

| BOOKING REQUEST FORM | | | | | | |
|--|------------|------------|--------|----------|-------|---|
| | £ | £ | No. at | No. at | Total | |
| | Adult | Con. | adult | concess. | £ | p |
| Sub-total from previous page | - | - | - | - | | |
| Tuesday 8 September | | | | | | |
| Beremeal from Boardhouse | £4 | £2 | | | | |
| Light Shines on Orkney's Past | £4 | £2 | | | | |
| Looked out to Stars Beyond | £4 | £2 | | | | |
| The History of the Horse | £4 | £2 | | | | |
| The Sheep on the Shore | £4 | £2 | | | | |
| 25 Years in the Making | £8 | - | | | | |
| Peter Higgs in Conversation | £5 | £3 | | | | |
| From Maxwell to Higgs | £4 | £2 | | | | |
| Wednesday 9 September | | | | | | |
| Miniature Whisky School | £12 | - | | | | |
| A Sense of Wonder | £4 | £2 | | | | |
| Maxwell's Waves | £4 | £2 | | | | |
| Distilling - Theory and Practice | £6 | £4 | | | | |
| Physicist or Spy? | £4 | £2 | | | | |
| Island Skies, Mountains' Call | £4 | £2 | | | | |
| Lights, Lasers, Action ...! | £4 | £2 | | | | |
| The Stills of Scotland | £4 | £2 | | | | |
| The Highland Park Ceilidh | £8 | - | | | | |
| (children with parents) | - | £4 | | | | |
| LecturePass - all £4 talks | £32 | £24 | | | | |
| <i>(Please note that admission can only be guaranteed if pass-holders arrive at least 15 mins before start)</i> | | | | | | |
| Total ticket sum enclosed | | | | | | |
| Name | | | | | | |
| Address | | | | | | |
| Telephone | | | | | | |
| Email | | | | | | |
| <input type="checkbox"/> Please send me information on travel to Orkney & accommodation | | | | | | |
| Please complete in BLOCK CAPITALS , post with remittance & s.a.e. to Orkney Science Festival VisitScotland, Tourist Office, Kirkwall, Orkney, KW15 1GU Please make cheques payable to Orkney Science Festival Ltd | | | | | | |
| Where no ticket or booking details are entered, or admission is free, advance booking is not necessary. If capacity is limited, you may need to arrive in good time to ensure a place. | | | | | | |
| Our phone is 01343 540844, our e-mail orkneyscience@gmail.com | | | | | | |
| Book online at www.oisf.org Follow us on Facebook and Twitter @OrkSciFest! | | | | | | |

Monday 7 September

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
THE STARS OUR DESTINATION?
Dr Geoffrey A. Landis tells of concepts for drives to one day send a spacecraft 4 light-years to our nearest neighbour, Alpha Centauri.

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
The John D. Mackay Memorial Lecture
SUN, MOON AND ANCIENT STONES
Douglas Scott from Tain shows results - and stunning images - of more than thirty years surveying ancient stones across Scotland, showing alignments to sun and moon at sites including the Ness of Brodgar.

One O'Clock Toast at the Peedie Kirk: the writer Ernest W. Marwick, by Gladys Leslie for John D. M. Robertson

2.00 - 3.00 pm *Town Hall, Kirkwall*
The Grimond Lecture
SINDBAD SCI-FI
Yasmin Khan describes science fiction's growing popularity in the Middle East - which once gave the world the tales of Sindbad. Could the new wave of Arab SF open new visions for the future?

3.30 - 4.30 pm *Town Hall, Kirkwall*
NEWTON'S GHOSTWALK
Novelist and writer Prof. Rebecca Stott of East Anglia University recaptures the atmosphere of Sir Isaac Newton's life, from sights and sounds of the Cambridge market to long nights of alchemical activity.

5.15 - 6.15 pm *Orkney Theatre, KGS, Kirkwall*
COLOURS TO DYE FOR
Take a journey through the spectrum with Sue Stocklmayer and Mark Ellison of the Australian National University - using chemistry to explain the nature of colour in a family show packed full of demonstrations.

7.00 - 9.00 pm *The Reel, Kirkwall*
BEER ACADEMY DINNER
Join brewing experts Brian Eaton and Rob Hill for five platters of Orkney fare with selected Orkney ales and insight. Over-18s only. Tickets £18 also from The Reel. *Organised by the IBD*

7.30 - 9.30 pm *Link Centre, Evie*
AN EVIE EVENING WITH ERNEST MARWICK
James Irvine introduces readings from Alison Aitken, Athole Thomson, Billy Cardno, Bobby Leslie, Peter Leith, Ray Fereday and Sandy Firth. Tickets (including tea, cakes and traditional savouries) £5 & £3.

7.30 - 8.30 pm *King Street Halls, Kirkwall*
THE MATHEMATICS OF KNOTS
How mathematicians and sailors approach the rich and beautiful world of knots. Dr Julia Collins of Edinburgh University explains the maths, while Mark Shiner of Stromness Nautical School ties the knots.

9.00 - 10.00 pm *King Street Halls, Kirkwall*
KNOTS IN PHYSICS
Bristol University researchers are tying knots in light itself, and applying insights to DNA and proteins and to quantum field theories. Prof. Mark Dennis and Keith Alexander explain and demonstrate.

9 - 11 pm *Meet up at the Festival Club at The Reel*

Tuesday 8 September

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
BEREMEAL FROM BOARDHOUSE
James Stead's film on the Barony Mills is followed by Dr Eoin Cowie of RGU, Richard Shearer, and samples of bere bannocks and biscuits.

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
A LIGHT THAT SHINES ON ORKNEY'S PAST
Ernest W. Marwick, born a century ago, enriched a generation through his writing and broadcasting. Historians James M. Irvine, Ray Fereday and Ragnhild Ljosland describe his life and work.

The One O'Clock Toast at the Peedie Kirk today: the writer Ann Scott-Moncrieff, by Gavin Scott-Moncrieff

2.00 - 3.00 pm *Town Hall, Kirkwall*
HE LOOKED OUT TO THE STARS BEYOND
Galileo's predecessor Giordano Bruno pictured an infinite universe, with the stars as distant suns surrounded by their own planets on which life might exist. Prof Jon Side of ICIT Stromness tells his story.

3.30 - 4.30 pm *Town Hall, Kirkwall*
THE HISTORY OF THE HORSE
They evolved on the plains and steppes, and were domesticated and used for work and travel. Dr Jeremy Burn of Bristol University tells how horses became so important to us, and insights from their motion. *Sponsored by the Orkney Creamery - Orkney Ice Cream*

5.00 - 6.00 pm *King Street Halls, Kirkwall*
THE SHEEP ON THE SHORE
Archaeozoologist Dr Marie Balasse of the French Natural History Museum describes how isotope analysis of teeth from Orkney Neolithic sites shows seaweed contributing to the winter diet of Orkney sheep 6,000 years ago - as in North Ronaldsay today.

7.30 - 8.30 pm *The Reel, Kirkwall*
25 YEARS IN THE MAKING
Benromach distillery manager Keith Cruickshank looks back on his 25 years in distilling and at the Benromach range - its making and tasting. Booking essential. Over-18s only. Tickets £8. *Organised by the IBD*

7.30 - 8.30 pm *Orkney Theatre, KGS, Kirkwall*
PETER HIGGS IN CONVERSATION
Nobel laureate Prof. Peter Higgs of Edinburgh University with the story of the ideas that led to the discovery of the Higgs boson at CERN in Geneva - in conversation with fellow particle physicist and science writer Prof. Frank Close. Tickets £5 & £3. *Supported by The Institute of Physics in Scotland*

9.00 - 10.00 pm *Orkney Theatre, KGS, Kirkwall*
FROM MAXWELL TO HIGGS - AND BEYOND?
Edinburgh University physicists Alan Walker and Dr Victoria Martin look at the ideas and events that led from Maxwell's work on the electromagnetic field to the Higgs boson, and the challenges ahead.

9 - 11 pm *Meet up at the Festival Club at The Reel*

Wednesday 9 September

9.30 am - 12.30 pm *Highland Park Distillery, Kirkwall*
Miniature Whisky School: NOSING
Whisky writer Vic Cameron and Diane Stuart of the Scotch Whisky Research Institute explain the skills and the science. Over-18s only, booking essential. Tickets £12. *Organised by the IBD*

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
A SENSE OF WONDER
Film producer Carolyn Yates and poet Rab Wilson show their new film set in James Clerk Maxwell's home territory of Galloway, and Andy Munro and Sarah Jane Gibbon supply songs and music. *In association with Wigtown Book Festival*

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
MAXWELL'S WAVES
Prof. Tom Stevenson tells the story and demonstrates some of the techniques of early radio, with Sandy Firth of Orkney Wireless Museum and Dorothy Brankin of the Museum of Communication. *Supported by The Institute of Physics in Scotland*

One O'Clock Toast at the Peedie Kirk: folklore and food heritage writer F. Marian McNeill, by Catherine Brown

2.00 - 5.00 pm *from Palace Road, Kirkwall*
BUS TOUR: DISTILLING - THE THEORY AND PRACTICE
Join experts from Scapa and Highland Park for special tours of both. Advance booking essential: over-18s only. Tickets £6 & £4. *Organised by the Institute of Brewing and Distilling (IBD) and sponsored by the two distilleries and Maynes Coaches*

2.00 - 3.00 pm *Town Hall, Kirkwall*
PHYSICIST OR SPY? - BRUNO PONTECORVO'S DIVIDED LIFE
A brilliant nuclear physicist disappeared through the Iron Curtain at the height of the Cold War. To this day, the mystery remains - why did he flee so suddenly? Prof. Frank Close of Oxford University tells the story. *Supported by The Institute of Physics in Scotland*

3.30 - 4.30 pm *Town Hall, Kirkwall*
THE ISLAND SKIES AND THE MOUNTAINS' CALL
Fanny Copeland loved her visits to Orkney in the early 1900s. Her work at the Versailles negotiations led to her going to live in Yugoslavia, where she was climbing mountains into her 80s. Howie Firth and Dr Edvard Kobal of the Slovenian Science Foundation tell her story. *Sponsored by Orkney Car Hire - James D Peace & Co*

5.15 - 6.15 pm *Orkney Theatre, KGS, Kirkwall*
LIGHTS, LASERS, ACTION ...!
A fast-paced action-packed journey through the science of light, for all the family. Dr Ken Skeldon of Aberdeen University and Dr Janet Milne of Strathclyde University with high-voltage sparks - and surprises! *Supported by the IET*

7.30 - 8.30 pm *Supper Room, Town Hall, Kirkwall*
THE STILLS OF SCOTLAND
Alan Winchester, distilling manager of Chivas Brothers, tells the story of their varied shapes, at distilleries past and present, illustrated by samples of kindred spirits. Over-18s only. *Organised by the IBD*

8.00 pm - 12.00 midnight *Peedie Kirk Hall, Kirkwall*
THE HIGHLAND PARK CEILIDH
with Dave and company, Andy Munro, and Lewis Hou's fiddle and dance steps, for would-be and why-not dancers of all ages. Tickets (including light supper) £8, or £4 for children with parents. *Sponsored by Highland Park*

Special food events during Festival
Daily, from Fri 4 to Wed 9. Lunches in the Peedie Kirk Hall. Soup and Orkney fare daily, £8. From 12.30 pm, with 5-minute Toast at 1 pm.

Exhibitions
MAXWELL TO HIGGS AND BEYOND
Kirkwall Grammar School, Kirkwall
Edinburgh University physics displays and hands-on activities. Meet physicists from CERN. For schools by day, and public on 3 evenings: Thurs 3 & Mon 7 (6-8 pm), Tues 8: 6-7.30, 8.30-9. *Supported by the Institute of Physics and The Royal Society of Edinburgh*

FLOUR OF SCOTLAND: GROWING, MILLING & USING BERE
Town Hall, Kirkwall **Daily except Sun, 10.30 - 5.00**

NORTHERN LIGHT: ORKNEY CAMERA CLUB
Pickaquoy Centre, Kirkwall **Daily except Sun**

ERNEST W. MARWICK: WRITER AND SCHOLAR
Orkney Library & Archive, Kirkwall **Daily except Sun, Wed**

OPEN WINDOWS
Stromness street **Sun 30 Aug - Sun 6 Sept**
Artworks along the street, on the theme of light.

DIAMOND LIGHT SOURCE: LIGHT FOR SCIENCE
Nautical School, Stromness **Daily except Sun**

ORKNEY WIRELESS MUSEUM
Kiln Corner, Kirkwall **Mon - Sat 10 - 4.30, Sun 2.30 - 4.30**

FOSSIL AND HERITAGE CENTRE, BURRAY
Burray **Daily 10 - 5**

NESS OF BRODGAR: ART AND ARTEFACTS
Stromness Museum, Alfred Street, Stromness **Daily 10 - 5**

ORCADIAN IN THE TRENCHES: THE WAR ON LAND
Orkney Museum, Kirkwall **Mon - Sat 10.30 - 5**







Year of Light to shine in

ORKNEY International SCIENCE FESTIVAL



3 - 9
SEP
2015

more than 60 events

Exploring the Solar System
Einstein's Universe
An Evening with Peter Higgs
The Mathematics of Knots
The Telescope Pioneers
The Enchantress of Numbers
Colours to Dye For
Rainbows

TALKS, OUTINGS, EXHIBITIONS, FILMS, FOOD AND DRINK, CONCERTS, CEILIDHS

Thursday 3 September

12.00 - 1.30 pm *Town Hall, Kirkwall*
OPENING LUNCH: FISHING FOR THE FUTURE
Novelist and writer Prof. Rebecca Stott opens the 25th Festival, linking into the latest results from Orkney shellfish research and an Orkney seafood lunch provided by Orkney Fishermen's Society. Kate Rydzkowski and Matthew Coleman report on research into local crab and lobster stocks. Dr Mike Bell shows how sustainability strategies are being developed. Tickets for lunch and lectures £7 & £4.
In association with OFS and Orkney Fisheries Association

2.00 - 3.00 pm *Town Hall, Kirkwall*
CLIMATE CHANGE AND ORKNEY'S WEATHER
Earth's climate has changed over a century: surface temperature rose, glaciers shrank, rainfall patterns shifted. Much more global warming is expected. What does it mean for Orkney's future weather and environment? Prof. David Stevenson of Edinburgh University.
Organised by the Royal Meteorological Society

3.30 - 4.30 pm *Town Hall, Kirkwall*
Archie E. Roy Memorial Lecture
EINSTEIN'S UNIVERSE
Black holes, supernova explosions, neutron stars, ripples in the very fabric of space and time - all features of the massive gravitational forces encompassed in Einstein's theory of general relativity, formulated 100 years ago. Prof. Martin Hendry of Glasgow University explains.

5.15 - 6.15 pm *Orkney Theatre, KGS, Kirkwall*
LET THERE BE LIGHT!
Mike Gore and Sue Stocklmayer from the Australian National University revisit earlier ideas of light and X-rays - with some of the original demonstrations given at the Royal Institution over a century ago, in a sparkling new science show.

7.30 - 9.00 pm *St Magnus Church, Birsay*
AN ORKNEY NIGHT
Traditional music and song, with humorous poems on a theme of anniversaries and seasons. Harvey Johnston comperes.
Admission by donation - proceeds to St Magnus Church Birsay Trust

7.30 - 8.30 pm *Town Hall, Kirkwall*
THE SHORES OF TITAN
On the frozen world of Saturn's largest moon, Titan, NASA's Cassini spacecraft has seen evidence of ... clouds, rain, lakes and seas. Planetary scientist Dr Helen Maynard-Casely of Australia's Bragg Institute explains the alien materials that could drive this cycle.

9.00 - 10.00 pm *Town Hall, Kirkwall*
Eoin F. Scott Memorial Lecture
FROM THE DEEP
How can surface studies lead to oil discoveries far below the seabed? And how much more may be beneath northern waters? Geologist Dr John Flett Brown explains.

9.00 - 11.30 pm *Meet up at the Festival Club at The Reel*

Remember the Molecule Hunt round the Kirkwall shops! See leaflets in the shops and on our website.

Friday 4 September

10.00 - 11.00 am *King Street Halls, Kirkwall*
WHAT'S ERUPTING TODAY? ARMCHAIR VOLCANO WATCHING
Hot off the plane from Iceland, Graham Durant, director of Questacon in Canberra, describes how digital cameras, remote sensing, drones, satellite imagery and the internet are opening up access to erupting volcanoes - and leading to deeper understanding of what's going on.

11.30 am - 12.30 pm *King Street Halls, Kirkwall*
FIRE AND ICE: THE MAKING OF THE FAROE ISLANDS
Geographer Lis E. Mortensen from the Faroese Earth and Energy Directorate describes the forces that have over millions of years shaped the Faroese landscape into its spectacular forms of today.

The One O'Clock Toast at the Peedie Kirk today: Dr Rena Marwick, by Patricia Long

2.00 - 3.00 pm *King Street Halls, Kirkwall*
NEW LIGHT ON MS?
Orkney has the world's highest rate of MS, but what is the cause. Is it inherited? Or is it due to some factor in our environment - such as a lack of vitamin D from shortage of winter sunshine? Emily Weiss of Edinburgh University reports on her research, funded by the Shetland and Orkney MS Research Project.
Sponsored by Loganair

3.30 - 4.30 pm *King Street Halls, Kirkwall*
EXQUISITE PRECISION
Cells communicate with one another harmoniously - until they don't. The communication breakdown can lead to diseases as diverse as cancer and neurodegeneration. The MRC PPU research centre (part of Dundee University) is at the forefront of the research, and its director, Prof. Dario Alessi, describes the challenge.

5.15 - 6.15 pm *Orkney Theatre, KGS, Kirkwall*
THE LIGHT SIDE OF PHYSICS
Is science serious? With no room for humour? Not at all, says Dr Moshe Rishpon of the Weizmann Institute of Science: it can entertain - and also surprise! He illustrates with lively demonstrations for a family audience to enjoy: on sound, weightlessness - and light itself.

7.30 - 8.30 pm *Town Hall, Kirkwall*
THE GENE THAT CRACKED THE CANCER CODE
Sue Armstrong, science writer for *New Scientist* and the World Health Organisation, tells the remarkable story of the discovery of the role of p53, the protein that protects our cells against cancer. It repairs DNA and kills damaged cells - but when it is itself harmed, our resistance is lowered, with dangerous consequences.

9.00 - 10.00 pm *Town Hall, Kirkwall*
HYDROGEN FOR ORKNEY POWER
Neil Kermode of EMEC highlights the latest marine renewable devices to arrive in Orkney and also the new energy dimension on the horizon - hydrogen. Rather than just wait for an improved cable connection to export energy to mainland Scotland, energy from renewables will produce hydrogen for local vehicle use in fuel cells.
Hosted by OREF and sponsored by Clark Thomson Insurance

9.00 - 11.30 pm *Meet up at the Festival Club at The Reel*

Island events (see www.oisf.org for full details)

Fri 4 Sept, Hoy Kirk: 5.45 pm Stromness ferry for talks by Douglas Scott (ancient astronomy) and Prof. David Stevenson (weather), stargazing (weather permitting), supper (free) to start - back by 10.30!
Sat 5 Sept, Gable End Theatre, Lyness: Bring In The Spirit
Sat 5 Sept, North Ronaldsay: The Thorfinn and the Hurricane
Westray and Eday: events advertised locally and on www.oisf.org

Saturday 5 September

10.00 am - 4.00 pm *King Street Halls, Kirkwall*
FAMILY DAY - DON'T MISS IT!
Steer the Mars Rover and model a planet. Find out about flowers for native bumblebees. Recognise rocks and make a foam fossil fish. Try a Raspberry Pi. See 3D printing in action. Play the 'Foodprint' game. Join the Supertasters with the broccoli challenge. Learn about life with microbes and build your own model bug. Use an infra-red spectroscope to identify mystery materials. Make magnificent molecules! Hot rolls and cold rolls and Orkney ice cream, and a new hazelnut shortbread. £4 & £2 for the day.
Supported by many kind people and lively organisations

10.00 - 12.00 noon *from Point of Ness, Stromness*
GEOLOGY OUTING
A walk along the West Shore to see the rocks formed in ancient Lake Orcadie, from 380 million years ago, led by the St Andrews University GeoBus team with Dr John Flett Brown from Stromness. Take appropriate footwear. Numbers limited: booking essential. £3 & £1.

10.00 - 11.00 am *Baptist Church, Kirkwall*
EXPLORING MARS AND VENUS
The cold and dry planet Mars, and the scorching and cloud-covered Venus, couldn't be more different - and yet each is a rocky planet fascinating in its own way. Dr Geoffrey A. Landis from NASA's John Glenn Research Center describes his work on recent missions and looks at exciting future concepts for exploring the two planets.

11.30 am - 12.30 pm *Baptist Church, Kirkwall*
FIRST LIGHT: THE TELESCOPE PIONEERS
Maarten de Vries tells of the Dutch spectacle makers and those who followed. George McPhee plays music of the time on digital church organ, harpsichord and harmonium with the sound of individual churches. Composers include Sweelinck and Frescobaldi.
Sponsored by e-availability

The One O'Clock Toast at the Peedie Kirk today: Gerry Meyer of The Orcadian, by Howie Firth

1.00 - 4.00 pm *Broad Street, Kirkwall*
VINTAGE RALLY
Orkney Vintage Club with cars, motorbikes, tractors and stationary engines, a tractor run starting off at 1.30 pm, plus electric cars, street food from 12 noon, and the Willowburn Valley Stompers at 2 pm.

2.00 pm - 3.00 pm *MacGillivray Room, Library, Kirkwall*
SINGALONG WITH MR BOOM
From the moon his ship he'll bring - just to see you dance and sing!
Sponsored by Pentland Ferries

2.00 pm - 3.00 pm *Stromness Library*
CHAR IN THE LOCH AND TROUT IN THE SEA
Dr Sandy Kerr of ICIT with new light on the question of whether Arctic char survived in Heldaale Water in Hoy from after the Ice Age into recent times, and Dr Malcolm Thomson with the first detailed study of sea trout in Orkney for more than 80 years. Tickets £3 & £1.

3.30 pm - 4.30 pm *Stromness Library*
BROUGHT TO LIGHT
What is light? Dr Michael Wharmby of Diamond Light Source, the UK's national synchrotron facility, tells its story with practical demonstrations for all the family to enjoy - and some to try at home. He explores how light is used to study everything from foot & mouth disease and polio to jet engines and renewable energy. Tickets £3 & £1.
Sponsored by

5.30 - 6.30 pm *Supper Room, Town Hall, Kirkwall*
UNBELIEVABLE: THE SCIENCE OF THE PARANORMAL
Dr Caroline Watt of Edinburgh University's Koestler Parapsychology Unit invites you to join her in experiments to find out more about dowsing, telepathy and psychic readings. Do such abilities exist? And how can we find out, one way or the other? Workshop with numbers limited. Tickets £5 & £3.

5.30 - 6.30 pm *Baptist Church, Kirkwall*
OUT OF 40
Two-thirds of the world's economic activity - and five-sixths of its innovations - is in 40 mega-regions. So, as they grow, will islands and rural areas become ever more marginalised? Dr Stanko Blatnik, physicist and social entrepreneur in Slovenia, says there is a solution: to create a new - virtual - inter-regional collaboration across Europe.
Sponsored by the Orkney Creamery - Orkney Ice Cream

7.00 - 7.30 pm *Broad Street, Kirkwall*
KIRKWall CITY PIPE BAND
with their final parade of the season.

7.45 - 10.00 pm *Town Hall, Stromness*
WEST SIDE CINEMA: NOSTALGIA FOR THE LIGHT
A hauntingly beautiful High in Chile in the Atacama Desert, the driest place on earth, astronomers from across the world observe the stars - and families of 'the disappeared' search for traces of their lost loved ones. Introduced by astronomer and writer Pippa Goldschmidt. Doors open 7.15. Tickets at door £5 & £3 (under 16). Certificate 12A.

8.00 - 9.00 pm *Town Hall, Kirkwall*
NIGHT SCHOOL: THE SCIENCE OF SLEEP AND DREAMING
Why do we need to sleep? What happens when we dream? And can we get a better night's sleep and learn from our dreams? Psychologist Prof. Richard Wiseman of Hertfordshire University, whose books have been translated into 30 languages, describes his research into sleep and dreaming.

8.00 - 12.00 midnight *Meet up at the Festival Club at The Reel*

Disclaimer: Orkney International Science Festival reserves the right to alter, amend or cancel the contents of this programme at its discretion or as circumstances may necessitate.

Sunday 6 September

11.15 am - 12.15 pm *St Magnus Cathedral*
SCIENCE FESTIVAL SERVICE
with Rev. Fraser Macnaughton and St Magnus Cathedral Choir.

One O'Clock Toast at the Peedie Kirk: Jack and Jim Twatt, early radio and television builders, by Dr Ragnhild Ljosland

2.00 - 4.00 pm *Harray Hall, Harray*
THE NEOLITHIC POTTERS
Andrew Appleby tells how he discovered how to use Orkney clay to make pottery similar to that of 5,000 years ago. Chef Sam Britten of the Lynnfield Hotel then serves up a Neolithic meal of Orkney produce. Talks and food £5 (which goes to the RNIB). Afterwards you can find out more and look around at Fursbreck Pottery.

2.00 - 3.30 pm *Pier Arts Centre, Stromness*
SOUNDS AROUND US
How do we hear? And how do spaces change the quality of sound and music? Prof. Clive Greated, engineer and musician, introduces acoustics while artist Dr Marianne Greated provides an accompanying exhibition with opportunities to explore sound. Tickets £3 & £1.

3.00 - 5.00 pm *The Reel, Kirkwall*
BRING IN THE SPIRIT
A combination of some of the great names in Scottish traditional song and music, in concert with the songs of the Burns country. Rod Paterson, Kirsten Easdale, Gregor Lowrey and Marc Duff. Tickets £15 & £12 also from The Reel.

3.30 - 4.30 pm *Pier Arts Centre, Stromness*
A RAINBOW OF COLOUR AND LIGHT
Prof. Roy Burdon looks at light and colour in art - where the colours come from in our perception and in the pigments of paint, the expressive use of primary and complementary colours, and light and colour as both form and subject. Tickets £3 & £1.
Supported by the Royal Society of Edinburgh

6.00 - 7.15 pm *Skaill House, Sandwick*
Dr John Cumming Memorial Lecture
THE ENCHANTRESS OF NUMBERS: THE POETRY AND PASSION

Ada Lovelace, born 200 years ago, set down the structure on which modern computing is based - and looked ahead still further, with the passion of her father, Lord Byron, to a vision of 'poetical science'. Howie Firth narrates, with readings and songs by Sarah Jane Gibbon, and Liz Ashworth provides a Georgian afternoon tea. Tickets £8 & £5.
With the support of The Cuminga Trust

8.00 - 9.30 pm *St Magnus Cathedral, Kirkwall*
OH, FOR A SHIP AND THE STARS BEYOND
The Mayfield Singers and Paisley Abbey organist George McPhee with music for voyagers for the centenary of the Norwegian writer Agnar Mykle and Einstein's general relativity with its radical new picture of time and space. Dave Grieve, Ragnhild Ljosland and Pippa Goldschmidt provide readings for both including selections from a new anthology.
Sponsored by Loganair

9 - 11 pm *Meet up at the Festival Club at The Reel*

BOOKING REQUEST FORM

| | £ | £ | No. at | No. at | Total | |
|---------------------------------|-------|------|--------|----------|-------|---|
| | Adult | Con. | adult | concess. | £ | p |
| Thursday 3 September | | | | | | |
| Opening Lunch & talks | £7 | £4 | | | | |
| Climate Change | £4 | £2 | | | | |
| Einstein's Universe | £4 | £2 | | | | |
| Let there be Light | £4 | £2 | | | | |
| The Shores of Titan | £4 | £2 | | | | |
| From the Deep | £4 | £2 | | | | |
| Friday 4 September | | | | | | |
| Volcano Watching | £4 | £2 | | | | |
| Fire and Ice: Faroe Islands | £4 | £2 | | | | |
| New Light on MS? | £4 | £2 | | | | |
| Exquisite Precision | £4 | £2 | | | | |
| The Light Side of Physics | £4 | £2 | | | | |
| Gene Cracked Cancer Code | £4 | £2 | | | | |
| Hydrogen for Orkney Power | £4 | £2 | | | | |
| Saturday 5 September | | | | | | |
| Geology Outing | £3 | £1 | | | | |
| Exploring Mars and Venus | £4 | £2 | | | | |
| First Light: Telescope Pioneers | £4 | £2 | | | | |
| Singalong with Mr Boom | £4 | £2 | | | | |
| Char and Trout | £3 | £1 | | | | |
| Brought to Light | £3 | £1 | | | | |
| Unbelievable: Paranormal | £5 | £3 | | | | |
| Out of 40 | £4 | £2 | | | | |
| Night School: Sleep & Dream | £4 | £2 | | | | |
| Sunday 6 September | | | | | | |
| The Neolithic Potters | £5 | - | | | | |
| Sounds Around Us | £3 | £1 | | | | |
| Bring in the Spirit | £15 | £12 | | | | |
| Rainbow of Colour & Light | £3 | £1 | | | | |
| Enchantress of Numbers | £8 | £5 | | | | |
| Oh, for a Ship and the Stars | £4 | £2 | | | | |
| Monday 7 September | | | | | | |
| The Stars Our Destination? | £4 | £2 | | | | |
| Sun, Moon & Ancient Stones | £4 | £2 | | | | |
| Sindbad Sci-Fi | £4 | £2 | | | | |
| Newton's Ghostwalk | £4 | £2 | | | | |
| Colours to Dye For | £4 | £2 | | | | |
| Beer Academy Dinner | £18 | - | | | | |
| Evening with Ernest Marwick | £5 | £3 | | | | |
| The Mathematics of Knots | £4 | £2 | | | | |
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