

**A = Suitable for Adult**

### Disclaimer

All details of events in this programme are correct at time of going to print. TechFest reserves the right to alter or cancel programme information without prior notice. Any changes will be posted on the TechFest website. The views of presenters are their own and are not necessarily endorsed by TechFest, their Sponsors or Supporters.

### How to Book Tickets:

More details of all the events and how to book are on the TechFest website. [www.techfest.org.uk](http://www.techfest.org.uk)

**Check out  
our upcoming events  
calendar:**

**UPCOMING  
EVENTS**

### Join our Mailing List

To receive the Festival programme and other TechFest information, please click [here](#).

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**TECHFEST**  
Butchart Centre, University of Aberdeen,  
University Road,  
Aberdeen AB24 3UT

E. [enquiries@techfest.org.uk](mailto:enquiries@techfest.org.uk)  
[techfest.org.uk](http://techfest.org.uk)



Scottish Charity No. SC010349

**MANAGING DIRECTOR:** SARAH CHEW  
**DEPUTY MANAGING DIRECTOR:** MARTHA GAVAN  
**FESTIVAL MANAGER:** JENNY TAYLOR  
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**PROJECT COORDINATOR & CREST OFFICER**  
**FOR SCOTLAND:** KIRSTY CRANNA  
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**STEM COORDINATOR:** YVONNE MCLELLAN  
**PRIMARY OUTREACH SCHOOLS &**  
**COMMUNITY COORDINATOR:** LYN FENTON  
**STEM PROJECT & EVENT COORDINATOR:** EVE NEBBIOLO

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# PUBLIC PROGRAMME SPONSORED BY

The energy industry depends on advances in science, technology, engineering and maths. Investing in science is key for us to be able to provide the world with the energy it needs in a sustainable way.

TechFest offers something for everyone in STEM – it promotes young children’s natural curiosity as well as offers opportunities for secondary pupils to gain an insight into subjects for future studies or careers.

We are proud to play our part in inspiring the next generation of scientists and engineers with TechFest to improve the world in which we live. We call them our ‘Heroes of Tomorrow’.



**Arne Gürtner,**  
**Senior Vice President Upstream in**  
**the UK and Ireland at Equinor**



# LIVE EVENTS:

## AT A GLANCE



## OCTOBER

- SUNDAY, 29** • Encounters
- MONDAY, 30** • Less Waste Laura
- TUESDAY, 31** • The road to electrifying – where does it start?  
• A Life in Forensic Medicine

## NOVEMBER

- WEDNESDAY, 1** • Pokémaths – the Maths behind the Video Game  
• National Decommissioning Centre Tour
- THURSDAY, 2** • Keep your Granny safe online – help those who helped you  
• Engineering Coffee – the science and art of creating a delicious cup of coffee
- FRIDAY, 3** • It's A Funny Way to Make a Living
- SATURDAY, 4** • A Day Under the Stars
- SUNDAY, 5** • Family Activity Day
- MONDAY, 6** • Respiratory Physiology: Just Breathe  
• Revealing the secrets of black holes with gravitational waves
- TUESDAY, 7** • The Evidence Chamber  
• Rewriting the script: Gender stereotypes, conformity, and the influence of generative AI
- WEDNESDAY, 8** • Meet the Astronaut  
• Fierce Beer Brewery Tour
- THURSDAY, 9** • VOCL: Volcanoes in Antarctica - VirtualGeology  
• How to win the Battle with Insomnia
- FRIDAY, 10** • Waste materials – really?  
• The Real Urban Jungle
- SATURDAY, 11** • Healthy and Sustainable Diets in Scotland
- MONDAY, 13** • Fantastic Light – Incredible Industries
- TUESDAY, 14** • Dirt and DNA in the Criminal Justice System
- WEDNESDAY, 15** • So you want to be a Forensic Scientist?
- THURSDAY, 16** • The Gentle Touch: Using lasers to probe the microworld
- FRIDAY, 17** • The Neuroscience of Trust and the Diversity-Innovation Paradox





# OCTOBER

## ENCOUNTERS

BOOK NOW



Presented in collaboration with sound, Lise Olsen and Alistair Rennie perform ambisonic/electroacoustic music.

**DATE:** SUN, 29 OCTOBER  
**TIME:** 17:30  
**AGE RANGE:** FYSA  
**VENUE:** KINGS PAVILION, UNIVERSITY OF ABERDEEN

**WEBSITE:**  
 WEBSITE: [HTTPS://SOUND-SCOTLAND.CO.UK](https://sound-scotland.co.uk)

Encounters is a listening event exploring how we encounter sound. SERG (Sound Emporium Research Group) will showcase soundscape compositions from various artists and composers to demonstrate how our encounters with sounds shape our perception of our environment.

## ADVERT!

### APOLLO ON THE SHORE

Come along to Greyhope Bay and join in activities provided by Apollo, TechFest and Greyhope Bay.

Designed to make you think about our natural environment and how we can live sustainably in the future. Places are limited so book your space today.

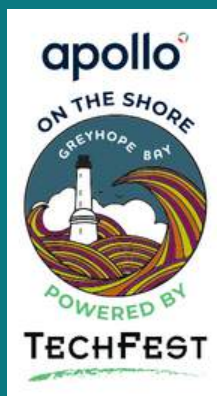
Please note, all children must be accompanied by a responsible adult.

**DATE:** TUE, 17 OCTOBER

**TIME:** 10:00 - 12:00 & 13:00 - 15:00

**VENUE:** GREYHOPE BAY CENTRE

**BOOK FREE TICKETS**



## LESS WASTE LAURA

Join Less Waste Laura – Laura Young, award winning activist, environmental scientist and ethical influencer as she discusses waste and plastics and touches on her campaign to see single-use disposable vapes banned across Scotland and the UK. This work has been nominated for a Holyrood Climate Action award and has led the Scottish Government to launch a consultation on the issue.

**DATE:** MON, 30 OCTOBER

**TIME:** 18:30

**AGE RANGE:** FYSA

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE

**SOCIAL MEDIA:**

**TICKET PRICE:** £2



## THE ROAD TO ELECTRIFYING – WHERE DOES IT START?

BOOK NOW



This talk focuses on the usage and ways to decarbonize the world and fight climate change by electrification. It will also investigate different materials used in creating batteries as well as the current recycling systems employed.

**PRESENTED BY:** DR CARLOS FERNANDEZ, ROBERT GORDON UNIVERSITY

**DATE:** TUE, 31 OCTOBER

**TIME:** 18:30

**AGE RANGE:** FYSA

**VENUE:** SIR IAN WOOD BUILDING, RGU, GARTHDEE CAMPUS, AB10 7GJ

**WEBSITE:**

**TICKET PRICE:** £2

## A LIFE IN FORENSIC MEDICINE



BOOK NOW

Do you ever wonder if - with the advances in modern forensic methods - the outcome of murder cases from days gone by would be any different? If investigated today would the conclusions be the same? Would modern techniques indicate a miscarriage of justice?

Join us for a fascinating insight into some of the changes seen in Forensic Pathology over the last half century.

**PRESENTED BY:** DR JAMES GRIEVE, EMERITUS PROFESSOR, UNIVERSITY OF ABERDEEN

**DATE:** TUE, 31 OCTOBER

**TIME:** 19:30

**AGE RANGE:** YSA (SUITABLE FOR AGE 14+)

**VENUE:** SIR IAN WOOD BUILDING, RGU, GARTHDEE CAMPUS, AB10 7GJ

**TICKET PRICE:** £2





# NOVEMBER

## POKÉMATHS – THE MATHS BEHIND THE VIDEO GAME

[BOOK NOW](#)

How many Pikachu's does it take to power a lightbulb? How much does a Charizard eat? And why does the world of Pokémon seem to ignore the basic laws of physics? Dr Tom Crawford looks at the maths behind one of the world's favourite video games.

**PRESENTED BY:** TOM ROCKS MATHS**DATE:** WED, 1 NOVEMBER**TIME:** 19:00**VENUE:** ONLINE**AGE RANGE:** YSA SUITABLE FOR AGE 12+**SOCIAL MEDIA:** @TOMROCKSMATHS

## NATIONAL DECOMMISSIONING CENTRE TOUR

LIMITED CAPACITY

30

[BOOK NOW](#)

Take a tour around The National Decommissioning Centre, a global leader in research and development that supports the energy sector to achieve reductions in greenhouse gas emissions and costs, improve environmental outcomes and transform approaches to deliver sustainable net zero decommissioning. Hear from researchers and students working on projects that cover the development of decommissioning technologies, simulation and predictive modelling, environmental and ecosystem assessment and the economics and regulatory aspects of decommissioning. Visitors will have the opportunity to experience the NDC's walk-in 9m diameter, 300-degree marine simulator as well as tours of its advanced facilities including the high-power laser, indoor water immersion tank, and hyperbaric testing chamber. Children are welcome to participate in the tours as well as drawing and colouring activities.

**DATE:** WED, 1 NOVEMBER**TIME:** 17:45 FOR 18:00 START**VENUE:** NDC, NEWBURGH AB41 6AA**AGE RANGE:** FYSA**TICKET PRICE:** £2

## KEEP YOUR GRANNY SAFE ONLINE – HELP THOSE WHO HELPED YOU

[BOOK NOW](#)

Staying safe online is important for everyone, but it comes easier to some than others, like Granny, Grandad & Great Aunt Mo. Grab your more mature relatives and join us to explore practical advice, real-life examples, and easy-to-follow steps that will empower them to navigate the online world securely. Don't miss this opportunity to learn how to protect your personal information, recognise scams, and enjoy the internet with confidence. Everyone's safety matters. Reserve your spot today.

**PRESENTED BY:** ROBBIE ROSS, CHIEF SECURITY OFFICER AT CONVERGED COMMUNICATIONS SOLUTIONS**DATE:** THUR, 2 NOVEMBER 2023**TIME:** 18:30**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE**AGE RANGE:** SA**SOCIAL MEDIA:** [f](#) [X](#) [in](#)**ROBBIE ROSS SOCIAL MEDIA:** [X](#) [in](#)**TICKET PRICE:** £2

## ENGINEERING COFFEE – THE SCIENCE AND ART OF CREATING A DELICIOUS CUP OF COFFEE

[BOOK NOW](#)

Neil Glover of Figment Coffee Company will share the story of their coffee from farm to cup and describe the coffee roasting and brewing processes with particular emphasis on the impact of equipment and principles of mechanical engineering. Neil will also share how he uses his skills as a mechanical engineer and coffee roaster in his drive to consistently create the perfect cup of coffee.

**PRESENTED BY:** NEIL GLOVER, FIGMENT COFFEE**DATE:** THU, 2 NOVEMBER**TIME:** 19:30**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE**AGE RANGE:** FYSA**WEBSITE:** [globe icon](#)**SOCIAL MEDIA:** [f](#) [ig](#) @FIGMENTCOFFEE | @COFFEEGLOVER | #DREAMERSWELCOME**TICKET PRICE:** £2



# NOVEMBER

## IT'S A FUNNY WAY TO MAKE A LIVING



Michael is a wildlife photographer and cameraman. He has written 46 books and travelled to all 7 continents, working with some of the world's most charismatic animals.

This revealing introduction to the realities of professional wildlife filming is definitely NOT technical. Instead it explains how to coax animals into the right spot and convince that no-one is watching. It uncovers cunning tricks-of-the-trade that produce amazing images. Be prepared to have some illusions shattered!

**PRESENTED BY:** DR MICHAEL LEACH

**DATE:** FRI, 3 NOVEMBER

**TIME:** 18:30

**VENUE:** ONLINE

**AGE RANGE:** FYSA

(SUITABLE FOR AGE 5+)

**WEBSITE:** 



## A DAY UNDER THE STARS



SPONSOR OF TECHFEST DOME



SPONSORS OF SPACE INTO ENERGY



Enjoy a visit to the unique environment of the TechFest Dome. Find out why we have day and night, wonder at a sky full of stars and discover the constellations and take part in space related activities.

**DATE:** SAT, 4 NOVEMBER

**TIME:** 10:00 - 15:00

**VENUE:** SCIENCE TEACHING HUB, UNIVERSITY OF ABERDEEN, BEDFORD RD, ABERDEEN AB24 3AA

**AGE RANGE:** FYSA (SUITABLE FOR AGE 5+)



# FAMILY ACTIVITY DAY



Join us for a fun family activity day at the University of Aberdeen, Science Teaching Hub for a variety of hands-on interactive activities for all the family to enjoy.

Take a walk around the nearby Cruickshank Botanic Garden or visit the Zoology Museum and Sir Ian Duncan Rice Library. Take part in various activities from the Aberdeen Biodiversity Centre and Special Collections Team which include a mini tour of the special collections and Lego Trail.

Other activities include University of Aberdeen researchers, Smart Tech, Deep ultraviolet light therapies from u-Care; try your hand at using ultraviolet lasers to treat disease! u-Care is a project involving researchers from different fields to harness deep ultraviolet light for clinical applications. From colour changing keyrings, to laser golf, and robotic surgery, you can learn about our project from our researchers and see if you have what it takes to join our team!

Cromar Future Group's microscopes and tardigrades. They will also provide information about climate change and resilience.

**DATE:** SUN, 5 NOVEMBER

**TIME:** 10:00 - 16:00

**AGE RANGE:** FYSA

**VENUE:** SCIENCE TEACHING HUB, UNIVERSITY OF ABERDEEN, BEDFORD RD, ABERDEEN AB24 3AA







# NOVEMBER

## RESPIRATORY PHYSIOLOGY: JUST BREATHE

[BOOK NOW](#)

Scientists in healthcare don't just work with samples, but with patients too. In the lung function department, we perform a variety of tests to aid physicians in their diagnoses. This talk will show you how a basic lung function test is performed, while also discussing who a respiratory physiologist is.

**PRESENTED BY:** STEPHANIE ARMSTRONG AND KEHINDE BAJOMO,  
NHS GRAMPIAN

**DATE:** MON, 6 NOVEMBER

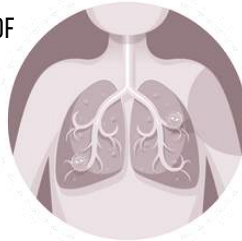
**TIME:** 18:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF  
ABERDEEN, AB24 3UE

**AGE RANGE:** YSA

**WEBSITE:**

**TICKET PRICE:** £2



## THE EVIDENCE CHAMBER

LIMITED CAPACITY

14

[BOOK NOW](#)

There's been a murder. The police have a suspect, but the evidence doesn't paint a clear picture.

In an online jury deliberation room, you watch the testimonies, scrutinise the evidence, discuss with your fellow jurors – and reach your verdict. The decision you make will change someone's life: what verdict will you choose?

If you're a fan of crime fiction or true crime, this is the show for you. The Evidence Chamber is a collaboration between forensic scientists at the Leverhulme Research Centre for Forensic Science and digital story studio [Fast Familiar](#).

Content Warning: The Evidence Chamber contains strong language and a reference to domestic violence.

**PRESENTED BY:** UNIVERSITY OF DUNDEE LEVERHULME  
RESEARCH CENTRE FOR FORENSIC SCIENCE

**DATE:** TUE, 7 NOVEMBER

**TIME:** 18:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN,  
AB24 3UE

**AGE RANGE:** YSA (SUITABLE FOR AGE 16+)

**TICKET PRICE:** £2



## REVEALING THE SECRETS OF BLACK HOLES WITH GRAVITATIONAL WAVES

[BOOK NOW](#)

Astronomy has taught us much about our Universe using observations made with light. But what about things that are hard (or impossible) to spot with light like black holes? Instead of light we can use gravitational waves, tiny ripples in spacetime made when objects move. This talk will introduce gravitational-wave astronomy, and explain how recent discoveries have revolutionised our understanding of black holes and the massive stars from which they form.

**PRESENTED BY:** CHRISTOPHER BERRY, UNIVERSITY OF GLASGOW

**DATE:** MON, 6 NOVEMBER

**TIME:** 19:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY  
OF ABERDEEN, AB24 3UE

**AGE RANGE:** YSA

**SOCIALS:**

**TICKET PRICE:** £2



## REWRITING THE SCRIPT: GENDER STEREOTYPES, CONFORMITY, AND THE INFLUENCE OF GENERATIVE AI

[BOOK NOW](#)

Despite huge changes in societal gender roles over the last fifty years, the content of gender stereotypes remains stubbornly impervious to change.

Based on recent findings from experimental social psychology, this talk will examine reasons why the content of gender stereotypes is so persistent and how this might be impacted by the generative AI revolution.



**PRESENTED BY:** DR DOUG MARTIN, UNIVERSITY OF ABERDEEN

**DATE:** TUE, 7 NOV 2023

**TIME:** 18:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN,  
AB24 3UE

**AGE RANGE:** YSA (SUITABLE FOR 16+)

**TICKET PRICE:** £2



# NOVEMBER

## FIERCE BEER – BREWERY TOUR

LIMITED CAPACITY

15



BOOK NOW

Take a peek behind the scenes at Aberdeen's only craft brewery and discover how much work goes into a pint of Fierce Beer.

We'll show you our brewhouse, our fermentation tanks, our barrel store and more, and talk you through the brewing process - from kernel to keg, and everything in between.

A multi-sensory experience – taste, smell and touch our ingredients and learn why Fierce are one of Scotland's most-loved breweries.

**DATE:** WED, 8 NOVEMBER

**TIME:** 18:30

**VENUE:** FIERCE BEER, UNIT 60 HOWE MOSS TERRACE, DYCE, ABERDEEN, AB21 0GR

**DIRECTIONS:** PLENTY PARKING ON SITE, YOU CAN CATCH THE AIRPORT BUS OUT AND IT'S A 15-MINUTE WALK TO THE BREWERY OR YOU CAN GET THE TRAIN AND A TAXI FROM THE STATION. MEET AT THE TAPROOM – BUILDING NEXT TO GOODS IN WITH THE ANIMAL ARTWORK ON THE OUTSIDE BUT STAFF WILL BE ON HAND TO WELCOME PEOPLE IN.

**AGE RANGE:** SA 18+ ONLY

**SOCIAL MEDIA:**

**TICKET PRICE:** £2

## VOCL: VOLCANOES IN ANTARCTICA - VIRTUALGEOLOGY

BOOK NOW



We normally associate Antarctica with giant ice sheets but, the frozen continent also hosts two active volcanos. In March 2023 two scientists from the Universities of Aberdeen and Bergen hitched a ride on a cruise ship and were dropped off at an abandoned whaling station on Deception Island with a mission. Using drones they mapped the caldera of the volcano to assess the risk an eruption would pose to the increasing number of tourists who visit every year.

**PRESENTED BY:** JOHN HOWELL, UNIVERSITY OF ABERDEEN

**DATE:** THURSDAY 09 NOV 2023

**TIME:** 18:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE

**AGE RANGE:** FYSA

**SOCIAL MEDIA:** VIRTUALGEOLOGY

**TICKET PRICE:** £2

## MEET THE ASTRONAUT

BOOK NOW

OCEANEERING

Join Carl Walz of Oceaneering and a former NASA astronaut live from Houston Texas, home to NASA's astronauts at the Johnson Space Center, and their Neutral Buoyancy Lab at Ellington Field. The capabilities at Johnson Space Center and the Neutral Buoyancy Lab provide a safe environment for astronauts to train for spaceflight and include life size models of the International Space Station, as well as facilities for future lunar surface exploration.

**PRESENTED BY:** CARL WALZ, OCEANEERING

**DATE:** WED, 8 NOVEMBER

**TIME:** 18:30

**VENUE:** ONLINE

**AGE RANGE:** FYSA

apollo

equinor



## HOW TO WIN THE BATTLE WITH INSOMNIA

BOOK NOW



Insomnia is the most common sleep disorder. Chronic insomnia is reported to affect up to 10% of the general population. Insomnia causes much distress to sufferers and is associated with low quality of life and a higher level of physical and mental illness. In this talk Dr Runcie will discuss how to deal with anxiety and fear about not sleeping. You will learn how to change your sleep routine in order to break a vicious insomnia cycle. Runcie will review recent research and new developments in treatment of chronic insomnia.

**PRESENTED BY:** DR OLGA RUNCIE, CONSULTANT PSYCHIATRIST/SLEEP SPECIALIST, SOMNANCE; ALBYN HOSPITAL, ABERDEEN

**DATE:** THUR, 9 NOV 2023

**TIME:** 19:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE

**AGE RANGE:** YSA

**TICKET PRICE:** £2



# NOVEMBER

## WASTE MATERIALS – REALLY? ROBERT GORDON UNIVERSITY ABERDEEN

[BOOK NOW](#)

This talk gives an overview of different waste materials employed in diverse industries and looks at how a material can be a waste in one industry but could be gold for another. The presentation will focus on waste materials for example from Whisky processes.

**PRESENTED BY:** DR CARLOS FERNANDEZ, ROBERT GORDON UNIVERSITY

**DATE:** FRI, 10 NOVEMBER

**TIME:** 18:30

**AGE RANGE:** YSA

**VENUE:** SIR IAN WOOD BUILDING RGU, GARTHDEE CAMPUS AB10 7GJ

**WEBSITE:** 

**TICKET PRICE:** £2

## THE REAL URBAN JUNGLE

[BOOK NOW](#)

Nature is under attack. The rainforests are shrinking, the ice caps melting, the seas poisoned. But there is one habitat that is expanding and thriving: the urban jungle. Our cities are not just filled with human life but with a surprising array of species that have come to live alongside us. In the heart of the city, evolution is moving at breakneck speed.

**PRESENTED BY:** SIMON WATT

**DATE:** FRI, 10TH NOV 2023

**TIME:** 19:30

**VENUE:** SIR IAN WOOD BUILDING RGU, GARTHDEE CAMPUS AB10 7GJ

**AGE RANGE:** FYSA

**SOCIAL MEDIA:** 

**TICKET PRICE:** £2

## FANTASTIC LIGHT – INCREDIBLE INDUSTRIES

[BOOK NOW](#)

Photonics – the optical equivalent of electronics – underpins modern society but is an area of science you may never have heard of. It includes the optical fibres of the internet, high-power lasers that cut and weld, and solar panels. In this talk, Prof. Robert Thomson of Heriot-Watt University will describe some remarkable state-of-the-art applications for photonic technologies.

**PRESENTED BY:** PROFESSOR ROBERT THOMSON, U-CARE, HERIOT-WATT UNIVERSITY

**DATE:** MON, 13 NOVEMBER, 2023

**TIME:** 18:30

**VENUE:** ONLINE

**AGE RANGE:** YSA (SUITABLE FOR AGE 11+)

**SOCIAL MEDIA:** 

**TICKET PRICE:** £2



## HEALTHY AND SUSTAINABLE DIETS IN SCOTLAND

[BOOK NOW](#)

Join us for an afternoon at The Rowett Institute. In our atrium will be a showcase of our research so visitors can expand their knowledge and do activities on what nutrients are important and where to find them. From activities on measuring your diet and lifestyle's environmental impact to making smoothies from vertical farm microgreens, there is something for everyone. Professor Alex Johnstone will also be giving a talk at 2.30pm on healthy and sustainable diets in Scotland.

**PRESENTED BY:** THE ROWETT INSTITUTE, UNIVERSITY OF ABERDEEN

**DATE:** SAT, 11 NOV 2023

**TIME:** 14:00 - 16:00

**VENUE:** THE ROWETT INSTITUTE, ASHGROVE ROAD WEST, ABERDEEN AB25 2ZD

**AGE RANGE:** FYSA

## DIRT AND DNA IN THE CRIMINAL JUSTICE SYSTEM

LIMITED CAPACITY

50

[BOOK NOW](#)

How forensic evidence is used to underpin a safe criminal justice system, from crime scene to court.

Professor Lorna Dawson is Head of the Soil Forensics Group at the James Hutton Institute, and Professor at RGU, with over 20 years' experience in the application of soil science in the criminal justice system. She was awarded a CBE in the Queen's Birthday Honours list in June 2018. She is joined by her RGU colleague Wendy Deegan, Lecturer in Forensic Science at RGU and forensic biology practitioner, to discuss evidence collection, analysis and interpretation.

**PRESENTED BY:** PROFESSOR LORNA DAWSON, JAMES HUTTON INSTITUTE & RGU AND WENDY DEEGAN, RGU

**DATE:** TUE, 14 NOVEMBER 2023

**TIME:** 19:00

**VENUE:** JAMES HUTTON INSTITUTE, CRAIGIEBUCKLER, ABERDEEN AB15 8QH

**AGE RANGE:** YSA (SUITABLE FOR AGE 16+)

**SOCIAL MEDIA:** 

**TICKET PRICE:** £2







# NOVEMBER

## SO YOU WANT TO BE A FORENSIC SCIENTIST?



LIMITED CAPACITY

30

BOOK NOW

It is usually the kids that get to have all the fun, but not this time! This **interactive event** is for adults to come and play at being a Forensic Scientist at the RGU forensic lab. Help put the pieces of the case together and try to solve the crime.

**PRESENTED BY:** WENDY DEEGAN, LECTURER IN FORENSIC SCIENCE, RGU SCHOOL OF PHARMACY AND LIFE SCIENCES

**DATE:** WED, 15 NOVEMBER 2023

**TIME:** 19:00 - 21:00

**VENUE:** SIR IAN WOOD BUILDING RGU, AB10 7GJ

**AGE RANGE:** 18+

**SOCIAL MEDIA:**    

**TICKET PRICE:** £2

## THE GENTLE TOUCH: USING LASERS TO PROBE THE MICROWORLD

BOOK NOW



Lasers are often associated with burning and cutting – the staples of science fiction weapons and methods to eliminate James Bond. They can however be used to study the properties of tiny particles, generating unbelievably small forces. In this talk we will explore the Nobel Prize winning science of "optical tweezers", laser tools that can trap (like mini-tractor beams) particles such as biological cells and atmospheric aerosols, and even individual atoms, using nothing more than light.

**PRESENTED BY:** PROF DAVID MCGLOIN, UNIVERSITY OF ABERDEEN

**DATE:** THU, 16 NOVEMBER 2023

**TIME:** 18:30

**VENUE:** FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE

**AGE RANGE:** FYSA

**TICKET PRICE:** £2

## THE NEUROSCIENCE OF TRUST AND THE DIVERSITY-INNOVATION PARADOX

BOOK NOW

In this keynote, Dr. Ming explores the neuroscience of trust and the diversity-innovation paradox. Discover how our brains process information about others, the challenges of fostering trust in diverse teams, and practical strategies to harness the full potential of diversity in your organization.

Learn how these insights apply to sales, marketing, and leadership, enabling better connections, customer relationships, and innovative project teams.

**PRESENTED BY:** DR VIVienne MING

**DATE:** FRI, 17 NOVEMBER 2023

**TIME:** 18:30

**VENUE:** VENUE: FRASER NOBLE BUILDING, UNIVERSITY OF ABERDEEN, AB24 3UE

**WEBSITE:** 

**TICKET PRICE:** £2



Source: <https://socos.org/about/>



# GAMES & PODCASTS TO BE DONE AT ANY TIME:

CLICK ON THE IMAGES TO ACCESS

## THE CURSE OF THE BURIAL DAGGER

The Curse of the Burial Dagger is an interactive graphic novel murder mystery, suitable for players aged 10+. Help Susie uncover different types of forensic evidence, solve puzzles and weigh up contrasting hypotheses.

The game is suitable for families or school groups to play in groups and you can play it at any time.

When everyone is a suspect, and a killer is on the loose, is anybody safe?

**PRESENTED BY:** UNIVERSITY OF DUNDEE LEVERHULME RESEARCH CENTRE FOR FORENSIC SCIENCE

**AGE RANGE:** FYSA SUITABLE FOR AGE 10+

**SOCIAL MEDIA:**   

## INSIDE FORENSIC SCIENCE PODCAST

Listen to the latest series of Inside Forensic Science podcast which takes a look at the trial of Madeleine Smith in Glasgow in 1857. A scandalous case that rocked Victorian Scotland. A middle-class young woman. She was a Glasgow socialite so upper middle class is on trial for the murder of her lover. We speak to forensic science experts, historians and legal professionals to delve into the case and discuss what might have been done differently today? Available on all major podcast platforms:

**PRESENTED BY:** UNIVERSITY OF DUNDEE LEVERHULME RESEARCH CENTRE FOR FORENSIC SCIENCE

**AGE RANGE:** SA

**SOCIAL MEDIA:**   

## TECHFEST TALKS: A PODCAST BY STUDENTS FOR STUDENTS

TechFest Talks was launched in 2021 and has been produced by students, for students.

In each episode students from across the UK interview industry professionals from various sectors.

This allows the hosting students as well as the listeners to find out as much information about their desired careers as possible.

**PRESENTED BY:** TECHFEST

**AGE RANGE:** FYSA SUITABLE FOR AGE 10+



# PODCAST





# UPCOMING EVENTS

UPCOMING  
EVENTS

## SOUND FESTIVAL



Running from 25 - 29 October, the festival includes a variety of new music events, workshops and exhibitions across the North East.



Running the length of advent TechFest's interactive calendar designed for use in the classroom and at home. Content included jokes, videos, and a variety of engaging STEM activities, perfect for the festive season.

The STEM advent calendar is hosted on our website every December and there is no cost to take part.

Scan the QR code to sign up to our 24 Days of STEM Advent Calendar



TEDEd Aberdeen is a new initiative created in the spirit of TED's overall mission to inspire, educate and share "ideas worth spreading". We are inviting secondary school students to present their STEM related ideas where things like AI, digital, energy transition, inventors from the NE, etc could be discussed.

Don't forget to watch [Tedx Aberdeen](#) previous speakers

CLICK HERE

## Be part of 2023 CHRISTMAS LECTURES livestream!

In the 2023 CHRISTMAS LECTURES, Mike Wooldridge will tackle the most important and rapidly evolving field of science today – Artificial Intelligence (AI).

Join TechFest and researchers from the University of Aberdeen for a unique experience of being in the virtual audience for the recording of the famous Royal Institution Christmas Lectures. Streamed in real-time from the Faraday lecture theatre in London, these three lectures will see Professor Mike Wooldridge explore the big questions facing AI research and unravel the myths about how this ground-breaking technology really works.

In the filming breaks, researchers from the University of Aberdeen will showcase the cutting edge AI research carried out in Aberdeen and discuss the impact this evolving technology will have on all our lives.

*Who?*

11 +, STUDENTS, ADULTS

*Where?*

UNIVERSITY OF ABERDEEN

*When?*

12, 14, 16 DECEMBER, 2023





# UPCOMING EVENTS

UPCOMING  
EVENTS

## ADVERT!



### DISCOVER OLD ABERDEEN APP

Take a guided tour around Old Aberdeen and the historic King's College Campus in the company of experts, see inside buildings and visit collections normally closed to the public.

Free to download on Apple and Play Store.

PUBLIC FESTIVAL PROGRAMME 1 15

## CAFÉ SCIENTIFIQUE - IF BONES COULD TALK



Join Senior Lecturers Kathryn Martin, Flora Groening and Rebecca Crozier, from the University of Aberdeen, to learn about their work digitising bones from the University's extensive skeletal collection.

They have created high-resolution digital 3D models and 3D prints of bones that show clear signs of diseases and injuries. Learn about this process, get 'hands on' with some of the 3D prints and join them in a discussion about the ethics of digitising human remains.

**PRESENTED BY:** KATHRYN MARTIN AND FLORA GROENING, UNIVERSITY OF ABERDEEN

**DATE:** WED, 22 NOVEMBER

**TIME:** 19:00 - 20:30

**VENUE:** ABERDEEN ART GALLERY, SCHOOLHILL, AB10 1FQ

## BOOK NOW!

## BRIGHT CLUB

Enjoy research with a comedy twist. Meet our researchers from the University of Aberdeen and The James Hutton Institute as they present their research in the form of stand up comedy, compared by comedienne Susan Morrison. A great night of laughs and research...not to be missed.

**DATE:** THUR, 7 DECEMBER

**TIME:** 19:30 - LATE

**VENUE:** SPIN, 10 LITTLEJOHN STREET, AB10 1FG

**BOOKING REQUIRED**



## EXERCISE IN A BOX

The Cyber and Fraud Centre is hitting the road and will deliver a series of events for organisations across the country. These events will focus on discussing some key cyber security topics you and your organisation or charity should be considering for 2023. Everything discussed will tie in with additional resources available and help you fully utilise these within your own organisation or charity. We will have guest speakers at each event, but the overall topics will be the same across the board. Each event will be in person giving everyone an excellent chance to network with others working within the Public and Third Sectors interested in cyber security.





# ACTIVITY WEEKEND 2024

1-2  
JUNE  
2024



"So impressed with the whole event. We all learned something today from my grandson aged 2 to me at 66!!" - AW guest

"Brilliant! Thought we'd pop along for an hour to see what it was like, 5 hours later and we had to drag the kids away (likewise ourselves). So much variety, lots of fun learning. Really great day. Thank you." - AW guest

"It was a lovely venue for it. All the staff and volunteers were so friendly and helpful. TechFest is doing a great thing, thank you to you and your sponsors and the associated organisations for putting this on for us." - AW guest

UPCOMING  
EVENTS





THE **CREST AWARDS** SCHEME IS THE BRITISH SCIENCE ASSOCIATION'S FLAGSHIP PROGRAMME FOR YOUNG PEOPLE, PROVIDING SCIENCE ENRICHMENT ACTIVITIES TO INSPIRE AND ENGAGE 5–19 YEAR OLDS.

It is the only nationally recognised accreditation scheme for project work in science, technology, engineering and mathematics (STEM) subjects.

In addition to giving young people the opportunity to undertake hands-on science, CREST Awards are designed to help develop skills that are transferrable to other subjects, further education and future employment.

To find out more about CREST Awards and to see how you can get involved visit the TechFest website: [www.techfest.org.uk/crest](http://www.techfest.org.uk/crest) or email: [kirstycranna@techfest.org.uk](mailto:kirstycranna@techfest.org.uk)

TechFest is your Regional CREST Support Organisation for Scotland..  
**[TechFest.org.uk](http://TechFest.org.uk)**

To find out more information about CREST and how to register for awards follow the link below:  
**[www.crestawards.org](http://www.crestawards.org)**





# CAREER LINKS

## Artificial Intelligence

Rewriting the script: Gender stereotypes, conformity, and the influence of generative AI

## Astronomy and Space

Revealing the secrets of black holes with gravitational waves

Meet the Astronaut

A day under the stars

## Biology and the Environment

It's A Funny Way to Make a Living

National Decommissioning Centre Tour

The Real Urban Jungle

Less Waste Laura

## Biomedical Sciences

So you want to be a Forensic Scientist?

## Chemistry

The road to electrifying – where does it start?

## Computing

Keep your Granny safe online – help those who helped you

Skills  
Development  
Scotland

## Design and Technology

Encounters

Keep your Granny safe online – help those who helped you

The road to electrifying – where does it start?

Rewriting the script: Gender stereotypes, conformity, and the influence of generative AI

Fantastic Light – Incredible Industries

The Gentle Touch: Using lasers to probe the microworld

## Energy Transition

The road to electrifying – where does it start?

National Decommissioning Centre Tour

## Entertainment and Media

Pokémaths – the Maths behind the Video Game

## Food and Drink

Healthy and Sustainable Diets in Scotland

Engineering Coffee – the science and art of creating a delicious cup of coffee

Fierce Beer – Brewery Tour

Waste materials – really?



# CAREER LINKS

## Forensic Science

So you want to be a Forensic Scientist?  
A Life in Forensic Medicine  
Dirt and DNA in the Criminal Justice System  
The Evidence Chamber

## Geology

VOCL: Volcanoes in Antarctica - VirtualGeology

## Health

Healthy and Sustainable Diets in Scotland  
How to win the battle with Insomnia  
Respiratory Physiology: Just Breathe  
Waste materials – really?

## Maths

Pokémaths – the Maths behind the Video Game

## Music

Encounters

## Research

Healthy and Sustainable Diets in Scotland  
Respiratory Physiology: Just Breathe  
Rewriting the script: Gender stereotypes, conformity, and the influence of generative AI  
Revealing the secrets of black holes with gravitational waves  
VOCL: Volcanoes in Antarctica - VirtualGeology  
The road to electrifying – where does it start?  
Waste materials – really?

## Physics and Astrophysics

Revealing the secrets of black holes with gravitational waves  
The Gentle Touch: Using lasers to probe the microworld

## STEM Careers and Science Communication

It's A Funny Way to Make a Living  
Meet the Astronaut  
The Real Urban Jungle  
Ben Garrod  
Jess French

Skills  
Development  
Scotland



TECHFEST



THANK  
YOU!

TO ALL OF OUR  
CONTRIBUTORS WHO  
HELPED MAKE THE  
TECHFEST 2023 PUBLIC  
FESTIVAL POSSIBLE!

CARL WALZ

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DR JAMES GRIEVE

DR MICHAEL LEACH

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UNIVERSITY OF ABERDEEN

UNIVERSITY OF DUNDEE LEVERHULME RESEARCH CENTRE FOR FORENSIC SCIENCE

UNIVERSITY OF GLASGOW

WENDY DEEGAN

TECHFEST IS KINDLY HOSTED BY THE UNIVERSITY OF ABERDEEN.

Butchart Centre, University of Aberdeen  
University Road, Aberdeen AB24 3UT

E. [enquiries@techfest.org.uk](mailto:enquiries@techfest.org.uk)

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