

BOOKING REQUEST FORM						
	£ Adult	£ Con.	No. at adult	No. at concess.	Total	
Sub-total from previous page	-	-	-	-	£	p
Tuesday 9 September						
Storing it under the Seabed	£4	£2				
Winter Light in Maeshowe	£4	£2				
Flowers of Native Islands	£4	£2				
Dragon in the Darkness	£4	£2				
Makers of the Viking Ale	£4	£2				
Calling the Fleet	£4	£2				
Kings and Vikings	£4	£2				
Wednesday 10 September						
New Light through the Pinhole	£4	£2				
Up There with Wind and Sun	£4	£2				
The Man who was Hamlet	£4	£2				
A Landscape of Limestone	£4	£2				
Ten Ways to Explain Universe	£4	£2				
Kakatitsi in Concert (under-16s)	£12	£10				
The Highland Park Ceilidh (children with parents)	£8	-				
	-	£4				
LecturePass - all £4 talks	£32	£24				
<i>(Please note that admission can only be guaranteed if passholders 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 VisitOrkney, 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!						
And remember the Molecule Hunt round the Kirkwall shops! See leaflets in the shops and on our website.						

Monday 8 September

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
WAS IT ALWAYS WITH US?

How may life have formed through the universe? By a coming-together of molecules or through a sudden creation? Prof. Chandra Wickramasinghe makes the case for a third possibility - that life was somehow always there, built in to the fabric of the universe.

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
OF SNOWFLAKES AND MINERALS

Why do all snowflakes have six arms? And gemstones sparkle? It's the symmetric arrangements of atoms in crystals, leading to other fascinating phenomena, says Dr Michael Wharmby from Diamond Light Source, celebrating the International Year of Crystallography.

The One O'Clock Toast at the Peedie Kirk today: singer and broadcaster Angus Findlater, by Ken Ross

2.00 - 3.00 pm *Town Hall, Kirkwall*
Donald Omand Memorial Lecture
ORKNEY THROUGH WATER, ICE AND FIRE

The record of the rocks shows some massive events in ancient Orkney, from lava flows and floods to scraping glaciers. Were these slow gradual processes - or something sudden and catastrophic? Geologist Dr John Flett Brown looks at examples from the distant past to more recent times, with possible explanations and uncertainties.

3.30 - 4.30 pm *Town Hall, Kirkwall*
THE STORY THE RAINDROPS TOLD

Two volcanic craters in Queensland, Australia, contain piles of sediment that have built up over 40,000 years. In that period the Earth has seen dramatic changes in climate, with extremes of wet and dry and hot and cold - could the layers provide clues to what happened? Mark Burrows of the Australian National University tells the story.

5.15 - 6.15 pm *Town Hall, Kirkwall*
THE MAN WHO READ THE ROCKS

Emma Paterson of Our Dynamic Earth tells the story of James Hutton, born in Edinburgh in 1726, who revolutionised the way we see the Earth and laid the foundation for the modern theory of plate tectonics.

Sponsored by the Heritage Lottery Fund

7.30 - 8.30 pm *King Street Halls, Kirkwall*
GATHERING GROATIES AND SEARCHING FOR SPINDLES

Inspired by Robert Rendall's *Orkney Shore*, Dr Yvonne Beale has spent a year in search of Orkney's native shells - spindles and sunsets, coos and those elusive groatie-buckies. She describes the shells and tells their stories.

Sponsored by Pentland Ferries

9.00 - 10.00 pm *King Street Halls, Kirkwall*
KNITTING WILD AND MATHEMATICAL

Binary bonsais, Fibonacci flowers, hyperbolic chanterelles ... Dr Julia Collins of Edinburgh University opens up a strange and beautiful new world of possibilities expressing mathematical patterns in plant forms through knitting.

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

Tuesday 9 September

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
STORING IT UNDER THE SEABED

Could we collect carbon dioxide in energy generation and store it underground in depleted oil and gas reservoirs? The Goldeneye Field in the Moray Firth is being studied. Dr Caroline Graham of the British Geological Survey explains background geology and ongoing research.

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
WINTER LIGHT IN MAESHOWE

How does it look, the midwinter setting sun in the Neolithic tomb? For how many days can we view it? Dr Charles Tait has been observing it since boyhood and in recent years setting up video and webcam. He tells the story and shows beautiful images of winter light.

The One O'Clock Toast at the Peedie Kirk today: botanist Dr Elaine Bullard, by Prof. Jon Side

2.00 - 3.00 pm *Town Hall, Kirkwall*
FLOWERS OF THEIR NATIVE ISLANDS

100 years ago Magnus Spence published his *Flora Orcadensis* and the botanist James Sinclair was born in Hoy. Julian Branscombe highlights the work of two great Orcadians; Patricia Long describes Magnus Spence, schoolmaster, botanist, geologist, antiquarian, meteorologist; and Terry Thomson recalls his uncle at the Bu.

Sponsored by the Orkney Creamery - Orkney Ice Cream

3.30 - 4.30 pm *Town Hall, Kirkwall*
DRAGON IN THE DARKNESS

Dragons are part of an ancient cosmology, with conflict of opposites, says Marko Frelih of the Slovene Ethnographic Museum. They're linked with eternity - hence gold. Could this explain the one in Maeshowe? Given in memory of Eoin F. Scott at 2013 Slovenian Science Festival.

5.15 - 6.15 pm *Town Hall, Kirkwall*
MAKERS OF THE VIKING ALE

How did they make it? From malt, say the Sagas, with herbs to flavour and preserve - juniper, yarrow and meadowsweet. Graham and Merryn Dineley, brewer and archaeologist respectively, have made an authentic Norse ale and identified sites of Viking brew houses.

7.30 - 8.30 pm *King Street Halls, Kirkwall*
CALLING THE FLEET

World War I radically changed communication at sea and for the Home Fleet in Scapa Flow. Prof. Tom Stevenson and Dorothy Brankin of the Museum of Communication in Burmtisland and Sandy Firth of Orkney Wireless Museum tell the story and operate early radio equipment.

9.00 - 10.00 pm *King Street Halls, Kirkwall*
Eoin F. Scott Memorial Lecture
KINGS AND VIKINGS: THE TRAIL OF DNA

Dr Jim Wilson of Edinburgh University takes you on a whirlwind tour of Orcadian and more exotic genetic lineages, from the Royal Stewarts to Princess Diana - and further back, possibly even to Kenneth MacAlpin by way of the 'Ultimate Viking' Sweyn Asleifsson and Jarl Sigurd the Stout who died 1000 years ago at Clontarf.

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

Wednesday 10 September

10.00 - 11.00 am *Pickaquoy Centre, Kirkwall*
NEW LIGHT THROUGH THE PINHOLE

Justin Quinnett, a world expert in pinhole photography, with a wealth of amazing images and dazzling demonstrations showing what can be done with the simplest materials - from an empty drinks can to a wheelie bin, from creating new artworks to taking pictures of the sun.

Sponsored by the IET and the Institute of Physics in Scotland

11.30 am - 12.30 pm *Pickaquoy Centre, Kirkwall*
UP THERE WITH THE WIND AND THE SUN

In August 1931 *The Orcadian's* reporter Agnes Shearer became the first Orkney resident to fly over the Pentland Firth. Later as the writer Ann Scott-Moncrieff, she created the character of Auntie Robbo, taking to the road in glorious adventures. Morag MacInnes marks the 100th year of her birth and Moya McDonald shows a film of early Orkney flights with Captain Fresson. Rose Pipes, co-ordinating editor of *The Biographical Dictionary of Scottish Women*, introduces.

Sponsored by Orkney Car Hire - James D Peace & Co

The One O'Clock Toast at the Peedie Kirk today: Garson Miller, engineer of the A9, by Murray Miller

2.00 - 3.00 pm *Town Hall, Kirkwall*
THE MAN WHO WAS HAMLET

Who was the lonely Prince of Denmark? And who was Shakespeare, born 450 years ago? Howie Firth points to a real Hamlet, and also an astronomical one linked to the Pentland Firth - and clues to the author.

Sponsored by e-availability

3.30 - 4.30 pm *Town Hall, Kirkwall*
A LANDSCAPE OF LIMESTONE - CHEMISTRY OF THE KARST

A great limestone plateau, from Slovenia to Croatia and Italy, has a vast network of deep caves with strange creatures. Dr Edvard Kobal of the Slovenian Science Foundation describes landscape, rock structure, and the food it produces: olives, dried meat, and ruby-red Teran wine.

5.15 - 6.15 pm *King Street Halls, Kirkwall*
TEN WAYS TO EXPLAIN THE UNIVERSE (IN YOUR KITCHEN)!

A fast-paced interactive show, ideal for all ages and interests. Dr Ken Skeldon and his Aberdeen University team take you on an exciting journey through the wonders of science, using everyday objects! From vaccines to black holes, electricity to anatomy - they'll present simple but lively demonstrations you can try for yourself.

7.30 - 9.30 pm *King Street Halls, Kirkwall*
KAKATSITSI IN CONCERT

The master drummers are back, with dancers to join the music and song, carrying with them the sunshine and sea air from the fishing community of Jamestown, Accra. Tickets £12 & £10; £5 for under-16s.

Sponsored by Pentland Ferries

8.00 pm - 12.00 midnight *Peedie Kirk Hall, Kirkwall*
THE HIGHLAND PARK CEILIDH

with Dave and company, Kakatsitsi, and Andy Munro, 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 5 to Wed 10. Lunches in the Peedie Kirk Hall. Soup and Orkney fare daily, £7. From 12.30 pm, with 5-minute Toast at 1 pm.

Exhibitions

BEATRICE WORKS

Orkney Museum, Kirkwall **Daily except Sun**
Artist Sue Jane Taylor depicts the people constructing the massive offshore wind farm on the Beatrice oilfield in the Moray Firth.
Mon-Sat, 10.30 am - 5 pm.

ORKNEY'S HISTORY

Pickaquoy Centre, Kirkwall **Daily except Sun**
Photographs of Orkney's past by Orkney Camera Club.

A TASTE OF ORKNEY

Town Hall, Kirkwall **Mon 8 - Wed 10**
Displays and tastings from Orkney Food & Drink. Meet the producers and try the products. 10.30 am - 3.30 pm.

THE COBLE AND THE KING OF FISH

Nautical School, Stromness **Daily except Sun**
The story of the salmon industry and its boats on the Moray coast.

ORKNEY WIRELESS MUSEUM

Kiln Corner, Kirkwall **Mon - Sat 10 - 4.30, Sun 2.30 - 4.30**
"An incredible experience" - Head of Radio, BBC Scotland.

FOSSIL AND HERITAGE CENTRE, BURRAY

Burray **Daily 10 - 5**
Fossils from Lake Orcadie and worldwide, geology, antiques.

ORKNEY MARINE-LIFE AQUARIUM, SOUTH RONALDSAY
Turn left to South Cara after 4th Barrier **Daily 10 - 6**
See fish and shellfish, and find out about rearing lobsters.

THE PIER ARTS CENTRE

Victoria Street, Stromness **Tues - Sat 10.30 - 5**
Modern art in a stunning harbourside setting.

FROM STROMNESS TO THE PUNJAB

Stromness Museum, Alfred Street, Stromness **Daily 10 - 5**
The story of Sir John Login in India. Plus superb maritime displays.

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.



ORKNEY ISLANDS COUNCIL



The Scottish Government



Homecoming Scotland 2014
homecomingscotland.com



UHI Millennium Institute



EventScotland



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2014

PROGRAMME

Wednesday 3 September: Eve of Festival Concert

7.30 - 9.00 pm *Town Hall, Stromness*
HOPE'S BEAUTIFUL DAUGHTERS
Songs of strength and struggle, of women north and south. Slovenian singer-songwriter Katarina Juvančič and jazz guitarist Dejan Lapanja with storyteller Tom Muir. Tickets £7 & £4.

Thursday 4 September

12.00 - 1.30 pm *Town Hall, Kirkwall*
OPENING, LUNCH AND LECTURE
Steve Jacobs, former chief scientist to the Discovery Channel, opens the Festival, followed by a light lunch of local fare served in Scandinavian style. Then at 12.30:

The Grimond Lecture THE IMPORTANCE OF THE UNKNOWN

To explore new territory, meet new challenges, see the world anew - in science, art and life - is The Clipperton Project's aim. Its director, Jon Bonfiglio, highlights the importance of exploring for individuals and communities across the globe. Tickets for lunch and lecture £7 & £4.

2.00 - 3.00 pm *Town Hall, Kirkwall*
SEEDS OF LIFE - IN DEEP SPACE

How did life on Earth develop? Prof. Chandra Wickramasinghe of Buckingham University pioneered the new science of astrobiology. The molecules of life, he says - even bacteria and viruses - form in deep space and are carried to planets by comets and meteorites.

Sponsored by the Orkney Creamery - Orkney Ice Cream

2.00 - 5.00 pm *from Palace Road, Kirkwall*
BUS TOUR: DISTILLING - THE THEORY AND PRACTICE

A unique opportunity to join experts from Scapa and Highland Park for special tours of both. Advance booking essential: over-18s only. Tickets £6 & £4. Free to IBD members and industry staff.

Organised by the Institute of Brewing and Distilling & sponsored by Highland Park and Scapa Distilleries and Maynes Coaches

3.30 - 4.30 pm *Town Hall, Kirkwall*
THE MATHEMATICS OF WHY I CAN'T GET A BOYFRIEND

How can a girl maximise her chances of meeting her Mr Darcy? Dr Trina Dinnis has it down to a fine art, with the romantic application of statistics. This talk could change your life or at least brighten your day. Lovelorn and eligible free (check website to see if you qualify).

5.00 - 6.00 pm *Town Hall, Kirkwall*
SCIENCE WITH WIZARD IV

Steve Jacobs shares a series of delightful demonstrations, to explain the true nature of scientific thinking, using common, everyday items. Young scientists and future wizards of all ages welcome. Be prepared to be challenged, laugh, be amazed, jump and duck for cover.

Sponsored by Ace Hardware

7.00 - 9.00 pm *The Reel, Kirkwall*
BEER ACADEMY DINNER

Join brewing experts Brian Eaton, Rob Hill and Chris Marchbanks for five platters of Orkney fare with selected Orkney ales and insight into master brewing skills. Over-18s only. Tickets £16 also from The Reel.

Organised by the Institute of Brewing and Distilling (IBD)

7.30 - 9.00 pm *St Magnus Church, Birsay*
AN ORKNEY NIGHT

Traditional music & song; tunes by Gordon Harvey & others; humorous poems; some fine Orkney performers. Harvey Johnston comperes.

Admission by donation - proceeds to St Magnus Church Birsay Trust

7.30 - 9.00 pm *Town Hall, Kirkwall*
**The John D. Mackay Memorial Lecture
LOOK NORTH FOR HOUSES**

How can Orkney's new houses be built? Broadcaster and writer Lesley Riddoch of Nordic Horizons and the book *Blossom* highlights Scandinavian approaches in technology and design. Architect Leslie Burgher and builder Stephen Kemp discuss. Liam McArthur chairs.

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

Friday 5 September

9.30 am - 12.30 pm *Highland Park Distillery, Kirkwall*
Miniature Whisky School: BARLEY, MALT AND MALTING

What qualities in barleys make them suitable for malting? What happens during malting? What malts are best for brewing and for distilling? Industry experts explain. Numbers limited to 15 people. Advance booking essential (over-18s only). Tickets £12.

Organised by the Institute of Brewing and Distilling

10.00 am - 12.30 pm *Supper Room, Town Hall, Kirkwall*
THE FOOD OF INDIA

See how to make it, learn its history, and enjoy tasting, with cookery writer Priya Wickramasinghe. Tickets £5 & £3.

10.00 - 11.00 am *King Street Halls, Kirkwall*
THIS IS HOW THEY SAY IT HAPPENED

What's the essence of a Norse saga? Dr Karen Bek-Pedersen looks at *Njáls saga*, one of the greatest stories ever told. It weaves a tragic and merciless chain of events through Iceland to Orkney and Ireland, with the fate of Earl Sigurd and his raven banner, 1000 years ago.

11.30 am - 12.30 pm *King Street Halls, Kirkwall*
THE PHYSICS OF THE WEB OF FATE

The story of a vision in Caithness of the battle of Clontarf, long remembered in North Ronaldsay. Its interpretation, says Howie Firth, sheds light on the development of physics and the nature of time itself.

The One O'Clock Toast at the Peedie Kirk today: Earl Rognvald Kali, by Dr Ragnhild Ljosland

2.00 - 3.00 pm *King Street Halls, Kirkwall*
METALS IN MEDICINE

Metals play a key role in the processes of life. Iron carries oxygen in our blood, and magnesium lets green plants use the energy of sunlight. As Dr Allison Kirsop describes, metals are also used in medicines.

Sponsored by Karger, Medical and Scientific Publishers

3.30 - 4.30 pm *King Street Halls, Kirkwall*
MOLECULAR SWITCHES

Almost all aspects of biology are regulated similarly. And if something goes wrong, diseases such as cancer or Parkinson's can result. Prof. Karim Labib of a new research centre at Dundee University explains.

3.30 - 4.30 pm *MacGillivray Room, Library, Kirkwall*
SINGALONG WITH MR BOOM

His spaceship's quick - like the A9 to Wick!

Supported by Talisman Sinopec Energy UK Limited

5.15 - 6.15 pm *King Street Halls, Kirkwall*
THE PHYSICS OF THE HULA HOOP

It's to do with circular motion and spin - and gyroscopes as well, says Dr Trina Dinnis, an electronics engineer by training who makes and sells her own hula hoops.

Sponsored by Loganair

7.00 - 8.00 pm *Supper Room, Town Hall, Kirkwall*
SPIRIT, LAND AND PLACE

Alan Winchester, distilling manager of Chivas Brothers, tells the story of the Eday peat industry which once supplied various mainland Scottish distilleries. Dr Reginald Agu of the Scotch Whisky Research Institute describes the use of cereals in west Africa - maize, sorghum and millet - and their potential for the future. Over-18s only.

Organised by the Institute of Brewing and Distilling

8.30 - 10.00 pm *Orkney Arts Theatre, KGS, Kirkwall*
WAVE AND TIDE - THE YEAR AHEAD

EMEC's managing director, Neil Kermod, introduces speakers from key sections of the new marine renewables industry - developers, support service providers, researchers - to give a picture of where it's at and where it's going in the year ahead.

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)

Shearwater - Mon 1 Sept Flotta, Thurs 4 Stronsay, Fri 5 Eday. Wednesday 3 Sept, Gable End Theatre, Lyness: Lorna Summers, The Salmon Cobles of the Moray Firth. 8.00 pm.
Friday 5 Sept, Hoy Kirk: 5.45 pm ferry from Stromness for astronomy talks and photos by Callum Potter and Maarten de Vries, stargazing (weather permitting), supper (free) to start - and back by 10.30!

Saturday 6 September

10.00 am - 4.00 pm *King Street Halls, Kirkwall*
FAMILY DAY - DON'T MISS IT!

Make a virtual dive to the seabed - see how many animals and plants you recognise. See microscopic animals feeding in the sea. Play the North-West Passage game - trace John Rae's Arctic route. Hear the humpback whale. Check the Earth's age, and explore earthquakes and volcanoes. Try the robot challenge and the electronics workshop.

Make a sycamore dragonfly and a moss garden. See the great Food Technology Roadshow. Work out Perfect Portions for rice and pasta. Handle synthetic human tissues and learn about anatomy. See a Bloodhound supercar replica - build and race balloon car kits. Make a pinhole camera. Crater the moon and astronomy activities. Try the flight workshop. Find out about renewable energy for your home or community. Hot roast salmon rolls, Orkney ice cream selection.

Supported by many kind people and lively organisations

10.00 - 11.00 am *Baptist Church, Kirkwall*
A SOLAR-POWERED SCOTLAND?

Converting sunlight into electricity is becoming simpler and cheaper using organic materials. Prof. Graeme Cooke of Glasgow University describes state-of-the-art photovoltaic systems and how they compare with other renewable sources, and possible opportunities ahead.

11.30 am - 12.30 pm *Baptist Church, Kirkwall*
MUSIC FOR GALILEO'S BIRTHDAY

Maarten de Vries looks at highlights from the life of Galileo, born 450 years ago this year, and George McPhee plays music of the time on electronic church organ and harpsichord with the sound of individual Italian churches: including Cavazzoni, Frescobaldi and Sweelinck.

The One O'Clock Toast at the Peedie Kirk today: The Northern Lighthouse Board, by Cameron Stout

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, and the Willowburn Valley Stompers at 2 pm.

2.00 - 3.00 pm *Nautical School, Stromness*
THE ORKNEY YOLE

It evolved as a small inshore working vessel, to carry goods and passengers, and catch fish. It was designed to be seaworthy, and also small enough to be hauled up a beach by half a dozen men. Len Wilson tells the story of the boat that was till not so long ago the islanders' motor-car and pick-up truck of the sea. Tickets £5 & £3.

3.30 - 4.30 pm *Nautical School, Stromness*
THE SALMON COBLES OF THE MORAY FIRTH

The wooden coble was a strong workboat, able to carry a harvest of salmon or to tow heavy nets, shaped with a flat bottom and high bow to cope with local sea conditions, and clinker built. Lorna Summers is leading a new project to build a coble at Portsoy and tells the story of the boat itself and the industry it served. Tickets £5 & £3.

In association with the Scottish Traditional Boat Festival

5.30 - 6.30 pm *Baptist Church, Kirkwall*
AND THROUGH THE DARK THE BRILLIANT LIGHT

Howie Firth tells the story of James Clerk Maxwell, a brilliant physicist and a humorous and warm-hearted man. Andy and Flora Munro and Katarina Juvancic and Dejan Lapanja sing some of Maxwell's poems set to music, and Lesley MacLeod (violin) and Catherine Browne (cello) play music by Sir John Clerk of Penicuik.

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

8.00 - 10.00 pm *King Street Halls, Kirkwall*
SHEARWATER: TALES OF SEABIRDS AND HUMANS

A highly acclaimed show of music and stories combining different journeys: migrating birds, a young man's coming of age, a gull-woman, and a mythical love affair with the northern lights. Something for all the family, to delight in and remember. Tickets £6 & £4.

8.00 - 10.00 pm *Town Hall, Stromness*
WEST SIDE CINEMA: ¡VIVAN LAS ANTIPODAS!

A hauntingly beautiful film with scenes from opposite ends of the earth; Patagonia to Lake Baikal, Botswana jungles to volcanic Hawaii. Doors open 7.30. Tickets at door £5 & £3 (under 16). Certificate 12A.

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

Sunday 7 September

11.15 am - 12.15 pm *St Magnus Cathedral*
SCIENCE FESTIVAL SERVICE

with Rev. Fraser Macnaughton and St Magnus Cathedral Choir.

The One O'Clock Toast at the Peedie Kirk today: Margaret Manson Graham, nurse in Calabar, by Patricia Long

2.00 - 5.00 pm *from Palace Road, Kirkwall*
THE FOSSILS OF LAKE ORCADIE

Board the bus for the Fossil Centre with geologist Dr John Flett Brown and naturalist Julian Branscombe and see landscape and wildlife en route. Hear how the Centre's fossils formed in ancient Lake Orcadie; view its new WWI exhibition. Tickets (including cup of tea) £7 & £5.

Organised by the Fossil Centre and Orkney Nature Festival. Sponsored by Stagecoach North Scotland

2.00 - 3.30 pm *Pier Arts Centre, Stromness*
WHEELS OF FORTUNE

Artist Dr Marianne Greated and engineer Prof. Clive Greated look at small-scale hydro-power in Scotland, from the early click mills and vertical water wheels to today's generating systems. Tickets £5 & £3.

3.30 - 4.30 pm *Pier Arts Centre, Stromness*
NATURE INTO ART: FOR PLEASURE AND KNOWLEDGE

Prof. Roy Burdon looks at how plants and birds have been portrayed from Ice Age times to the present Digital Age, herbals to Renaissance art, to the golden age of illustrated natural history books and 20th century artists concerned with conservation. Tickets £5 & £3.

Supported by The Royal Society of Edinburgh

6.00 - 7.15 pm *Skaill House, Sandwick*
**Dr John Cumming Memorial Lecture
NEW PATHS TO LIGHT**

William Balfour Baikie, explorer of the Niger, who died 150 years ago, laid the foundations for the modern city of Lokoja. Sheila Garson and Tom Muir tell of his life and travels. Theophilus Oghemhe and Dr Reginald Agu give a Nigerian perspective. Then a Victorian afternoon tea with a Nigerian flavour from Liz Ashworth. Tickets £8 & £5.

With the support of The Cuminga Trust

8.00 - 9.30 pm *St Magnus Cathedral, Kirkwall*
THE ICE-GREY RIVER AND THE FIRE IN THE NIGHT

The Mayfield Singers and Paisley Abbey organist George McPhee with music from the old northern sea-route from Iceland to Ireland, and Norway in between. Dave Grieve and Ragnhild Ljosland read from the dramatic and moving *Njáls saga* from 13th-century Iceland.

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

Wednesday 3 September						
Hope's Beautiful Daughters	£7	£4				

Thursday 4 September						
Opening, Lunch & Lecture	£4	£2				
Seeds of Life - in Deep Space	£4	£2				
Distilling - Theory and Practice	£6	£4				
Mathematics of Boyfriend	£4	£2				
Science with Wizard IV	£4	£2				
Beer Academy Dinner	£16	-				
Look North for Houses	£4	£2				

Friday 5 September						
Miniature Whisky School	£12	-				
The Food of India	£5	£3				
This is How They Say	£4	£2				
Physics of Web of Fate	£4	£2				
Metals in Medicine	£4	£2				
Molecular Switches	£4	£2				
Singalong with Mr Boom	£4	£2				
The Physics of the Hula Hoop	£4	£2				
Spirit, Land and Place	£4	£2				
Wave and Tide - Year Ahead	£4	£2				

Saturday 6 September						
A Solar-Powered Scotland?	£4	£2				
Music for Galileo's Birthday	£4	£2				
The Orkney Yole	£5	£3				
Salmon Cobles of Moray Firth	£5	£3				
And Brilliant Light	£4	£2				
Shearwater	£6	£4				

Sunday 7 September						
Fossils of Lake Orcadie	£7	£5				
Wheels of Fortune	£5	£3				
Nature into Art	£5	£3				
New Paths to Light	£8	£5				
The Ice-Grey River	£4	£2				

Monday 8 September						
Was It Always With Us?	£4	£2				
Snowflakes and Minerals	£4	£2				
Orkney: Water, Ice, Fire	£4	£2				
Story the Raindrops Told	£4	£2				
The Man who Read the Rocks	£4	£2				
Gathering Groaties	£4	£2				
Knitting Wild & Mathematical	£4	£2				

continued overleaf						
Look for updates on our website www.oisf.org						