

Alfriston College

Aorere College

Botany Downs Secondary College

Bucklands Beach Intermediate School

Destiny School

Drury School

Elim Christian College

Howick College

Howick Intermediate School

Macleans College

Manurewa High School

Manurewa Intermediate School

Maraetai Beach School

Otahuhu Intermediate School

Pukekohe High School

Randwick Park School

Saint Kentigern College

Somerville Intermediate School

Tyndale Park Christian School



CONVENOR'S REPORT

It gives me great pleasure to be associated with the 2009 MIT Manukau Science and Technology Fair. This is our fifteenth year as a full Regional Fair and we continue the tradition of previous years enthusiastically.

For many students the fair provides a platform outside of the confines of the classroom to explore an area of interest. Past award winning participants all agree that their participation and achievements in the fair have helped them to secure a variety of scholarships and prizes, as well as boosting their applications for places in restricted courses at tertiary institutions.

The successful award winners tonight represent the best of hundreds of projects in our region from nineteen participating schools. The committee and judges have been very impressed with both the high standard of presentation of work and the ingenious and innovative nature of the investigations undertaken by students. Each exhibit represents hours of toil which often extends over a number of weeks. These projects are in most cases the result of considerable input and guidance from parents and teachers. To produce work of this calibre requires a high quality of teaching and learning — I believe that the work shown here tonight reflects very favourably on the sort of good learning that is taking place in Manukau City classrooms.

A successful fair would not be possible without the hard work and support of many people. On behalf of the organising committee we would like to give special thanks to Manukau Institute of Technology who is our major sponsor. We thank them for their continued support and willingness to invest in our youngsters.

We are delighted at the number of businesses and organisations who have supported the students of the Counties Manukau region through the sponsorship of prizes for the eleven categories represented at the fair. This enables us to acknowledge the excellent achievements by many of our students in the many different areas encompassed within Science. A big thank you to all our other sponsors who have contributed so generously, allowing us to make this fair a success.

Many people have freely given their time and expertise to judge the exhibits and to help in many other ways. Thanks, too, for the catering provided by the Kiwanis Clubs of Papatoetoe and Pakuranga.

To the committee members, who organise both their own school fairs as well as the regional fair, we extend our personal thanks for their initiative, enthusiasm and teamwork. We recognise that their commitment has involved careful planning and hours of extra work. Thanks to the Science support staff at Manurewa High School, whose tireless efforts were responsible for the majority of the logistics in setting up and running the fair at Manurewa Intermediate School. Special thanks to Lee and John Bell who have put an enormous amount effort into the MIT Manukau Science and Technology Fair for the last fifteen years.

Thank you parents and teachers of all exhibitors for the support and encouragement that you give to these young people. To the exhibitors, a very big thank you. The quality of your investigations and your enthusiasm makes the work of everyone involved so very worthwhile. Finally, a special thank you to Manurewa Intermediate School for hosting the prizegiving and the Regional Fair.

Charlie Ahn Science Fair Co-Convenor





REALISE THE DREAM 2009

National Award for Researchers of Tomorrow Genesis Energy is proud to be the principal sponsor So what is Realise the Dream?

Realise the Dream is a prestigious six-day event managed by the Royal Society of New Zealand which

celebrates, rewards, challenges and showcases the work of extraordinary school students from all over New

Zealand who have carried out an excellent piece of research, or technological development. The principal

sponsor of this event is Genesis Energy and the support partners are the New Zealand National Commission

for UNESCO and DairyNZ.

Who can attend Realise the Dream?

Students can be nominated for Realise the Dream through several programmes including regional science

and technology fairs. Many nominations are received and the Realise the Dream judging panel selects up to

40 students to attend.

About Realise the Dream

Realise the Dream takes place in Wellington from Sunday 6 – Friday 11 December 2009. Realise the Dream runs over 6 days. The 2009 programme promises to be very exciting and will involve

excursions to science and technology organizations, field trips and social events. Massey University has also

organised a wonderful programme for the students.

Between December and February the participants get out into their community and promote Realise the

Dream. Promotion may include talking to a school assembly; talking to service groups; contacting and

talking to local radio or local media. All participants will be given media training during the December

event to help them prepare for this.

A formal celebratory awards dinner takes place in March 2010 where some big awards are presented.

Realise the Dream is also supported by





Cultural Organization

New Zealand National Commission for UNESCO Te Kömihana Matua o Aotearoa mõ UNESCO





THE ROYAL SOCIETY OF NEW ZEALAND

The Royal Society of New Zealand is the voice of science and technology in New Zealand. We recognise excellence in science and technology, disseminate educational resources on scientific and technological issues, and maintain links with the global scientific and technological communities. In all our work, we aim to bring an informed and scholarly approach to scientific and technological questions, helping to build a community-wide culture that supports and understands science and technology.

The Society has been involved in the organisation of National Science and Technology Fairs since their inception and has been committed to the support of regional fairs for over 30 years. The science and technology fairs serve as an ideal vehicle for the development of investigative skills and innovative practices by young people. By encouraging young people in scientific and technological pursuits we are increasing New Zealand's human capital in research, science and technology – and helping to build a thriving knowledge-based society. We support and promote a wide range of activities for students and teachers.

Crest

Opportunities for years 7-13 students to work with technologists or scientists on a project of their own design.

Teacher Fellowships

Enables up to 45 teachers each year to develop their understanding of science, mathematics or technology by participating in projects with industry or research organisations.

Alpha

The ALPHA educational series provides students with topical and up-to-date information on New Zealand and international issues.

Science and Technology Fairs

Recognise and celebrate the achievements of young New Zealanders. Science and technology fairs involve at least 50,000 students – at class, school, regional and national levels.

Student and Teacher Scholarships

Students and teachers can take part in exciting and stimulating overseas activities such as the US Space Camp, London International Youth Science Forum, APEC Youth Science Forum, Singapore Science School amongst others.

The Genesis Energy National Science and Technology Fair celebrates the efforts of our young people and recognises their excellence. The Society records its appreciation of the commitments shown by Genesis Energy to the future of our young people.

Visit our website: www.rsnz.org





PREMIER AWARD WINNER – 2008

Aloysha Yashin - Macleans College

Last year I was sitting where you are right now listening to Amy McDonald the previous Premier Award winner making her speech. I could have only dreamed of winning such an award. But for me that night dream came true.

My project "How Lucky was Robin Hood?" won several awards including the premier award at the Manukau City Science & Technology Fair. Along with the prize money the premier award winner and the runner up got nominated for Realise the Dream in Wellington. I was one of the 29 students selected to go.

Realise the Dream was full of opportunities. Opportunities to learn, try new things, have new experiences and meet new friends. Our week was full of activities. We did a range of media workshops teaching us vital communication skills, ironically for me how to speak to an audience. We attended science institutes like Natcoll Design 3D Design & Animation studio, Massey University, Karori wildlife sanctuary, and the Wellington Genesis Energy building. One of the more peculiar activities was part of a Crime Scene and Forensics Evening with Dallas Bishop which involved looking at a maggot, through a microscope, a different and interesting experience. There were also a host of social events like the UNESCO cocktail function, eating desert at Strawberry fair, and Roger Hall's Red Riding Hood in Circa Theatre. But the biggest highlight for me was meeting all the people. They were so friendly and fun and all shared the same passion for science. Everyone had a great time and made a lot of lifetime friends

Later in March we got invited to the award ceremony in Te Papa. I was thrilled to see everybody again. It was like we were all from the same college, back for the reunion. On top of that I was awarded the Counting on Data Award sponsored by Statistics NZ.

My life changed after Realise the Dream. I look at things in a new way. It amazes me... One project, studying what you want to study, can change your life. I realised something. My life changed because of all the opportunities I got given at Realise the Dream. And I was able to attend Realise the Dream because I took the opportunity to participate in the science fair. One opportunity can change your life.

Our lives are full of opportunities, and the ones we take will shape us. We seldom miss big opportunities. They are easily recognisable, and are rare. But we miss many smaller opportunities. They become so common, that we forget about them. But these are the ones that will have the most impact. Big opportunities can change and develop us quickly, and so we notice the benefits quickly. But they are harder to come by, where as the smaller opportunities are always there. They cause a gradual change, one that is hard to notice. Hugh Allen an English musician and conductor once said "Jumping at several small opportunities may get us there more quickly than waiting for one big one to come along." And each new opportunity can lead on to others like a chain reaction.

I congratulate you. You all took the big opportunity to participate in the science fair. But you also took the smaller opportunities that lay within the initial opportunity. You put in more time, put in the extra effort. You took every opportunity to improve your project. That has lead to your success. And just from participating you have learned new things. Tonight you are going to reap your rewards.

"Opportunity is often difficult to recognize; we usually expect it to beckon us with beepers and billboards." This was said by William Arthur Ward a famous writer. I want to challenge you, find new opportunities and take advantage of them even if they are small. Each one has the potential to change and improve you. Take as many as you can find. You don't know how far they will take you until you take them.

I want to thank MIT for sponsoring this event. Without them this prizegiving would not be what it is now, and the prizes wouldn't be as generous as they are now. I wish you luck for your future science endeavours.



Prize Giving Programme

Wednesday, 26 August 2009

Masters of Ceremonies Charlie Ahn, Co-Convenor

Carol Duffield, Committee member

MIT Manukau City Science and Technology Fair

Welcome Charlie Ahn

Mayor's Address Len Brown, Mayor of Manukau

Convenor's Address Charlie Ahn

Macleans College

Guest Speaker Alyosha Yashin

Premier Award Winner 2008

Guest Speaker Emily Cole, St Cuthberts College

International Science Camp in Japan

Presentation of Category Prizes

1. Years 7 & 8 – Living World Wellingford Wai Shing, Managing Director

On behalf of Wai Shing Ltd

2. Years 7 & 8 – Physical & Neil Allan, Club President

Material World On behalf of the Kiwanis Club of Waiau Pa-Clarks Beach

3. Years 7 & 8 - Environmental Joan Ransom, Past President

Science/Planet Earth and Beyond On behalf the Kiwanis Club of Manukau

4. Years 7 & 8 Lynne Jackson, Club President

Intermediate Consumer Science On behalf of the Kiwanis Club of Drury

5. Years 7,8,9 & 10 Neil Pemberton, Managing Director

Technology/Innovations On behalf of the K P Sweeping Ltd

6. Years 9 & 10 Joan Proffit, Club President

Living World On behalf of the Kiwanis Club of Papatoetoe

7. Years 9 & 10 Bob Hudson, Central Workshop Superintendent

Physical World On behalf of NZ Steel Ltd



8.Years 9 & 10 Material World Ltd Gerry Mekkelholt
On behalf of Gunac South Auckland/GME

9. Years 9 & 10 - Environmental Science/Planet Earth & Beyond

Amanda Hardy, Manager
On behalf of the BNZ Manukau Store

10. Years 9 - 13
Secondary Consumer Science

Geoff Powell, Club President
On behalf of the Kiwanis Club of Pakuranga

11. Years 11,12, & 13 Senior Science

Len Brown, Mayor
On behalf of the Manukau City Council

Musical Item performed by Teresa Wojtowicz from Macleans College

Special Prizes

Prize for Best Year 7 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for Best Year 8 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for Best Year 9 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for Best Year 10 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for best year 11 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for Best Year 12 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

Prize for Best Year 13 Innovation Invention or Investigation

Dr Stuart Middleton
On behalf of Manukau Institute of Technology

School Encouragement Award

Dr Stuart Middleton
On behalf of Manukau Institute of Technology



Best Soil Related Project Award Gary Troup (Deputy Mayor)

On behalf of the NZ Society for Soil Science

Best Use of Flour Award Gary Troup

On behalf of the Baking Industry Research Trust

Best Use of Statistics Award Gary Troup

On behalf of the NZ Statistical Association

Special Encouragement Award Kevin Simpkin

On behalf of The Order of St John,

Manukau Area Committee

Environment AwardLen Brown

On behalf of Manukau City Council

Best Project by a Maori Student Dr Stuart Middleton

On behalf of Manukau Institute of Technology

Best Project by a Pacifica Student Dr Stuart Middleton

On behalf of Manukau Institute of Technology

Award for Best Application of Electronics Dr Stuart Middleton

On behalf of Manukau Institute of Technology

New Zealand Heritage Award Dr Stuart Middleton

On behalf of Manukau Institute of Technology

University of Otago Award

On behalf of The University of Otago

Eric Clague Kiwanis Award Stella Penn, Past Lt Governor, Division 10

On behalf of Kiwanis Clubs of Counties Manukau

Presentation of the Premier Award

Premier Award Dr Stuart Middleton

for Best Exhibit of the Fair On behalf of Manukau Institute of Technology

Concluding Remarks Dr Stuart Middleton

On behalf of Manukau Institute of Technology



Prizes and Awards

Category 1 – Years 7 & 8 Living World Sponsored by Wai Shing Ltd Category 2 – Years 7 & 8 Physical & Material World Sponsored by the Kiwanis Club of Waiau Pa-Clarks Beach

FIRST PRIZE

Matthew Cudmore

Worm Farm
Bucklands Beach Intermediate School

SECOND PRIZE

Michaela Dowdeswell

SILENCE! and not afraid to use it

Howick Intermediate School

THIRD PRIZE

Sarah McGrath

Good or Bad- You Decide

Howick Intermediate School

HIGHLY COMMENDED Lucy Peters Say Cheese Somerville Intermediate School FIRST PRIZE

Nick Stanfield

What's hot and what's not
Saint Kentigern College

SECOND PRIZE

Matthew Warner
Sun Power 2

Elim Christian College

THIRD PRIZE **Aishwarya Gopalakrishnan** *Tough Nut To Crack*Somerville Intermediate School

HIGHLY COMMENDED

Joshua Kim

Wind Power

Bucklands Beach Intermediate School

Olivia Griffiths
Turn Up The Heat
Bucklands Beach Intermediate School

Jack Varndell Stressed Out Bucklands Beach Intermediate School



Category 3 – Years 7 & 8
Environmental Science/Planet Earth &
Beyond
Sponsored by the Kiwanis Club of
Manukau

Category 4 – Years 7 & 8 Intermediate Consumer Science Sponsored by the Kiwanis Club of Drury

FIRST PRIZE **Zanle Louw**Death By Stormwater Pipes

Howick Intermediate School

SECOND PRIZE

Joshua McDonald

Recycled Glass

Somerville Intermediate School

THIRD PRIZE
Jack Crenfeldt
Casey Winchcomb
It's a Stream, Not A Drain
Howick Intermediate School

HIGHLY COMMENDED

Niket Shah

I'm Breathing Here

Howick Intermediate School

Florence Saxer - Tidswell What Type of Grey Water is Best for Plants Somerville Intermediate School FIRST PRIZE

Georgia Hanley

Stuck On You

Bucklands Beach Intermediate School

SECOND PRIZE
Rick Sinclair
Bad Bacteria
Somerville Intermediate School

THIRD PRIZE

Jessica Kelly

The Icing on the cake

Drury School

Matthew Twyman
Is your tin full of Fruit?
Somerville Intermediate School

HIGHLY COMMENDED **Zena Al-Ani**Cure That Cold

Somerville Intermediate School

David CurtisGerm Busters
Tyndale Park Christian School



Category 5 – Years 7 - 10 Technology Innovations Sponsored by KP Sweeping Ltd Category 6 – Years 9 & 10 Living World Sponsored by The Kiwanis Club of Papatoetoe

FIRST PRIZE **Luke Turner**Feed me please

Maraetai Beach School

FIRST PRIZE Lesley Wild Remember Me? Pukekohe High School

SECOND PRIZE **Griffin Hill**How can I guarantee my dog gets clean

water

Somerville Intermediate School

SECOND PRIZE Angel Nurdjaja Ripening Ruckus Elim Christian College

THIRD PRIZE Martin Buys Cold Play Howick College THIRD PRIZE
Nicholas Voke
A Dose of DNA
Manurewa High School

HIGHLY COMMENDED

Claudia Burke

Way 2 Go

Somerville Intermediate School

HIGHLY COMMENDED **Astha Kantroo**Slow Down, Break Down

Botany Downs Secondary College

Nic Apanui *Cat Toy Box*Somerville Intermediate School

Nicole Wiremu Meaty Moments Manurewa High School

Choo-Hang Khoo James Coventry The Fat Files Macleans College



Category 7 – Years 9 & 10 Physical World Sponsored by NZ Steel Ltd Category 8 – Years 9 & 10 Material World Sponsored by Gunac South Auckland GME Ltd

FIRST PRIZE **Richard Jarvis** *It's shocking* Pukekohe High School

FIRST PRIZE Shanita Champion Bean Bones Elim Christian College

SECOND PRIZE Winifred Lee Wooly Warm Winter Howick College

SECOND PRIZE Glen McIntosh Lemon Dilemma Pukekohe High School

THIRD PRIZE Cynthia Shum Wind Energy Howick College

HIGHLY COMMENDED Jonty Birch Saving Lives with Hot Ice Pukekohe High School

HIGHLY COMMENDED **Duane Deetlefs** *Bridge Buster* Howick College



Category 9 – Years 9 & 10 Environmental Science/Planet Earth & Beyond Sponsored by BNZ Manukau Store Category 10 – Years 9 -13 Secondary Consumer Science Sponsored by the Kiwanis Club of Pakuranga

FIRST PRIZE Christopher Ryan Crystal Clear Howick College FIRST PRIZE **Kelly Stewart**Is Honey, Honey?

Manurewa High School

SECOND PRIZE Cheyenne Welham Undigested Macleans College SECOND PRIZE

Megan Clark

Hand sanitisers, how effective are they?

Pukekohe High School

THIRD PRIZE **Aaron Henderson** *Hawking Radiation*Macleans College

THIRD PRIZE
Saimer Al-Bayati
Farming for the Future
Manurewa High School

HIGHLY COMMENDED **Kelsey Morgan** How Clean are your Hands? Pukekohe High School

Lara Croll Sticky Situation Howick College



Category 11 – Years 11,12 & 13 Senior Science Sponsored by Manukau City Council

FIRST PRIZE **Anne Sim**CO₂ Gobblers

Manurewa High School

SECOND PRIZE Vathna Am Mother Nature's Little Helper Manurewa High School

THIRD PRIZE Ying On Chan Sylvia Ma Resilience Macleans College

HIGHLY COMMENDED Yuyun Huang Apple zero Manurewa High School

Gemma Wills *C How Hot is Healthy*Elim Christian College

Amy van de Weg Getting into the Swing of Things Manurewa High School



Special Prizes

Prize for Best Year 7 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 8 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 9 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 10 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 11 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 12 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

Prize for Best Year 13 Innovation, Invention or Investigation Sponsored by Manukau Institute of Technology

School Encouragement Award Sponsored by Manukau Institute of Technology

The Environment Award
Sponsored by Manukau City Council

Best Project by a Maori StudentSponsored by Manukau Institute of Technology

Best Project by a Pacifica StudentSponsored by Manukau Institute of Technology

Award for the Best Application of ElectronicsSponsored by Manukau Institute of Technology

The New Zealand Heritage Award Sponsored by Manukau Institute of Technology

University of Otago Award Sponsored by University of Otago

The Eric Clague Kiwanis Award Sponsored by Kiwanis Clubs of Counties Manukau

Premier Travel Award for Best Exhibit of the Fair Sponsored by Manukau Institute of Technology



Special Prizes – Award Winners

Prize for Best Year 7 Luke Turner

Innovation, Invention or Investigation

Prize for Best Year 8 Michaela Dowdeswell

Innovation, Invention or Investigation

Prize for Best Year 9 Christopher Ryan Innovation, Invention or Investigation

Prize for Best Year 10 Kelly Stewart

Innovation, Invention or Investigation

Prize for Best Year 11 Amy van de Weg Innovation, Invention or Investigation

Prize for Best Year 12 Vathna Am

Innovation, Invention or Investigation

Prize for Best Year 13 Anne Sim Innovation, Invention or Investigation

School Encouragement Award Destiny School

Alfriston College

The Environment Award Cheyenne Welham

Best Project by a Maori Student Nicole Wiremu

Best Project by a Pacifica Student Alex Whitcombe

Best Application of Electronics Award Luke Turner

The New Zealand Heritage Award Susanne Mathews

University of Otago Award Hannah Wood & Lingliang Zhang

The Eric Clague Kiwanis Award Luke Turner

Premier Award for Best Exhibit of the Fair Anne Sim



Best Soil Related Project
Sponsored by the New Zealand Society for Soil Science
Matthew Cudmore
Worm Farm
Bucklands Beach Intermediate School



Best Project Using Flour
Sponsored by the Baking Industry Research Trust
Olivia Griffiths
Turn Up The Heat
Bucklands Beach Intermediate School



Best Use of Statistics Award
Sponsored by The New Zealand Statistical Association
Aditya Edekar
Science? Maths? Magic?
Somerville Intermediate School



Special Encouragement Award
Sponsored by The Order of St John, Manukau Area Committee
Puawai Felton
Havana Fletcher
Perfect Poi
Manurewa Intermediate School





With Special Thanks to

THE SCIENCE FAIR COMMITTEE

Science Fair Co-Convenors Marilyn Roberts & Charlie Ahn

Secretary Liz Palmer

Treasurer/Sponsorship Convenor John Bell

Judging Convenor Rebecca Provan

Prize giving Liz Palmer & Beryl McKinnell

And the many other members of the Science Fair Committee.

Special thank you to the Manurewa Intermediate School for hosting the MIT Manukau Science Fair Competition this year and to Manurewa High School Science Technician, Heather Wilson, for her invaluable contribution towards the running of the Science Fair.

Website: www.sciencefairmanukau.wikispaces.com