



# TECHFEST

Aberdeen and North-East Scotland's Festival of  
Science, Technology, Engineering & Mathematics



Iain Stewart



Dr Bunhead



Miranda  
Krestovnikoff




# 2015

## Festival Programme

Friday 11<sup>th</sup> September - Friday 2<sup>nd</sup> October

[www.techfest.org.uk](http://www.techfest.org.uk)

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# TechFest Public Programme 2015

BP and Shell are proud, as Joint Principal Sponsors, to welcome you to TechFest 2015 as we celebrate the 22nd annual festival of Science, Technology, Engineering and Mathematics (STEM).

We are delighted to support the public programme of fascinating events, which allow audiences to explore science, technology, engineering and maths. The varied programme encourages visitors to get involved in STEM activities throughout the North-east of Scotland through the exciting variety of shows, presentations and workshops on offer.

By supporting TechFest 2015 we aim to provide both enjoyment for the public and inspiration for the next generation of scientists and engineers who are vital for the future of our industry.

Trevor Garlick

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BP North Sea

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[www.techfestsetpoint.org.uk/tis](http://www.techfestsetpoint.org.uk/tis)





# Welcome to TechFest 2015



We look forward to meeting you at one of the 65 events in this jam packed programme exploring a new dimension to Science, Technology, Engineering and Maths - our hobbies and leisure time. We hope you enjoy learning more about what we all do in our spare time and how fundamental STEM is to our world, with many hobbies to choose from in the programme.

We welcome Professor Iain Stewart to the Festival and start the journey through the programme with many events themed around natural sciences. TechFest are delighted to bring so many fantastic speakers to our programme - some come from afar but many are local and provide an insight into the talent and scientifically rich community we live in.

2015 has seen the launch of our new family events series 'Eureka'; loud bangs, ugly animals, and the science of the big screen - this series is aimed at all ages and is guaranteed to delight as well as engage.

The most exciting news we have to share is our new Activity Weekend (19th & 20th September) 'In for a Penny, In for a Pound'. Adults pay a pound and children under 16 pay 1p. It will be a superb weekend that covers everything from building bridges to brilliant blood as well as shows and presentations. We will welcome many returning organisations as well as new faces. We encourage you to add it to your diaries now - maybe even both days to make sure you get to visit it all!

As a charitable organisation none of this would be possible without our generous sponsors and supporters. We are delighted to work with so many of them again this year as well as welcoming some new organisations into our programme.



2015 has been a time of change for us at TechFest. We have moved offices and are now in residence at Foresterhill, kindly hosted by the University of Aberdeen. We are utilising new spaces and venues across Aberdeen City



and Aberdeenshire. We have moved our Primary and Activity Weekend programme from our much loved home at Aberdeen Beach to the incredible Gordon Barracks. We can't wait to introduce you to our new venue.

Working with the team at the Barracks has added another dimension to our popular programme. We are due to welcome over 5,000 children and their teachers from Monday 14th September to Friday 18th September. If you are curious as to what

the next generation is learning and creating in the world of STEM then why not come to our Tea and a Tour on Thursday 17th September.

I am very fortunate to have such an incredible team by my side and we all look forward to meeting you soon at one of our events.

Finally, thank you for all of your support attending our shows, talks and exhibitions over the 22 years we have been running the Aberdeen and North East of Scotland Festival of Science, Technology, Engineering and Maths.

Next year we are celebrating innovation! If you have any ideas for events please get in touch via our website.

**Sarah Chew**  
Managing Director, TechFest

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Two exciting days, fun-packed with interactive workshops, shows and presentations.		To register for the latest news sign-up at: <a href="http://www.techfestsetpoint.org.uk/tis">www.techfestsetpoint.org.uk/tis</a>	When you have finished with this brochure please recycle it.
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Cover photo of Miranda Krestovnikoff courtesy of Simon Baxter, photographer.





## Booking Information

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Tickets for all events at TechFest are available from Aberdeen Box Office unless specified in the programme entry.

### How to Book

1. **By phone**, the Aberdeen Box Office ticketline is (01224) 641122 and is open 9:30am - 6:00pm Monday to Saturday.
2. **Online**, tickets are available at [www.aberdeenperforming arts.com](http://www.aberdeenperforming arts.com)
3. **In person**, Aberdeen Box Office is based at the Music Hall on Union Street, Aberdeen and is open from 9.30am - 6pm Monday to Saturday.
4. **At the venue**, Tickets for an event MAY also be available at the venue immediately prior to the event. Please see the event descriptions within this programme for locations.

Any wheelchair users booking tickets should let the booking administrator know to ensure suitable seats are reserved where possible.



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### Ticket Fee

All prices are inclusive of VAT and booking fee.

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### Concessions

Unless otherwise stated, those eligible for concessionary rates are; senior citizens, registered unemployed, full-time students, registered disabled and under 18s.

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### Cancellations

Please note that TechFest-SetPoint has a no refund or exchange policy, unless the event is cancelled.

Audio recorders and cameras may not be used in performance areas. Please ensure mobile phones are on silent during performances.

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### Disclaimer

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



September 1 - 11

Saturday 5th September | 11am - 4pm | £6 / Concession £4

Marischal College. Tickets available from The Box Office.

For further information visit our website: [www.aberdeencity.gov.uk/50plus](http://www.aberdeencity.gov.uk/50plus)

Two weeks of quality, low cost and free events for all ages.

A fun packed programme of activities!

Get healthy, get active, get learning and meet new friends! Enjoy!

**Join TechFest at the Local Larder Lab for a Family Fun Day!**

Come along to Marischal College to celebrate Scottish food and home-grown ingredients.

Stimulate your taste buds and brain cells at this foodie fest and learn some interesting facts about the food you eat.



**OPENING NIGHT**

# Faulty Communications: Why Earthquake Science is Failing At-Risk Communities

Professor Iain Stewart, Plymouth University

Friday 11th September | 7pm | £11 / Concession £9

The Queen Elizabeth Theatre, International School of Aberdeen

Seismic fault lines present a fatal attraction for human settlement. For millennia we have been lured to grow our villages, then towns and now cities along their traces. The result is that across the globe, countless major population centres now lie within striking distance of historically destructive earthquake sources. The challenge in these swollen urban targets is how to translate our scientific understanding of the earthquake hazard into effective preparedness and improved safety on the ground.

With examples from Turkey, Japan and Italy, the talk explores the fault lines between reason and faith in communicating to at-risk communities the myth of solid ground. Professor Iain Stewart MBE is a Fellow of the Geological Society of London (FGS) and President of the Royal Scottish Geographical Society. He is professor of Geoscience Communication at Plymouth University and a member of the Scientific Board of UNESCO International Geoscience Programme. Well known to the public as a presenter of BBC Science programmes, including the BAFTA nominated Earth: The Power of the Planet.

## TECHFEST



## Doors Open Day *get into buildings!*



**Saturday 12 September - Over 30 Buildings FREE across Aberdeen**

Visit buildings normally closed to the public. Discover the University of Aberdeen's Institute of Medical Sciences and Dental School, visit a 17th century prison at the Tolbooth Museum, explore Aberdeen's Freemasons Hall, learn about lifeboats at the RNLI and get behind-the-scenes at Aberdeen's crematorium. Our FREE hop-on bus will help make the journey easier!

Some venues have timed access. Visit [www.doorsopendays.org.uk](http://www.doorsopendays.org.uk) for information and updates.



**VIBRANT ABERDEEN** **ABERDEEN CITY COUNCIL** **UNIVERSITY OF ABERDEEN**

DISCOVERY SERIES

# Demystifying BMI and the Truth About Fat

Dr Salehya Ahsan

13th September | 5pm | £10 / Concession £8

Robert Gordon University, Garthdee Campus



How controversial are BMI measurements; do they take all lifestyle factors into consideration? How can some people be a healthy weight but have an unhealthy level of fat around their middles? How can you have low body fat levels but still be considered obese?

Join us as Dr Salehya Ahsan delves into the mysteries of BMI and the truth about fat.

Salehya Ahsan is a practising A&E doctor at a London hospital, a former Captain in the Royal Army Medical Corps and a broadcaster. She co-presents the hit BBC2 health series, Trust Me I'm a Doctor. Salehya has also spoken at a number of events in her role as a doctor including at medical conferences.

She has given talks about her time in Libya, where she both worked as a frontline doctor and as a journalist and filmmaker and has spoken at the Royal Society of Medicine Extreme Medicine conference.

CEREBRAL SCIENCE

# Science of Champagne

Adrian Gomes, 10 Dollar Shake

14th September | 7pm | £31  
Age Suitability 18+

Rye and Soda, Unit 17, The Academy, Belmont Street, Aberdeen



Adrian Gomes of 10 Dollar Shake ([www.10dollarshake.com](http://www.10dollarshake.com)) guides you through a tutored tasting of Champagne, discussing production techniques such as the essential secondary fermentation along with food pairing suggestions.



As the fizz is nosed and tasted, Adrian will discuss the specific characteristics of each Champagne variety - the grape blend, dosage, aging and vintage. We will taste five Champagnes - non-vintage Brut, vintage Blanc de Blanc, Blanc de Noir, Rose and Demi-Sec.

EXHIBITION

# Chevron Focus Environment



10 September - 1 October

Robert Gordon University, Garthdee Campus

Focus Environment is an environmental photographic competition for secondary school pupils throughout Scotland.

The competition encourages young people between the ages of 11-18 to demonstrate their awareness of the natural world around them. The entries are divided into two age groups, 11-14 and 15-18. The winning photographs form an exhibition which we are delighted to have as part of TechFest again this year. Focus Environment is a partnership between Chevron and The Conservation Volunteers Scotland.

For more information please visit [www.focusenvironment.com](http://www.focusenvironment.com)





## TechFest Goes Quiet!

Tuesday 15th September | 3.30pm | This event is FREE however, please contact us directly to book, [jtaylor@abdn.ac.uk](mailto:jtaylor@abdn.ac.uk)

The Gordon Barracks, Ellon Road, Bridge of Don

Aimed at families with children who have additional support needs, we have opened up our festival after school hours to allow you to enjoy the event as a family at your own pace in a safe, quiet supported environment away from the hustle and bustle of the crowds. After you have enjoyed all the workshops, relax in our catering marquee with a cup of tea or squash!

TechFest is happy to support your individual requirements, please contact us for more details at [jtaylor@abdn.ac.uk](mailto:jtaylor@abdn.ac.uk)

## Café Scientifique - Designer Babies - Don't Believe the Hype

Dr Jonathan Pettitt, School of Medical Sciences, University of Aberdeen

Wednesday 16th September  
7pm | FREE

Waterstones, Union Bridge

The first babies created with DNA from two women and one man could be born next year. We will explore the implications of this new treatment and separate the hype from the reality.



## Tea and a Tour of TechFest

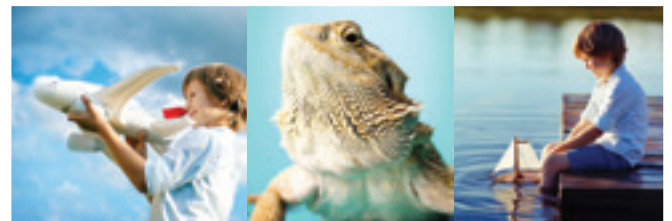
Thursday 17th September | 3.30pm  
£5.50 / £4 Concession

The Gordon Barracks,  
Ellon Road, Bridge of Don

You are never too old...

For afternoon tea and a tour of our science workshops at the Gordon Barracks.

Visit our new venue at The Gordon Barracks. Meet and learn about small exotic friendly animals. Explore the science of flight. Find out about recycling. Investigate how things move and float. These are just a few of the interesting workshops you can visit.



## Aberdeen Skeptics in the Pub: Fact or Fiction Games Night

Thursday 17th September | 7.30pm | FREE | Age Suitability: 18+

Cellar 35, Rosemount Viaduct.  
Please note this venue is located downstairs

SITP is going QUIZ and BOARD GAME CRAZY.

We like to pull out the facts from the fiction but for this event the tables are turned and we want to test the audience. At this games night special we will test your knowledge in our science trivia quiz. After the quiz we are inviting you all to bring along your favourite board game for some informal socialising. The more unusual the better.

As always, come in good time to get a good seat. This event is part of TechFest 2015.



EXHIBITION

## Safeopoly

A total of 515 P4-5 children from 13 Aberdeen City and Aberdeenshire schools took part in the 2015 Chevron Internet Safety Safeopoly workshops.

Posters were made illustrating a pictorial and descriptive understanding of how to keep safe on the internet. Live Wire Productions' Anti Virus and Anti Spam judged 379 entries from which one winning poster and five runners up were chosen. The winning poster has been made into a Safeopoly workshop banner.

View the winning entries on display at the Activity Weekend.



# TECHFEST ACTIVITY WEEKEND

Sponsored by



TechFest offers people of all ages the opportunity to gain hands-on experience with science and technology. It fires the imagination by allowing young people the chance to try things out themselves and to ask questions directly to experts, hopefully encouraging many to choose a career in science and technology. It is a hugely successful event for Aberdeen and one which Marathon Oil is proud to support.

**Carl R Hubacher Jr.**

Regional Vice President UK  
Marathon Oil

## 'In for a Penny, in for a Pound'

### SHOW

TECHFEST ACTIVITY WEEKEND

## Grinning With Health



Show Times: 9.45am, 11am, 12.15pm, 1.30pm, 2.45pm

Presented by Live Wire Productions

'Grinning with Health' is an interactive show about what happens in the mouth when we eat and grow.

Using giant props Miss Paste and Big Mouth help young audiences understand the function of our teeth, tongue and saliva before showing what they have learnt to Floss the Cleaner.



## Venue Opening Times

Please note our new venue

### The Gordon Barracks

Ellon Road, Bridge of Don,  
Aberdeen AB23 8DB

Saturday 19th  
& Sunday 20th September

9.30am - 4.30pm each day

## Admission Costs

With over 25 hands-on workshops, shows and demonstrations, the TechFest Activity Weekend continues to provide fun, exciting and inspiring activities for all ages.

No need to pre-book as this year we are *'In for a Penny, In for a Pound'*  
Children pay 1p and Adults pay £1.

### SHOW

TECHFEST ACTIVITY WEEKEND

## Where Did My Dinner Go?



Show Times: 10.30am, 11.45am, 1pm, 2.15pm, 3.30pm

Presented by Live Wire Productions

'Where did my dinner go?' is an anecdotal up beat lively show with larger than life body parts worn on the outside of the body!

Featuring the Earl of Sandwich and Dr Beaumont, the fast moving show takes its audiences through the human digestive system in a highly entertaining memorable way.



## Picnics and Packed Lunches

Please feel free to bring your own food and soft drinks as there are no catering providers on site. Relax in our marquee for as long as you wish.

## Buggies and Pushchairs

We have provided a Buggy Park at the Activity Weekend. Please be aware that it is not staffed and items are left at the owner's risk.





## 'In for a Penny, in for a Pound'

### Bacteria Combat

Presented by Carla Brown, University of Glasgow

Super strength? The power of invisibility? A resistance of 100?

Yes it's time to discover the world's smallest superheroes in a game of Bacteria Combat! Battle with your friends/foes and family in this thrilling and interactive app showing the fight between good and bad bacteria! Forget your germs, bugs and microbes - these bacteria superstars knock us dead with their special infective powers, unbelievable doubling times and amazing agility. However, can they come out on top against an antibiotic hit or attack from the immune system? Only one way to find out...

### Amazing Animals

Supported by Aberdeen City Council and Aberdeenshire Council

Presented by Becky Rowe, Animates



Have you ever wondered why some lizards have three eyes, why not all snakes are venomous and how you can help the planet's most endangered species? We will introduce you to our live animal guests, sharing facts about these amazing creatures. We will also show you our seized animal artefacts from HM Revenue and Customs, many of which belong to some of the world's most endangered species.

### Superstars of the Sea

Presented by RSPB Scotland

Discover the superpowers of our coastal wildlife. Be inspired by the superheroes of the sea and find out how you can become a superhero yourself.

### Making Things Move

Supported and Presented by Robert Gordon University, School of Engineering



Did you know that on average people in the UK travel 6,500 miles per year? Come and learn about transport through a range of hands-on activities. The activities will help develop an understanding of how friction and air resistance affect vehicles.

### Build Your Own Cable-Supported Bridge

Supported and Presented by Institute of Civil Engineers (Aberdeen Branch)

A great event where all of you work together to build a 7m span cable stayed suspension bridge to walk across and then take it apart again. Civil Engineers will help you to understand team working, safety issues and practical engineering principles. You can discover for yourself in a hands-on environment the challenges in building and dismantling structures.

### ToddleFest

Includes Kid K'Nex Under the Sea with Subsea 7, Bumble Beats and soft play area.

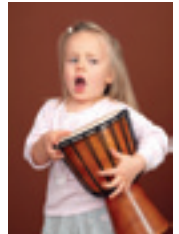
When they're little, playing is just another way of learning. Let your under 5's discover the fun of playing in our soft play area, an ideal place for TechFest's youngest visitors.

### Bumble Beats Musical Fun



Presented by Sally Ross, Bumble Beats

Pop along for songs, rhymes and actions. Play some percussion instruments or hide under the parachute.



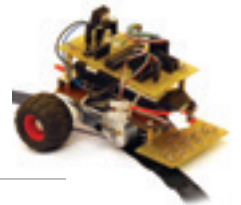
### Kid K'Nex Under the Sea with Subsea 7



Presented by TechFest

This workshop is designed to introduce children to the fascinating world of engineering design. Kid K'Nex allows young children to develop their construction skills and build up their creative confidence.

### STEM in Action with Shell and Aberdeen Science Centre



Sponsored and Presented by Shell and Aberdeen Science Centre

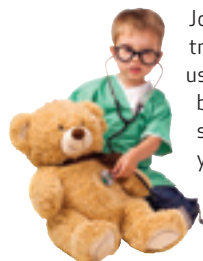
Come and explore Science, Technology, Engineering & Maths (STEM) with lots of fun, exciting and challenging hands on activities for all the family. Including - make your own salt water powered car, program a mini robot and much more.



### Clinical Skills and Teddy Bears Hospital

Supported and Presented by the University of Aberdeen - Medical School Clinical Skills Centre & Teddy Bear Hospital

Bring your own teddy!



Join the Clinical Skills Team to find out how we train healthcare professionals of the future using 3D anatomy to identify what's inside our body, ultrasound to see how our bones grow and simulation to see inside our lungs. But for our younger clinical skills trainees don't forget to bring your teddy bear or soft toy to the Teddy Bear's Hospital for a check-up. You can even watch and assist the doctors in the operating theatre as they help a teddy bear get better.



## 'In for a Penny, in for a Pound'

### MadLab

Supported by  
Aberdeenshire Council

Presented by MadLab Ltd

Hands-on soldering workshop.

Come and build musical bagpipes, a lie detector or bring your teddy bear to enhance with electronics and make a CyberTed.

Kits from £4



### Life with Microbes - the Good, the Bad & the Ugly of the 'Bug' World

Supported and Presented by NovaBiotics

Discover how to tell the 'good bugs' from the 'bad bugs' and ways that you never thought would be possible in which useful microbes can help in everyday life! Become a bug detective to discover which harmful microbes cause which type of infections and how these can be prevented and treated and find out everything you ever wanted to know - and didn't - about antibiotic resistance and what can be done to detect and prevent it.



### The Army

Representatives from the Army including The Royal Electrical and Mechanical Engineers will be visiting to conduct leadership and team tasks in a friendly and relaxed manner. They are on hand to talk about their careers, possible options for your future or just have a friendly chat.

### Waste And Recycling Bus

Supported and Presented by Aberdeen City Council

Visit Aberdeen City Council's Waste and Recycling bus. This converted bus has space at the back for activities, plenty to look at with built in guessing games and we may have a few give away items to help you think about recycling at home. Bring mum and dad or granny and grandad for some information about the waste services in Aberdeen.

Don't pass us by, come aboard and see what you can learn.

### Tropical Rainforests

Presented by Duthie Park Ranger Service

Based on products grown in Tropical Rainforests, participants will get the opportunity to discover how local tribes use the natural materials to survive and how we use the products in our daily lives.

This will include using body paints, packaging challenge, jewellery making and examining artefacts fresh from the jungle to determine their everyday uses.



### Build and Program Lego Robots

Presented by John McGill of Computer Xplorers

Join us for a fun-packed session of exciting, creative and fun computer activity.

Using the latest Lego robotics technology to build and program amazing creatures that can move using motors, gears and wheels. You will learn how to program sensors to make the robot react to its surroundings. Program robot birds to chirp, crocodiles to snap and plane engines to rev!



This drop in workshop is great fun and ideal for nurturing and enhancing Science, Technology, Engineering and Maths (STEM) skills.

### Plastics "R" Fantastic

Presented by  
Sustainable Communities Initiative



Hold on to those empty plastic bottles! Did you know they can be easily transformed into flowers, windmills, spiders and rockets. Why buy expensive toys

when you can make your own out of waste? Bring your own clean and empty 500ml bottle to transform or we can provide one.



### Roaming 3D worlds with the Oculus Rift

Supported and Presented by  
RGU School of Computing Science and Digital Media

Pull the headset over your head, and suddenly, you're inside a virtual world that seems completely lifelike. You can run around, fight, race and fly, doing things gamers have never done before. What was once the stuff of Hollywood fantasy is now becoming a reality. The Oculus Rift is a virtual reality headset that lets players step inside their favourite games and virtual worlds.

Immerse yourself into a 3D world through the Oculus Virtual Reality headset, looking around a virtual world just as you would in real life.

### The Wonderful Rainforest

Supported by The Scottish Government

Presented by The Critter Keeper



The Rainforest supports the greatest diversity of living organisms on Earth. Although they cover less than 2 percent of the Earth's surface, rainforests house more than 50 percent of the plants and animals on Earth.

Join the Critter Keeper and his crew of critters as we take a look and learn about a selection of different animals found in rainforests around the world. From lizards, snakes and creepy crawlies, including the biggest spider in the world the Goliath Bird Eating Tarantula, to tree frogs and small furry possums. The rainforest critters will amaze you.

## 'In for a Penny, in for a Pound'

### Camera Obscura Making Workshop

Presented by Kenny Bean

Construct your very own amazing mini camera obscura, which you can take away, using a cardboard box, a magnifying lens and a piece of tracing paper. Explore the incredible image projected by the simple convex lens and watch the world upside down! Decorate your camera obscura and use it to see your world from a new point of view.



Drop-in workshops last 15mins. Suitable for 7 - 11 years (5 - 6 years with parent/helper). Kit cost £1.50.



Science, Technology, Engineering and Mathematics are important to all industries, this is why we hope the children taking part in sessions such as 'Camera Obscura' will get to see this in action.



### Build a Medicine

Supported and Presented by Marine Biodiscovery Centre, University of Aberdeen

How do medicines work? Medicines mostly work by binding into proteins. Discover more with hands-on activities with the 'blob'! A model of a protein which has active sites that allow you to assemble a model of medicine and learn about developing better medicine using biochemistry and drawing on nature.



### Rocks from Space

Presented by Dr Paula Lindgren, University of Glasgow

Visit this exciting hands-on workshop to explore planet formation and rocks from space. Study real meteorites from the asteroid belt and learn how to identify a meteorite from a "meteowrong". Meteorites are our peek holes into the origin and early history of our solar system and the ones on display are by far the oldest rocks available to us. We have impressive samples of the Canyon Diablo meteorite that was responsible for the formation of the Meteor impact crater in Arizona about 50,000 years ago. In this workshop you can also learn about impact craters on Mars while exploring the Red Planet's surface on an interactive spherical display.



### Build A Boat

Presented by TechFest

In this Boat Challenge, discover the hidden forces of buoyancy and experiment with the engineering features of floating vessels. Dip into the fascinating

maritime history of Aberdeen Harbour and find out about safety at sea.



We are grateful to Marathon Oil for sponsoring the Activity Weekend



### K'Nex Towers

Presented by TechFest

Come along to find out more about the problems associated with the construction of towers. You will then be introduced to the shapes and structures that engineers use to address these problems.



### Brilliant Blood



Presented by TechFest

Get your finger on the pulse and find out about one of the busiest organs in the body; the heart! Blood, circulation and healthy choices will be investigated in this hands-on, upbeat workshop.

### Dynamic Dentistry

Supported and Presented by University of Aberdeen Dental School and NHS Grampian

The team from University of Aberdeen Dental School and NHS Grampian introduce you to all things tooth-tastic.



Find out how tooth decay happens and how your dentist can help you. Put on your gloves and take out some (pretend) teeth. Discover what sugar really does to your gnashers. What harm can lurk in a can of fizzy juice? Our enthusiastic team of dynamic dentists will guide you through the cavities and past the pitfalls and onto your crowning glory!

Thank you to the following organisations for presenting and supporting Activity Weekend workshops.



TECHFEST EUREKA

# Hollywood Science

Dr Jonathan Hare, University of Sussex

Monday 21st September | 6pm | £8 / Concession £6

The Lemon Tree



Based on the BBC/Open University TV series Hollywood Science. How realistic is the science behind some of Hollywood's classic movies and stunts? We will take a number of Hollywood films and look in more detail to find out.

Depending on time films will include; SPEED, The Score, Waterworld, UP, Moon, Angels and Demons ...

CEREBRAL SCIENCE



## Café MED Dentistry & Oral Health - Past, Present and Future

Professor Richard Ibbetson, Director of Dentistry,  
University of Aberdeen Dental School

Monday 21st September | 6pm | FREE

The Suttie Centre, Foresterhill

Gone are the days when dentistry consisted of losing teeth and having dentures. Modern understanding of dental diseases, their prevention and treatment have improved beyond recognition in thirty years.

In Scotland, 84% of adults and 91% of children are now registered with a dentist: against this the number actually seeing their dentist is much lower whilst dental decay remains the major cause of hospital admissions in those aged 5-9.



## The Science of Breaking Bad

Dr Jonathan Hare, University of Sussex

Monday 21st September | 7.30pm  
£10 / Concession £8 | Suitability 18+

The Lemon Tree



Based on the TV series, Breaking Bad is the story of Walter White a high school chemistry teacher. Learning he has terminal cancer Walt decides to use his considerable chemistry expertise to make and sell crystal meth to make money fast; money he believes his family will need when he is no longer alive.

Chemistry is the study of transformation and over the five incredible series we see its spectacular application on screen. We also witness Walt's ugly transformation from neighbourly school teacher into an unscrupulous super gangster - 'Breaking Bad' in American slang. In the talk Jonathan will explore the use and abuse of methamphetamine, acid bath disposal of bodies, exploding crystals, poisonous gases and much more from the series.

DISCOVERY SERIES

## Health and Fitness Evening

Dr Justin Rochford, University of Aberdeen and Scott Baptie, Food for Fitness

Monday 21st September | 7pm | £5.50 / Concession £4

Aberdeen Sports Village

Join us for an evening of talks about food, fitness and fat! Talks include:

### Nutrition to Improve Health, Physique & Performance: Small Change, Big Impact



Scott Baptie ([www.FoodForFitness.co.uk](http://www.FoodForFitness.co.uk)) is an Aberdeen-based sports nutritionist and online personal trainer. He helps people move, look, feel and perform better by utilising simple strategies that can improve your health, physique (fat loss) and performance. Learn about protein, carbs and fat, what do they do and why are they important. How to eat healthily at work and what to eat before and after exercise.



### Mad, bad and dangerous to grow. Are we making our body fat angry?

Obesity is a major global health problem linked with diseases such as diabetes, heart disease and some forms of cancer. So why are our waistlines growing? As well as discussing some of the causes of obesity and why it is bad for us this talk will discuss what our (expanding) fat tissue actually does. Perhaps surprisingly, fat tissue is really important for health but we need to show it some respect. Indeed, changing how it works might even offer new ways to prevent or treat obesity. Maybe our fat could be our friend. We just need to treat it better.



# DISCOVERY SERIES



At Nexen, one of the UK's largest operators in the North Sea, giving back to the communities where we live and work is deeply rooted in our values. When we help build communities that are strong and dynamic, they attract people who can be part of our growing business success.

Through our Reach Out programme we're delighted to support the Discovery Series at TechFest and share our passion for Science, Technology, Engineering and Mathematics.

## CEREBRAL SCIENCE

### The Size and Shape of UK Offshore Workers: Lessons Learned From a 3D Scanning Survey

Dr Arthur Stewart, Robert Gordon University

Tuesday 22nd September | 6pm  
£5.50 / Concessions £4

Robert Gordon University

Since the previous survey of UK male offshore workers in the mid 1980s, their average body weight has risen by 19%. The recently completed RGU Size and Shape survey in conjunction with Oil & Gas UK used state-of-the art portable 3D scanning which quantified the increase in dimensions since then.

Comparison between the previous and the current survey reveals a 3% increase in stature, and an increase in a range of body dimensions, including the wrist (11%) neck (14%) and waist (17%). The consequences of this body size increase include the increased space requirement mandated for larger workers. Application of the study data will inform future design specification for offshore infrastructure, transportation and apparel.

The Civil Aviation Authority used preliminary data from the study to inform decisions about new seating rules in offshore helicopter flights, which were enshrined in law from April 2015. Whatever the underlying cause of the enlarged size of UK offshore workers, this public lecture will highlight some applications of the research data, which can help enhance the safety of offshore workers in the future.



## CEREBRAL SCIENCE

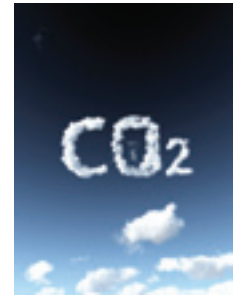
### The Proposed Peterhead CCS Project

Bill Spence, Shell UK

Tuesday 22nd September | 6.30pm | £5.50 / Concession £4

Robert Gordon University

Shell, with strategic support from SSE, are looking to develop the world's first full-scale gas carbon capture and storage (CCS) project - the Peterhead CCS Project. The proposed project would see 10 to 15 million tonnes of carbon dioxide emissions captured from the Peterhead Power Station in the North East of Scotland and transported by pipeline offshore for geological storage deep under the North Sea. In March 2013, the Peterhead CCS Project was chosen as one of two CCS demonstration projects in the UK to progress to the next stage of the UK Government's CCS Commercialisation Competition funding. This funding allowed the Project to progress through the detailed design phase known as Front-End Engineering Design, or FEED. The Project is nearing the end of this FEED phase of development. This talk will provide an overview of the project and a status on recent developments.



## DISCOVERY SERIES

### #SocialMediaScience



Professor Sarah Pedersen, Robert Gordon University

Tuesday 22nd September | 7.30pm  
£5.50 / Concession £4

Robert Gordon University

Facebook, Twitter, WhatsApp, Instagram, blogs, frape, cyber-bullying, sexting, porn... Over the past decade, the social life of teens has moved online. Their lives have been revolutionised by easy access to social media tools 24/7. They never have to be out of contact with friends or family, can share information easily and there is always someone online waiting to chat. Sarah Pedersen is Professor of Communication and Media at RGU. Her research and teaching focus on the use of social media in Britain today, including Twitter, Facebook, blogs and online discussion sites. Her presentation will offer an introduction to social media, outline some of the challenges and opportunities for teens offered by social media and discuss how they can stay safe.



# CEREBRAL SCIENCE

Sponsored by



Statoil is proud to partner TechFest's Cerebral Science Series. 'Heroes of Tomorrow' is Statoil's worldwide talent development programme and we are delighted to extend this concept to the new Heroes of Tomorrow science communication event for secondary school pupils in Aberdeen and Aberdeenshire. We hope that the Cerebral Science series will offer opportunities for young people to share their interest and passion for science. We need talented individuals for the future success of Statoil and the energy industry as a whole and are delighted to play our part in supporting the next generation through TechFest.



## CEREBRAL SCIENCE

# World Changers 2015

Wednesday 23rd | 6pm - 8pm  
Limited space, ticket booking via Soapbox website

The LightBox, Union Square

One mother or baby dies every minute in low-income countries, from preventable infections acquired during childbirth. Poor hygiene is one of the main contributing factors and it is therefore essential that hand washing and environmental cleaning is prioritised.

The Soapbox Student Innovation Challenge has been designed to cultivate the creativity of Aberdeen students, supported by experts, to find novel, innovative and low cost solutions to improving hygiene in maternity units.

Join us at this exciting event, as students present their innovations to the public and a distinguished judging panel followed by an awards ceremony.

[www.soapboxcollaborative.org](http://www.soapboxcollaborative.org)



## DISCOVERY SERIES

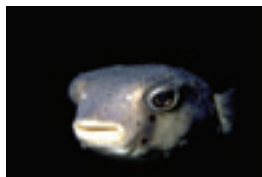
# 10km Under the Sea

Wednesday 23th September  
6:30pm | £4

Ocean Lab, Newburgh AB41 6AA

Take a tour round the University of Aberdeen's OceanLab and hear from scientists conducting cutting edge research from around the world. Take part in an evening celebrating marine science with short presentations on topics including deep sea fish and videos from the deepest places on Earth.

The event concludes with a tour around the Oceanlab environmental testing facilities and the opportunity to examine some deep sea fish and other creatures in the flesh.



## DISCOVERY SERIES

# Chocolate Trio

Dr Alex Johnstone and Professor Phyo Myint, University of Aberdeen, Jamie Hutcheon of Cocoa Ooze

Wednesday 23rd September | 6.30pm | £6 / Concession £5

Fraser Noble Building, University of Aberdeen

Dr **Alexandra Johnstone** from the Rowett Institute of Nutrition and Health, University of Aberdeen will talk about some of the myths and magic surrounding chocolate as an aphrodisiac and explore some of the research surrounding nutrition benefits.

**Professor Phyo Myint** of the University of Aberdeen's School of Medicine and Dentistry has led research into the health benefits of eating chocolate and why it is thought to lower the risk of cardiovascular disease.

Award winning chocolatier **Jamie Hutcheon**, will discuss the nutrition and benefits of chocolate. Jamie will also be demonstrating the art of chocolate making, and not only will you learn how the chocolate products are made but you will be able to taste the different flavours made on the day.



## DISCOVERY SERIES

# AWPR: The Story So Far

Scotland's Rural College (SRUC)

Wednesday 23rd September | 7pm | £5.50 / Concession £4

Cruickshank Lecture Theatre, Craibstone Campus

After many years of planning, Aberdonians are starting to see development of the new Western Peripheral Route. Join us at Scotland's Rural College on the Craibstone Estate to examine what has happened so far, and what is yet to come. How will the AWPR affect wildlife? What is the Environmental impact? In what is sure to be a lively discussion, you will have the chance to explore the effects of the AWPR on our landscape and put questions to our panel of experts.



CEREBRAL SCIENCE

## Weather Forecasting in the 21st Century



Keith Thomson, Manager of the UK Branch of Aerospace & Marine International

Wednesday 23rd September | 7pm  
£5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

The science of meteorology has seen many major advances in recent decades, but from the point of view of the general public looking at certain freely available forecasts, these advances may not be immediately obvious. This talk will discuss developments in weather forecasting during the last 50 years or so, examine the latest techniques and technology available to forecasters. We will also take a look at the accuracy of forecasts, and the limitations of predicting the exact weather at a single point even with the best technology available.

The speaker has worked continuously in the weather industry since leaving university in 1984 and is a Chartered Meteorologist accredited by the Royal Meteorological Society.

CEREBRAL SCIENCE

## Geology and the Landscape



### An Introduction for Climbers and Hillwalkers

Professor John Howell, University of Aberdeen

Wednesday 23rd September | 7.30pm  
£5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Britain has a long and varied geological history which has shaped its unique countryside, from the upland areas to the coast, the terrain that forms the arena for our outdoor sports is a direct consequence of the underlying strata.

In this talk we will look at the geological history of Scotland and the rest of the UK from the perspective of the outdoor enthusiasts whose weekend enjoyment is shaped by forces that are hundreds of millions of years in the making.



DISCOVERY SERIES

## Animal Conservation with Animates



Becky Rowe, Animates

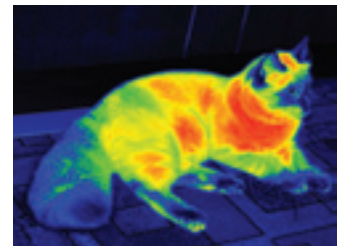
Thursday 24th September  
6.30pm | £5.50 / Concession £4  
Age Suitability 16+

Fraser Noble Building,  
University of Aberdeen

Explore aspects of animal conservation using seized items from HM Revenue and Customs. We will go into more depth on how poaching is a strong contender in the depletion of species numbers and look at these black market items confiscated at Scottish airports. With the added extra of meeting live exotic animals, experiencing first-hand what these creatures look and feel like.

CEREBRAL SCIENCE

## Veterinary Thermal Imaging



Victoria Lindsay, Veterinary Thermal Imaging Ltd

Thursday 24th September | 7.30pm | £5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Veterinary Thermal Imaging provides a valuable addition to existing diagnostic tools such as X-rays, CT, MRI and Ultrasound scanning. Thermal imaging is non-invasive, non-radioactive, and non-contact. It provides a visual management tool for owners and professionals monitoring or treating injury, illness or disease. Discover how Victoria Lindsay of Veterinary Thermal Imaging effectively identifies problems in bones as well as soft-tissue.

DISCOVERY SERIES

## The Science Behind Your Steak

John Davidson, Davidsons Inverurie

Thursday 24th September | 6.30pm | £35

Unit 1 Burn Lane, Inverurie, Aberdeenshire, AB51 4UZ

Join us for an evening describing the science behind your steak! Held at the multi award winning butchers - Davidsons of Inverurie ([www.johndavidsons.com](http://www.johndavidsons.com)) let us take you on a journey from farm to fork including live butchery demonstration, cooking tips and the opportunity to taste some of their high quality produce!

This prestigious event has limited spaces available and will sell out fast! Book early to avoid disappointment.



# EXPLORATHON '15

## EUROPEAN RESEARCHERS' NIGHT • ABERDEEN

### Friday 25 SEP

Join us for an extravaganza of discovery, debate and entertainment as we celebrate European Researchers' Night 2015 on Friday 25 September. Researchers from anthropology to zoology will be on hand, hosting talks, shows, comedy, hands-on fun and performance art.

**Events take place throughout the day. Most are FREE but some may require booking - check listings for details.**

### EXPLORATHON at Union Square

Union Square Shopping Mall, AB11 5RG

10am - 8pm with research exhibits from 2pm | Admission FREE  
No booking required | Suitable for all ages

Our science buskers will be on the go from 10am entertaining shoppers with scintillating science demos. From 2pm join us in the main entrance foyer to discover how to test medicines and explore the fascinating secrets of the NHS Grampian archives. Find out about cardiovascular health and the controversial benefits associated with chocolate. Get involved in performance art and don't forget to visit our European Corner where you can hear how fish can shed new light on our immune system. Meet our Knowing from the Inside team who'll be on hand to showcase creativity and learning across different cultures. Hear about how the world's biggest research funding initiative - the European Commission's Horizon 2020 programme - is helping to tackle society's biggest challenges.



### Exploring the Emergence of Pictish Society in Northern Scotland: The Northern Picts Project

Satrosphere Science Centre, Constitution Street, AB25 5TU

6 - 7pm | Admission FREE. Booking required | Ages 12+



In this talk, Gordon Noble, will outline some of the fascinating archaeological discoveries that have been made by the Northern Picts project over the last three years. These include a royal settlement of the Picts at Rhynie, a Pictish silver hoard and a newly identified Pictish fort at Dunnicaer near Dunnottar Castle.

### PechaKucha Night

Belmont Filmhouse, Belmont Street, AB10 1JS

5.15pm - 6pm | Admission FREE. No Booking required | Ages 12+

Join us for a fascinating suite of fast paced, visual talks, each lasting exactly 6 minutes and 40 seconds. Experts from a variety of different fields will highlight and explore issues in PechaKucha style - using only 20 images, each displayed for 20 seconds.

### EXPLORATHON at Satrosphere

Satrosphere Science Centre, Constitution Street, AB24 5TU

6pm - 10pm | Admission £1 - pay on the door | Suitable for all ages

Bring the family to Satrosphere Science Centre for a fantastic evening of hands-on activities, competitions, exciting shows and stand-up science - all for the entry price of just £1 per head! See bees in action with our special interactive hive and make your own honey to take



home. Listen to lots of amazing, beautiful (even annoying) bird sounds from Aberdeen and beyond as we explore the intricacies of bird chatter. Learn about wild life gardening and join the City's Countryside Rangers to play their Fungus and King of the Forest games. We'll have

live demos from research buskers including Science Grrls and the Women in Science and Engineering Society. Don't forget to have your Discovery Night Passport stamped, with prizes for visiting the most activities. Food and refreshments available throughout the evening at Satrosphere's Tramsheds Café with a special European themed menu!

### EXPLORATHON at the Cromarty Lighthouse

Lighthouse Field Station, Cromarty, IV11 8YJ

6pm - 10pm | Admission FREE. No booking required  
Suitable for all ages

Come and hear how researchers are using underwater sounds to study seals and dolphins, and explore how our subsea and coastal soundscapes are changing. Events at Cromarty will be held in conjunction with the National Trust for Scotland's Hugh Miller's Birthplace Cottage and museum and the *Sounds of our Seashore* project.

**Book now at**  
**[www.explorathon.co.uk/aberdeen](http://www.explorathon.co.uk/aberdeen)**

If you are having difficulty booking your events online please telephone **01224 273874**



# EXPLORATHON '15

## ONE NIGHT • UNLIMITED DISCOVERY

### What makes us happy?

Please check website for venue

6pm - 7pm | Admission FREE. No booking required  
Suitable for ages 12+



Are you happy? Is happiness more than just having enough money, or being able to achieve the things you want? Is it being part of something bigger than yourself, or having a sense of belonging? Join Professor Claire Wallace to explore the factors associated with making us happy.

### No boundaries: What is research?

Satrosphere Science Centre, Constitution Street, AB24 5TU

7.30pm - 8.30pm | Admission FREE. Booking required at [www.explorathon.co.uk/aberdeen](http://www.explorathon.co.uk/aberdeen) | Suitable for ages 16+

Who decides what is research and what is not? Can art count? Is the paranormal really worthy of investigation? Join us for a live panel discussion to debate what research is and who steers it. The event will be led by Dr Lisa Collinson of the University of Aberdeen's Centre for Scandinavian Studies.

### EXPLORATHON Ceilidh

Café Drummond, Belmont Street, AB10 1JR

10pm - late | Admission £4. Booking required at [www.explorathon.co.uk/aberdeen](http://www.explorathon.co.uk/aberdeen) | Suitable for ages 18+

Join The Accidental Ceilidh Band for a dynamic end to EXPLORATHON 2015. But this isn't just any ceilidh! We'll be dancing against folk in our partner EXPLORATHON cities across Scotland, all hosting their own ceilidhs at the same time. Come and help us shed the most calories and make Aberdeen the most energetic city in Scotland for the night.

### Café Scientifique Special with Professor Dame Anne Glover

Waterstones, Union Bridge, AB11 6BG

7.30pm - 8.30pm | Admission FREE. No booking required  
Suitable for ages 10+



Talk of space exploration and most people will think of NASA. However did you know that Europe has produced some of the top pioneering work in space science and advances in our understanding of the Universe. Join Professor Dame Anne Glover of the University of Aberdeen, and past Chief Scientific Adviser to the President of the European Commission, for an inspiring talk with plenty time for discussion.

### Bright Club Aberdeen

Café Drummond, Belmont Street, AB10 1JR

8.30pm - 9.30pm | Admission £6 / Concession £4. Booking required at [www.explorathon.co.uk/aberdeen](http://www.explorathon.co.uk/aberdeen) | Suitable for ages 18+



Britain's brightest comedy night is back. With a European twist, we'll bring you an intrepid set of researchers telling their stories in the medium of stand-up. There to help the laughs flow will be guest compere Simon Watt - founder of the Ugly Animals Preservation Society. Come along and support the newest stand-ups on the block. If you

are here for Bright Club why not buy a ticket and stay on for our EXPLORATHON Ceilidh.



EXPLORATHON (European Researchers' Night Scotland) is funded by the European Commission under the Marie Skłodowska-Curie actions programme



DISCOVERY SERIES

# “What does a Ghillie do?”

Karl Revel

Saturday 26th September | 10am & 2pm | £5

River Dee, Banchory. Meet at Invery's North Bank fishing hut, accessed on foot via Banchory Cemetery

Karl Revel, a ghillie on the Invery/Tilquhillie beats of the Dee in Banchory, will give a bankside talk on 'fishing', a hobby said to be the UK's biggest participation sport. Fishing or angling can involve much more than simply trying to catch a fish and includes such skills as fly tying and fly casting. Also involved is the study of natural history which contains the active promotion of animal welfare and conservation relative to our rivers, lochs and man-made ponds.



Places limited to 20, under 13's must be accompanied by an adult

TECHFEST EUREKA

# Squelch!

Mandy Tulloch, Mudpies

Saturday 26th September | 10am | £5 | Age range - under 6

Meeting point - the small swing park on Groats Road towards Hazlehead Academy



2015 is International Year of Soils.

Celebrate by bringing your tot for a stomp and squelch around the wonderful woods at Hazlehead Park and see just how muddy you can get!

We will look for soil-living beasties, dig, chat about how soil is much more than just dirt and of course make some of the most delicious mud pies around - everything mini soil scientists should know about.

Wellies and waterproofs essential for everyone - yes adults too!

TECHFEST EUREKA

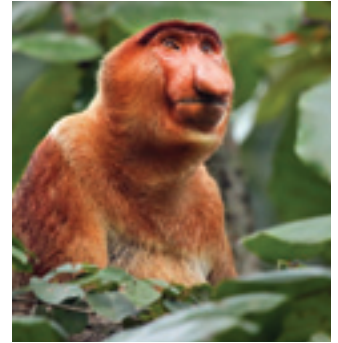
# The Ugly Animal Roadshow

Simon Watt

Saturday 26th September | 2.30pm | £6 / Concession £5

Robert Gordon University

Why should the panda get all the praise? The Ugly Animal Preservation Society is dedicated to raising the profile of the world's most aesthetically challenged endangered species. Join biologist and presenter Simon Watt for a performance that celebrates and explores the incredible biology of the animal kingdom's most monstrous. The show features videos, demonstrations and lots and lots of audience participation.



Twitter-@uglyanimal | www.uglyanimalsoc.com

CEREBRAL SCIENCE

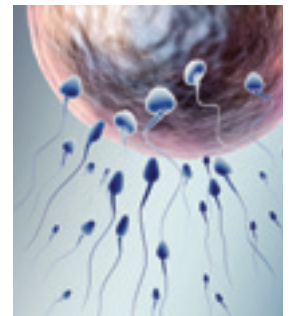
# Simon Watt's Science of Sex

Simon Watt

Saturday 26th September | 7pm | £10 | Age suitability 17+

Robert Gordon University

So you've found a healthy, fertile mate, you've fought off your rivals and you've convinced them that you are what they were looking for. Sorted! But the reproductive race is far from over, my friend. We have entered the realms of Sperm Warfare. Come and learn about the devious tricks used by cells, organs and bodies to win the race to fertilisation.



# Unearthly Structures Exposition

Gordon Burnett MA(RCA)

Saturday 26th September | 2pm | FREE

The Sir Duncan Rice Library, University of Aberdeen

This Unearthly Structure exposition, funded by Creative Scotland is inspired by aspects of the cosmos. Joining granite pieces with pewter to create beautiful interpretations of objects in our heavens, Gordon attempts to shift the perception of this Aberdonian associated material. His work will be displayed from the 26th September to 2nd October at the Sir Duncan Rice Library. Join him for an introductory talk to the exposition as he explains his work and motivation.





DISCOVERY SERIES

# Outdoor & Woodland Learning - North East Group

Sunday 27th September | 10am & 1pm  
 £5 per child / under 3's and accompanying adults go FREE

Camphill School, Murtle Estate, Bielside, Aberdeen AB15 9EP

Join us for some family fun outdoor activities. Explore the woodlands, find freshwater mini-beasts, cook on an open fire and take part in woodland crafts. **Booking essential as places are limited for this enjoyable activity.**



## TECHFEST

TECHFEST EUREKA

### Blast Off!

Dr Bunhead

Sunday 27th September | 11.30am & 2pm  
 £9 / Concession £7

The Queen Elizabeth Theatre,  
 International School of Aberdeen

TV's Dr Bunhead (from Brainiac) takes you on an explosive journey into space. Discover how humans went from banging rocks together to blasting rockets into space.

Volunteer 'stunt scientists' from the audience help Dr Bunhead detonate and deploy extreme science gizmos, whilst a team of stunt jelly babies, astro-hamsters and bionic bananas test to destruction the science of space travel.

Dr Bunhead takes the audience on the ultimate science journey, culminating in the body-shaking thrill of rocket blast-off. How close can you get without being vaporised?

**Safety umbrellas and extra-strong-underpants advised.**



DISCOVERY SERIES

# Cruickshank Gardens Tour

Mark Paterson, University of Aberdeen

Monday 28th September | 6pm | £5.50 / Concession £4  
Pre-booking essential as places are limited

Cruickshank Gardens, meet in the courtyard of the Cruickshank Gardens. If wet we will go ahead indoors.

Mark Paterson, Curator of the University of Aberdeen's Cruickshank Botanic Gardens, will lead you on a tour through the growing and management of Cruickshank Botanic Gardens during this year. He will provide a captivating insight into the wonderful array of plants and flowers, their research uses and discuss what the future holds for these beautiful gardens.



CEREBRAL SCIENCE

# How Scotland can Achieve an All-Renewable Electricity Supply by 2020



Keith Barnham, Emeritus Professor of Physics, Imperial College London

Monday 28th September 6.30pm  
£5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Pressure is increasing on governments to agree significant cuts in carbon

emissions at the UN Climate Conference in December 2015. An agreement to set limits on greenhouse gas emissions from electricity generation would be a major step in reducing global warming. Scotland's aim to achieve an all renewable electricity supply by 2020 sets an important example to other governments. This talk will report the latest evidence of the performance of wind, photovoltaic and biogas power in Germany and the UK, and show how the results apply to Scotland.

Keith Barnham started his research career in high energy nuclear physics in research laboratories at CERN in Geneva and at the University of California, Berkeley. Mid-career he switched to researching solar power. He is author of *The Burning Answer: a User's Guide to the Solar Revolution*.



CEREBRAL SCIENCE

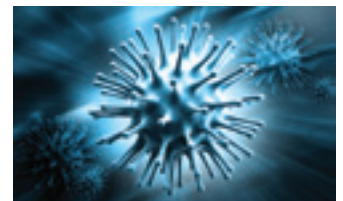
# Greenhouse Gases and Bioenergy: Theologians and Radicals have a Laugh whilst Martians Eat Metals

Professor David Richardson, University of East Anglia

Monday 28th September | 6.30pm | £5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Professor Richardson is Vice Chancellor of the University of East Anglia and has researched for 30 years on understanding the biochemistry of how bacteria live without oxygen. His lecture will explore bacteria that can be responsible for the production or destruction of the potent greenhouse gas nitrous oxide and how we may be able to manage down its emission by the agricultural sector. He will also describe bacteria that can 'breathe' metals instead of oxygen and can potentially be harnessed in the generation of bioelectricity or the 'electrosynthesis' of high value commodities.



DISCOVERY SERIES

# From Ink on Paper to 3D Virtual Mapping: A Life in Cartography

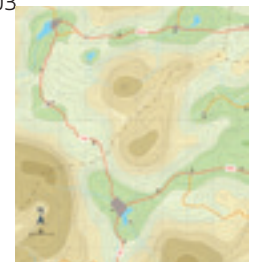
Dr Michael Wood, Emeritus Senior Lecturer, University of Aberdeen

Monday 28th September | 7.30pm | £5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Dr Michael Wood has been President of the British Cartographic Society (the business and academic aspects) and is a member of The Society of Cartographers (the practical technical cartographers of the UK) and The International Cartographic Association (ICA). His work involved travelling the World between 1991-2003. He received an OBE for 'Services to Cartography' in 2003.

Join us for this fascinating insight to how map making has developed over the years, from the pen and ink drawings to the modern 3D virtual mapping world of computers.



TECHFEST EUREKA

# Squelch!

Mandy Tulloch, Mudpies

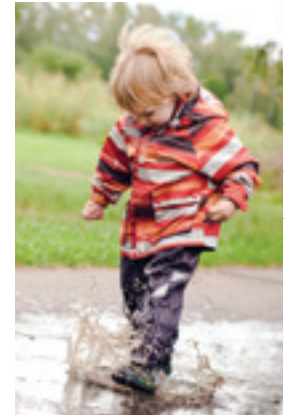
Tuesday 29th September | 10am | £5 | Age: Up to Pre School

Meeting point - the small swing park on Groats Road towards Hazlehead Academy

2015 is International Year of Soils.

Celebrate by bringing your tot for a stomp and squelch around the wonderful woods at Hazlehead Park and see just how muddy you can get! We will look for soil-living beasts, dig, chat about how soil is much more than just dirt and of course make some of the most delicious mud pies around - everything mini soil scientists should know about.

Wellies and waterproofs essential for everyone - yes adults too!



DISCOVERY SERIES

## The Planetarium

TechFest's Mobile Planetarium Team

Tuesday 29th September  
6:30pm & 7:30pm  
FREE event (pre booking essential)  
Disabled access can be accommodated, please advise at time of booking

Aberdeen College, Gallowgate Centre, Aberdeen.  
Enter at Loch Street Entrance (meet in Dino's Café 15 mins before presentation start time).

Do some stargazing in Britain's most northerly fixed planetarium. Learn to identify some constellations and to locate some planets.



DISCOVERY SERIES

## CodeTheCity



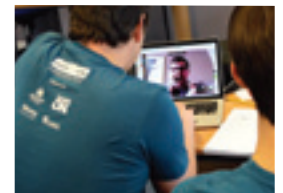
Ian Watt, Digital Transformation Manager

Tuesday 29th September | 6.30pm | £5.50 / Concession £4

Robert Gordon University

CodeTheCity is a local trust which runs weekend-long events, bringing together coders, service providers, citizens, designers and others to tackle civic challenges. In their talk, the guys behind CodeTheCity will explain what they do, show examples of how they work, and explain how you can be part of the wider hacking movement, improving services and making life in the city better.

For details of CodeTheCity's next weekend event please see their website ([www.codethecity.org](http://www.codethecity.org)) for details on how you can join in.



DISCOVERY SERIES

## BrewDog Tour

Tuesday 29th September  
6.30pm & 7.30pm | £10  
Age suitability 18+ | Booking essential as places are limited

DogTap, Balmacassie Industrial Estate, Ellon, AB41 8BX



With ten taps, our onsite bar sits in the shadow of our giant external fermenters, and is separated from the brewkit by a single glass door. What better way to enjoy BrewDog beer than in the place where it was created; where you can smell the hops emanating from your glass and the brewery at the same time?

If you have a burning desire to get up close and personal with our brewkit (and even our brewers), that aforementioned glass door does open every now and again for our amazing tour.

We may even show you our super secret lab!



DISCOVERY SERIES

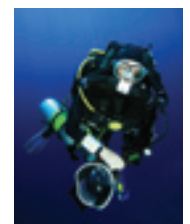
## Diving - An Out of This World Experience

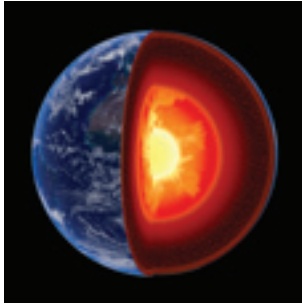
Paul Haynes, Haynes Marine

Tuesday 29th September | 7pm | £5.50 / Concession £4

Robert Gordon University

Diving is an exceptional activity. One of the few remaining pursuits that can take you into the unknown and offer the potential for true discovery. Regardless of the level at which you dive, it expands the physical world in which you live, offering an insight to a wondrous environment that the non-diving population can only see on the television screen or in a book. With so many facets to it, diving is one of those rare sports that continually broadens your understanding of the environmental forces that shape our planet and all life upon it. Paul Haynes ([www.haynesmarine.com](http://www.haynesmarine.com)), one of the UK's leading technical diving instructor trainers and member of the prestigious Explorers Club, presents an overview of his 25 year passion for diving and shipwreck exploration.





CEREBRAL SCIENCE

# Journey to the Centre of the Earth

Dr David Whitehouse

Tuesday 29th September | 7.30pm | £5.50 / Concession £4

Robert Gordon University

One hundred and fifty years after the extraordinary, imaginative feat of Jules Verne's Journey to the Centre of The Earth, David Whitehouse embarks on a voyage of scientific discovery into the heart of our world.

Whitehouse's enthralling journey beneath the surface of our planet vividly charts all we are able to understand about the mysteries of the deep Earth. His book encompasses the history of our planet and the latest findings about its inner core, allowing us to embark on an adventure that brings us closer to the enigma of our existence.

Dr David Whitehouse is a scientist, journalist and the author of five books. He is a fellow of the Royal Astronomical Society and a regular broadcaster on science-related matters for the BBC and Sky News.

DISCOVERY SERIES

## Under Pressure: National Hyperbaric Centre Tour

National Hyperbaric Centre

Wednesday 30th September | 6pm & 7.30pm  
£5.50 / Concession £4

National Hyperbaric Centre, Ashgrove Road West, Aberdeen



National Hyperbaric Centre (NHC) provides services and expertise to the subsea and pressure-related industries.

We offer a wide range of services from commercial diver training, hyperbaric welding, subsea testing, consulting and emergency services to customers worldwide.

NHC has been at the forefront of the diving industry for many years. Our understanding of extreme environments enables us to provide professional advice and services to customers of all industry markets.

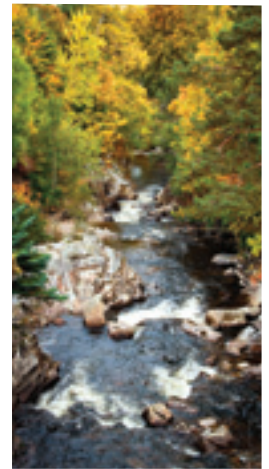
DISCOVERY SERIES

## The Science Behind the River

Jamie Urquhart, River Dee Trust

Wednesday 30th September 6.30pm | £5.50 / Concession £4  
Booking essential as places are limited

Meet at Public Car Park opposite Potarch Hotel (closed), Aberdeenshire AB31 4BD



This walk is an introduction to the science behind the management of the River Dee led by Jamie Urquhart of the River Dee Trust. You will learn about examples specific to the Dee and others equally applicable to elsewhere.

Topics will include information on species such as Freshwater Pearl Mussel and Salmon. Invasive non-native species will also be covered, plus water quality, habitat and riparian management, community involvement and some of the monitoring and survey techniques used to manage the River Dee.



CEREBRAL SCIENCE

## The Planetarium

TechFest's Mobile Planetarium Team

Wednesday 30th September | 6:30pm & 7:30pm  
Free event (Pre booking essential)

Disabled access can be accommodated, please advise at time of booking

Aberdeen College, Gallowgate Centre, Aberdeen. Enter at Loch Street Entrance (meet in Dino's Café 15 mins before presentation start time)



Do some stargazing in Britain's most northerly fixed planetarium. Learn to identify some constellations and to locate some planets.



CEREBRAL SCIENCE

# Diabetes, Body Parts, Vitamins and Weight



Dr Nimesh Mody, University of Aberdeen

Thursday 1st October | 6.30pm | £5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

Explore the different body parts involved in the control of weight and development of diabetes. Discover the role of Vitamin A, which can be used to treat obesity and diabetes. See a model human body with removable parts to demonstrate how liver, fat, muscle and gut all talk to each other and play a significant role in diabetes.



CEREBRAL SCIENCE

# Bright Breads and Crafty Cranachan

Dr Russell Betney, Rowett Institute of Nutrition and Health, University of Aberdeen

Thursday 1st October | 6.30pm | £5.50 / Concession £4

Strathcona House, Greenburn Road, Bucksburn, Aberdeen AB21 9SB

Join food scientists from The Rowett Institute of Nutrition and Health in a quest to improve Scotland's diet as you make and taste familiar Scottish recipes with a healthier twist. Recipes are taken from the Institute's new book, which exchanges and enhances ingredients to make these delicious dishes healthier and more nutritious.



DISCOVERY SERIES

# The Science Behind Your Steak

John Davidson, Davidsons Inverurie

Thursday 1st October | 6.30pm | £35

Unit 1 Burn Lane, Inverurie, Aberdeenshire AB51 4UZ

Join us for an evening describing the science behind your steak! Held at the multi award winning butchers - Davidsons of Inverurie ([www.johndavidsons.com](http://www.johndavidsons.com)), let us take you on a journey from farm to fork including live butchery demonstration, cooking tips and the opportunity to taste some of their high quality produce!

The event has limited spaces available and will sell out fast! Book early to avoid disappointment.

[www.johndavidsons.com](http://www.johndavidsons.com)



DISCOVERY SERIES

# BrewDog Tour



Thursday 1st October

6.30pm & 7.30pm | £10 | Age suitability 18+  
Booking essential as places are limited

DogTap, Balmacassie Industrial Estate, Ellon AB41 8BX

With ten taps, our onsite bar sits in the shadow of our giant external fermenters, and is separated from the brewkit by a single glass door. What better way to enjoy BrewDog beer than in the place where it was created; where you can smell the hops emanating from your glass and the brewery at the same time?

If you have a burning desire to get up close and personal with our brewkit (and even our brewers), that aforementioned glass door does open every now and again for our amazing tour.

We may even show you our super secret lab!

CEREBRAL SCIENCE

# Symphony of the Soil

Thursday 1st October | 7pm  
£5.50 / Concession £4

James Hutton Institute

Craigiebuckler, Aberdeen AB15 8QH



Drawing from ancient knowledge and cutting edge science, *Symphony of the Soil* is an artistic exploration of the miraculous substance soil. By understanding the elaborate relationships and mutuality between soil, water, the atmosphere, plants and animals, we come to appreciate the complex and dynamic nature of this precious resource. *Symphony of the Soil* is an intriguing presentation that highlights possibilities of healthy soil creating healthy plants creating healthy humans living on a healthy planet.



CEREBRAL SCIENCE

# Eve's Knowledge: Women Writing Science



Dr Hazel Hutchison, University of Aberdeen

Thursday 1st October | 7.30pm | £5.50 / Concession £4

Fraser Noble Building, University of Aberdeen

When did women get interested in science? Were their scientific careers limited by their gender? And what impact did writing about science have? The 'Women, Science, Narrative' project at the University of Aberdeen has been researching how women have written about all kinds of science, from botany to dentistry, since the early 1800s. At this panel event, meet the researchers and hear about the extraordinary women who helped to shape the modern world and wrote their own stories.

This talk will be accompanied by the University of Aberdeen Inspirational Women exhibition.



## TECHFEST EUREKA

# Squelch!

Mandy Tulloch, Mudpies

Friday 2nd October | 10am | £5 | Age: Up to Pre School

Meeting point - the small swing park on Groats Road towards Hazlehead Academy

2015 is International Year of Soils.

Celebrate by bringing your tot for a stomp and squelch around the wonderful woods at Hazlehead Park and see just how muddy you can get! We will look for soil-living beasties, dig, chat about how soil is much more than just dirt and of course make some of the most delicious mud pies around - everything mini soil scientists should know about.

Wellies and waterproofs essential for everyone - yes adults too!



## CLOSING EVENT

# Miranda Krestovnikoff

## Wildlife & Diving TV Presenter, Author and Public Speaker

Friday 2nd October | 7pm | £11 / Concession £9

Robert Gordon University

Miranda is one of the UK's busiest and best-known factual programme presenters, currently working on series 10 of BBC Two's BAFTA award-winning show *Coast*. As a biologist, trained diver and one of the original members of the *Coast* team, she has explored Great Britain's shoreline from top to toe, revealing fascinating tales of marine life.

She is a resident wildlife expert on BBC One's *The One Show*, having presented natural history stories, ranging from robotic ants to rare dolphins, from all around the country for the last six years.

Miranda is currently President of the Royal Society for the Protection of Birds, Patron of Whale and Dolphin Conservation, Patron of Alderney Wildlife Trust, Founding Friend of the Canal & River Trust and heavily involved with other charities including The National Trust, The Wildfowl & Wetlands Trust, The Marine Conservation Society and Sustrans.

# TECHFEST



Photograph courtesy of Mark Payne-Gill





## Statoil's Heroes of Tomorrow

In Association with TechFest

24 November 2015

### Calling Young Scientists - Are you passionate about STEM?

Statoil's Heroes of Tomorrow 2015, a science communication event for secondary school pupils organised by TechFest, takes place on Tuesday 24 November in Aberdeen and we are looking for new participants!

Students aged between 12 and 18 are invited to present short talks on STEM topics they are passionate about to an audience of peers, teachers, family and friends. Awards recognising individual and team achievements are presented on the night.

This event simply celebrates the fun and wonder of science, technology, engineering and mathematics - not to be missed!

The aim of Heroes of Tomorrow is to engage the next generation of students from Aberdeen and Aberdeenshire in science communication. Could you or a team of classmates communicate your passion for Science, Technology, Engineering and Mathematics with the potential for winning prizes? Teachers and parents are also invited to nominate their own young talents.

To apply, please visit our website [www.techfestsetpoint.org.uk](http://www.techfestsetpoint.org.uk) or contact Jenny Taylor, 01224 274194, [jtaylor@abdn.ac.uk](mailto:jtaylor@abdn.ac.uk)

- 'Awesome'*  
Craigclowan School Pupil (age 11)
- 'Love the concept - festival of positivity'*  
Feedback Coach
- 'I thoroughly enjoyed the event  
I hope we can do it again next year'*  
Northfield Academy Pupil (age 14)
- 'Wonderful event that really focussed on the student'*  
Feedback Coach
- 'The kids were great. Very interesting. Well done to everyone'*  
Parent
- 'Such a wonderful programme and an opportunity  
to share pupils' research- great chance to develop their  
presentation skills'*  
Parent

## Bookbug

It's never too early to develop a passion for books and science. TechFest is delighted to bring a special twist to these fantastic sessions in partnership with Aberdeen City Libraries, Aberdeenshire Libraries and Scottish Book Trust.

For further details please contact your local library.

### Bookbug Sessions in Aberdeen City Libraries during September

LOCATION	DATE	TIME
Dyce	Tuesday 8th	10.30 - 11am
Bucksburn	Wednesday 16th	2 - 2.30pm
Culter	Thursday 17th	10.30 - 11am
Torry	Thursday 17th	2.15 - 2.45pm
Cove	Friday 18th	2.15 - 2.45pm
Central Children's	Tuesday 22nd	10.30 - 11am
Cults	Tuesday 22nd	10.30 - 11am
Ferryhill	Tuesday 22nd	2 - 2.30 pm
Tillydrone	Tuesday 22nd	10.30 - 11am
Cornhill	Wednesday 23rd	10.30 - 11am
Bridge of Don	Thursday 24th	10.30 - 11am
Woodside	Thursday 24th	10.30 - 11am
Airrhall	Tuesday 29th	10.30 - 11am

### Bookbug Sessions in Aberdeenshire Libraries during September

LOCATION	DATE	TIME
Inverurie	Wednesday 2nd	10.30 - 11am
Portlethen	Saturday 5th	10.30 - 11am
Alford	Tuesday 8th	10.45 - 11.15am
Banchory	Friday 11th	10 - 10.30am
Kintore	Friday 11th	2 - 2.30pm
Newtonhill	Tuesday 15th	9.30 - 10am
Westhill	Tuesday 15th	2.15 - 2.45pm
Alford	Wednesday 16th	2.15 - 2.45pm
Mearns	Wednesday 16th	10.30 - 11am
Meldrum	Monday 21st	10.30 - 11am
Peterhead	Tuesday 22nd	10 - 10.30am
Kintore	Tuesday 22nd	2 - 2.30pm
Aboyne	Tuesday 22nd	10.30 - 11am
Huntly	Wednesday 30th	10 - 10.30am



Catch the reading bug!



EXHIBITION

# Unearthly Structures

The Sir Duncan Rice Library,  
University of Aberdeen

This Unearthly Structure exposition, funded by Creative Scotland is inspired by aspects of the cosmos. Joining granite pieces with pewter to create beautiful interpretations of objects in our heavens, Gordon has helped to shift the perception of this Aberdonian associated material. His work will be displayed from the 26th September to 2nd October at the Sir Duncan Rice Library.



## TECHFEST

Here at TechFest we work all year round to bring Science, Technology, Engineering and Mathematics to young people in our community. Our exciting and educational Primary Outreach Programme visits schools and community events in Aberdeen City, Aberdeenshire and across Scotland.

Check out our new programme for 2015-2016 on our website [www.techfestsetpoint.org.uk](http://www.techfestsetpoint.org.uk) or email Molly – [m.imrie@abdn.ac.uk](mailto:m.imrie@abdn.ac.uk) for your copy or more information

@TechFestNews Like us on Facebook

CREST Awards  
A British Science Association programme

INSPIRING LIFELONG PASSIONS IN STEM

CREST is a project-based awards scheme for the STEM subjects (Science, Technology, Engineering and Maths) run by the British Science Association. It allows 11-19yr olds to link their personal passions with curriculum-based learning through creative projects. CREST offers tangible benefits to students, teachers and schools: it's fast becoming the gold standard in STEM enrichment activities. UCAS endorses the inclusion of CREST Awards in personal statements.

"CREST creates enthusiasm, independent learning and a greater interest in STEM." *Secondary School Teacher*

For more information visit:  
[www.techfestsetpoint.org.uk/activities/crest](http://www.techfestsetpoint.org.uk/activities/crest)  
or contact Lesley Weston at TechFest - 01224 274188

Registered charity no: 212479 and SC039236

## How to get there

Between Aberdeen City Centre and the Gordon Barracks

First Bus: 1, 2, 40

Between Aberdeen City Centre and University of Aberdeen

First Bus: 1, 2, 13, 19, 20, 40

Between Aberdeen City Centre and Robert Gordon University

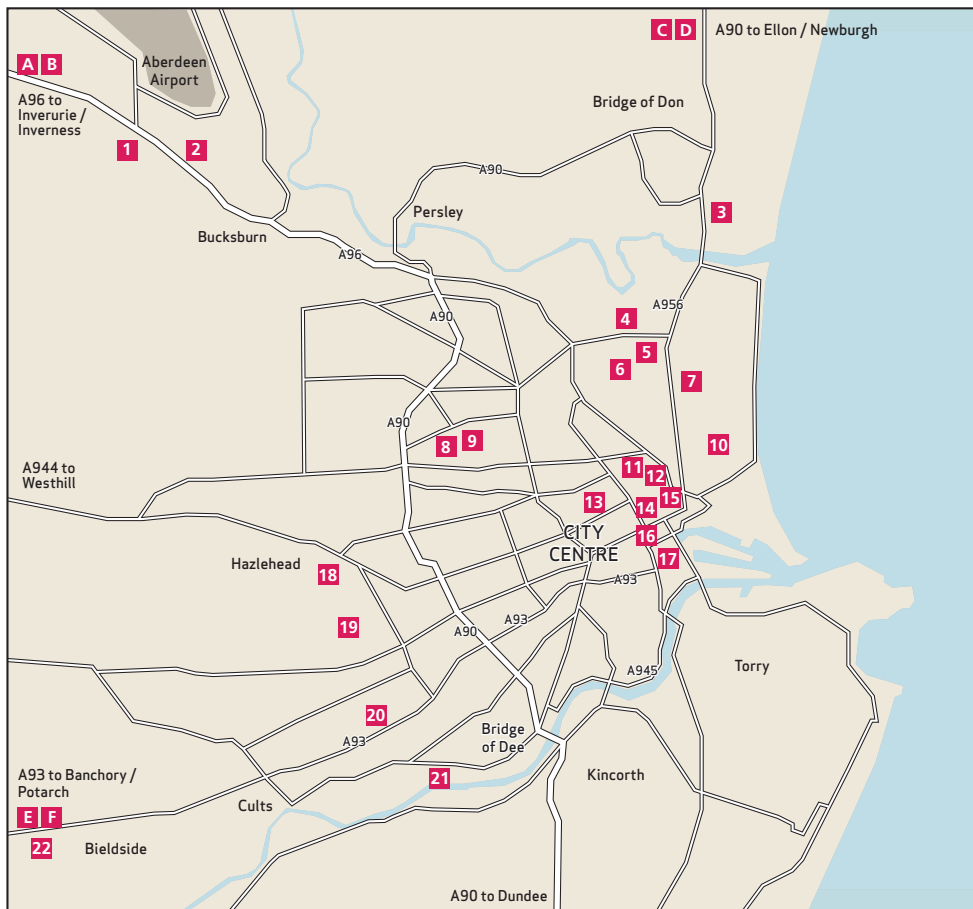
First Bus: 1, 2

For local bus information call Travel Line on: 0871 200 2233 or see First Bus: [www.firstgroup.com](http://www.firstgroup.com)



# Venue Locations

- 1** **SRUC** - Cruickshank Lecture Theatre, Craibstone Estate  
(The access road onto the estate is from the roundabout on the A96 at the airport and is signposted Craibstone Estate)
- 2** **Strathcona House** - Rowett Institute of Nutrition and Health, University of Aberdeen, Greenburn Road, Bucksburn, Aberdeen, AB21 9SB
- 3** **Gordon Barracks** - Ellon Road, Bridge of Don, Aberdeen, AB23 8DB
- 4** **Cruickshank Botanic Garden** - Old Aberdeen, AB24 2TY
- 5** **Fraser Noble Building** - University of Aberdeen, Aberdeen, AB24 3UE
- 6** **The Sir Duncan Rice Library** - University of Aberdeen, Bedford Rd, Aberdeen AB24 3AA
- 7** **Aberdeen Sports Village** - Linksfield Road Aberdeen, AB24 5RU
- 8** **National Hyperbaric Centre** - 123 Ashgrove Road West, Aberdeen, AB16 5FA
- 9** **The Suttie Centre** - Foresterhill Campus, Aberdeen AB25 2ZD
- 10** **Aberdeen Science Centre (Satosphere)** - 179 Constitution Street, Aberdeen, AB24 5TU
- 11** **North East Scotland College** - Gallowgate Centre, Aberdeen, AB25 1BN
- 12** **Marischal College** - Gallowgate, Aberdeen, AB10 1YS
- 13** **Cellar 35** - 35 Rosemount Viaduct, Aberdeen AB25 1NQ
- 14** **Rye and Soda** - Unit 17, The Academy, Belmont Street, Aberdeen, AB10 1LB
- 14** **Belmont Filmhouse** - Belmont Street, Aberdeen, AB10 1JS
- 14** **Café Drummond** - 1 Belmont Street, Aberdeen, AB10 1JR
- 15** **The Lemon Tree** - 5 West North Street, AB24 5AT
- 16** **Waterstones** - Union Bridge, Aberdeen, AB11 6BG
- 17** **Union Square** - Aberdeen AB11 5RG
- 18** **Hazelhead Park** - Aberdeen, AB15 8BJ
- 19** **James Hutton Institute** - Craigiebuckler, Aberdeen AB15 8QH
- 20** **International School of Aberdeen** - Pitfodels House, North Deeside Road, Aberdeen, AB15 9PN
- 21** **Robert Gordon University** - Garthdee Campus, Garthdee Road, Aberdeen, AB10 7AQ
- 22** **Camphill School** - Murtle Estate, Bieldside, Aberdeen, AB15 9EP



- A** **Davidsons Inverurie**  
Unit 1 Burn Lane,  
Inverurie,  
Aberdeenshire,  
AB51 4UZ
- B** **Lighthouse Field Station**  
Cromarty, IV11 8YJ
- C** **Ocean Lab**  
Newburgh,  
AB41 6AA
- D** **DogTap**  
Balmacassie  
Industrial Estate,  
Ellon, AB41 8BX
- E** **River Dee, Banchory**  
Meet at Inver's North  
Bank fishing hut,  
accessed on foot via  
Banchory Cemetery,  
AB31 5YS
- F** **Potarch Hotel (closed)**  
Meet at Public Car  
Park opposite,  
Aberdeenshire,  
AB31 4BD

For directions to venue locations outside of Aberdeen, please check our website [www.techfestsetpoint.org.uk/tis](http://www.techfestsetpoint.org.uk/tis) or phone the TechFest office on 01224 274348

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- Cocoa Ooze
- Cruickshank Botanic Garden, University of Aberdeen
- David Whitehouse
- Davidsons of Inverurie
- Duthie Park Ranger Service
- Gordon Burnett
- Imperial College London
- James Hutton Institute
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- RSPB
- Royal Zoological Society of Scotland
- Scott Baptie, Food for Fitness
- SRUC
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