

NEW ZEALAND INTERNATIONAL SCIENCE FESTIVAL

5 - 13 JULY 2014, DUNEDIN, NZ



LEAVE BORING BEHIND

TICKETS ON SALE FROM 9TH JUNE



www.scifest.org.nz
www.facebook.com/nzscifest

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www.DunedinNZ.com

Welcome message from Mayor Dave Cull



The NZ International Science Festival plays a very special role in our community, bringing together many different organisations to celebrate something that is at the core of our everyday lives – science.

The ninth festival will again be hosted in Dunedin, and we are proud of its status as the only science festival in New Zealand. We are a city of science and education, and the perfect place for a celebration of science, innovation and technology is here in Dunedin.

I extend a warm welcome to our international and national guests and trust that you enjoy your stay in Dunedin and leave inspired by the support for science and excellence demonstrated by residents here.

The Dunedin City Council is proud to support this event, alongside the many other generous sponsors, volunteers, organising committees and the wider community that get in behind the festival. From the smallest kindergarten to large organisations, I am excited when I see the promotion and celebration of science and education in our city in so many different ways, and I encourage everyone to look for an event to be a part of this year.

Dave Cull
Mayor of Dunedin

Welcome message from the President



The New Zealand International Science Festival in 2014 will be a community celebration of global science, innovation and technology. We know our local and national communities look forward to the festival and we know that they will be deeply engaged by the excellent global and local science that is on offer.

This festival is for our communities - those with no previous knowledge or experience of science and also those who have been developing a taste for what the festival has to offer. People of all ages experience science through hands-on activity, colourful demonstrations, entertaining talks and educational workshops. The complex ideas within science, technology and the environment are turned into appealing subjects that people can talk about without feeling intimidated. Very importantly, focus is placed on activities for children, to excite them early about science.

On behalf of the Executive I offer sincere thanks to our major funders, the University of Otago, the Dunedin City Council and the Otago Community Trust. Without your support this festival would not be possible. Our thanks also to the many organisations that have provided grants and sponsorships. Your generous contributions are gratefully acknowledged.

Our thanks also to the British High Commission, the South African Commission, the Otago Museum, Cooke Howlison Toyota, and Mitre10 Mega for their support in bringing our guests to Dunedin; to our presenters and contributing organisations that collectively make up an exciting programme of events; and to our volunteers who have donated their time to help us out.

On a personal note, I would like to thank all members of the Executive for their dedicated enthusiasm, ideas, advice, and encouragement. It has been fantastic to work with you. Dunedin is fortunate to have people with such passion to promote science and technology. Finally, a very special thank you to our Festival Director, Chris Green and his team for their outstanding efforts in putting together such a diverse and interesting programme of events that will both entertain and educate. There is something for everyone, from the very young to the everyday person. Come and enjoy the many rewarding events that the festival offers.

Michele Coleman
President, New Zealand International Science Festival

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Sharklab '14: Why Sharks Matter

For those of you who picked up a copy of this programme early: our competition "Sharklab '14: Why Sharks Matter" runs until June 22nd!

Get your thinking caps on and your creative juices flowing, and be in to win a GoPro outdoor camera kit - Thanks to **The Photo Warehouse**.

And if you're reading this after the deadline: don't worry, there's much more sharky-ness awaiting you during the festival. Visit www.scifest.org.nz/sharks to see some of the entries, and get yourself in the mood for your big Marine Science Day on July 13th. **Read more on page 24**



You can buy tickets for all paid events from www.ticketdirect.co.nz. Children's tickets for 15 years and under. **Hint:** use the self-print option to save some \$\$.

Many of our free events have limited numbers, so follow the booking instructions detailed for each event. Door sales will be available if events are not sold out. Check out our website www.scifest.org.nz for all the information.

Tickets for all kids' events at Workshop Central must be picked up by July 4th. See details on page 14.



Getting there

Most venues are centrally located and accessible by foot or by bus. We encourage all Science Festival visitors to use public transport.

To find your way around, see page 11.



Age restrictions

We want every visitor to have the best possible Science Festival experience. That's why most of our events carry a minimum age recommendation. We ask parents to bear these in mind when booking events for their children.

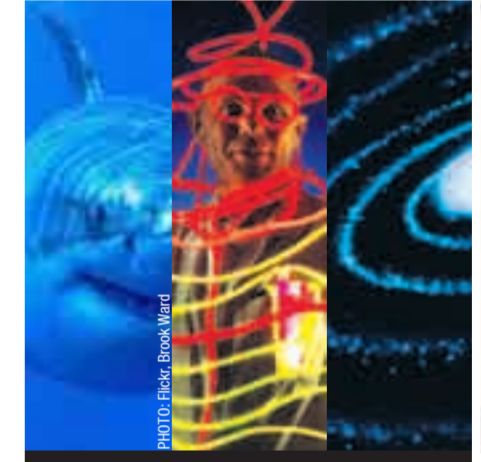
Some events can only be attended by adults. These events are marked 18+ and have strictly enforced age limits.

Your guide to this programme



Science Festival Guests
Pg 4

The festival highlights you don't want to miss:
Pg 5



All events
Pg 6-13 & 16-25



Science Festival venues
Pg 11



Kids' activities overview
Pg 14



SciFest X-treme
Pg 15



Leave Boring Behind!
Otago School of Medical Sciences Photo Competition

Otago Art Society | Dunedin Railway Station
 10 am to 4 pm 5-13 July | Free Entry





Dr Bunhead

Tom Pringle (otherwise known as Dr Bunhead) is a zany Edinburgh based science educator bringing audiences face to face with the silly, crazy, dirty, dangerous and magnificent side of science. Tom has been a globe-trotting freelance science communicator for almost 20 years. He has an international reputation as a pioneer of performance-science shows and immersive training programmes in science communication and professional development for school teachers. Tom previously attended the New Zealand International Science Festival in 2000, and this time, he is supported by Mitre 10 MEGA. Don't miss Dr Bunhead's shows on **July 9th and 12th!**



Ryan Johnson

Kiwi expat Ryan Johnson is a marine explorer, shark scientist and wildlife documentary film-maker for the National Geographic channel. He has been researching and tracking great white sharks around the world for the past 15 years. Based in South Africa, Ryan aims to give an unprecedented insight into the work and discoveries of marine science through initiatives like real-time animal-tracking websites and television series such as *Shark Wranglers*, thus educating and inspiring a new generation of marine scientists. Come to see Ryan Johnson's presentation on **July 10th**, and watch him in action on **July 13th!**



Prof Terrence J. Collins

Prof Collins, PhD, Hon FRSNZ, is the Teresa Heinz Professor of Green Chemistry and the Director of the Institute for Green Science (IGS) at Carnegie Mellon University in Pittsburgh, Pennsylvania. He was born and raised in Auckland and is a citizen of both New Zealand and the United States. During his presentation on **Tuesday July 8th**, Terry Collins will share overarching concepts that help us all to think how we must adapt to deal with sustainability. Terry Collins has been funded to New Zealand by the Science Divisions of the University of Otago and the University of Auckland.



James Piercy

James Piercy is a UK-based science communicator with 'Science Made Simple'. He has a degree in chemistry and MSc in science communication and has been involved in writing, producing and delivering science shows, workshops and dialogue events for wide-ranging audiences since 1995. In 2011, James suffered a traumatic brain injury in a car accident. Having made a 'phenomenal' recovery, he now shares his extraordinary journey to recovery, exploring what we know about the brain and uncovering the 'hidden disability' which is head injury. James Piercy's visit to the New Zealand International Science Festival has been made possible with the generous support of the Otago Museum. Catch James' shows at the Otago Museum on **July 7th!**



Dr Graham Walker

Dr Graham Walker is a research fellow at the Australian National Centre for Public Awareness of Science at the Australian National University. Dr Graham has been performing science shows for the past 13 years and is one of two people in the world with a PhD in science show performance. Dr Graham's 'Big Science ShowOff' on **July 6th** promises lots of audience involvement, laughs, learning, liquid nitrogen and exciting experiments. His action-packed show is a celebration of science. Dr Graham Walker's visit to the New Zealand International Science Festival has been made possible with the generous support of Cooke Howlison Toyota.

You can buy tickets for all paid events from www.ticketdirect.co.nz Door sales will be available *if events are not sold out*. Many of our free events have limited numbers, so follow the booking instructions detailed for each event. Check out our website www.scifest.org.nz for all the information.

The shows you can't miss



Different BANGS



Dr Bunhead's Mitre 10 MEGA DIY Family Edition



Grown-ups: Science of Whisky and Great Fermentations



Dr Bunhead's Blast Off

Big Days Out



Fish & Ships Marine Science Day



BioBlitz Exploring Dunedin's wild side



Emergency Services Day @ Otago Museum



Science Expo @ University of Otago

IT'S TIME TO RELAX!
Greetings From Kingsgate Dunedin
What was the last time you & your family were in Dunedin? What do you mean you have never been? Check out this great special offer!

AUTUMN AND WINTER SPECIAL
\$129 INC BREAKFAST
AND WE WILL GIVE YOU A COMPLIMENTARY PASS TO THE MOANA POOLS

KINGSGATE HOTEL

...and Family Nights In



Big Night In Family Quiz Night



The Big Science of Sport Night



Dining in the Dark for the whole family



Shark Night at the Movies From St Clair to South Africa

Southern Regional Final
Saturday, 5 July, 9.30am – 4.00pm
St David Lecture Theatre, University of Otago

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MORE INFORMATION THROUGH EUREKA.ORG.NZ

Cooke Howlison Toyota has great pleasure in bringing Dr Graham Walker to the 2014 NZ International Science Festival.

Cooke Howlison Toyota

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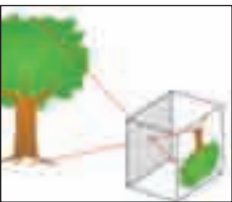
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KIDS



Just Like Magic!
Pinhole camera and simple cyanotype photographic workshop with tutor Rachel Allan. In association with the Laurence Aberhart ANZAC photographic exhibition and the Science Festival.

1pm-3pm
Dunedin Public Art Gallery, The Octagon
Limited numbers \$5 cash only (no Eftpos). Suitable for 9-year-olds and over.



Super Inventions Discovery Trail
Uncover the history of the world's science heroes on our Super Inventions Discovery Trail. Suitable for primary school children.

Open during library opening hours from July 5th-12th
All Dunedin Public Libraries
Free, no bookings required.

ALL AGES



Fight Like a Physicist @ Festival HQ
What do karate and physics have in common? A lot more than you think! Let some Queen's High School girls and their enthusiastic teacher show you why the laws of physics are so much easier to learn through karate. Have a go yourself, and you might just take home the key to a career as a ninja!

12:30pm-1:15pm
Wall Street Mall, George Street
Free, no bookings required.



EUREKA! Sir Paul Callaghan Science Communication Awards
The EUREKA competition is open to secondary school and undergraduate tertiary students. Watch the regional finals, in which up to 24 young people compete to win a place in the national finals of the Sir Paul Callaghan award which recognises excellence in science communication.

9:30am-4pm
St David lecture theatre, University of Otago
Free, no bookings required.



Science Expo at the University of Otago
Be inspired, be amazed and experience the hands-on Science Expo at the University of Otago. An exciting range of activities for all ages that will beat the boredom. From analysing DNA to understanding flavours to 3D printers and everything in between.

12noon-6pm
St. David Lecture Theatre Complex, corner St David & Cumberland Streets, Dunedin
Free admission, bookings necessary for some activities – refer to ad on page 7.



Orokonui @ the Octagon: Pest Fest

Meet passionate conservationists and interpret prints in tracker tunnels. How does our perception of these animals' behaviour affect how we choose to eradicate them? Learn how each trap is designed with specific pest psychology in mind. Suitable for all ages.

Children under 6 yrs must be accompanied by an adult.
10am-12noon
The Octagon
Free, no bookings required.



Orokonui @ the Octagon: The Power of Poo

The grossest with the mostest! How does poo support life on Earth and how can we use it better? Discover how poo helps to save endangered species and how you can become a poo detective. Learn how poo makes things grow and make your own pretend poo bomb full of native seeds to take home.

Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
1pm-3pm
The Octagon
Free, no bookings required.



Different BANGS Chemistry Show

A 'show and tell' science show with a magician thrown in! Suitable for ages 11-16.

11am AND 2pm
Allen Hall Theatre, University of Otago Campus
Adults \$10 | Children \$5
Families (2+2) \$20
Bookings essential.
Book online www.ticketdirect.co.nz



Big Night in Family Quiz Night @ Festival HQ

Join Dr Graham as he shows you some of the astonishing things that can be achieved with weird substances. Find the answers that will tell you just how much science is hidden in our everyday lives. Get the family together to have a whole heap of fun, get involved and see stuff you can try at home... and a fair bit you shouldn't! Presented with the support of Cooke Howlison Toyota.

6:30pm-8pm
Wall Street Mall, George Street
Free, no bookings required.
Seating on a first in first served basis.



Creatures of the Night

Join us for a night-time wander through the Botanic Garden and Water of Leith to catch a glimpse of Dunedin's nocturnal wildlife. From owls to eels, you'll be amazed at what critters live in our own backyard! Children under 15 must be supervised by an adult.

Make sure you wear sufficient warm clothing and appropriate footwear for walking along the river bank. Bring your (head) torches along, too.
6pm-7pm
Meet at the Gore Place gates, off Dundas Street, Botanic Garden
Free, bookings essential.
E: dcc.govt.nz or Ph: 03 477 4000 to book.



Leave Boring Behind Photo Competition

A returning festival favourite. View the artwork from the Otago School of Medical Sciences photographic 'Leave Boring Behind' competition. See photographs from staff and students and find out for yourself that science is exciting.

10am-4pm (every day of the festival)
Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



LEGO

Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.

10am-5pm (every day of the festival)
Dunedin Public Art Gallery, The Octagon
Free, no bookings required.



Art and Anatomy Project

Exhibition: Artists and scientists work together to create art. A cooperation between the University of Otago and Otago Polytechnic.

10am-4pm
Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings necessary.



Astronomy at the Observatory

Come along and see Mars, Jupiter, Saturn, stars, nebulae, and distant galaxies (weather permitting)!

7:30pm onwards
The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn
\$5 adult, \$3 child
Ph 027 663 1711
or E: dunedin.astronomy@gmail.com for more info.



University of Otago Science Expo

St David Lecture Theatre Complex
corner St David and Cumberland Streets
5 July, 12noon – 6pm; 6 July, 9am – 3pm
All welcome, entry is free

Further information can be found at
www.otago.ac.nz/scifest



ANATOMY

Anatomy of the University Expo
Come along to our interactive display and discover just how fascinating anatomy is! Witness dissections of a deer heart and a lamb's brain, paint your "insides" into a T-shirt, and see how your bones, muscles and organs all fit together.
Heart dissections: Saturday 5 July and Sunday 6 July, 1pm
Brain dissections: Saturday 5 July, 3pm; Sunday 6 July, 11am
Bookings are essential (maximum 40 participants per hour. No cameras or other video recording devices are permitted in the museum.)
Saturday 5 July, 1am and 2:30pm; Sunday 6 July, 10am and 1pm
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please contact the Museum Curator: 479 7361 or chris.smith@university.otago.ac.nz

ANATOMY

The heart of the matter
How does your heart work to pump blood around your body? What does its hard working muscle look like under a microscope? This hands-on workshop involves dissection so is not for the squeamish. Do you have the heart for it?
Bookings are essential.
Monday 7 July, 10am – 12 noon
Restricted to 12 years and over (maximum 20 participants)
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please email: kathy.mccoslin@university.otago.ac.nz

ANATOMY

The Amazing Race: Journey to the mouth
What do the womb and the ovaries really look like? This fascinating workshop will trace the journey of a sperm through the female reproductive system to where it unites with an egg. This workshop includes dissection, so the squeamish need not apply! Do you have the gonads for it?
Bookings are essential.
Monday 7 July, 2pm – 4pm
Restricted to 14 years and over (maximum 20 participants)
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please email: kathy.mccoslin@university.otago.ac.nz

ANATOMY

Who dunnit?
You will gather the clues and analyse the evidence using scientific techniques, working together to solve the mystery of who dunnit. Start thinking like a real forensic scientist!
Wednesday 9 July, 3pm – 4pm; Thursday 10 July, 9:30am – 10:30am
Restricted to 4 – 12 year olds (maximum 20 participants)
Venue: Dunedin Public Library
To book please email: blaw.phd@university.otago.ac.nz

ANATOMY

Anatomical Body Painting
Get creative and learn a little bit about how your body works. All materials provided.
Tuesday 8 July, 9:30am – 10:30am, 1:30pm – 2:30pm
Suitable for primary school children (maximum 20 participants)
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please email: kathy.mccoslin@university.otago.ac.nz

ANATOMY

Meet your skeleton
Say hello to your skeleton at this fun-filled interactive workshop.
Tuesday 8 July, 11am – 12noon, 3pm – 4pm
Suitable for primary school children (maximum 20 participants)
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please email: kathy.mccoslin@university.otago.ac.nz

ANATOMY

The anatomy of a crime scene
Learn how to become a real forensic investigator. A mock crime has been committed, find out how our human anatomy – from our fingerprints to our skeletons – helps check we can interpret and analyse using forensic science, and then find out who committed the crime.
Monday 7 July and Friday 11 July, 4:30pm – 6:30pm
Restricted to 12 years and over (maximum 42 participants)
Venue: Dept of Anatomy, ground floor, Linda Ferguson Building, Great King Street
To book please email: kathy.mccoslin@university.otago.ac.nz

BIOCHEMISTRY AND GENETICS

Meeting into DNA
Ever noticed how often the word 'DNA' is used in popular culture? It shows like 'CSI', DNA analysis is often used because people are now more familiar with its power. There are many ways DNA can be analysed to provide information about people, so if you would like to find out the various ways in which DNA can be investigated, come and have a try at some of the techniques you see on TV!

BOTANY

Plants 'N' Us
From and bloom merchants bombard us with the promises of climate change, ocean acidification, global warming, algal blooms, species extinction, etc. etc. Stop! Look about you. We are surrounded by the silent sentinels who strive to save us from ourselves: the myriad plant-life forms which can supply our every need – if only we understood them and treated them with the respect they deserve!

BRAIN HEALTH RESEARCH CENTRE

Reliable brain walk-through
Walk through the brain and see what's on your mind... at 'N' your mind.

CHEMISTRY

Salt rocks... one lump or two?
Winners from the National crystal growing competition will take pride of place among you. A giant salt molecule... leaping, but no climbing allowed.

CLOTHING AND TEXTILE SCIENCES AND DESIGN

Challenging environments made possible with clothing, textiles, design
Activities include identification of dyes or materials used in extreme environments by touch and observation.

COMPUTER SCIENCE

Painting Faces with Faces
See your face painted as a mosaic of tiny faces. Add your face to the collection of likes for painting.

COMPUTER SCIENCE

3D printing
A 3D printer actually makes things by 'printing' layers of plastic to build anything we can design. Come and see this happening. A few lucky people will get to keep.

COMPUTER SCIENCE

The Octagon - cooperative sculpture
Create sculptures in the virtual world behind our computer screens. Several people can work on the same piece from different computers.

COMPUTER SCIENCE

The Watching Window
A virtual reality display where you can see images in full 3D without glasses.

FOOD SCIENCE

A taste for food
Come along to explore your ability to discriminate flavours and to gain an understanding of why your likes and dislikes are unique. You will also have the chance to 'get out' with our fruit flavoured breads and test your knowledge with our quiz 'pleased to meet you - how you guess my name?'

GEOLOGY

Otago Geological Students Society
What rocks your world? Volcanoes, Earthquakes, and lots of rocks.

HUMAN NUTRITION

Our two favourite food groups - Sugar and Fat
Sugar and fat have received lots of recent media attention in relation to obesity and heart disease. Take the opportunity to quiz the fat and sugar contents of some common foods and drinks. For the brave, we will have an analyser to calculate their body fat percentage. Calculate your body mass index (BMI) and compare this with some of the All Blacks.

INFORMATION SCIENCE

What's the right device for controlling virtual wheels?
How difficult is it to drive a power wheel chair? This simulator lets you try different ways of driving one.

INFORMATION SCIENCE

Let's tidy up my place - Communication in Virtual Reality
Connected virtual reality systems allow for novel ways of communication that we'd like to explore. Together with a second player (bring a friend!) you tidy up a messy virtual house.

INFORMATION SCIENCE

Hands, Brains, and Memory
Information Science, Neurology, Psychology and Physiotherapy are working together to help people with motor movement issues by utilising new forms of Augmented Reality. It's interesting for the rest of us too! Put your hands into our virtual world, play with virtual objects and let us know how it feels.

MARINE SCIENCE

Science in the Sea
Visit Marine Science. Discover kina, help and other marine organisms that scientists are studying. Find out how we study life under the waves with remote operated underwater vehicles and research vessels and test your knowledge of our local waters - be in to win a sea-baby guide!

MATHS AND STATS

Probability, punts and ping pong balls
Discover the illogical order in randomness. See probability theory realised right before your eyes. Discover deep mathematical theorems behind the everyday. Try your hand at a simple problem that has never been solved.

MEDICAL LABORATORY SCIENCE

How are diseases detected in your body?
Medical Laboratory Science trains people to do exactly this... over 70% of disease diagnosis requires laboratory testing. You could be an integral part of this, so come along and learn more!

MICROBIOLOGY & IMMUNOLOGY

What is vaccination and why do we need it?
There's history and science behind vaccines... Learn how vaccines have saved and changed human life!

PHARMACOLOGY & TOXICOLOGY

Pills and poisons
Have you ever wondered why you can swallow a pill and somehow it gets to the head to cure your headache? How come a pill can treat you, but also give you side effects? What types of poisons you have in your house? Find out here.

PHYSICAL EDUCATION

Football and salsa
Let the rhythm take you away... to the football pitch... Come and see how dance moves can help you on the football field and vice versa. Take our skills challenge and see how you rate.

PHYSICS

Expect the unexpected
Get some hands on - and feel us - experience with the unexpected properties of materials. See things differently with some help from physics.

PSYCHOLOGY

The Psychology of Somatos
Have you ever wondered how sight and smell might taste? Or why listening to certain types of music can lower your heart rate? Somatos is the way that we interact with the world around us. Learn how your senses work, be amazed by perceptual anomalies that challenge the way you see the world.

PHYSIOTHERAPY

The balls of your feet
Heels, toes, ball, instep... multi-segmented units make up your feet. How does the pressure through your feet change as you try different activities? Use our state of the art Foot Scan Balance System and challenge your balance system.

PSYCHOLOGY

The Psychology of Attention
Does your mind get 'bored'? Can you benefit from daydreaming? How do optical illusions trick your mind? The psychology of attention will answer these questions (and more) as we explore the processes of attention and memory.

PSYCHOLOGY

The A and E of the nervous system
How does the nervous system work with the brain? How do painkillers really work? What do domoic acids have to do with your nervous system?

ZOOLOGY

Yuck! Eel Yuck! Anasasnas...Zooology
Visit the Zoology stand and discover the creepy creatures that live with us.



WHAT'S ON AT
OTAGO MUSEUM

The Otago Museum proudly presents award-winning British science communicator James Piercy.

James will take part in *Café Scientifique*, a facilitated, informal scientific discussion over lunch and a cup of coffee, and present an evening talk entitled 'What's going on in his head?' on Monday 7 July.

For details on these and other Science Festival events at the Otago Museum, visit our website.

419 Great King Street, Dunedin
PH 03 474 7474
www.otagomuseum.govt.nz



VINCENTGEORGE
For personal and professional travel advice where and when you need it

Proud To Support The New Zealand International Science Festival

Trusted in the industry for over 30 years.
Contact us for all of your travel requirements, leisure or business, arranged expertly and competitively.

Ph 03 425 9797 · Toll free 0800 VINCEG (846234)
Email vincentg@travelmanagers.co.nz
or rosannc@travelmanagers.co.nz

KIDS



Once Upon a Sunday: Super Science
Leave boring behind, and let Kaitrin take you on a voyage of discovery at the start of the International Science Festival. Join professional storyteller Kaitrin McMullan and friends as she spins magical tales, designed to delight children of all ages.

2pm
Children's Storypit, Dunedin City Library
Free, no bookings required.



Super Inventions Discovery Trail
See page 6 for detailed description. Suitable for primary school children.
Open during library opening hours from July 5th-12th
All Dunedin Public Libraries
Free, no bookings required.

ALL AGES



Science Expo at the University of Otago
Be inspired, be amazed and experience the hands-on Science Expo at the University of Otago. An exciting range of activities for all ages that will beat the boredom. From analysing DNA to understanding flavours to 3D printers and everything in between.
10am-3pm
St David Lecture Theatre Complex, corner St David and Cumberland Streets, Dunedin
Free admission, bookings necessary for some activities – refer to ad on page 7.



Lego Mindstorm Robotics Display
Robots are science in action! Building robots can involve problem-solving, electronics, engineering, computer programming, artificial intelligence or mathematics. Come along and see some simple educational robots made with Lego Mindstorms. These robots are easy to build, interesting to program, and fun to apply to a whole range of challenges... Suitable for all ages.
10am-4pm (all day)

Bull Nose, Toitu Otago Settlers Museum, 31 Queens Gardens
Free, no bookings required.



Dr Graham's Big Science ShowOff @ Festival HQ
Can you really launch marshmallows out of a vacuum cleaner, make rockets from common household items, or persuade water to defy gravity? Prepare yourself for some seriously mind-bending science as Dr Graham reacts, explodes and experiments his way through the physics of pressure and motion, the chemistry of things that go boom, and heaps more. With lots of audience involvement, laughs, learning, liquid nitrogen and exciting experiments, this action-packed show is a celebration of science. Presented with the support of Cooke Howlison Toyota.
12:30-1:30pm
Wall Street Mall, George Street
Free, no bookings required.

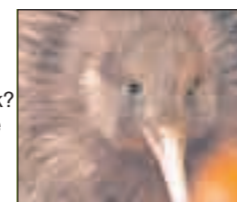


Water Wellbeing @ Orokonui
What do you know about H₂O? How does what we drink affect how we think? Why does our heart rate drop when we touch water? Find out more about how your brain uses water and explore how to keep waterways clean. Workshop includes relaxing with water exercises and assessing how clean water is by observing creatures that live in it. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
10am-12noon

Orokonui Ecosanctuary, 600 Blueskin Road, Waitati
Children \$5, Adults \$7, numbers limited. Bookings essential.
Ph: 03 482 1755 / 021 065 1314
Email info@orokonui.org.nz



Pest Fest @ Orokonui
Meet passionate conservationists and interpret prints in tracker tunnels. How does our perception of these animals' behaviour affect how we choose to eradicate them? Learn how each trap is designed with specific pest psychology in mind. Suitable for all ages. Children under 6 yrs must be accompanied by an adult.
1pm-3pm
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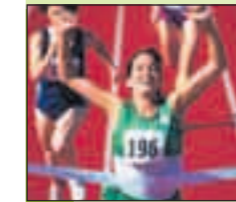


Nature O'Clock @ Orokonui
Breakfast at midnight? Dinner at dawn? Why does that seem wrong to most human brains? Learn all about how we evolved our circadian rhythms and how modern technology keeps us up at night. Learn about different animals that have very strange bedtimes and make your own animal clock to take home! Workshop includes twilight walk to kaka aviary inside Orokonui Ecosanctuary. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
4pm-6pm

Orokonui Ecosanctuary, 600 Blueskin Road, Waitati
Children \$5, Adults \$7, numbers limited. Bookings essential.
Ph: 03 482 1755 / 021 065 1314
E: info@orokonui.org.nz

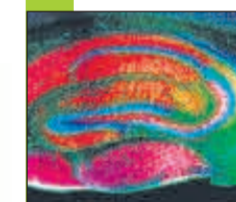


Different BANGS Chemistry Show
A 'show and tell' science show with a magician thrown in! Suitable for ages 11-16.
11am AND 2pm
Allen Hall Theatre, University of Otago Campus
Adults \$10 | Children \$5
Families (2+2) \$20
Bookings essential.
Book online www.ticketdirect.co.nz



The Big Science of Sport Night
What does it take to be a great athlete? What makes a winning team? Is there more to it than high speed and big muscles? Enjoy a fun night with the whole family. Experts in high performance sports psychology, coaching, conditioning and nutrition will share their stories about the teams and athletes they have worked with - and they'll put your knowledge and muscle to the test! In cooperation with the School of Physical Education, Sport and Exercise Sciences.
6:30pm-8pm

Hutton Theatre, Otago Museum, 419 Great King Street
Free, no bookings required. Seating on a first in first served basis.



Leave Boring Behind Photo Competition
A returning festival favourite. View the artwork from the Otago School of Medical Sciences photographic 'Leave Boring Behind' competition. See photographs from staff and students and find out for yourself that science is exciting.
10am-4pm (runs every day of the festival)
Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



PHOTO: Olafur Eliasson. The cubic structural evolution project 2010. Collection: Queensland Art Gallery

LEGO
Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.
10am-5pm (every day of the festival)
Dunedin Public Art Gallery, The Octagon
Free, no bookings required.



Art and Anatomy Project
Exhibition: Artists and scientists work together to create art. A cooperation between the University of Otago and Otago Polytechnic.
10am-4pm
Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings required.



Astronomy at the Observatory
Come along and see Mars, Jupiter, Saturn, stars, nebulae, and distant galaxies (weather permitting!)
7:30pm onwards
The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn
\$5 adult, \$3 child;
Ph: 027 663 1711
E: dunedin.astronomy@gmail.com for more info.

TicketDirect
www.ticketdirect.co.nz
NEW ZEALAND'S HOME GROWN TICKETING COMPANY
Cutting edge technology drives the TicketDirect Network giving our Venues the ability to control their own ticketing operations, provide quality service to their Customers and keep more jobs in their local communities.
TicketDirect - New Zealand's Ticketing People!
LET'S BE FRIENDS - JOIN US ON FACEBOOK!
www.facebook.com/ticketdirect

Proud to support
New Zealand International Science Festival 2014
Our 23 kindergartens provide stimulating environments that naturally encourage a curious disposition towards the discoveries of everyday Science, nothing boring about that!
Come to our FREE event for children under 5 at Helen Deem Kindergarten 7th July. 9.30am - 12noon
Dunedin Kindergartens
Mana Manaaki Puawai O Otepoti
Visit www.dunedinkindergartens.org.nz for details on enrolling your 2 - 5 year old or phone (03) 455-8892

RADIO DUNEDIN
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Good Talk. Good Music.

Great Fermentations
Zymurgy + communication = fun
An evening of beer, science, food and fun
with Richard Emerson, Prof Phil Bremer and Dr Graham Eyres (Food Science, University of Otago) in conjunction with Mark Lane and Samson Rudd from the "Food Design Institute" at Otago Polytechnic.
7pm: Thursday 10 and Friday 11 July
TECHnique Restaurant, Otago Polytechnic
Limited Tickets Available
Note: Guests must be over 18 years old. Please make arrangements for safe transport.

ANATOMY @ THE NZ INTERNATIONAL SCIENCE FESTIVAL
UNIVERSITY OF OTAGO
• Paint your "insides" onto a t-shirt
• Watch and learn – live dissections of a deer heart and a lamb's brain
• Workshops for all ages (bookings essential)
• Guided tours of the W.D. Trotter Anatomy Museum (bookings essential)
For all the details check us out on Facebook: www.facebook.com/AnatomyOtago

KIDS



From Laboratory to Stage: Laboratory Visit

Would you like to be a science teller? What exciting science would you like to share? Visit scientists of your choice at the University of Otago. Uncover fossils of extinct species with geologists, discover new states of matter with physicists, create new molecules with chemists and study amazing creatures with the zoologists. Later, we will help you turn what you have seen in the lab into an exciting show at the Museum! These laboratory visits will be followed by science communication workshops and presentations later in the week. 9am Palaeontology; 11am Biochemistry; 1pm Zoology; 3pm Physics. Suitable for children aged 10 and over. **9am-5pm** Meet at the Information Desk, Otago Museum, 419 Great King Street Free, bookings essential. Call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



Celebrate Everyday Science @ Helen Deem Kindergarten

Dunedin Kindergartens invites you to explore a variety of science experiences. Our 23 kindergartens will be providing these experiences for young children to be curious about and interact with. Suitable for children under 5 years. **9:30am-12noon** Helen Deem Kindergarten, 81 Forbury Rd, St Clair Free, no bookings required.



WORKSHOP CENTRAL Worms and Squirm with Worms

Earthworms have been on our planet for millions of years. Their function in nature is to recycle dead plant and animal material and return the nutrients contained back to the earth. Just how do they recycle things and make our soil so rich? Come along to this workshop to find out. You will also create your very own mini-worm farm to take away with you. Suitable for 8-10 year-olds. **9:30am-10:30am** Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library Free. Limited numbers Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Fight Like a Physicist I: Crouching Tiger, Standing Crane

Physics: Centre of mass/gravity, balance Karate: Stances and basic movements, sweeps. In this practical and interactive workshop, you will learn how balance is key to a career as a ninja. Concepts of centre of mass, gravity and equilibrium are developed using stances, basic foot movements and sweeps. Suitable for ages 8 and over. **11am-12noon** Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library Free. Limited numbers Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



About the Heart

The heart is our body's engine, a high-performance machine. It pumps the blood from our chest all the way to our little toes and fingers. But how exactly does it work? Find out in a fun, interactive way with the team from the Department of Physiology. Suitable for ages 6 yrs and over. **11am-12noon** Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library Free. Limited numbers. Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Cleaners for Kids

Concoct planet-friendly brews of homemade cleaners to give to your mum or dad as super presents. Create lots of bubbles and fizzing from your stirring and mixing. Your cleaners can then be used to clean your family's home and car while being safer for you and your family and the creatures that live in your nearest stream. Bring an apron and two jam jars to take home cleaners. Suitable for ages 8 and over. Caregivers required. **1:30pm-2:30pm** Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library Free. Limited numbers. Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Study & Sculpt

Create your very own nature sculpture or collage while learning about nature. Examine cones, nuts, and leaves collected from the Dunedin Botanic Garden and learn about the trees they grow on. Suitable for ages 4 and over. Caregivers required. **1:30pm-2:30pm** Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library Free. Limited numbers. Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Faint-HEARTed?

Then you don't want to be part of this workshop! You'll learn exactly what a heart looks and works like - because you'll be dissecting one! Do you have the guts for it? Suitable for ages 13 and over. **3pm-5pm** Department of Physiology, meet in the foyer, ground floor, Lindo Ferguson Building, Great King Street Free, bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



The Anatomy of a Crime Scene

In this workshop you will learn about how to become a real forensic investigator. A mock crime has been committed and it is your responsibility to work in teams to identify and collect the evidence. Find out how our human anatomy, from our fingerprints to our skeletons, leaves clues that we can interpret and analyse using forensic science to find out which suspect committed the crime. Suitable for ages 13-17. **6:30pm-8:30pm** Department of Anatomy, ground floor, Lindo Ferguson Building, Great King Street Free, bookings essential. E: kathryn.mcclea@anatomy.otago.ac.nz to book.



Super Inventions Discovery Trail

Uncover the history of the world's science heroes on our super inventions discovery trail. Suitable for primary school children. **Open during library opening hours from July 5th-12th** All Dunedin Public Libraries Free, no bookings required.

ALL AGES



Natural Hazards of Dunedin @ Festival HQ

Dunedin is exposed to a number of natural hazards, including river flooding and storm surge; landslides; seismic shaking and coastal erosion. This presentation by the Otago Regional Council will outline where and why these hazards occur, and how Dunedin residents can be better prepared. **12noon and 2pm talk will run twice** Wall Street Mall, George Street Free, no bookings required.



Think Skink @ Orokonui

Where do we find our inner reptile mind? What do we have in common with how skinks think? Find out more about these rare reptiles and how we can also think about them in our daily lives to protect them. Suitable for all ages. Children under 6 yrs must be accompanied by an adult. **10am-12noon** Orokonui Ecosanctuary, 600 Blueskin Road, Waitati Children \$5, Adults \$7, numbers limited. Bookings essential. Ph: 03 482 1755 / 021 065 1314 or E: info@orokonui.org.nz



Café Sci

Take a Good Look at... The Brain Join Dr Christine Jasoni from the Brain Health Research centre, festival guest **James Piercy** and medical sciences experts as they explore a unique perspective on the brain and brain injury, and how it reacts when it's put through stresses and strains it was never meant to go through. Bring your lunch, grab a coffee, sit and enjoy or ask the questions you've always wanted to ask. **12noon-12:45pm** Hutton Theatre, Otago Museum Free, no bookings required. Seating on first in first served basis.



Retro Lab

Check out our Retro-Lab to see how gadgets from yesteryear sparked the development of modern technology. Try out this 'old-school' technology for yourself and marvel at how we ever managed to do anything in the old days! **10:30am-4:30pm** Mosgiel Library, 7 Hartstonge Avenue Free, no bookings required.



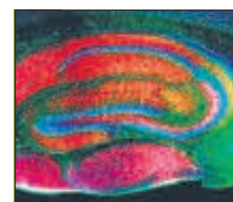
Free Health Checks with the Southern District Health Board

Want a free checkup? Blood pressure, weight, simple eye tests and peak-flow measurements all available. Suitable for ages 12 +. See ad on page 26 for more info. **9am-12noon** SDHB, 2nd floor Fraser Building, Dunedin Hospital, Hanover Street Free, no bookings required.



Sci-tropical Pursuits - Interactive Investigations

Pop into the Tropical Forest and get involved in an interactive pursuit of one of many incredible scientific phenomena found in the tropics. **Throughout the day from July 7th to 13th-Otago Museum is open daily 10am-5pm** Otago Museum Tropical Forest, Otago Museum, 419 Great King Street Free with Discovery World Tropical Forest admission, no bookings required.



Leave Boring Behind Photo Competition

A returning festival favourite. See ad on page 3 for more info. **10am-4pm** Hope Gallery, Otago Art Society, Dunedin Railway Station Free, no bookings required.



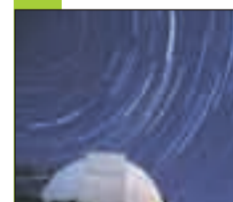
LEGO

Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project. **10am-5pm (every day of the festival)** Dunedin Public Art Gallery, The Octagon Free, no bookings required.



Art and Anatomy Project

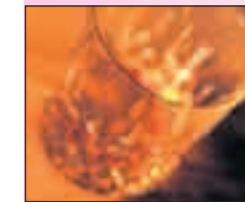
Exhibition: Artists and scientists work together to create art. A cooperation between the University of Otago and Otago Polytechnic. **8:30am-5:30pm** Hunter Centre, Great King Street, opposite the Dental School Free, no bookings required.



Astronomy at the Observatory

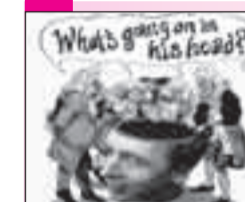
See page 6 for detailed description. **7:30pm onwards** The Beverly-Begg Observatory, Cnr City Rd & Ross St, Roslyn \$5 adult, \$3 child Ph 027 663 1711 or E: dunedin.astronomy@gmail.com for more info.

ADULTS



The Science of Whisky

There are quite possibly more stories about whisky than any other spirit in the world. Hear many truths and a few myths about the ways whisky is distilled, aged and drunk, and how it develops its flavours. John Eckhoff (Meenan Wine and Spirits) will join Pat Silcock (Food Science, University of Otago) to introduce you to some classic and some very unusual whiskies, accompanied by matching food tasters from the Otago Polytechnic kitchen. Event strictly for guests aged 18 and over, ID required. **7pm-9pm** TECHnique Restaurant, Harbour Terrace, Dunedin \$60 per person | Bookings essential. Book online www.ticketdirect.co.nz



What's Going on in his Head?

Don't miss this insight into the brain from a unique perspective. Join festival guest James Piercy who suffered a traumatic brain injury in a road accident. Now well on the road to recovery, he talks about his experience and shares his insight into head injury, the hidden disability which affects millions of people around the world. Recommended for ages 12+. James is brought to NZ and supported by Otago Museum **7:30pm-9pm** Hutton Theatre, Otago Museum, Great King Street Free, no bookings required. Seating on first in first served basis.

NEW ZEALAND GIFT SHOP GUIDE TO THE NEW ZEALAND INTERNATIONAL SCIENCE FESTIVAL

FESTIVAL HEADQUARTERS
1 Wall Street Mall, George Street

OTHER VENUES:
2 Allen Hall Theatre, University Campus
3 Beverly-Begg Observatory, corner Ross Street/City Road
4 Dunedin Botanic Garden
5 Customhouse Restaurant, corner Wharf & Fryatt Streets
6 Dunedin City Library / Workshop Central
7 Dunedin Public Art Gallery
8 Fish & Ships Base, warehouse on 40 Fryatt Street
9 Helen Deem Kindergarten, Forbury Road
10 Hunter Centre, Great King Street
11 Kingsgate Hotel, Smith Street
12 Mitre 10 Mega, Andersons Bay Road
13 Maana Pool, Stuart Street
14 Monarch Wildlife Cruises, Fryatt Street
15 Mosgiel Library, Hartstonge Avenue, Mosgiel
16 Orokonui Ecosanctuary, Blueskin Road
17 Otago Art Society, Railway Station
18 Otago Museum, Great King Street
19 St David Lecture Theatre Complex, University Campus
20 Southern District Health Board, Fraser Building, Hanover Street
21 Staff Club, University Campus
22 TECHnique Restaurant, Harbour Terrace
23 Toitu Otago Settlers Museum, Queens Gardens
24 Upper Octagon
25 Lindo Ferguson Building, Great King Street

All Science Festival enquiries, phone: **0800-SCI-FEST 0800-724-3378 www.scifest.org.nz**

NZ Shop
NEW ZEALAND GIFTS
1 GEORGE STREET

Food Science

Food Science explores flavour, health benefits, keeping qualities, marketing, consumer choice, production techniques, waste management, microbiology, chemistry, innovation ...

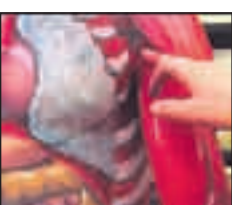
The course you can take with us is as unique as you are ...

Pick one that suits!
Find out more at: www.otago.ac.nz/foodscience

UNIVERSITY OF OTAGO
Te Whare Wānanga o Ōtago
NEW ZEALAND

Pick one that suits!
Find out more at: www.otago.ac.nz/foodscience

KIDS



Anatomical Body Painting @ the Anatomy Department
Get creative and learn a little about how your body works. One-hour workshop, all materials provided. Workshop runs twice.
9:30am AND 1:30pm

Dept. of Anatomy, ground floor, Lindo Ferguson Building, Great King Street
Free. Limited numbers. Bookings essential. Please specify the workshop time when booking!
E: kathryn.mcclea@anatomy.otago.ac.nz to book.



Meet your Skeleton @ the Anatomy Department
Say hello to your skeleton in this fun-filled interactive one-hour workshop. Workshop runs twice.
11am AND 3pm

Dept. of Anatomy, ground floor, Lindo Ferguson Building, Great King Street
Free. Limited numbers. Bookings essential. Please specify the workshop time when booking!
E: kathryn.mcclea@anatomy.otago.ac.nz to book.



Robotics Workshop @ Otago Polytechnic: Learn how to Build a Working Robot

This is a two-part workshop: this first session on Tuesday 8th involves how to correctly connect all the wiring and the best ways to make the mechanics of the body work. The second session on Thursday 10th involves learning about the programming that will make your robot move. The workshops are free to attend, but with the option to take your robot home at a cost of \$70 to cover the hardware (circuit board, motor, wheels and connectors). Suitable for ages 13+.

10am-12noon

Room D312, D Block, Otago Polytechnic, Harbour Terrace
Free to participate; \$70 to take your robot home. Bookings essential as numbers are limited. E: dcc@dcc.govt.nz or Ph: 03 477 4000 to book.



PHOTO: Flickr, Richard Towell

Whale Tales Public Talk and Shockbuster Children's Workshop

What happens to beached whales? Do southern right whales have an accent? Otago Museum's own whale recovery team, Natural Science Curator Emma Burns and Natural Science Project Officer Trudi Webster share their whale tales and some Museum natural science secrets, then stay for a workshop to help you make a whale talisman to take home with you.

11.30am

Atrium level 1, Otago Museum, 419 Great King Street

Talk FREE. Workshop \$2 per child
Talk: No bookings required.
Workshop: Bookings essential – call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz

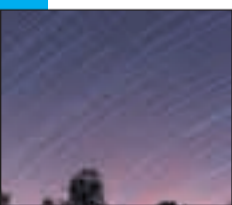


PHOTO: Flickr, Chris Varley

Astronomical Enigmas Freaky Science Show

What's the difference between a comet's tail and a meteor's trail? How did the moon's mountains form? What happens in the vacuum of space? Investigate these celestial queries and find a stellar spot to observe the upcoming Southern Delta Aquarids shower.

2:30pm

Atrium level 1, Otago Museum, 419 Great King Street

Free, no bookings required.

WORKSHOP CENTRAL Finding where Things are in the Universe

Join some members of the Dunedin Astronomy Society in a one-hour workshop to make your own Southern star map and learn to find stars, planets, nebulae, galaxies. To infinity and beyond! (Parents may be required to help if kids are not able to cut with scissors well).

Four workshops: start at 9:30am, 11am, 1:30pm and 3pm

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers
Bookings essential. Please specify the workshop time when booking!
Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Pest Fest

Meet passionate conservationists and interpret prints in tracker tunnels. How does our perception of these animals' behaviour affect how we choose to eradicate them? Learn how each trap is designed with specific pest psychology in mind. Suitable for all ages. Children under 6 yrs must be accompanied by an adult.

9:30am-10:30am

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library

Free. Limited numbers
Bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



Think Skink

Where do we find our inner reptile mind? What do we have in common with how skinks think? Find out more about these rare reptiles and how we can also think about them in our daily lives to protect them. Suitable for all ages. Children under 6 yrs must be accompanied by an adult.

11am-12noon

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library

Free. Limited numbers
Bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



Bird Brains

Examine both human and bird brain structures. Learn what we have inherited from our feathered friends! Join avian experts to discover what it's really like to be a birdbrain. Make your own bird's-eye-view goggles to take home! Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.

1:30pm-2:30pm

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library

Free. Limited numbers
Bookings essential. Ph: 03 477 4000
or E: dcc@dcc.govt.nz



Study & Sculpt

Create your very own nature sculpture or collage while learning about nature. Examine cones, nuts, and leaves collected from the Dunedin Botanic Garden and learn about the trees they grow on. Suitable for ages 4 and over. Caregivers required.

1:30pm-2:30pm

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library

Free. Limited numbers. Bookings essential.
Ph: 03 477 4000 or E: dcc@dcc.govt.nz



The Power of Poo

The grossest with the mostest! How does poo support life on Earth and how can we use it better? Discover how poo helps to save endangered species and how you can become a poo detective. Learn how poo makes things grow and make your own pretend poo bomb full of native seeds to take home. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.

3pm-4pm

Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library

Free. Limited numbers
Bookings essential. Ph: 03 477 4000
or E: dcc@dcc.govt.nz



Super Inventions Discovery Trail

Uncover the history of the world's science heroes on our Super Inventions Discovery Trail. Suitable for primary school children.

Open during library opening hours from July 5th-12th

All Dunedin Public Libraries
Free, no bookings required.

ALL AGES



PE Action & Reaction Day @ Festival HQ

Get ready for some amazing challenges - for your mind and your body! You think balancing a ball is easy? Come along and prove it! You can show off your power output on a bike. Test how fast your mind can adjust to "altered reality"! The team of the School of Physical Education, Sport and Exercise Sciences at the University of Otago will show you some of the skills professional athletes need to master to be at their best, and help you have a go.

11am-2pm

Wall Street Mall, George Street

Free, no bookings required.



Café Sci Take a Good Look at... Emotions

Don't worry. Be happy! For some people this seems so easy, yet most of us have our ups and downs. As it turns out, all sorts of things, including diet and exercise, can affect our mood. Dr Christine Jasoni hosts emotion researchers Dr Tamlin Conner from the University of Otago Department of Psychology and visiting Professor Paul Silvia from the University of North Carolina to learn more about happiness, mood, and other aspects of our emotions. Bring your lunch, grab a coffee, sit and enjoy or ask the questions you've always wanted to ask.

12noon-12:45pm

Hutton Theatre, Otago Museum

Free, no bookings required.
Seating on first in first served basis.



Free Health Checks with the Southern District Health Board

Suitable for ages 12+.
See ad on page 26 for more info.

9am-3pm

SDHB, 2nd floor Fraser Building, Dunedin Hospital, Hanover Street

Free, no bookings required.



PHOTO: Flickr, Sid Mosdell

Sci-tropical Pursuits Interactive Investigations

Pop into the Tropical Forest and get involved in an interactive pursuit of one of many incredible scientific phenomena found in the tropics.

Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm

Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
Free with Discovery World Tropical Forest Admission, no bookings required.



Leave Boring Behind Photo Competition

A returning festival favourite. View the artwork from the Otago School of Medical Sciences photographic 'Leave Boring Behind' competition. See photographs from staff and students and find out for yourself that science is exciting.

10am-4pm (runs every day of the festival)

Hope Gallery, Otago Art Society, Dunedin Railway Station

Free, no bookings required.



LEGO

Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.

10am-5pm (every day of the festival)

Dunedin Public Art Gallery, The Octagon

Free, no bookings required.



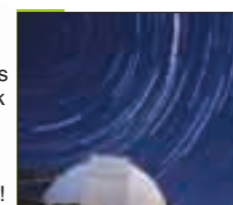
Art and Anatomy Project

Exhibition: Artists and scientists work together to create art. A cooperation between the University of Otago and Otago Polytechnic.

8:30am-5:30pm

Hunter Centre, Great King Street, opposite the Dental School

Free, no bookings necessary.



Astronomy at the Observatory

See page 6 for details.

7:30pm onwards

The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn

\$5 adult, \$3 child; Ph 027 663 1711 or email dunedin.astronomy@gmail.com for more info.

ADULTS



Women in Science Breakfast

Sponsored by the British High Commission. Listen to stories from inspirational women in science over breakfast. Speakers will be discussing opportunities opening up for young women today. Suitable for all ages. Breakfast included in ticket price.

8:30am-9:30am

TECHnique Restaurant, Harbour Terrace, Dunedin

\$20 per person
Bookings essential.
Book online www.ticketdirect.co.nz



The Science of Whisky

There are quite possibly more stories about whisky than any other spirit in the world. Hear many truths and a few myths about the ways whisky is distilled, aged and drunk, and how it develops its flavours. John Eckhoff (Meenan Wine and Spirits) will join Pat Silcock (Food Science, University of Otago) to introduce you to some classic and some very unusual whiskies, accompanied by matching food tasters from the Otago Polytechnic kitchen. Event strictly for guests aged 18 and over, ID required.

7pm-9pm

TECHnique Restaurant, Harbour Terrace, Dunedin

\$60 per person | Bookings essential.
Book online www.ticketdirect.co.nz



2 Minute Talks: Young Women in Science

This evening event will showcase talented and ambitious young women in science. The challenge is set for emerging female scientists to consolidate their work with one picture or prop in just two minutes. It will enable informal networking with experienced, supportive and successful people in the Dunedin community across both the University and business sectors.

7:15pm-9pm

Wall Street Mall, George Street

Free, no bookings necessary.



Sustainability and Green Chemistry — Prof Terry Collins

Science and technology have given us unprecedented powers to shape the world to our liking. But in the exercise of our new powers sustainability challenges have arrived to mock our understanding of their real value and to assert that they entail no less than life-or-death sovereignty over all living things. Responsibility is a correlate of power leaving us challenged as never before to think through and act heroically on the relationships between technological might and the future good. In his lecture, Terry Collins will explore how we can think better about using science and technology to advance civilization in the here and now without also dooming the future.

7:30pm-9pm

St David lecture theatre, University of Otago Campus

Adults \$12 | Children \$7
Bookings essential.
Book online www.ticketdirect.co.nz



Late Night Sci Let's Talk about Death

Scientific and social perspectives on body donation and funeral practices
Funeral industry innovation, emerging body disposition technologies and the availability of body donation programmes indicates that there are now more options than ever for people to consider in relation to after-death options. This discussion centres on the different practices relating to after-death options in both a New Zealand and more global context, considering various scientific and social factors that influence and relate to how the human body may be transformed after death. The presenters are involved with initiatives connected to the Centre for Society, Governance and Science (SoGoS). The event is held in collaboration with the Faculty of Law.

9pm-10pm

University of Otago Staff Club

Free, no bookings required.

You can buy tickets for all paid events from www.ticketdirect.co.nz Door sales will be available if events are not sold out.

Check out our website www.scifest.org.nz

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SCIENCE IS ALL ABOUT MAKING GREAT DISCOVERIES

Kids' workshops @ Workshop Central

These FREE workshops take place at the Dunningham Suite, 4th floor, Dunedin City Library. Numbers are limited, book at E: dcc@dcc.govt.nz or Ph: 03 477 4000. Tickets must be picked up from the Dunedin City Library by July 4th. Not Dunedin-based? Let us know when you book. A favour we'd like to ask you: if you have booked a workshop for your child, but cannot make it, PLEASE call and cancel so that another child can enjoy the workshop.

DATE	START TIME	WORKSHOP TITLE	DETAILS
Monday July 7th	9:30am	Wriggle and Squirm with Worms	page 10
	11am	Fight Like a Physicist I: Crouching Tiger, Standing Crane	page 10
	11am	About the Heart	page 10
	1:30pm	Cleaners for Kids	page 10
	3pm	Study & Sculpt	page 10
Tuesday July 8th	9:30am (runs 4 times)	Finding where Things are in the Universe	page 12
	9:30am	Pest Fest	page 12
	11am	Think Skink	page 12
	1:30pm	Bird Brains	page 12
	1:30pm	Study & Sculpt	page 12
Wednesday July 9th	9:30am	Kids Can Compost	page 16
	11am	Fight Like a Physicist II: Angry Bull, Crazy Monkey	page 16
Thursday July 10th	9:30am (runs 4 times)	Understanding what Things are in the Universe	page 18
	11am	Fight Like a Physicist III: Throwdown Hoedown	page 18
Friday July 11th	9:30am	Frogs Forever	page 20
	11am	Creepy Crawlies	page 20
Saturday July 12th	1:30pm	Bird Brains	page 20
	3pm	The Power of Poo	page 20

Workshop Central @ Mosgiel Library

On Friday, Workshop Central comes to the Mosgiel Library thanks to Orokounei Ecosanctuary. Please book these FREE workshops: email dcc@dcc.govt.nz or phone 03 477 4000. The tickets need to be picked up from Mosgiel Library, 7 Hartstonge Avenue.

Friday July 11th	9:30am	Frogs Forever	page 20
	11am	Creepy Crawlies	page 20
	1:30pm	Bird Brains	page 20
Saturday July 12th	3pm	The Power of Poo	page 20

Events for kids throughout the science festival

No bookings necessary for any of these events. Some of these events are NOT free, please read the detailed descriptions.

DATES	EVENT TITLE	VENUE	DETAILS
July 5-12	Super Inventions Discovery Trail	Dunedin Public Libraries	page 6
July 5-13	LEGO hands-on exhibition	Dunedin Public Art Gallery	page 6
July 5-13 (except 9)	Astronomy at the Observatory	Beverly-Begg Observatory	page 6
July 7, 9, 10, 11	Retro Lab	Dunedin Public Libraries	pgs 11,17,18, 21
July 7-13	Sci-tropical Pursuits	Discovery World Tropical Forest, Otago Museum	page 11

...and many more kids' events across the city

Check detailed descriptions for cost and booking info.

DATES	EVENTS	HOSTED BY	DETAILS
Saturday July 5th	Creatures of the Night	Dunedin Botanic Garden/ Otago Regional Council	page 6
	Just like Magic! Pinhole camera workshop	Dunedin Public Art Gallery	page 6
	Orokounei @ the Octagon	Orokounei Ecosanctuary	page 6
Sunday July 6th	Once Upon a Sunday: Super Science	Dunedin Central Library	page 8
	Lego Mindstorm Robotics Display	Toitu Otago Settlers Museum	page 8
Monday July 7th	Celebrate Everyday Science	Helen Deem Kindergarten	page 10
several days	From Lab to Stage	Otago Museum	pgs 10, 16, 20
Tuesday July 8th	Anatomy workshops	Anatomy Department, University of Otago	page 12
several days	Astronomical Enigmas	Otago Museum	pgs 12, 18
Tuesday July 8th	Whale Tales	Otago Museum	page 12
Wednesday July 9th	Cycling Day @ Toitu	Toitu Otago Settlers Museum	page 16
Thursday July 10th	The Shark: Monster or Majesty?	Otago Museum	page 18
Friday July 11th	A Waste of Time? Landfill trip	Meet at Octagon bus stop	page 20

SCIFEST X-TREME



Interactive Music Technology
Create your own high-tech musical performance! You'll learn how to program a computer to use the inputs from sensors to control your performance and get a sneak peek into the world of acoustics. Runs on July 9th & 10th. See details on page 16.

The Anatomy of a Crime Scene
Want to become a real forensic investigator? Then this one's for you. Learn some essential forensic science to find out which suspect committed the crime. Runs on July 7th & 11th. See details on page 10.

Robotics Workshop
Learn how to build your own robot. First, you'll focus on the wiring and the mechanics, and then you'll do the programming that will make your robot move. Two-part workshop on July 8th & 10th. See details on page 12.

Faint-HEARTed?
Then this one's not for you. You'll learn exactly what a heart looks like – because you'll be dissecting one! Do you have the guts for it? Runs on July 7th & 9th. See details on page 10.

For those of us over 18

Enjoy a good night out with friends and take your taste buds on a journey. At TECHnique Restaurant, chefs, beer brewers, whisky connoisseurs and food scientists will team up to bring you an entertaining and delicious mix of food and drinks, science and myths. These events will sell out fast, so be sure to get your tickets NOW!



The Science of Whisky: Runs on July 7th & 8th. See details on page 11.

Great Fermentations: The sequel to the festival favourite "the science of beer" runs on July 10th & 11th. See details on page 19.

Down-to-earth insights

The event formats **Café Sci: Take a Good Look at...** and **Late Night Sci** have a lot in common: In a relaxed setting with a cuppa or a pint, you'll be served down-to-earth insights to a wide range of research topics and issues. Ask your own pressing questions or just sit and listen.

The lunchtime series **Café Sci: Take a good look at...** will run at the Otago Museum, and the **Late Night Sci's** at the University of Otago Staff Club.



Take a Good Look at... The Brain: July 7th. See details on page 10.

Take a Good Look at... Emotions: July 8th. See details on page 12.

Let's Talk about Death: July 8th. See details on page 13.

Take a Good Look at... Sleep & Dreaming: July 9th. See details on page 16.

The 'Book of Life' & The Statute Book: July 9th. See details on page 17.

Celebrating science in the real world

At Otago Polytechnic, we help create amazing careers that put you, and science, in the real world. Find out more about our programmes, research and innovations at www.op.ac.nz

Engineering

Veterinary Nursing

Sport and Adventure

Get your fitness tested

Octagon, Friday July 11 and Saturday July 12, 11am-2pm

Innovation and Design

Cooking and Culinary Arts

Come for a spin in our electric car

Octagon, Friday July 11 and Saturday July 12, 11am-2pm

Health and Well-being

Art

Information Technology

Check out our plug-in wind turbine

Octagon, Friday July 11 and Saturday July 12, 11am-2pm

Life-Sciences and Sustainability

KIDS



From Laboratory to Stage Children's Science Communication Workshops
Would you like to be a science teller? What exciting science would you like to share? Turn Monday's visit to a University of Otago science lab into an exciting science show at the Museum! These science communication workshops follow laboratory visits earlier in the week and precede presentations later in the day.
Today: Palaeontology and Zoology.

1pm-3pm
Barclay Theatre, Otago Museum, 419 Great King Street
Free, bookings essential – call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



From Laboratory to Stage Children's Science Presentations
Presenting the debut of five local kids speaking about and demonstrating the exciting things scientists are doing at the University of Otago. Today: Hear about new fossil species uncovered in rocks at the Geology Department! Learn from amazing creatures studied in the Zoology Department!

These shows follow laboratory visits earlier in the week and science communication workshops earlier in the day.
3pm-4:30pm
Barclay Theatre, Otago Museum, 419 Great King Street
Free, bookings essential – call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



Interactive Music Technology
Music + science = fun! In this activity, you'll explore how electronic sensors can be used as part of a high-tech musical performance. You'll learn how to program a computer to use the inputs from different sensors to control your performance, and see just how expressive you can be. We'll also delve a little into acoustics, the study of the physics of sound.
Suitable for ages 11 yrs and over.

2pm-4pm
Bull Nose, Toitu Otago Settlers Museum, 31 Queens Gardens
Free, bookings essential.
E: toituosm@dcc.govt.nz or ph 03 477 5052.



WORKSHOP CENTRAL Kids Can Compost
How can we turn our food scraps into nutritious soil to grow more of the food we eat? A hands-on workshop for 8-10 year-olds that looks at the stages of compost decomposition, temperature and pH of compost and soil, investigating composts found in nature and how to create your own compost system. Children will build their own compost in a bottle to take home, nurture and watch the process of soil creation.

9:30am-10:30am
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers. Bookings essential.
Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Fight Like a Physicist II: Angry Bull, Crazy Monkey
Physics: momentum, forces, torque
Karate: Basic striking techniques, Basic fighting techniques
In this practical and interactive workshop, you will learn how a small person can "win" against a bigger opponent by using the power of Physics. Concepts of force, momentum and torque are developed using basic striking and fighting techniques.
Suitable for ages 8 and over.

11am-12noon
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers.
Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



About the Heart
See page 10 for details.
11am-12noon
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers
Bookings essential.
Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Wriggle and Squirm with Worms
See page 10 for details.
Suitable for 8-10 year-olds.
1:30pm-2:30pm
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers - bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Study & Sculpt
See page 10 for details. Suitable for ages 4 and over. Caregivers required.
1:30pm-2:30pm
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers - bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Who Dunit?
Using scientific techniques we will teach you how to find out who committed the crime. You will gather the clues and analyse the evidence, working together to solve the mystery of who dunit. This workshop will help you think like a real forensic scientist!
Suitable for children aged 6-12 years.
3pm-4pm
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers - bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Super Inventions Discovery Trail
See page 6 for detailed description.
Open during library opening hours from July 5th - 12th
All Dunedin Public Libraries
Free, no bookings required.



Faint-HEARTed?
Then you don't want to be part of this workshop! You'll learn exactly what a heart looks and works like – because you'll be dissecting one! Do you have the guts for it? Suitable for ages 13 and over.
3pm-5pm
Department of Physiology, meet in the foyer, ground floor, Lindo Ferguson Building, Great King Street
Free, bookings essential.
Ph: 03 477 4000 or E: dcc@dcc.govt.nz

ALL AGES



Bird Brains @ Botanic Garden
Examine both human and bird brain structures. Learn what we have inherited from our feathered friends! Join avian experts to discover what it's really like to be a birdbrain. Make your own bird's-eye-view goggles to take home! Suitable for all ages. Children under 10 yrs need to be accompanied by an adult.
10am-12noon
Information Centre, Dunedin Botanic Garden
Free, numbers limited. Bookings essential. Ph: 03 482 1755 or 021 065 1314 or E: info@orokoni.org.nz



Café Sci: Take a Good Look at... Sleep & Dreaming
OMG - you were in my dream last night! This may be good or bad, surprising or disturbing, but most of us have had dreams with bizarre circumstances or the appearance of unusual characters. What does this mean? Why do we sleep and why is our sleep sometimes so quirky? Join Professor David Bilkey from the Brain Health Research Centre at the University of Otago to learn more about sleep and dreaming. Bring your lunch, grab a coffee, sit and enjoy or ask the questions you've always wanted to ask.
12noon-12:45pm
Hutton Theatre, Otago Museum, Great King Street
Free, no bookings required.
Seating on first in first served basis.



Cycling Day @ Toitu Otago Settlers Museum
Visit Toitu to discover how biking technology is constantly evolving. Nicknamed the *Penny-farthing*, the public will be able to take turns at cycling a replica Ordinary. At the other end of the spectrum, visitors will be challenged to race each other on a Tour de France simulator from the School of Physical Education, Sport and Exercise Sciences at the University of Otago recording their speed, wattage and more.
11am-2pm
Toitu Otago Settlers Museum, 31 Queens Gardens
Free, no bookings required.



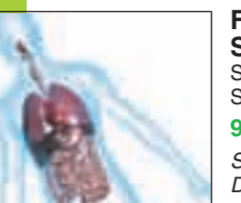
DIY Family Edition: Dr Bunhead @ Mitre 10 MEGA
TV's favourite stunt scientist (from *Brainiac, Blue Peter*) reveals his top secret science recipes for amazing experiments you can do at home, but probably shouldn't! Rummaging through the shelves of Mitre 10 to create an awesome array of foaming, flying and flaming science contraptions. Bring your own ear defenders, safety goggles and extra-strong underpants.
7:30pm-9pm
Mitre 10 MEGA, 350 Andersons Bay Road, South Dunedin
Table (max 5) \$45 | Extra person \$10
Bookings essential.
Book online www.ticketdirect.co.nz



Dining in the Dark for the Whole Family
How do you eat without the help of your eyes? Try to use a fork and knife to eat your favourite foods. Guess what they are without peeking! Julie Woods, aka "That Blind Woman" is joining forces with the team at Otago Polytech TECHnique Restaurant to bring you a different dinner experience for the whole family. Suitable for ages 8 and over.
Please note: not recommended for children with allergies.
6pm-7:30pm
TECHnique Restaurant, Harbour Terrace, Dunedin
\$25 per person
Bookings essential.
Book online www.ticketdirect.co.nz



Retro Lab
See page 11 for details.
9am-12:30pm and 1pm-4:30pm
Dunningham Suite, 4th floor Dunedin City Library
Free, no bookings required.



Free Health Checks with the Southern District Health Board
Suitable for ages 12+.
See ad on page 26 for more info.
9am-3pm
SDHB, 2nd floor Fraser Building, Dunedin Hospital, Hanover Street
Free, no bookings required.



Sci-tropical Pursuits Interactive Investigations
See page 11 for details
Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm
Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
Free with Discovery World Tropical Forest admission, no bookings required.



Leave Boring Behind Photo Competition
A returning festival favourite. See ad on page 3 for more info.
10am-4pm (runs every day of the festival)
Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



LEGO
See page 6 for detailed description.
10am-5pm
Dunedin Public Art Gallery, The Octagon
Free, no bookings required.
PHOTO: Olafur Eliasson. The cubic structural evolution project 2010. Collection: Queensland Art Gallery



Art and Anatomy Project
See page 6 for detailed description.
8:30am-5:30pm
Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings necessary.

ADULTS



Late Night Sci — The 'Book of Life' & The Statute Book
The Human Genome Project was successfully concluded about a decade ago and revealed the complete set and sequence of DNA in human cells. Numerous initiatives involving DNA information are now being pursued with the aim of improving health care. There are exciting possibilities in developing and applying new knowledge, but individuals, families, communities and society can be confronted with a range of difficult legal, regulatory, ethical and policy issues. We will discuss questions and dilemmas concerning the choices to be made. The event is held by the Centre for Society, Governance and Science (SoGoS) and the Faculty of Law.
9pm-10pm
University of Otago Staff Club
Free, no bookings required.

Dr. Bunhead's SECRET SCIENCE LAB

SINGLE HANDEDLY TURNED SCIENCE INTO THE COOLEST SUBJECT IN SCHOOL

DR BUNHEAD IS A MASTER

A BURNING, BUBBLING, EXPLODING BALL OF FUN

SILLY, CRAZY, DIRTY DANGEROUS & MAGNIFICENT

Don't miss Dr Bunhead's two shows:

- the Mitre 10 Mega DIY family edition on Wednesday, July 9th
- Dr Bunhead's Blast Off on Saturday, July 12th

Actual show content dependent on materials and may differ slightly.

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www.otago.ac.nz/osms

KIDS



Robotics workshop @ Otago Polytechnic: Learn how to Build a Working Robot
This is a two-part workshop: the first session on Tuesday 8th involves how to correctly connect all the wiring and the best ways to make the mechanics of the body work. This second session on Thursday 10th involves learning about the programming that will make your robot move. The workshop is free to attend, but with the option to take your robot home at a cost of \$70 to cover the hardware (circuit board, motor, wheels and connectors). Suitable for ages 13+.

10am-12noon
Room D312, D Block, Otago Polytechnic, Harbour Terrace
Free to participate; \$70 to take your robot home. Bookings essential as numbers are limited.
E: dcc@dcc.govt.nz or Ph: 03 477 4000 to book.



The Shark: Monster or Majesty? Public Talk and Shockbuster Children's Workshop
Why are we so afraid of sharks? Did you know each year more humans are killed by cows than by sharks?!

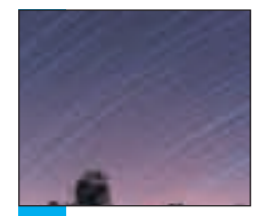
New Zealand-born, world-respected marine explorer and great white shark expert Ryan Johnson shares his love of the ocean and the amazing creatures that live in it. Stay for the workshop to see how important it is to protect marine habitats, and take home a souvenir replica great white tooth to remind you.

11.30am
Hutton Theatre, Otago Museum, 419 Great King Street
Talk FREE. Workshop \$4.50 per child
Talk: No bookings required.
Workshop: Bookings essential - call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



Interactive Music Technology
Music + science = fun! In this activity you'll explore how electronic sensors can be used as part of a high-tech musical performance. You'll learn how to program a computer to use the inputs from different sensors to control your performance, and see just how expressive you can be. We'll also delve a little into acoustics, the study of the physics of sound. Suitable for ages 11 yrs and over.

2pm-4pm
Bull Nose, Toitu Otago Settlers Museum, 31 Queens Gardens
Free. Bookings essential.
E: toituosm@dcc.govt.nz or Ph: 03 477 5052.



Astronomical Enigmas Freaky Science Show
See detailed description on page 12.
2:30pm
Atrium level 1, Otago Museum, 419 Great King Street
Free, no bookings required.



WORKSHOP CENTRAL

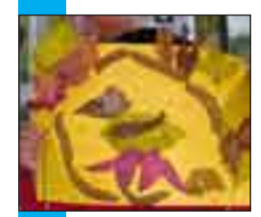
Understanding what Things are in the Universe
Join some members of the Dunedin Astronomy Society in a one-hour workshop to make your own spectroscope and learn to find out what stars are made up of. You can use your spectroscope with any light at home.

Four workshops: start at 9:30am, 11:00am, 1:30pm and 3pm
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers - bookings essential. Please specify the workshop time when booking! Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Fight Like a Physicist III: Throwdown Hoedown
Physics: momentum and impulse, pressure and forces, friction
Karate: Break-falling, pressure points and hand techniques
In this practical and interactive workshop, you will learn how pressure, forces and momentum work together when throwing your opponent to the ground. Alternatively, how to use Physics to your advantage if you are plummeting towards the earth.

11am-12noon
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers - bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Study & Sculpt
Create your very own nature sculpture or collage while learning about nature. Examine cones, nuts, and leaves collected from the Dunedin Botanic Garden and learn about the trees they grow on. Suitable for ages 4 and over. Caregivers required.

1:30pm-2:30pm
Workshop Central, Dunningham Suite, 4th floor, Dunedin City Library
Free. Limited numbers. Bookings essential. Ph: 03 477 4000 or E: dcc@dcc.govt.nz



Super Inventions Discovery Trail
Uncover the history of the world's science heroes on our Super Inventions Discovery Trail. Suitable for primary school children.
Open during library opening hours from July 5th - 12th
All Dunedin Public Libraries
Free, no bookings required.

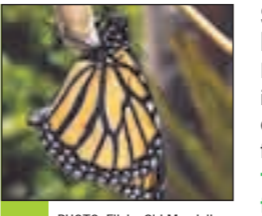
ALL AGES



Flokonouii — Wall Street gets Greener with Orokonui
Join the team from Orokonui Ecosanctuary and explore the Forest! The Wall Street atrium will be transformed into a native forest ecosystem for a day. Native trees and displays will adorn the space, reminding us of what was once there. Including hands-on activities, live animal encounters, face painting, games, storytelling, competitions and prizes! From 3pm to 5.30pm there will be live music and a wearable plants fashion parade! Children's forest fashion from 3.30pm-4pm. Adults: Plant Parade from 4.30pm-5.30pm. Entries will be judged by fashion designers and plant professionals! Amazing prizes include free passes to the Ecosanctuary, native plants and fashion freebies. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult. See www.oroikonui.org.nz for more details.
All day
Wall Street Mall, George Street
Free, no bookings required.



Retro Lab
Check out our Retro Lab to see how gadgets from yesteryear sparked the development of modern technology. Try out this 'old-school' technology for yourself and marvel at how we ever managed to do anything in the old days!
9:30am-12:30pm
at Port Chalmers Library, 20 Beach Street
AND
2pm-5pm
at Waikouaiti Library, 192 Main Road
Free, no bookings required.



Sci-tropical Pursuits Interactive Investigations
Pop into the Tropical Forest and get involved in an interactive pursuit of one of many incredible scientific phenomena found in the tropics.
Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm
Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
Free with Discovery World Tropical Forest admission, no bookings required.



Leave Boring Behind Photo Competition
A returning festival favourite. View the artwork from the Otago School of Medical Sciences photographic 'Leave Boring Behind' competition. See photographs from staff and students and find out for yourself that science is exciting.
10am-4pm (runs every day of the festival)
Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



LEGO
Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.
10am-5pm (every day of the festival)
Dunedin Public Art Gallery, The Octagon
Free, no bookings required.



Art and Anatomy Project
See page 6 for detailed description.
8:30am-5:30pm
Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings necessary.



Following the Great White — Ryan Johnson
Join Kiwi expat Ryan Johnson, marine explorer and wildlife documentary filmmaker for National Geographic channel, for a compelling presentation on the research he has conducted on great white sharks. His research includes a project launched in 2005 that involved tracking a female great white dubbed 'Nicole' from South Africa to Australia and back. He was also a key figure behind OCEARCH, the largest shark-tracking research project in the world. Ryan will be also sharing his insights from a marine biologist's viewpoint on the very topical issues facing the marine environment today, from shark culls and finning, through to the impact of shark tourism.
7:30pm-9pm
St. David lecture theatre, University of Otago Campus
Adults \$12 | Children \$7
Families (2+2) \$25. Bookings essential. Book online www.ticketdirect.co.nz



Astronomy at the Observatory
See page 6 for detailed description.
7:30pm onwards
The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn
\$5 adult, \$3 child. Ph 027 663 1711 or E: dunedin.astronomy@gmail.com for more info.

ADULTS



Great Fermentations
Zymurgy + communication = fun! A sequel to the festival favourite "the science of beer". Join us for an evening of beer, science, food and fun. Richard Emerson will introduce you to some great brews, while Prof Phil Bremer and Dr Graham Eyres explain some of the science behind the world of fermentation. Mark Lane and Samson Rudd serve a taster of fermented foods to go with each beverage. Event strictly for guests aged 18 and over, ID required.
7pm-9pm
TECHnique Restaurant, Harbour Terrace, Dunedin
\$60 per person | Bookings essential. Book online www.ticketdirect.co.nz

You can buy tickets for all paid events from www.ticketdirect.co.nz Door sales will be available if events are not sold out.

Check out our website www.scifest.org.nz

oroikonui ecosanctuary
Visitor Centre • Wildlife • Walks • Café

Fresh air and holiday fun!
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For programme details
www.oroikonui.org.nz
Ph 03 482 1755
BOOKINGS REQUIRED

Looking for speakers for your organisation?

Our Centre has over 200 scientists working hard to understand more about the brain. If you are looking for a speaker for your group or organisation, we can help. Our scientists and communicators are keen to share their learnings on the fascinating world of neuroscience in the 21st century.

Our 3.5m high inflatable brain is also available for educational purposes.

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WALL STREET ... YOUR FASHION STREET

Country Road Levi's Tarocash Forever New Virtu
Lush Maher Shoes Bras n Things Greenhouse Florist
Vodafone Marbecks Suits on Wall St Life Pharmacy
LOL Cafe NRG Bar Miracle TS14+ Maru Sushi

KIDS



Frogs Forever @ Mosgiel Public Library
 What do you know about frogs? Do hiccupps link us to our frog ancestors? Why do we need frogs to survive? Find out about the biggest extinction since the dinosaurs and what you can do to help! Meet our real life native frogs, extinct on the South Island, hear from experts and visit frog habitat. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
9:30am-10:30am
 Mosgiel Public Library,
 7 Hartstonge Ave, Mosgiel
 Free. Limited numbers.
 Bookings essential. Ph: 03 477 4000
 or E: dcc@dcc.govt.nz



Creepy Crawlies @ Mosgiel Public Library
 Meet some humans who go crazy for creepy crawlies and hopping mad for huhu grubs. See how you handle a close insect encounter and make your own bug-catcher! Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
11am-12noon
 Mosgiel Public Library,
 7 Hartstonge Ave, Mosgiel
 Free. Limited numbers.
 Bookings essential. Ph: 03 477 4000
 or E: dcc@dcc.govt.nz



Bird Brains @ Mosgiel Public Library
 Examine both human and bird brain structures. Learn what we have inherited from our feathered friends! Join avian experts to discover what it's really like to be a birdbrain. Make your own bird's-eye-view goggles to take home! Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
1:30pm-2:30pm
 Mosgiel Public Library,
 7 Hartstonge Ave, Mosgiel
 Free. Limited numbers.
 Bookings essential. Ph: 03 477 4000
 or E: dcc@dcc.govt.nz



The Power of Poo @ Mosgiel Public Library
 The grossest with the mostest! How does poo support life on Earth and how can we use it better? Discover how poo helps to save endangered species and how you can become a poo detective. Learn how poo makes things grow and make your own pretend poo bomb full of native seeds to take home. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
3pm-4pm
 Mosgiel Public Library,
 7 Hartstonge Ave, Mosgiel
 Free. Limited numbers.
 Bookings essential. Ph: 03 477 4000
 or E: dcc@dcc.govt.nz



From Laboratory to Stage: Children's Science Communication Workshops
 Would you like to be a science teller? What exciting science would you like to share? Turn Monday's visit to a University of Otago science lab into an exciting science show at the Museum! These science communication workshops follow laboratory visits earlier in the week and precede presentations later in the day. Today: Physics and Biochemistry.
1pm-3pm
 Barclay Theatre, Otago Museum,
 419 Great King Street
 Free, bookings essential - call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



From Laboratory to Stage: Children's Science Presentations
 Presenting the debut of five local kids speaking about and demonstrating the exciting things scientists are doing at the University of Otago. Today: Discover new states of matter with machines from the Physics Department! Make new molecules just like in the Biochemistry Department! These shows follow laboratory visits earlier in the week and science communication workshops earlier in the day.
3pm-4:30pm
 Barclay Theatre, Otago Museum,
 419 Great King Street
 Free, bookings essential - call the Information Desk 03 474 7474 or book online at www.otagomuseum.co.nz



The Anatomy of a Crime Scene
 In this workshop you will learn about how to become a real forensic investigator. A mock crime has been committed and it is your responsibility to work in teams to identify and collect the evidence. Find out how our human anatomy, from our fingerprints to our skeletons, leaves clues that we can interpret and analyse using forensic science to find out which suspect committed the crime. Suitable for ages 13-17.
6:30pm-8:30pm
 Department of Anatomy, Ground Floor,
 Lindo Ferguson Building,
 Great King Street, Dunedin
 Free, bookings essential.
 E:kathryn.mccllea@anatomy.otago.ac.nz
 to book.



Super Inventions Discovery Trail
 See page 6 for details.
Open during library opening hours from July 5th - 12th
 All Dunedin Public Libraries
 Free, no bookings required.

ALL AGES



A Waste of Time?
 Ever wondered: What happens to your black plastic rubbish bag? What Rummage is? What to do with those dead batteries from the TV remote? Come along for a tour of the Green Island Landfill and find out the answers to these questions. Plus learn a whole lot more about where the rubbish goes. Children under the age of 14 must be accompanied by an adult.
10am-12noon
 Meet at Octagon bus stop (outside Nova)
 Free, bookings essential.
 E: dcc@dcc.govt.nz
 or Ph: 03 477 4000.



We Want It Now! 3D Printing & the Design Process @ Festival HQ
 You've designed it, now you want to see it, hold it, try it. And you want to do it now! A look at how 3D printing and 3D drawing technologies affect the way we design and develop products. Presented by Otago Polytechnic.
11am-2pm
 Wall Street Mall, George Street



Otago Polytechnic: Test-drive an Electric Vehicle
 The test-drive electric vehicle uses in-wheel motors as well as all-wheel steering. The wheels can be controlled to move sideways, making parallel parking a breeze. You can also make a U-turn without taking any extra space. It's quite an exciting vision. The main research question was how can we automate the control of all the wheels at one time. We need to understand what the driver actually wants. It was quite a difficult task, but we did it. Driver's licence required for test-drive. See ad on page 14.
11am-2pm
 Upper Octagon
 \$2 per drive, no bookings required.



Otago Polytechnic: Small scale wind turbine
 Powerhouse Wind's vision is an appliance-like wind turbine for the future of distributed generation, local energy systems, off-grid applications and smart grids. The unique single-bladed design reduces noise and results in a smoother, less disturbed airflow; a drag coefficient half that of an equivalently well-designed three-blade set. See ad on page 14.
11am-2pm
 Upper Octagon
 Free, no bookings required.



Otago Polytechnic: Spring In2it
 Stop by for a health and fitness assessment by the Institute of Sport and Adventure. Have your blood cholesterol/ glucose and blood pressure measured, do a cycle test, and have your body composition analysed. You get to take home your very own "warrant of fitness"! See ad on page 14.
11am-2pm
 Upper Octagon: Bad weather alternative:
 Wall Street Mall, George Street
 Free, no bookings required.



Te Horo (Dart) Landslide and New Zealand's newest Lake
 Why we are fortunate to have our mountain regions in National Parks. Te Horo is undoubtedly Otago's (if not New Zealand's) most active landslide. Renewed activity in January 2014 dammed the Dart River and formed a 3 km-long lake. About 6% of Otago is alluvial fans formed from such processes and we have inhabited these landforms. They create the stony soils which are so good for growing grapes. There is a geological hazard to be wary of, which is quite difficult to manage. Simon Cox of GNS Science will present lots of video material of the Dart landslide during his talk!
12noon-12:45pm
 Hutton Theatre, Otago Museum,
 419 Great King Street
 Free, no bookings required.



Retro Lab
 Check out our Retro Lab to see how gadgets from yesteryear sparked the development of modern technology. Try out this 'old-school' technology for yourself and marvel at how we ever managed to do anything in the old days!
2:30pm-5:30pm
 Blueskin Bay Library,
 28 Harvey Street, Waitati
 Free, no bookings required.



Free Health Checks with the Southern District Health Board
 Suitable for ages 12+.
 See ad on page 26 for more info.
9am-1:30pm
 SDHB, 2nd floor Fraser Building,
 Dunedin Hospital, Hanover Street
 Free, no bookings required.

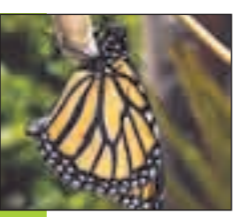


PHOTO: Flickr, Sid Mossdell



PHOTO: Olafur Eliasson. The cubic structural evolution project 2010. Collection: Queensland Art Gallery

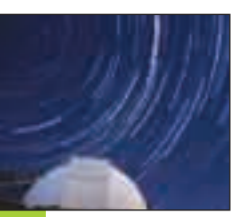


Sci-tropical Pursuits Interactive Investigations
 Pop into the Tropical Forest and get involved in an interactive pursuit of one of many incredible scientific phenomena found in the tropics.
Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm
 Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
 Free with Discovery World Tropical Forest admission, no bookings required.

Leave Boring Behind Photo Competition
 A returning festival favourite. See ad on page 3 for more info.
10am-4pm (runs every day of the festival)
 Hope Gallery, Otago Art Society,
 Dunedin Railway Station
 Free, no bookings required.

LEGO
 Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.
10am-5pm (every day of the festival)
 Dunedin Public Art Gallery,
 The Octagon

Art and Anatomy Project
 Exhibition: Artists and scientists work together to create art. A cooperation between the University of Otago and Otago Polytechnic.
8:30am-5:30pm
 Hunter Centre, Great King Street,
 opposite the Dental School
 Free, no bookings necessary.



ADULTS



Astronomy at the Observatory
 See page 6 for detailed description.
7:30pm onwards
 The Beverly-Begg Observatory,
 Cnr City Rd & Ross Street, Roslyn
 \$5 adult, \$3 child.
 Ph: 027 663 1711
 or E: dunedin.astronomy@gmail.com

Let's Talk about Sex, Baby! Scifest Debate
 From lust to love and everything in between, join some of the best young debaters in the country as they explore some of the issues facing us today. Relax, grab a drink, sit back (or have your say) with your host Mayor Dave Cull and enjoy a jaunt through the weird, wonderful and often scary world of attraction.
7:30pm-9:00pm
 University of Otago Staff Club,
 University Campus
 Free, no bookings required.
 Seating on first in first served basis.

Great Fermentations
 Zymurgy + communication = fun! A sequel to the festival favourite "the science of beer". Join us for an evening of beer, science, food and fun. Richard Emerson will introduce you to some great brews while Prof Phil Bremer and Dr Graham Eyres explain some of the science behind the world of fermentation. Mark Lane and Samson Rudd serve a taster of fermented foods to go with each beverage. Strictly ages 18 and over.
7pm-9pm
 TECHnique Restaurant,
 Harbour Terrace, Dunedin
 \$60 per person | Bookings essential.
 Book online www.ticketdirect.co.nz

MONARCH WILDLIFE CRUISES & TOURS
 See the best of the Otago Peninsula - See what can't be seen from land
Wildlife Cruise - Perquin Place
 Get closer to our unique southern ocean wildlife - Albatross, Seals, Penguins and up to 20 species of bird and marine life.
 Join us for our one hour cruise if already out on the peninsula OR relax and take one of our popular tour options from the city. (Complimentary transfers from accommodation)
 Sit back and let our experienced guides show you the peninsula.
 Ph: (03) 477 4276 FREEPHONE 0800 666 272
 Visit us at www.wildlife.co.nz or email monarch@wildlife.co.nz
 20 Fryatt Street, Dunedin and at Weller's Rock Wharf on Otago Peninsula

It's not rocket science!
 Excellent customer service is something Merrin Bath, commercial sales and leasing agent with Bayleys, Dunedin believes is a key factor to the success of any deal.
 With strong communication and negotiation skills, Merrin promises to:
 • Return your calls
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Call Merrin today to discuss your commercial property needs on 027 202 0903.
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 Bayleys

varroa mites
they're killing our bees
 ew! ick! Yuck! aaaaah.....
 Get up close and personal with all types of creepy crawlies when you visit the Department of Zoology display at the Science Expo, St David, July 5 & 6
zoology
 It's the Natural Selection
 UNIVERSITY OTAGO
 NEW ZEALAND

KIDS



Super Inventions Discovery Trail
See page 6 for details.
Open during library opening hours from July 5th-12th
All Dunedin Public Libraries
Free, no bookings required.

ALL AGES



Have you got the Guts? Emergency Services Theme Day
Do you want to be a paramedic when you grow up? Have you thought about training to be a high country rescuer or a firefighter? Meet some of your gutsy local Emergency Services personnel, find out about the skills their roles demand and test your emergency techniques at our all-in, adventure family day.
11am-3pm
Atrium Level 1, Otago Museum, 419 Great King Street
Free, no bookings required



BioBlitz 2014
A fun day out for the whole family exploring one of our city's biodiversity hotspots! Join an expert team of some of NZ's finest scientists and naturalists to celebrate the myriad life on your doorstep! **The Dunedin Botanic Garden** will host a range of hands on activities and exploration walks throughout its spaces. Discover and practise the skills required to observe, identify and classify an array of species from fungi to fish, pests to plants, birds to bugs and many many more! Children under 10yrs must be accompanied by an adult. Walks will take participants around a variety of terrain. Be prepared for all weathers, wear sturdy footwear and warm clothing.
See www.scifest.org.nz/bioblitz2014

Meet at the Information Centre @Dunedin Botanic Garden for all BioBlitz activities.



BioBlitz: Birds New Zealand
How many different kinds of birds can we see, hear and identify? Accompany ornithologists from Birds New Zealand to several parts of the garden to find the birds that live there. Hear life stories of some of the birds. Learn the differences between native and introduced birds. Please bring binoculars if you have them.
10am-10:45am
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Funky Fungi
Fungi are nutrient recyclers and they are everywhere - in soil, on plants, on our skin - and even in many foods and drinks we consume. Many fungi are plant decomposers and many others help plants to grow, so fungi connect much of life on Earth. The Dunedin Botanic Garden is rich in fungal diversity: we will search the gardens for fungi and discover how important they are for a healthy environment. Bring a camera.
11am-11:45am
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Lichen Walk
This guided walk will reveal some of New Zealand's exceptionally rich lichen flora. Explore the Botanic Garden and Lovelock Bush to discover the diverse growth forms and habitats of these amazing symbiotic organisms.
12noon-12:45pm
Free, bookings essential.
Ph: 03 477 4000 or E: dcc@dcc.govt.nz



BioBlitz: Leaf Litter
Fine day: Leaf litter in Woodhaugh gardens will be put through a hand-held sieve onto a tray, and the invertebrates will be identified using hand-held trays. Rainy day: A demonstration on sieving leaf litter for invertebrates will be quickly presented. Then, using microscopes set up on tables in the Botanic Garden Information Centre near the Winter Garden, some of the sieved insects, mites, pseudoscorpions and minute wingless wasps will be viewed under binocular microscopes and identified using books and keys. People will help themselves to the bag and look at the litter inhabitants in a Petri dish under a microscope.
12noon-12:45pm
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Is the Leith Dirty or Healthy?
Ask the bugs living in it! The organisms living in the bed of a stream or river can tell us a lot about how clean or dirty it is. Many of these organisms are excellent bioindicators because they are sensitive to pollution and also reflect the conditions over several months before they are collected. During our walk we will visit several sites at the Water of Leith where we'll collect the aquatic larvae of insect groups such as mayflies and caddis flies. You will learn what these creatures can tell us about how healthy the aquatic community is. After the walk we'll take some of these animals to the Information Centre so we can study them under the microscope - they often look very impressive!
1pm-1:45pm
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Plants and How to Look at Them
We all know what plants are, but just how well do we look at them? Could you describe a plant to someone who has never seen it before? Can you even describe it to yourself? If not, how can you know it? This walk will encourage you to take a closer look and think about what you are actually looking at.
2pm-2:45pm
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Cryptic Corner
Mosses, liverworts and lichens are a large but often overlooked part of our native flora. Luckily it's not hard to stop and take a closer look and appreciate the huge diversity of cryptic species we have in New Zealand. Come along to our workshop to have a hands-on experience alongside some experts in bryophyte and lichen identification and see this tiny flora in a whole new light!
3pm-3:45pm
Free, bookings essential.
Ph: 03 477 4000
or E: dcc@dcc.govt.nz



BioBlitz: Flora Finder Demonstration
See how to instantly identify New Zealand native plants using the camera on your smart device. Flora Finder is an electronic field guide to help you identify some of the most common New Zealand native plants from photographs of their leaves.
Throughout the day
Free, no bookings required.



BioBlitz: Love Nature at Lovelock Bush
Join a team of experts from Orokonui Ecosanctuary and Landcare Research to systematically survey life in Lovelock Bush! Learn how to detect, collect and identify: Native Plants and assess Bush Vitality; introduced pests from bitemarks, footprints and poo; Birds from calls, flight styles and nests; Invertebrates in the leaf litter, soil and beyond! Take home skills to make your backyard a beautiful sanctuary.
Available from 10am-2pm
Free, no bookings required.



We Want It Now! 3D Printing & the Design Process @ Festival HQ
You've designed it, now you want to see it, hold it, try it. And you want to do it now! A look at how 3D printing and 3D drawing technologies affect the way we design and develop products. Presented by Otago Polytechnic.
11am-2pm
Wall Street Mall, George Street



PHOTO: Isabella Harrex

Otago Polytechnic: Test-drive an Electric Vehicle
The test-drive electric vehicle uses in-wheel motors as well as all-wheel steering. The wheels can be controlled to move sideways, making parallel parking a breeze. You can also make a U-turn without taking any extra space. It's quite an exciting vision. The main research question was how can we automate the control of all the wheels at one time. We need to understand what the driver actually wants. It was quite a difficult task, but we did it. Driver's licence required for test-drive.
See ad on page 14 for details.
11am-2pm
Upper Octagon
\$2 per drive.
No bookings required.



PHOTO: Isabella Harrex

Otago Polytechnic: Small scale wind turbine
Powerhouse Wind's vision is an appliance-like wind turbine for the future of distributed generation, local energy systems, off-grid applications and smart grids. The unique single bladed design reduces noise and results in a smoother, less disturbed airflow, a drag coefficient half that of an equivalently well-designed three-blade set. See ad on page 14.
11am-2pm
Upper Octagon
Free, no bookings required.



PHOTO: Isabella Harrex

Otago Polytechnic: Spring In2it
Stop by for a health and fitness assessment by the Institute of Sport and Adventure. Have your blood cholesterol/ glucose and blood pressure measured, do a cycle test, and have your body composition analysed. You get to take home your very own "warrant of fitness"! See ad on page 14.
11am-2pm
Upper Octagon
Bad weather alternative: Wall Street Mall, George Street
Free, no bookings required.



Who is a New Zealander?
This is a compelling social question facing an increasingly multicultural NZ. Genetic studies indicate that we can all ultimately trace our origins to Africa. About 65,000 years ago modern humans started expanding across the globe. The final land-mass settled by humans was Aotearoa/ New Zealand, just 750 years ago. Prof Lisa Matisoo-Smith talks about the genetic study of the population of NZ today that aims to map the many pathways our ancestors took which ultimately brought each of us here. The results allow us to appreciate and discuss science and what it tells us about our common ancient origins, our unique histories and our shared future as New Zealanders.
2pm-3pm
Auditorium, Toitu Otago Settlers Museum, 31 Queens Gardens
Free, no bookings required.



Dr Bunhead's Blast Off
Join Dr Bunhead (from TV's *Brainiac*) on the ultimate science journey... rocket-riding into the science of space travel. Featuring the first hamster into space, super-cool stunt bananas and a man with his head on fire.
7:30pm-9pm
St David lecture theatre, University of Otago Campus
Adults \$20 | Children \$10
Families (2+2) \$50. Bookings essential.
Book online www.ticketdirect.co.nz



Free Health Checks with the Southern District Health Board
Suitable for ages 12+.
See ad on page 26 for more info.
9am-3pm
SDHB, 2nd floor Fraser Building, Dunedin Hospital, Hanover Street
Free, no bookings required.

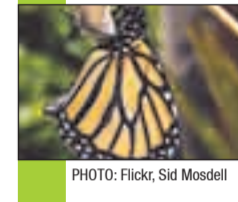
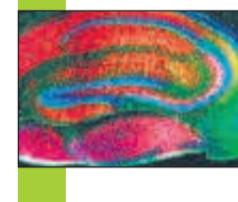


PHOTO: Flickr, Sid Mosdell

Sci-tropical Pursuits Interactive Investigations
See page 11 for details.
Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm
Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
Free with Discovery World Tropical Forest admission, no bookings required.



Leave Boring Behind Photo Competition
A returning festival favourite. See ad on page 3 for more info.
10am-4pm (runs every day of the festival)
Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



LEGO
See page 6 for details.
10am-5pm (every day of the festival)
Dunedin Public Art Gallery, The Octagon
Free, no bookings required.
PHOTO: Olafur Eliasson. The cubic structural evolution project 2010. Collection: Queensland Art Gallery



Art and Anatomy Project
See page 6 for details.
10am-4pm
Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings necessary.



Astronomy at the Observatory
See page 6 for details
7:30pm onwards
The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn
\$5 adult, \$3 child; Ph: 027 663 1711
or E: dunedin.astronomy@gmail.com for more info.



SCIENCE COMMUNICATION
THE CENTRE FOR SCIENCE COMMUNICATION
"the home of storytelling and science"

The world's largest postgraduate facility for the study of science communication has just got bigger and better;

- more staff
- more students
- more programmes

ALL AGES



PhD in Science Communication
Get the ultimate qualification with regard to research and scholarship in the area of science communication. International students pay domestic fees. Otago Scholarships available.

1-Year Masters
From 2015 we are planning to offer a 1-year "taught" Masters qualification in Science Communication.

Creative Nonfiction Writing in Science
From 2015 we are planning to offer an expanded writing programme in Creative Nonfiction, including distance learning options.

SCIENCE WEEK
AT DUNEDIN PUBLIC LIBRARIES

Check out our Retro-Lab to see how gadgets from yesteryear sparked the development of modern technology and uncover the history of the world's science heroes on our super inventions discovery trail.

Saturday 5 – Saturday 12 July | All Libraries

dunedin public libraries
A DEPARTMENT OF THE DUNEDIN CITY COUNCIL

FREE

ALL AGES

Fish and Ships Marine Science Day at the Harbour Basin

A day of marine theme activities, competitions and displays for the whole family from 11am-4pm. No bookings required. Check out all three venues in the Harbour Basin.

Waterfront Warehouse 40 Fryatt Street

What is a Fish?
Sally Carson, NZMSC: A fun look at what makes a fish a fish!
11am

Colouring Competition Prizes and Q&A session on Sharks.
11:15am

Great White Sharks in New Zealand

Malcolm Francis, NIWA: Find out about the ocean's greatest predators that can be found in New Zealand waters.
11:30am

Filming Great White Sharks

Ryan Johnson, South Africa: Great White Sharks attract huge media attention. Ryan has worked with film-makers round the world who want to capture his research with these sharks.
12noon

Diving Below the Ice: Research in the Antarctic

Miles Lamare, University of Otago: Collecting and studying Antarctic marine life requires some special techniques. Find out what diving below the ice entails and what research questions they are trying to answer.
12:30pm

Tagging Sharks off Stewart Island

Malcolm Francis: Where do our sharks go? How far do they travel? Malcolm Francis reveals the journeys of the Stewart Island Great Whites.
1:00pm

Shark Research in South Africa

Ryan Johnson: Ryan's experience studying Great White Sharks of Dyer Island, South Africa, was the start of his passion for these animals!
1:30pm

Techniques for Identifying Marine Mammals

Will Rayment, University of Otago: How do you count marine creatures; how do you tell one whale from another? Find out how the experts do it.
2:00pm

Why Sharks Matter

Ryan Johnson: Sharks often get bad press. Find out why these top predators are so important and worthy of protection.
2:30pm

Shark Dissection:

Find out how sharks work from the outside in! Join shark experts Malcolm Francis and Ryan Johnson for this close-up look at shark biology.
3:00pm

The Customhouse refreshments available all day

How Fresh is Your Fish?

Phil Bremer, Food Science, University of Otago: How you can tell if a fish is fresh, and what processes impact on its rate of deterioration?
11:30am

Local Fisheries

Chris Hepburn, Marine Science, University of Otago: Find out what species our local fisheries target, and how people can help improve their catch.
12noon

Incredible Edible Seaweed

Sally Carson, NZ Marine Studies Centre, University of Otago: Find out what seaweed is good to eat, and try some tasty seaweed chips!
1:30pm

Miniature Marine Marvels

Federico Baltar, Marine Science, University of Otago: Ocean Sampling Day on 21 June 2014 was the biggest global effort in marine science carried out in a single day. Why?
1:30pm

Spying on Marine Life

Sally Carson, NZ Marine Studies Centre, University of Otago: Your observations are important to the conservation of marine life. Find out how you can make a difference.
2:00pm

RV Polaris II

Monarch Wharf, Fryatt Street

Climb aboard the University's Research Vessel

Find out where our scientists go to carry out their research and about the equipment they use. See a Remote Operated Underwater Vehicle (ROV) in action.
From 11am-4pm



Frogs Forever @ Orokonui

What do you know about frogs? Do hiccups link us to our frog ancestors? Why do we need frogs to survive? Find out about the biggest extinction since the dinosaurs and what you can do to help! Meet our real life native frogs, extinct on the South Island, hear from experts and visit frog habitat. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
10am-12noon

Orokonui Ecosanctuary, 600 Blueskin Road, Waitati
Children \$5, Adults \$7, numbers limited. Bookings essential.
Ph: 03 482 1755 or 021 065 1314 or E: info@orokonui.org.nz



Water Wellbeing @ Orokonui

What do you know about H₂O? How does what we drink affect how we think? Why does our heart rate drop when we touch water? Find out more about how your brain uses water and explore how to keep waterways clean. Workshop includes relaxing with water exercises and assessing how clean water is by observing which creatures live in it. Suitable for all ages. Children under 6 yrs need to be accompanied by an adult.
1pm-3pm

Orokonui Ecosanctuary, 600 Blueskin Road, Waitati
Children \$5, Adults \$7, numbers limited. Bookings essential.
Ph: 03 482 1755 / 021 065 1314 or E: info@orokonui.org.nz

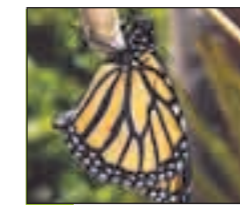


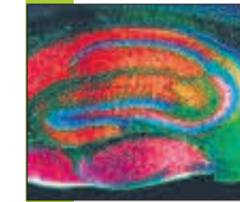
PHOTO: Flickr, Sid Mossdell

Sci-tropical Pursuits Interactive Investigations

Pop into the Tropical Forest and get involved in an interactive pursuit of one of many incredible scientific phenomena found in the tropics.

Throughout the day from July 7th to 13th - Otago Museum is open daily 10am-5pm

Otago Museum Tropical Forest, Otago Museum, 419 Great King Street
Free with Discovery World Tropical Forest admission, no bookings required.



Leave Boring Behind Photo Competition

A returning festival favourite. View the artwork from the Otago School of Medical Sciences photographic 'Leave Boring Behind' competition. See photographs from staff and students and find out for yourself that science is exciting.

10am-4pm (runs every day of the festival)

Hope Gallery, Otago Art Society, Dunedin Railway Station
Free, no bookings required.



PHOTO: Olafur Eliasson. The cubic structural evolution project 2010. Collection: Queensland Art Gallery

LEGO

Thousands of white LEGO bricks await an audience to transform them into art. That means YOU! The Gallery brings you Olafur Eliasson's exhibition The Cubic Structural Evolution Project.

10am-5pm (every day of the festival)

Dunedin Public Art Gallery, The Octagon
Free, no bookings required.



Art and Anatomy Project

See page 6 for details.

10am-4pm

Hunter Centre, Great King Street, opposite the Dental School
Free, no bookings necessary.

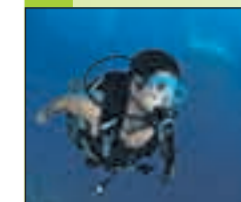


PHOTO: Fiona Ayerst

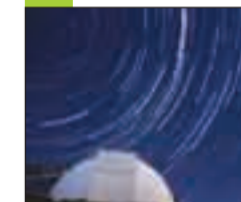
Shark Night at the Movies From St Clair to South Africa

Popcorn's on us, as you are invited to join festival guest Ryan Johnson to enjoy a night at the movies with three shark documentaries from two quite different corners of the world. A great way to end the week (or start a new one), with two internationally acclaimed documentaries from Ryan Johnson as well as *Tangled Waters*, a local documentary from film-makers Nicole Schafer and Andrew Scott. The movies will be followed by a Q&A session with Ryan Johnson. The night will also include the announcement of the Sharklab '14: Why Sharks Matter competition winners.

7pm-8:45pm

St David lecture theatre, University of Otago Campus

Adults \$12 | Children \$7
Families (2+2) \$25
Bookings essential.
Book online www.ticketdirect.co.nz



Astronomy at the Observatory

See page 6 for details.

7:30pm onwards

The Beverly-Begg Observatory, Cnr City Rd & Ross Street, Roslyn
\$5 adult, \$3 child. Ph: 027 663 1711 or E: dunedin.astronomy@gmail.com for more info.

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Some of our Science Festival Heroes

Planning and organising the science festival is exciting, challenging and extremely rewarding, for the festival team, the executive committee, and our many partners. Many who shape the festival's character are involved because they are passionate about science. We want to mention a few of those individuals who always go the extra mile to help bring you a great science festival:



Dr Angela Clark is a teaching fellow in the Department of Anatomy at the University of Otago. Her research focuses on biological anthropology, and she has travelled extensively to participate in excavations. When back in Dunedin, she uses her nickname "the boneologist" to inspire young people to take up a career in science – preferably anthropology, of course. During the 2014 science festival, she will run four workshops for kids and teens, and co-host a big evening event for young women in science. We think she's a great role model for the young generation of science communicators!

We are excited to have met **Emily Hall** in the lead-up to the 2014 festival. In a meeting about hosting a group of secondary school students during the festival, she told us about her passion for teaching physics and karate. She combines the two and uses karate to teach the principles of physics at Queen's High School! Emily has done some research and found it's working better than the usual classroom physics, and her students are having fun, too. We couldn't agree more!

Chris Smith from the Department of Anatomy has the privilege of working in one of the most extraordinary locations in the University School of Medical Sciences - the Anatomy Museum. Surrounded by the most amazing models, human organ displays and specimens, the Museum is in regular use by medical sciences students, staff and visitors. For a number of years, Chris has played a major role in bringing a variety of activities to the festival, all of which are very popular, be they in-depth anatomy workshops for teenagers or making T-shirts with the "inner organs" painted on them by the young ones.

Rose Newburn & Donnella Aitken-Ferguson are two of the festival's most important contacts at the University of Otago. As divisional marketing co-ordinators for the sciences and health sciences divisions respectively, they work together to organise the Science Expo on July 5th & 6th. Rose and Donnella are also the ideal go-to people whenever the festival team is in need of a new contact in certain research or administrative areas within the university. And best of all, their support always comes with a smile!

Amadeo Enriquez-Ballester is part of the Otago Museum's team of science communicators and has a real passion for communicating science to all kids. Amadeo can be regularly spotted at the Museum's Freaky Science shows doing all sorts of creative demonstrations. A man of many passions, Amadeo will also run several workshops about the universe this year, together with the Dunedin Astronomical Society.

But wait... there's more!

The NZ International Science Festival has many partners, and this year we have also partnered with the team at the Auckland Museum to host a number of our international speakers at satellite festival events after they have been in Dunedin. So tell your friends and family in Auckland not to miss these. Find all details online at www.aucklandmuseum.com Look out for the following presentations in Auckland:



James Piercy
Thursday July 10th, 4:00pm



Dr Graham Walker
Friday July 11th, 12:30pm



Ryan Johnson
Monday July 14th, 6:00pm



Prof Terry Collins
Monday July 21st, 7:00pm



Our thanks

The festival happens due to the support of many people, and we are grateful for the many hours that go into developing, planning and bringing together the events. From staff through to sponsors, supporters and volunteers we would like to say thank you for contributing to making this festival happen.

In particular, we would like to acknowledge the fantastic contributions of the following people:

Festival Team
Chris Green - *Director*
Rieke Lamb - *Associate Director*

Publicity
Merrin Bath - *Strategy First*
Amie Richardson - *Profile Media*

Festival Guide Design
Otago Daily Times Creative Services

Ticketing Partner
www.ticketdirect.co.nz

Festival Website Design
Phillip Rasmussen and Matthew Trubhovic
Zuma Web + Design Studio

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Mike Harte FIITP, ITCP, *Director of Information Technology Services, University of Otago, Life Member NZISF.*
Prof Phil Bishop, BSc, MSc, PhD, *Zoology Department, University of Otago*

Wellness Checks

... how healthy are you?

The Southern District Health Board's Skills Laboratory will be open to the public and to all staff during the science festival. See session times below.

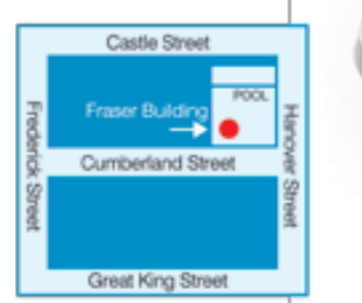
- Take the stairs — get your pulse rate checked
- Get your blood-glucose level checked
- Get your vision checked
- Get a breathing (respiratory) check

Come and see a model of how the eye works! See how modern technology saves lives.

- See how resuscitation equipment works
- See how CPR (cardiac) equipment works
- See other life-saving scenarios on PC-based simulators

When: Open Mon July 7th (from 9am-12noon -- Tues 8th, Wed 9th and Sat 12th from 9am-3pm -- Fri 11th from 9am-1:30pm -- no checks on Thursday, July 10th.)

Where: The Otago Clinical Skills Laboratory in the Fraser Building, opposite the carpark entrance to Dunedin Hospital on Cumberland St, follow the signs.



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