PROGRAMME

INTERNATIONAL ORKNEY SCIENCE FESTIVAL

WITH THE SUN COMING TO ORKNEY

7-13 SEPTEMBER 2023

www.oisf.org

#ORKNEYSCIFEST
Welcome to the 33rd Festival!

Booking: Either online through our website www.oisf.org or through the VisitScotland Kirkwall tourist information centre.

Tickets: In addition to booking individual events, you can buy a Lecture-Pass. For a single payment of £55 (concessions £48) it provides entry to all events in the Cinema and the Theatre (38 events).

More information: Our online magazine Frontiers has more about Festival speakers and topics, as well as stories of science, exploration and Orkney generally: www.frontiersmagazine.org

Updates: See www.oisf.org and our Facebook and Twitter pages.

Contact: We’re on 01343 540844, orkneyscience@gmail.com

Disclaimer: The Festival reserves the right to alter, amend or cancel the programme contents at its discretion or as circumstances may necessitate.

Exhibitions

THE SEA, THE SEA! TIDES AND TRANSFORMATIONS
Ship of Fools Gallery
Bridge Street, Kirkwall: Mon-Sat 1100-1700, Sun 1100-1500
An explosion of forms takes over the Ship of Fools - ocean ecosystems in origami and crochet by Neil Banas and Emily Doolittle, paired with paintings by Michelle Campbell, and ocean trash transformed to wearable art by Selena S Kuzman. Orkney artists join in, with work by Bill McArthur, Maiwenn Beadle, Rebecca Marr, Megumi Barrington Uenoyama, Lesley Mackay, Marion Yorston. Work inspired by Orkney tales meets magical ships in bottles from Len Wilson and Fiona Sanderson. Origami/crafting workshops at Orkney Library and Stromness Library, details on OISF website. In partnership with the Orkney Japan Association

TRANSFORMED BY SUNLIGHT – photos by Orkney Camera Club
Orkney Library, Kirkwall: Mon-Thurs 1000-1800, Fri-Sat 1000-1700
Breaking through the clouds, streaming through windows

ORKNEY WIRELESS MUSEUM
Kiln Corner, Kirkwall: Mon, Wed-Sat 1000-1600, Tues 1000-1300
From a crystal set to a U-boat radio, and Orkney’s first jukebox

PIER ARTS CENTRE
Victoria Street, Stromness: Mon-Sat 1030-1700
The Growth of New Ideas – The Legacy of D’Arcy Thompson in Modern and Contemporary Art
10.00 – 11.00 am
Phoenix Cinema, Pickaquoy, Kirkwall

MOVING INTO MORE BLUE WATER
We've had twenty years of wave and tidal testing with EMEC, and now hydrogen developments. What do the next twenty years hold? Neil Kermode and Gareth Davies look into the future for Orkney. Tickets £6 & £4

11.30 am – 12.30 pm
Phoenix Cinema, Pickaquoy, Kirkwall

POWER FROM THE SEA WIND
With plans taking shape for a floating wind farm to the east, Johan Daelman from Thistle Wind Partners describes the engineering challenges of developing an 18MW-25MW floating turbine. Tickets £6 & £4

2.00 – 3.00 pm
Phoenix Cinema, Pickaquoy, Kirkwall

A NEW DAY FOR THE FERRYMAN?
Orkney's ferries are ageing and fuel-prodigal – but what can replace them? Roy Pedersen, former head of transport for HIE, joins Prof. Alf Baird to set out the options. Tickets £6 & £4

3.30 – 4.30 pm
Phoenix Cinema, Pickaquoy, Kirkwall

IMAGINEERING OPPORTUNITIES
Engineer Bill Graham opens up a rich range of ideas for industries and communities – from a safety system for tower blocks to a modular design for an affordable house. Tickets £6 & £4

3.30 – 4.30 pm
EMEC, Billia Croo, by Stromness

OCEAN ENERGY OPEN DAY
Learn how EMEC harnesses the power from Orkney’s waves and tides, as well as meeting some of the EMEC team and touring the site. Admission free.

5.15 – 6.15 pm
Orkney Theatre, KGS, Kirkwall

REBUILDING THE SOIL: AN ENGINEER’S PERSPECTIVE
Declining soil quality means it’s losing carbon faster than green plants can absorb it. But, says Prof. Karen Johnson of Durham University, we can rebuild soils and local economies at the same time. Tickets £6 & £4

6.00 – 7.00 pm
Maeshowe Visitor Centre, Stenness

WHY IS MAESHOWE SQUINT?
All tickets taken

7.30 – 8.30 pm
Orkney Theatre, KGS, Kirkwall

JAKE’S MIDNIGHT SCIENCE CLUB – BRING THE FAMILY!
Fresh from their visit to the Royal Institution in London, Dr Steven ‘Jake’ Jacobs, aka Wizard IV, former chief scientist for the Discovery Channel, and the four members of Riders in the Sky are here with stories of science. Tickets £6 & £4

9.00 – 10.30 pm
Orkney Theatre, KGS, Kirkwall

BUT OH! THE STARS WITH MUSIC SHINE
Scottish composer Eddie McGuire’s five astronomy-inspired pieces of music in specially made films, with music from St Andrews University and NASA images. Tickets £6 & £4

9.00 – 10.00 pm
The Orkney Club, Harbour Street, Kirkwall

PICKING UP PIECES OF MUSICAL DRIFTWOOD
The Driftwood Cowboys – Duncan McLean, Iain Tait, Brian Cromarty and Douglas Montgomery – with country, blues and traditional music, and stories, reflections, conversation. Tickets £8
Friday 8 September

10.00 – 11.00 am  Phoenix Cinema, Pickaquoy, Kirkwall
100 MILLION DEGREES AND RISING
It’s the ultimate energy challenge – to replicate the nuclear fusion process that powers the Sun. Plasma physicist Dr Melanie Windridge describes the latest progress. Tickets £6 & £4

10.30 am – 12.30 pm  Orkney College, East Road, Kirkwall
TATTIE TASTING
Could rock dust improve the soil and help today’s crops? Try out tatties from several growers in Orkney and Moray, prepared and served by college Hospitality students. Numbers limited; booking essential. Tickets £10

11.00 am – 12.00 pm  Scapa Beach, Kirkwall
WORKSHOP: THE ART OF WIND AND WAVE
Join artist Lin Chau and horticulturist Elizabeth Woodcock for a wellbeing workshop on Scapa beach; you should bring your own art materials. All abilities welcome. Numbers limited; booking essential. Tickets £10

11.30 am – 12.30 pm  Phoenix Cinema, Pickaquoy, Kirkwall
FIXING FEVER SCREENING FOR OUR FUTURE’S SAKE
We’ve long taken our temperature to check health, and Covid brought it right to the fore – but how accurate is it? Prof. Graham Machin of the National Physical Laboratory takes up the challenge. Tickets £6 & £4

12.30 – 2.00 pm  Peedie Kirk Hall, Palace Road, Kirkwall
BUFFET LUNCH OF ORKNEY FARE
With the One O’Clock Toast today to Kathleen Scott of North Ronaksay, who laid the foundations for the island’s successful bid for international dark-sky status; given by Islands Councillor Heather Woodbridge. Admission £10

2.00 – 3.00 pm  Phoenix Cinema, Pickaquoy, Kirkwall
John D Mackay Memorial Lecture
AN ANCIENT GREEK COMPUTER
Dr Vassilios Spathopoulos tells the story of the 2,000-year-old Antikythera mechanism and shows a working model of a machine that was in action at the time of Caesar and Cleopatra. Tickets £6 & £4

3.30 – 4.30 pm  Phoenix Cinema, Pickaquoy, Kirkwall
FOOD FROM THE SEA: FISH TAILS AND TRIMMINGS AND SEAWEED
In the making of fish fillets, various parts are discarded. Prof. Giovanna Bermano of Robert Gordon University finds a use for them – and for products from seaweed, with samples to taste. Tickets £6 & £4.

3.30 – 4.30 pm  St Magnus Centre, Palace Road, Kirkwall
WORKSHOP: LIVING ON THE ANCIENT HILLTOPS
Settlement in Slovenia, long in lowland areas, shifted in the 4th-6th centuries AD to higher ground. Archaeologist Dr Tina Milavec investigates why and asks for your views. Tickets £8

4.00 – 5.00 pm  Orkney Fossil and Heritage Centre, Burray
WORKSHOP: SHADOWS OF THE ANCIENT LAKE
Join artist Mary Grieve to help create a shoal of shadows, designing and building a shadow puppet fish to recreate the water world of Devonian times. Numbers limited; booking essential. Tickets £6 & £3

5.15 – 6.15 pm  Orkney Theatre, KGS, Kirkwall
FASHIONABLY DIGITAL – COMPUTERS AND CLOTHES
Applying digital technologies to clothing, fashion and fabrics. Dr Karen Cross, Josie Steed, and Dr Yang Jiang from Robert Gordon University, with Kirsteen Stewart’s designs and Brian Cromarty’s music. Tickets £6 & £3

6.45 – 9.30 pm  Hoy Kirk
SHETLAND COD AND BARRA SANDS
Take the 6 pm ferry from Stromness for an islands evening, with John Goodlad on 19th-century Shetland cod fishing, and Elaine Stewart and Monica MacLeay with a tour of Barra. Admission free but ferry booking essential.

7.30 pm – 8.30 pm  Orkney Theatre, KGS, Kirkwall
THE DOC, THE MARSHAL, AND THE GREAT YEAR OF LIGHT
Tombstone, Arizona, had the shootout at the OK Corral, and also ... a Microscopical Scientific Society. The town, born like Einstein in 1879, faded away in 1887, a remarkable year for physics. Howie Pirth, with songs from Riders in the Sky. Tickets £6 & £4
### Friday 8 September

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<tr>
<th>Time</th>
<th>Event</th>
<th>Venue</th>
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<tr>
<td>7.30 – 8.30 pm</td>
<td><strong>LIVING ON THE CROSSROADS</strong>&lt;br&gt;Slovenia lies on the crossing point of four great routes across Europe. Archaeologist Dr Tina Milavec of the University of Ljubljana gives a picture of a central European land of mountains and forests.</td>
<td>The Orkney Club, Harbour Street, Kirkwall</td>
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<tr>
<td>9.00 – 10.00 pm</td>
<td><strong>CONCERT: RIDERS IN THE SKY</strong>&lt;br&gt;They're Western music legends, with songs of the early days of cowboys on the rolling prairies, who've appeared at the Hollywood Bowl and Carnegie Hall, Grand Old Opry and Austin City Limits.</td>
<td>Orkney Theatre, KGS, Kirkwall</td>
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<tr>
<td>9.00 – 10.00 pm</td>
<td><strong>A LANDSCAPE OF LIMESTONE</strong>&lt;br&gt;High in the south of Slovenia rises the great limestone plateau of the Karst. Join Dr Edvard Kobal to find out about the landscape itself and the food it produces in the loamy terra rossa soil.</td>
<td>The Orkney Club, Harbour Street, Kirkwall</td>
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<tr>
<td>10.00 – 11.00 pm</td>
<td><strong>THE ORKNEY SKY AT NIGHT</strong>&lt;br&gt;Join Eric Walker and guests to find what to see tonight and how to see it, with naked eye or telescope.</td>
<td>ONLINE</td>
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### Saturday 9 September

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<tr>
<td>10.00 – 10.45 am</td>
<td><strong>IMPOSSIBLE ENGINEERING?</strong>&lt;br&gt;A family show featuring three exciting Scottish actors. Great engineers James Watt and Archimedes challenge the wind goddess to show offshore wind engineering can really work – then meet engineers of today with live experiments. Brought by Thistle Wind Partners.</td>
<td>St Magnus Centre, Palace Road, Kirkwall</td>
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<tr>
<td>10.00 – 11.00 am</td>
<td><strong>WILD ISLES LENSES</strong>&lt;br&gt;Richard Shucksmith in Shetland has spent the last three years working on the BBC’s Wild Isles series, broadcast this spring. He shares images and stories.</td>
<td>Orkney Theatre, KGS, Kirkwall</td>
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<td>10.00 am – 12.00 pm</td>
<td><strong>TREES IN THE PARK</strong>&lt;br&gt;Come for a tour with Paul Green who designed the community park and Bob Mackenzie who came up with the original idea. Tickets £10 include two trees for you to plant there.</td>
<td>Arcadia Park, Kirkwall</td>
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<tr>
<td>10.00 am – 4.00 pm</td>
<td><strong>FAMILY DAY</strong>&lt;br&gt;CARRY OUT A MARS MISSION TO MARS. STUDY STARLIGHT. BUILD A MAMMOTH SKELETON. LEARN HOW TO CONTROL ROBOTS. SEE A 2,000-YEAR-OLD COMPUTER MODEL. FIND OUT ABOUT OFFSHORE WIND AND TIDAL POWER. EXPLORE A KELP FOREST. MODEL A VIRUS. <strong>Morning session 10.00 – 12.30, afternoon 1.00 – 3.30. Tickets £7 &amp; 5.</strong></td>
<td>Kirkwall Grammar School</td>
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<tr>
<td>10.30 am – 12.00 pm</td>
<td><strong>WORKSHOP: AI ON YOUR PC</strong>&lt;br&gt;What’s AI – and can we apply it in rural and island areas? With Dr Matjaž Vidmar of Edinburgh University. It’s in a KGS computer room; bring your own laptop if you’d like. Numbers limited, booking essential.</td>
<td>Kirkwall Grammar School</td>
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<tr>
<td>10.30 am – 12.30 pm</td>
<td><strong>MADE MANIFEST IN FORM AND NUMBER</strong>&lt;br&gt;Mathematics and art meet in permanent collection and visiting exhibition. Curator Andrew Parkinson and Kari Adams join Dundee curator Matthew Jarron and St Andrews mathematician Dr Isobel Falconer, with talks, tour, and tea break. Numbers limited, booking essential.</td>
<td>Pier Arts Centre, Stromness</td>
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<tr>
<td>11.00 am – 12.00 pm</td>
<td><strong>WALK AROUND THE NESS</strong>&lt;br&gt;All tickets taken</td>
<td>Ness of Brodgar</td>
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<td>11.00 am – 12.00 pm</td>
<td><strong>HYDROGEN FUEL CELL OPEN DAY</strong>&lt;br&gt;Visit EMEC at their hydrogen fuel cell on Kirkwall Pier to learn about hydrogen in Orkney. Tour their H2 infrastructure and meet the experts. Admission free</td>
<td>Kirkwall Pier</td>
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</table>
11.30 am – 12.30 pm
Orkney Theatre, KGS, Kirkwall

**THE SCIENCE OF THE SUN**
Dr Karen Meyer of Dundee University describes the huge temperatures of the Sun’s atmosphere and massive eruptions of energy; and how mathematics can shed light on some of its mysteries. **Tickets £6 & £4**

12.30 – 2.00 pm
Peedie Kirk Hall, Palace Road, Kirkwall

**BUFFET LUNCH OF ORKNEY FARE**
With the One O’Clock Toast today to the writer Bessie Skea (‘Countrywoman’), born 100 years ago; given by her granddaughter, Sarah Jane Gibbon. **Admission £10**

1.00 – 1.45 pm
St Magnus Centre, Palace Road, Kirkwall

**IMPOSSIBLE ENGINEERING?**
A second opportunity to enjoy the 10 am show with James Watt, Archimedes, the wind goddess, and live experiments to follow! **Admission free, numbers limited: booking highly recommended.**

1.00 – 4.00 pm
Broad Street, Kirkwall

**VINTAGE RALLY**
Beautifully restored vintage vehicles, classic cars and tractors, and the sound of engines in action. **Street food from 11 am.**

2.00 – 3.00 pm
Orkney Theatre, KGS, Kirkwall

**AURORA: IN SEARCH OF THE NORTHERN LIGHTS**
Plasma physicist and explorer Dr Melanie Windridge describes an Arctic journey of discovery – with spectacular images of the Northern Lights. **Supported by the Institute of Physics in Scotland. Tickets £6 & £4**

2.00 – 3.30 pm
Pier Arts Centre, Stromness

**PAINTERS, PENDULUMS, GHOSTS OF CULLODEN**
Art and mathematics anniversaries – painter Jemima Blackburn, mathematician husband Hugh, and Katherine Read, the first major Scottish woman portrait painter. With art historian Prof. Frances Fowle and mathematics historian Dr Isobel Falconer. **Supported by the RSE. Numbers limited, booking essential. Tickets £10**

2.00 – 3.30 pm
Kirkwall Grammar School

**WORKSHOP: AI ON YOUR PC**
A second opportunity to hear from Dr Matjaž Vidmar. Numbers limited, booking essential. **Tickets £8**

2.30 – 3.30 pm
King Street Halls, Kirkwall

**SIT ME DOON WITH MR BOOM**
I have some problems with my Auntie-Gravity suit ... and I may materialise in a sitting position rather than standing. Your energetic singing and dancing will help greatly! **Sponsored by Pentland Ferries. Tickets £6 & £4**

3.00 – 4.30 pm
Skail House, Sandwick

**WILDLIFE PHOTOGRAPHY WORKSHOP**
Award-winning photographer Richard Shucksmith shows you how to take stunning wildlife photos, with the help of the birds at the Skail House Falconry Centre. **Numbers limited, booking essential. Tickets £10**

3.00 – 3.45 pm
St Magnus Centre, Palace Road, Kirkwall

**IMPOSSIBLE ENGINEERING?**
A third opportunity to enjoy the show about past engineers meeting those of today, featuring three of Scotland’s most exciting theatrical and TV actors. **Admission free, numbers limited: booking recommended.**

3.30 – 4.30 pm
Orkney Theatre, KGS, Kirkwall

**THE MAN WHO LINKED THE NORTHERN LIGHTS**
A massive 1859 solar storm led to Balfour Stewart, from an Orkney family, observing an equally powerful magnetic disturbance on Earth, as Patricia Long explains. Prof. Tom Stevenson looks at possible Orkney weather impacts. **Sponsored by Loganair. Tickets £6 & £4**

4.00 – 5.00 pm
Town Hall, Stromness

**FROM BOO TO STARN: A BOAT BUILDING JOURNEY**
John Leslie from Shapinsay has been building boats for decades. The film by Mark Jenkins from Stromness has music by James Watson and is followed by an after-screening discussion with John and Mark. **Tickets £6 & £4**

5.15 – 6.15 pm
Orkney Theatre, KGS, Kirkwall

**UNEARTHING A MAMMOTH GRAVEYARD**
Fossil hunters Neville and Sally Hollingworth with the story of their discovery of the remains of five Ice Age mammoths that led to the documentary Attenborough and the Mammoth Graveyard. **Tickets £6 & £4**
Saturday 9 September

7.00 – 7.30 pm  **KIRKWALL CITY PIPE BAND**  Broad Street, Kirkwall
With their final parade of the season.

7.15 – 10.00 pm  **WEST SIDE CINEMA: ALL LIGHT, EVERYWHERE**  Town Hall, Stromness
A documentary film exploring how we see the world, with its background the expansion of surveillance technologies in everyday life – with images of humans, cameras and solar eclipses. **Admission £5, £3 student.**

7.30 – 9.30 pm  **A GOOD OLD-FASHIONED ORKNEY CONCERT**  Harray Hall
With the West Mainland Strathspey and Reel Society, songs from Robin Nicolson, Highland dancing from Josie Gibbon, Countrywoman readings and songs by Emma Grieve and Sarah Jane Gibbon, and a sketch by Birsay Drama Club. Compered by Harvey Johnston. **Tickets £6 & £2 (12 and under)**

8.00 – 9.30 pm  **SYMPHONIES OF GALAXIES**  The Orkney Club, Harbour Street, Kirkwall
Astronomy is one of the rich mix of influences on the Scottish composer Eddie McGuire, in conversation here with astronomer Dr Anne-Marie Weijmans of St Andrews University and trumpeter and conductor Bede Williams. **Tickets £8**

Sunday 10 September

10.00 am – 2.00 pm  **VIKING FAMILY DAY**  Orkneyinga Saga Centre, Orphir
Family-friendly activities from Orkney Archaeology Society and Orkney Time Travel for Viking Week – storytelling from mythology and sagas, crafts, fun and games. **Free entry, some activities may have a small charge.**

11.15 am – 12.30 pm  **SCIENCE FESTIVAL SERVICE**  St Magnus Cathedral, Kirkwall
Conducted by Rev. Fraser Macnaughton, with the St Magnus Cathedral Choir.

2.30 – 4.00 pm  **WORKSHOP: SHADOWS OF THE ANCIENT LAKE**  Stromness Museum
Join artist Mary Grieve to help create a shoal of shadows, designing and building a shadow puppet fish to recreate the water world of Devonian times. Numbers limited; booking essential. **Tickets £6 & £3**

3.00 – 4.30 pm  **WALK: THE A-Z OF A PREHISTORIC LANDSCAPE**  From car park, Ring of Brodgar, Stenness
Walk from Brodgar to the Stenness Stones of Stenness, stopping off at the Ness and Barnhouse, for an insight into landscape, archaeology, plants and animals past and present, from HES Rangers and UHI researchers Kath Page, Sue Dyke and Dr Ben Elliott. **No booking needed but come in good time!**

5.00 – 6.30 pm  **WORKSHOP: CHECKING ALIGNMENTS WITH STELLARIUM**  Stenness Community Centre
Dave Craig explains the nuts and bolts of how Stellarium was used in his recent investigation Why is Maeshowe Squint? **Admission free but numbers limited, booking essential.**

7.30 – 8.30 pm  **A THIN AND ROCKY SLICE OF TIME**  Town Hall, Stromness
Chris Thomas of the Quckett Microscopical Club shows some beautiful images from thin-section rock slides. Katy Firth of Stromness Museum describes plans to digitise slides from the late Ted Kellock’s rock collection. **Admission £6 & £4**

7.30 – 8.30 pm  **RIVERS OF RUNNING GOLD. THE SUN, THE SUN!**  St Magnus Cathedral, Kirkwall
Ethereal music, with the Sun overhead, from composers Stuart MacRae and Michael Oliva blending electronics with instruments and voices. The Mayfield Singers, flautist Ewan Robertson, cellists Valerie Webster and Hannah Marshall, Paisley Abbey organist George McPhee, and Prof. Robert Walsh’s narration. **Tickets £10 & £8**

9.30 – 10.30 pm  **AFTER THE CONCERT: SOUNDS AMID THE STILLNESS**  The Orkney Club, Harbour Street, Kirkwall
How can electronic sounds explore the natural world’s beauty? Composers Stuart MacRae and Michael Oliva join solar physicist and SUN co-creator, Prof. Robert Walsh, and flautist Ewan Robertson in conversation. **Tickets £8**
**Monday 11 September**

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<th>Time</th>
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<tr>
<td>10.00 – 11.00 am</td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
<td><strong>AN EXPLOSION OF FORMS: ART, ORIGAMI, OCEAN ECOSYSTEMS</strong></td>
<td>Modelling plankton with origami is surprisingly similar to doing so with scientific computer simulations, says ecologist and origamist Neil Banas, with composer and crochet artist Emily Doolittle. <strong>Tickets £6 &amp; £4</strong></td>
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<tr>
<td>10.30 – 11.30 am</td>
<td>Supper Room, Town Hall, Kirkwall</td>
<td><strong>WORKSHOP: OBSERVING THE SUN SAFELY</strong></td>
<td>Callum Potter of the British Astronomical Association describes the equipment you need, and how to use it, and how to draw and record your observations. Numbers limited, booking essential. <strong>Tickets £8 &amp; £6</strong></td>
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<td>11.30 am – 12.30 pm</td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
<td><strong>ICE OVER ORKNEY</strong></td>
<td>Dr John Flett Brown and Dr Adrian Hall find far-travelled rocks in Sanday and Stronsay, and tell the story of the Ice Age glaciers that carried them in Selena S. Kuzman's new film, followed by Q&amp;A. <strong>Tickets £6 &amp; £4</strong></td>
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<td>12.30 – 2.00 pm</td>
<td>Peedie Kirk Hall, Palace Road, Kirkwall</td>
<td><strong>BUFFET LUNCH OF ORKNEY FARE</strong></td>
<td>With the One O’Clock Toast today to Kirkwall Provost James Flett, stationer and antiquarian; given by Spencer Rosie, his great-nephew. <strong>Admission £10</strong></td>
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<td>2.00 – 3.00 pm</td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
<td><strong>DANCING WITH MATHEMATICS</strong></td>
<td>Dr Tom Flett, born 100 years ago, was professor of mathematics at Sheffield University but better known across Scotland for his work with his wife Joan on traditional dancing. Their daughters Jane Harrison and Lindsay Smith are joined by Sheffield mathematician Dr James Cranch. <strong>Tickets £6 &amp; £4</strong></td>
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<tr>
<td>2.00 – 3.00 pm</td>
<td>Supper Room, Town Hall, Kirkwall</td>
<td><strong>WORKSHOP: BECOMING AN AMATEUR ASTRONOMER</strong></td>
<td>Callum Potter of the British Astronomical Association introduces the basics of using equipment. He’ll advise on choosing a telescope; and if you have one, bring it along and hear how to get the most from it. <strong>Tickets £8 &amp; £6</strong></td>
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<td>3.30 – 4.30 pm</td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
<td><strong>Roy Drever Memorial Lecture</strong></td>
<td>Following The Fletts – and goes on to look at the Drevers, the Sinclairs, the Rendalls and the Linklaters as well. <strong>Tickets £6 &amp; £4</strong></td>
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<td>5.15 – 6.15 pm</td>
<td>Orkney Theatre, KGS, Kirkwall</td>
<td><strong>Eoin F. Scott Lecture</strong></td>
<td>Blown Away From Costa – a pioneering Orkney wind turbine was destroyed by hurricane-force gusts in 1953. But, as Neil Kermode of EMEC explains, it led the way for other developments. Archaeologist Dan Lee traces the clues. <strong>Tickets £6 &amp; £4</strong></td>
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<td>7.00 – 10.00 pm</td>
<td>Charles Clouston Building, Stromness</td>
<td><strong>ROBOTS AFTER DARK</strong></td>
<td>Try out some of the latest robot technology with the team from the National Robotarium in Edinburgh and several of their favourite robots. <strong>Admission free, but numbers limited and booking essential</strong></td>
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<td>7.30 – 8.30 pm</td>
<td>Orkney Theatre, KGS, Kirkwall</td>
<td><strong>THE THORFINN AND THE HURRICANE</strong></td>
<td>70 years ago the Earl Thorfinn had to run before a hurricane to Aberdeen. How did the ship survive, and how has marine communication developed since then? Prof. Tom Stevenson tells the story. <strong>Tickets £6 &amp; £4</strong></td>
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<td>9.00 – 10.00 pm</td>
<td>The Orkney Club, Harbour Street, Kirkwall</td>
<td><strong>BEUY WHIT A WIND IT WIS LAST NIGHT!</strong></td>
<td>The story of the hurricane-force winds of 1953, told through recordings past and present and archive photos. Dr Tom Rendall is joined by Ailsa Seatter, Billy Cardno, Donnie Grieve, and Sarah Jane Gibbon, with recently recorded accounts from Isla Stanger, Jim Pratt and Jim Lennie. <strong>Tickets £8</strong></td>
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Tuesday 12 September

9.30 – 11.30 am  St Magnus Centre, Palace Road, Kirkwall

**THE CYBERFRAUD ROADSHOW**
With the Cyber and Fraud Centre Scotland, established to reduce threats and assist recovery from attacks. This morning is targeted for public sector organisations. **Admission free, numbers limited: booking needed.**

10.00 – 11.00 am  Phoenix Cinema, Pickaquoy, Kirkwall

**CRACKING CONCRETE, GROWING CARROTS, SINKING CARBON**
Join regenerative gardener Elizabeth Woodcock as she takes the latest scientific research and applies it to growing our own food in our own gardens. **Tickets £6 & £4**

11.30 am – 12.30 pm  Phoenix Cinema, Pickaquoy, Kirkwall

**THE MICROALGAL MIRACLE**
Tiny single cells consuming agricultural and food waste – and producing fuel, fertiliser, feed, pharmaceuticals. Dr Matjaž Vidmar of Edinburgh University describes the amazing abilities of microalgae. **Tickets £6 & £4**

12.30 – 2.00 pm  Peedie Kirk Hall, Palace Road, Kirkwall

**BUFFET LUNCH OF ORKNEY FARE**
With the One O’Clock Toast today to Eoin Scott, farmer, Islands Councillor, and Science Festival chairman; given by Dr Edvard Kobal of the Slovenian Science Foundation. **Admission £10**

1.00 – 3.00 pm  Stromness Museum

**AN ANCIENT GREEK COMPUTER**
Dr Vassilios Spathopoulos shows an extraordinary working model of the Antikythera mechanism, an astronomical computer from 2,000 years ago. **The cost is covered by the museum entry ticket.**

1.30 – 3.30 pm  St Magnus Centre, Palace Road, Kirkwall

**THE CYBERFRAUD ROADSHOW**
A second session, targeted for businesses, with the Cyber and Fraud Centre Scotland team. **Admission free but numbers limited, booking essential.**

2.00 – 3.00 pm  Phoenix Cinema, Pickaquoy, Kirkwall

**A VIRUS IN OUR GENES**
The human herpesvirus 6 can integrate its genome into ours – and be inherited. Prof. Ruth Jarrett and Dr Michael Wood of the MRC-University of Glasgow Centre for Virus Research describe their research. **Tickets £6 & £4**

3.30 – 4.30 pm  Phoenix Cinema, Pickaquoy, Kirkwall

**FANTASTIC LIGHT – INCREDIBLE INDUSTRIES**
Prof. Robert R. Thomson of Heriot-Watt University describes some remarkable state-of-the-art applications for photonic technologies. **Tickets £6 & £4**

5.00 – 6.00 pm  MacGillivray Room, Orkney Library, Kirkwall

**GREEN SPACE AND BLUE SPACE AND ISLAND WELLBEING**
How can creative activities in Orkney’s green and blue space help wellbeing? Louise McQuaid of the North Isles Natural Wellbeing Project joins Lewis Hou of Science Ceilidh. **Tickets £5 & £3**

5.15 – 6.15 pm  Orkney Theatre, KGS, Kirkwall

**PAPAY DOONDIES**
Tales of Papa Westray folk, past, present and future – with news of island birdlife, the story of the Trailis, a film of building a cassie sea defence-wall, and a new animated film produced by the school pupils. **Tickets £6 & £4**

7.30 – 8.30 pm  Orkney Theatre, KGS, Kirkwall

**THE LOST FLOCK OF ST KILDA**
How Jane Cooper built a unique flock and tracked down the origins of the Boreray breed. **Tickets £6 & £4**

7.30 – 9.00 pm  Robert Rendall Building, Stromness

**A HYDROGEN SHIP FOR THE ABERDEEN RUN**
A world first, tried out next year, powered by liquid hydrogen and uncrewed, with AI and robot systems; and used for smaller payloads, as Mike Tinmouth explains. **Admission free, numbers limited, booking needed.**

7.30 – 9.30 pm  King Street Halls, Kirkwall

**CHARLOTTE ROWAN IN CONCERT**
Violinist Charlotte Rowan, accompanied by Charlotte Stevenson, with works from Grieg to Dohnanyi, and a trilogy of pieces about The Sun. **Tickets from Orkney Arts Society website**

9.00 – 10.00 pm  The Orkney Club, Harbour Street, Kirkwall

**WE’LL MAKE OUR MALT: THE ART AND THE SCIENCE**
Micro-malting, says Hugh Alexander, opens the way to try different types of grain, and for smaller-scale specialist brewing at community-sized levels. **Tickets £8**
**Wednesday 13 September**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>9.30 am – 12.00 pm</td>
<td><strong>MINIATURE WHISKY SCHOOL: PEAT AND WHISKY</strong>&lt;br&gt;See the whole process, from peatcutting at Hobbister to drying the malt over distillery peat fires. Dr Chris Marshall explains the origins of peat and Dr Barry Harrison describes its effect on flavour. <strong>Tickets £15</strong></td>
<td>Highland Park Distillery, Kirkwall</td>
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<td>10.00 – 11.00 am</td>
<td><strong>John and Ann Cumming Memorial Lecture</strong>&lt;br&gt;<strong>MAKE IT WITH OATS, AND TRY IT WITH BERE</strong>&lt;br&gt;There’s a new interest in traditional oats and bere, with a growing body of research that shows that they’re healthier for us – as Prof. Karen Scott of Aberdeen University's Rowett Institute explains. <strong>Tickets £6 &amp; £4</strong></td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
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<td>11.00 am – 12.00 pm</td>
<td><strong>WORKSHOP: UNDERSTANDING VIOLIN MAKING</strong>&lt;br&gt;Orkney violin maker Colin Tulloch, with his son Findlay, describes the process, and violinist Charlotte Rowan explores the sound. <strong>Tickets from Orkney Arts Society website</strong></td>
<td>King Street Halls, Kirkwall</td>
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<td>11.30 am – 12.30 pm</td>
<td><strong>THE PLACE I THINK OF AS HOME</strong>&lt;br&gt;The story of Holm-born writer F. Marian McNeill, who died 50 years ago, told by Liz Ashworth with Dave Grieve and Marlene Mainland and music from Douglas Montgomery. <strong>Tickets £6 &amp; £4</strong></td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
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<td>12.30 – 2.00 pm</td>
<td><strong>BUFFET LUNCH OF ORKNEY FARE</strong>&lt;br&gt;With the One O’Clock Toast today to Rae Phillips, lighthouse keeper at various stations and miller at the Barony Mills for many years; given by Keith Johnson. <strong>Admission £10</strong></td>
<td>Peedie Kirk Hall, Palace Road, Kirkwall</td>
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<td>2.00 – 3.00 pm</td>
<td><strong>STROMNESS IN THE DAYS OF SAIL</strong>&lt;br&gt;Len Wilson, former boatbuilder, tells the story of the tall ships and the men who sailed them, while naval architect Dennis Davidson of Murray Cormack Design describes the ships built in Stromness at Stanger’s and Copland’s yards. <strong>Sponsored by NorthLink. Tickets £6 &amp; £4</strong></td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
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<td>3.30 – 4.30 pm</td>
<td><strong>FROM BOO TO STARNS: A BOAT BUILDING JOURNEY</strong>&lt;br&gt;A visit to John Leslie’s workshop in Shapinsay, to see him building a boat. The film by Mark Jenkins has music by James Watson. <strong>Supported by the North Isles Landscape Partnership Scheme. Tickets £6 &amp; £4</strong></td>
<td>Phoenix Cinema, Pickaquoy, Kirkwall</td>
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<td>5.15 – 6.15 pm</td>
<td><strong>SOLO TO THE SOUTH POLE</strong>&lt;br&gt;Ben Weber, born in Orkney, tells the story of how he reached the South Pole after a 58-day, 700-mile trek alone across Antarctic ice and snow. <strong>Tickets £6 &amp; £4</strong></td>
<td>Orkney Theatre, KGS, Kirkwall</td>
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<td>7.30 – 8.30 pm</td>
<td><strong>The Grimond Lecture</strong>&lt;br&gt;<strong>KEEPING GOING – IN LIFE AND SPORT</strong>&lt;br&gt;Whether it’s the North Coast 500 or the 3,100-miler in Badwater, the hardest barrier is mental, says ultra-runner William Sichel, who’s applied the mental approach to big challenges in everyday life. <strong>Tickets £6 &amp; £4</strong></td>
<td>Orkney Theatre, KGS, Kirkwall</td>
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<td>7.30 – 8.30 pm</td>
<td><strong>REVIVING THE LOST</strong>&lt;br&gt;The story of a distillery reborn – Benromach, told by its manager Keith Cruickshank and production manager Murdo MacKenzie. <strong>Organised by the Institute of Brewing and Distilling. Tickets £8 (over-18s only)</strong></td>
<td>The Orkney Club, Kirkwall</td>
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<td>7.30 – 8.45 pm</td>
<td><strong>CONCERT: SUNDOWN</strong>&lt;br&gt;A final opportunity to see the Sun before it sets off - and enjoy songs, stories and music from the Archipelago String Quartet, poets Alison Miller and Yvonne Gray, storytellers Tom Muir and Fran Flatt Holmstrake, and St Magnus Cathedral Choir. <strong>Tickets will be available from 1 September from Orkney Museum and St Magnus Cathedral. £10 adults, £5 children.</strong></td>
<td>St Magnus Cathedral, Kirkwall</td>
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<tr>
<td>9.00 – 10.30 pm</td>
<td><strong>ZOOMING OUT</strong>&lt;br&gt;Join the Festival team as they sit back after intensive weeks of work on the Festival, with time for discussion and music in varied style.</td>
<td>ONLINE</td>
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WHERE THE ENERGY IS ELECTRIC AND THE MEMORIES UNFORGETTABLE

Scotland is known the world over for its atmospheric crowds, iconic venues and stand-out cultural events that span a spectrum of genres and sizes. Whether you are after world-class festivals or a hidden cultural gem, Scotland is the place to connect and celebrate!

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The SUN
Come and see the Sun in St Magnus Cathedral

Close up, it's a blazing star running on nuclear fuel, a mass of seething fires with huge energy bursts driving a wind of particles. This spectacular model projects images from NASA spacecraft, speeded up to show storms building and massive flares looping outwards. The 6-metre-diameter installation was created by solar physicist Prof. Robert Walsh of UCLAN and artist Alex Rinsler.

The SUN is coming to the Cathedral - the ‘Light in the North’ - through the help of the staff, the Islands Council, the minister and congregation. It was made possible by generous sponsorship from the energy, science and technology sector, locally and nationally. This is also an opportunity to take time in the Cathedral itself, with its warm red sandstone and heritage of light.

ENTRANCE TO THE CATHEDRAL IS FREE
Monday – Saturday 0900-1300 and 1400-1700.
(The church service on Sunday at 11.15, with a special Festival welcome.)

Full details on www.oisf.org