

*NIWA Manukau Science and Technology Fair
Prize Giving Ceremony*

Tuesday, 30 August 2016

Mission Heights Junior College Theater

7 to 9 pm

<i>Welcome</i>	<i>Catherine Hunter</i>
<i>Convenor's Address</i>	<i>Catherine Hunter</i>
<i>Presentation of Category Prizes</i>	<i>Prize sponsors</i>
<i>Musical Interlude</i>	<i>MHJC students</i>
<i>Presentation of Special Awards</i>	<i>Prize sponsors</i>
<i>Presentation of the Premier Award</i>	<i>Ken Becker, NIWA</i>
<i>Closing</i>	<i>Catherine Hunter</i>

Your prize money comes in the form of a cheque which is found in your envelope.

Please cash all cheques by December 31, 2016.

Sponsor's Message



A very warm welcome to the 2016 NIWA Manukau Science and Technology Fair. It's a great pleasure for NIWA to support this outstanding event once again, and we congratulate all the students, parents, teachers and supporters who have worked so hard to bring it to life.

NIWA Science & Technology Fairs are a wonderful opportunity for students to showcase their talent and enthusiasm for science, and to gain recognition for their excellence and innovation. Across the country, thousands of students have been involved in researching, constructing and presenting exhibits. Participation is, on its own, a powerful learning tool. The experience is all the greater because these Fairs are above all else, fantastic fun.

Of course NIWA has a vested interest in nurturing a passion for science and technology among young New Zealanders. Enhancing knowledge in NIWA's key areas of scientific focus – the atmosphere, the ocean, and freshwater – is critical to the sustainable growth of New Zealand as a nation. We need fresh enquiring minds to maintain this momentum. A career in science and technology is as rewarding as it is important – and right here is where we hope a spark may be lit.

NIWA is the main sponsor of the Manukau, Auckland City, Wellington, Waikato, and Bay of Plenty Science & Technology Fairs. These events form part of our long-term commitment to enhancing engagement with science and technology by young New Zealanders

Thank you to the organising committee, judges, schools and other sponsors for your commitment and support in promoting the NIWA Manukau Science and Technology Fair. Without you, this exciting event simply wouldn't happen.

Tracey Burton
NIWA School Education Co-ordinator

Convenor's Report



Tēnā koutou, tēnā koutou, tēnā koutou katoa.

Welcome friends and whanau to the 21st NIWA Manukau Science and Technology Fair. Thank you for celebrating and sharing in the success of our award winners. The evening culminates hours of hard work and perseverance of students from schools around the region.

Through reflection, I have come to realize that what I love the most about the Fair is the variety of ideas and innovations presented. Year after year, no two projects are the same. Each student brings a different perspective and creativity to the world of science and technology. Without new and emerging ideas, like the ones we are showcasing tonight, society would not progress. Since the Fair's inception, we have seen bionic limbs change sports, laparoscopic surgery shorten recovery times, and online streaming replace VHS tapes. These scientific advances were only ideas before someone started testing and designing them. So students, I urge you to also reflect on your work. Understand that your ideas have the ability to change the future. Consider the "what's next" and use your ideas to make your mark on the world.

The "what next" is also valuable for teachers, mentors and families. Thank you for you cheering on your child throughout their journey. Your continuous feedback and support is a vital component of the developmental process. By asking questions, prototypes evolve and new tests are conducted on the quest to find the answer. Encourage students to challenge themselves, reflect on their successes and identify ways to improve for next year's competition.

Lastly, I would like to thank the on-going support and commitment of our sponsors and judges. Without their generous financial contributions or time given for judging, we would not be here tonight. Lastly, to the Committee, thank you for your hard work and dedication to the Fair. Your advice and collaboration is second to none and I truly value your support and effort in hosting such a successful community event.

Catherine Hunter
Convenor

Presentation of Category Awards

Category 1 – Years 7 and 8 Living World Sponsored by Wai Shing Ltd.

Presented by Liz Palmer, Committee member,
on behalf of Wai Shing Ltd

FIRST PLACE

Ashley Tan

Does Paw Handedness Affect Behaviour?

Somerville Intermediate School

SECOND PLACE

Thomas Donnell

Perfectly Imperfect

Somerville Intermediate School

THIRD PLACE

Ryan Koshy

H2-Go For Gold

Somerville Intermediate School

HIGHLY COMMENDED

Ann Rawinia Cato

Puha vs. Kale

Pukekohe Intermediate School

HIGHLY COMMENDED

Abbie Jones

Stress!

Farm Cove Intermediate School

HIGHLY COMMENDED

Danielle King

Left Handed? Yeah Right

Somerville Intermediate School

HIGHLY COMMENDED

Hazel Stratford

Best Fert and Dirt Combo

Somerville Intermediate School

HIGHLY COMMENDED

Alysa Lai

Music or Not?

Somerville Intermediate School

Category 2 – Years 7 and 8 Physical and Material World

Sponsored by Gunac South Auckland GME Ltd.

Presented by Robyn Mekkelholt, Owner, Gunac
South Auckland GME Ltd.

FIRST PLACE

Nathan Anderson

How big to boot

Somerville Intermediate School

SECOND PLACE

Rohnan Nankivell

Ripcord

Howick Intermediate School

THIRD PLACE

Anav Ramsing

Power of Light

Mission Heights Junior College

HIGHLY COMMENDED

Max Vivian

Loop d' Loop

Tyndale Park Christian School

HIGHLY COMMENDED

Cooper Hart

Slimy Solution

Drury School

HIGHLY COMMENDED

Devin O'Callaghan

Smarter Heating – or not?

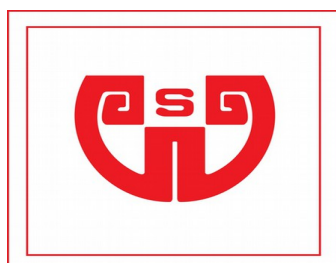
Pukekohe Intermediate School

HIGHLY COMMENDED

Elizabeth Wu

Wifi Blockers

Farm Cove Intermediate School



Presentation of Category Awards

Category 3 – Years 7 and 8 Environmental Science / Planet Earth and Beyond

Sponsored by the Kiwanis Club of Papatoetoe

Presented by John Bell, Past President,
Kiwanis Club of Papatoetoe

FIRST PLACE

Hank Lin

Bactricity

Somerville Intermediate School

SECOND PLACE

Mikyla Flexman

Flowing Water

Somerville Intermediate School

THIRD PLACE

Krystal Lal

The Best for Biogas

Howick Intermediate School

Category 4 – Years 7 and 8 Intermediate Consumer Science

Jointly sponsored by the Kiwanis Clubs of
Shamrock and Drury

Presented by Dean Tohill, President, Kiwanis
Club of Shamrock and Ann van Daalen,
President, Kiwanis Club of Drury

FIRST PLACE

Arwen Harrison

Decreasing the Drag

Rosehill Intermediate School

SECOND PLACE

Joshua Christophers

Insulation

Farm Cove Intermediate School

THIRD PLACE

Ru-Qing Xu

Faiza Aboobacker

Kathleen Tieu

To drink or not to drink?

Mission Heights Junior College

HIGHLY COMMENDED

Zarne Sorensen

Can you digest this?

Farm Cove Intermediate School

HIGHLY COMMENDED

Oli Isom

Clean Conspiracy

Elim Christian College

Kiwanis Club of Papatoetoe



Kiwanis Clubs of Shamrock and Drury



Presentation of Category Awards

Category 5 – Years 7 to 10 Technology / Innovations

Sponsored by KP Group Ltd

Presented by Jacqui Davidson of
KP Group Ltd

FIRST PLACE

Tayin Patel

Fossil Hunting Port Waikato
Somerville Intermediate School

SECOND PLACE

Harrison Redmayne

Springs with Altitude
Elim Christian School

THIRD PLACE

Alina Hayat

Brendan Hua

Caleb Ye

Firewatch

Mission Heights Junior College

HIGHLY COMMENDED

Jasmine Niederberger

Blinded by the Light

Pukekohe Intermediate School

Category 6 – Years 9 and 10 Living World

Sponsored by Kiwanis Club of Waiau Pa-Clarks
Beach

Presented by Megan Allan, Governor - New
Zealand South Pacific District of Kiwanis
International

FIRST PLACE

Caiel Dayu

Ryan Iglesia

Eugene Chua

Correction?

Mission Heights Junior College

SECOND PLACE

Maya Louw

Molly Cooper

Musically Mindset?

Howick College

THIRD PLACE

Kate Hosking

Charlotte Domigan

Honey, I Killed the Bugs

Howick College

HIGHLY COMMENDED

Liam Cotton

Plant Growth in Green House

Howick College

HIGHLY COMMENDED

Saana Wilson

Exotic Eggs

Howick College

Kiwanis Club of Waiau-Pa
Clarks Beach



Presentation of Category Awards

Category 7 – Years 9 and 10 Physical and Material World

Sponsored by New Zealand Steel Ltd.

Presented by Bruce Cooper, Mechanical Supervising Engineer

FIRST PLACE

Alex Coleman-Chaiman

Intrusion Solution

Pukekohe High School

SECOND PLACE

Bella Lin

Emaan Hartley

Gluetastic

Mission Heights Junior College

THIRD PLACE

Katie Heaven

Yoshita Mantipragada

Handy Man

Howick College

Category 8 – Years 9 and 10 Environmental Science / Plant Earth and Beyond

Sponsored by Kiwanis Club of Papakura

Presented by Ewan Beck, Past Gov. NZSP District of Kiwanis International

FIRST PLACE

Jojo Coleman-Chaiman

What's in our Water?

Pukekohe High School

SECOND PLACE

Blake Fryer

Biodegradable or Not, Part 2

Pukekohe High School

THIRD PLACE

Ethan McCormick

Nutrient Nightmare?

Howick College

Kiwanis Club of Papakura



Presentation of Category Awards

Category 9 – Year 9 to 13 Secondary Consumer Science

Sponsored by Auckland Science Teachers
Association

Presented by Catherine Hunter, Auckland
Science Teachers Association

FIRST PLACE

Joanne Ting

Fluffin Muffins 2

Mission Heights Junior College

SECOND PLACE

Alyssa Thompson

Carpet Cleaner

Howick College

THIRD PLACE

Dania Shafiq

Fermentation Flora

Manurewa High School

HIGHLY COMMENDED

Nathan Phu

Electrifying Liquids

Howick College

Category 10 – Years 7 to 13 Scientific Photography

Sponsored by Storage King, Botany South

Presented by Ross Jones, Assistant Manager,
Storage King, Botany South

HIGHLY COMMENDED

Nicholas Barker

Welcome to Auckland's Future

Somerville Intermediate School



Presentation of Category Awards

Category 11 – Years 11 to 13 Senior Science

Sponsored by NIWA

Presented by Ken Becker, Regional Manager
(Auckland)

FIRST PLACE

Andre Yalda

Stamp Out Damp

Manurewa High School

SECOND PLACE

Alexandria Bunning

Ashleigh Murphy

Olivia Mearns

NZ Wind Turbines

Pukekohe High School

HIGHLY COMMENDED

Amy Wang

Zianne Mehta

Node Where to Sit

Howick College

HIGHLY COMMENDED

Rashmeen Sandhu

Yuzhang Tan

Stray Cat Blues

Ormiston Senior College

Botany Downs Secondary College



Presentation of Special Awards

The IET Innovation Awards

Sponsored by the Institution of Engineering and Technology

Presented by Yan Liu, IET Member

JUNIOR AWARD

Harrison Redmayne

Springs with Altitude

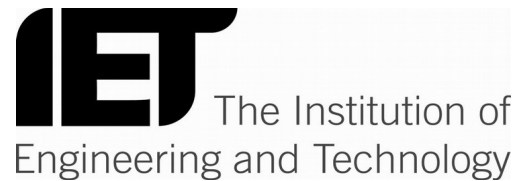
Elim Christian School

SENIOR AWARD

Andre Yalda

Stamp out Damp

Manurewa High School



Award for Best Application of Electronics

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Harvir Singh-Birl

Hruthin Pagadala

Carl Xie

Project X

Mission Heights Junior College



MIT Engineering Award

Sponsored by Manukau Institute of Technology,
School of Engineering

Presented by Blake Wong-Ling, Schools and Youth Liaison, MIT

Jasmine Niederberger

Blinded by the Light

Pukekohe Intermediate School



Presentation of Special Awards

Best Project by a Maori Student

Sponsored by Manukau Institute of Technology

Presented by Blake Wong-Ling, Schools and Youth Liaison, MIT

Ann Rawinia Cato

Puha vs. Kale

Pukekohe Intermediate School



Best Project by a Pasifika Student

Sponsored by Manukau Institute of Technology

Presented by Blake Wong-Ling, Schools and Youth Liaison, MIT

Mikyla Flexman

Flowing Water

Somerville Intermediate School

The Environment Award

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Hank Lin

Bactricity

Somerville Intermediate School



Best Soil Science Related Project Award

Sponsored by NZ Society for Soil Science

Presented by Carol Duffield, Committee member,
on behalf of the Society

Amy Jorgensen

Sow, Grow, Know

Elim Christian College



Presentation of Special Awards

Best Use of Statistics Award

Sponsored by the New Zealand Statistical Association

Presented by Carol Duffield, Committee member,
on behalf of the Association

Andre Yalda

Stamp out Damp

Manurewa High School

William Pickett

Can Music Beat Blood Pressure?

Howick College



Best Use of Flour Award

Sponsored by the Baking Industry Research Trust

Presented by Carol Duffield, Committee member,
on behalf of the Trust

FIRST PLACE

Amelie Laing

The effect of pH on the development of sourdough culture

Howick College

SECOND PLACE

Joanne Ting

Fluffin Muffins 2

Mission Heights Junior College



**BAKING INDUSTRY
RESEARCH TRUST**

Auckland Transport Travelwise Award

Sponsored by Auckland Transport

Presented by Michelle Stanbury, Community Transport
Co-ordinator Auckland Transport

FIRST PLACE

Jasmine Niederberger

Blinded by the Light

Pukekohe Intermediate School

SECOND PLACE

Harvir Singh-Birl

Hruthin Pagadala

Carl Xie

Project X

Mission Heights Junior College



Presentation of Special Awards

Prize for Best Year 7 Innovation, Invention, or Investigation

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Harrison Redmayne

Springs with Altitude

Elim Christian School



Prize for Best Year 8 Innovation, Invention, or Investigation

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Hank Lin

Bactricity

Somerville Intermediate School



Prize for Best Year 9 Innovation, Invention, or Investigation

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Alex Coleman-Chaiman

Intrusion Solution

Pukekohe High School



Prize for Best Year 10 Innovation, Invention, or Investigation

Sponsored by NIWA

Alina Hayat

Brendan Hua

Caleb Ye

Firewatch

Mission Heights Junior College



Presentation of Special Awards

Prize for Best Year 12 Innovation, Invention, or Investigation

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Andre Yalda

Stamp Out Damp

Manurewa High School



Prize for Best Year 13 Innovation, Invention, or Investigation

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Alexandria Bunning

Ashleigh Murphy

Olivia Mearns

NZ Wind Turbines

Pukekohe High School



New Zealand Heritage Award

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Jasmine Goodwin

Best Bait

Somerville Intermediate School



The Student Encouragement Award

Sponsored by New Zealand Institute of Food Science and Technology

Presented by Nick Parker, NZIFST

Caleb Pearson

Whose bat is better?

St Joseph's Catholic School



Presentation of Special Awards

Best Application of the Scientific Method

Sponsored by the University of Otago and Canon

Presented by Xenia Bilton and Chris Masters

Tilly Smith
Laura Davies
Supergrass
Howick College



Te Whare Wānanga o Otago

The Eric Clague Kiwanis Award

Sponsored by Kiwanis Clubs of Counties Manukau

Presented by Megan Allen, on behalf of the
Kiwanis Clubs of Counties Manukau

Rashmeen Sandhu
Yuzhang Tan
Stray Cat Blues
Ormiston Senior College
Botany Downs Secondary College



Premier Award for Best Exhibit of the Fair

Sponsored by NIWA

Presented by Ken Becker, Regional Manager (Auckland)

Hank Lin
Bactricity
Somerville Intermediate School



The John Bell Award

Presented by John Bell, past Committee member

Liz Palmer
Secretary

Special Thanks to our Judges and Committee

Our team of judges are recognised as specialists in their fields. Judges are a mixture of professionals from local schools, universities, technology institutes and the science and technology industries.

Chief Judges

Chandar Dewar, Carol Duffield, Lynn Dunbar, Catherine Hunter

Judges

Xenia Bilton
Karen Brewer
Michael Browne
Alastair Caine
Patrick Chan
Jamie Chow
Dion Cowley
Kiara Daly
Annette Davies
José Derraik
Ben Doughney
Mithila Durai
Ruby Huang

Caitlin Jelleyman
Hamish Jelleyman
Dr. Sarah Morgan
Kareena Mantis
Dorit Naot
Mikesh Patel
Vanisha Patel
Chris Quill
Arun Rodgers
Michelle Stanbury
Ralph Thorogood
Petr Tomek
Jinfeng Zhao

Science Fair Committee

Convenor
Secretary
Treasurer
Sponsorship
Registration / Webmaster

Catherine Hunter
Liz Palmer
Dion Cowley
Melanie Kindley
Ben Doughney

A special thanks to Mission Heights Junior College for hosting the NIWA Manukau Science and Technology Fair, to the support of Manurewa High School, and the Mission Heights Junior College Family and Friends.

We would also like to thank teachers for their ongoing commitment in supporting students entering the Fair.

Website: www.sciencefairmanukau.org.nz

2016 Participating Schools

Botany Downs Secondary College

Drury School

Elim Christian College

Howick College

Howick Intermediate School

Manurewa High School

Mission Heights Junior College

Ormiston Senior College

Pukekohe High School

Pukekohe Intermediate School

Rosehill Intermediate School

Somerville Intermediate School

Southern Cross Campus

St Joseph's Park Catholic School

Tyndale Park Christian School



Thank you to our Sponsors



UNIVERSITY
of
OTAGO



hāre Wānanga o Ōtāgo



BAKING INDUSTRY
RESEARCH TRUST

