



University of Otago Science Expo

St David Complex | Corner of St David St & Cumberland St
7 July 10am – 4pm : 8 July 10am – 2pm | All welcome



Free entry

Anatomy

Going beyond what you might think

Come along to our interactive display and discover just how fascinating anatomy is! Watch dissections of a deer heart and a lamb brain, paint your “insides” onto a T-shirt, and see how your bones, muscles and organs all fit together.

Heart dissections: Saturday at 11am and Sunday at 11am

Brain dissections: Saturday at 2pm and Sunday at 12noon

Biochemistry and Genetics Otago

Solving the molecular mysteries of our cells

Biochemistry and Genetics are types of biology that explore the origins and mechanics of life. They discover causes of disease and their cures. They also solve the problems facing our agriculture and natural heritage. Come along and explore some of the hands-on child-friendly techniques that are used by scientists to investigate the molecular details of life.

Brain Health Research Centre

Introduce yourself to your brain

Your brain is the boss of your body. It runs the show and controls just about everything you do, even when you're asleep. Not bad for something that looks like a big, wrinkly, pink sponge!

Come along and look at our giant Inflatable Brain, learn some brain facts, and make your own neuron.

Brilliant Botany

Connecting plants and people for a sustainable future

Plants give health to our planet and feed our growing population. Supermarket surprise! Have you ever wondered where all the different vegetables came from? Come and see how one plant species was cultivated to produce more than 10 foods. Do you know what veggies New Zealand natives are related to? We eat plants but did you know plants can eat animals too? Learn more at feeding time at the carnivorous plants enclosure. Want to take a bit of Botany away? Plant a New Zealand native seed and take it home with you.

Chemistry

Crystal-growing competition

Winning crystals from a national schools' crystal growing competition will be displayed, along with a 3m³ NaCl crystal lattice. Information about crystals and crystal-growing will be displayed on a TV screen.

Computer Science

The sandbox

Make your own landscape in sand and watch the computer colour it in. This is an example of a “tangible interface” for augmented reality. The computer works out the shape of the sand in 3D and paints contours onto the landscape.

Photomosaic

See your photo made from a mosaic of others. Each captured image is added to the palette. So your picture is used to create others later.

3D Printer

Design and print your own objects. We provide the printer and design programs. During the Expo we will print as many as time permits.

Interactive sculpture

Work with others to create a colourful virtual sculpture. Four computers work on one piece. This shows a highly intuitive interface. You need almost no instruction to make 3D shapes in virtual space.

Are you in tune?

Come play your own instrument or borrow one of ours. Our software will help you to play better.

Mind-controlled drone

Launch our drone with the power of your mind.

Science fiction becomes fact. You can control a machine just by thinking.

Dentistry

Faculty of Dentistry reaches out

An overview of some of the research activities at the Faculty, with displays of dental models and equipment, and some hands-on activities for the general public.

Food Science

Challenge your senses

Come along to test 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 “gel out” with our gummy treats and learn the science behind making tough meat-cuts succulent and delicious.

Geology

Dunedin's rocky foundation

Have you ever wondered about the history of Dunedin's geology? Find out about what lies beneath your feet, the story of Dunedin's ancient past.

Human Nutrition

Feed your mind

Sugar and fat have received a lot of recent media attention in relation to obesity and heart disease. At Human Nutrition you'll have the opportunity to guess the fat and sugar contents of some common foods and drinks. For the interested – and the brave – we'll have an analyser which will calculate your percentage of body fat. Calculate your body mass index (BMI) and compare this to current All Blacks.

Information Science

Human-computer interaction

We will showcase a number of interactive demonstrations:

- 3D Telepresence with Voxal Avatars
- Interactive Human Brain Visualization
- Computational Glasses for the Colour-Blind
- Experience 4-Dimensionality: Virtual Reality Hypercube
- Mobile Telepresence

Marine Science

A changing ocean

Learn more about the ocean and the unique life that lives above and below the surface. Find out how scientists are trying to understand more about human impacts on this environment..

Mathematics and Statistics

Einstein, earthquakes and epidemics

What would the world look like if you travelled close to the speed of light? What pattern can be seen in the magnitudes of earthquakes and how often they occur? Can we predict if an epidemic will start or stop? Explore how mathematics and statistics are used every day and try your hand at some maths puzzles in our chill-out zone.

Microbiology and Immunology

Augmented reality - the gut microbiome

A professionally produced interactive feature aimed at children 8-12 years old.

Pharmacology and Toxicology

The good and bad of drugs and chemicals

Discover pharmacology and toxicology; from developing and testing drugs or human and animal diseases, to understanding the harmful effects of drugs and toxins.

Pharmacy

How the drugs get in!

Medicines are most commonly taken by mouth and they come in many different forms. The science behind medications and their formulation along with the delivery in the human body will be featured. Come and find out about the science behind medicines.

Physical Education, Sport and Exercise Sciences

An exploration of the four proposed majors (subject to approval) at the PE School

- Sport and Exercise Sciences
- Sport Technology
- Sport Development and Management
- Physical Education, Activity and Health

And

Te Koronga Indigenous Science Research Theme

- Wai Ora, Mauri Ora Exhibition
- Healthy People, Healthy Environment Exhibition.

Physics

Seeing is believing

Hands-on activities and demonstrations for you to investigate light. Talk to physicists about how we use light in research and why it is important in technology. See quantum effects in action. How optical fibre works, ghost bulb, make your hand invisible, superconducting track.

Physiology

Understanding how the human body works

Have you ever wondered what the difference is between sensation and perception? How you sense flavour, temperature or colour? The Physiology Department will host a booth at the International Science Festival that will allow you to test your perceptions and discover some mind-bending sensory tricks.

Physiotherapy

A balancing act

Balance is integral to everything we do – from simple tasks, to walking to performing sports and athletics. Come and learn about the body systems that control balance and test your own balance.

Psychology

Psychology: Then, now, and beyond!

From its humble beginnings in 1879 in Germany, Psychology has grown to be a huge field of study with a wide range of topics. Come along to participate in some classic psychology experiments, and to find out more about Psychology – where we've been, where we're at now, and some exciting new directions for research in the future!

Zoology

Buzzy biology

Hands-on activities for families, centred around a (real) bumble bee nest. See what animals live around Dunedin and what used to live here long ago. What questions do scientists in the Zoology Department ask about animals, why do they ask these questions, and how do they answer them?