



Eureka! Trust



February 2017

# Engaging young Kiwis in science and technology...!

## JUNIOR EUREKA! PROGRAMME 2017

2017 is the year the **Junior Eureka!** Programme steps up to engage young Kiwi students, and their teachers, in the excitement and contribution that STEM makes to their local community.

38 primary, intermediate and secondary schools from all over New Zealand registered for the pilot programme and all those who provided feedback have reported positive results.

As a result of the feedback we have decided to extend the programme so it includes students up to Year 10 if teachers feel it is appropriate.

Teachers have told us their students found the collaborative work experience both challenging and stimulating; that the focus on local applications of STEM makes the value very real, and that the need to prepare a presentation for an audience embeds the knowledge they have gained.

In the next few weeks we will be launching a dedicated set of on-line resources for teachers to use as part of the programme—keep an eye on the [eureka.org.nz](http://eureka.org.nz) website— but we hope teachers will continue to be creative in identifying ideas for students to explore.

Our Achievement Certificates recognise a student's individual participation in the **Junior Eureka!** programme

Also—have a look at our **Eureka! STEM Video Competition** for students from Years 7-13 on Page 3.



*Rt Hon Dame Patsy Reddy*

### VICE-REGAL PATRONAGE

The Governor-General, H.E. Rt Hon Dame Patsy Reddy, has advised the Rotary Club of Wellington Eureka! Trust that she has accepted our invitation to be our Patron for the duration of her term in office. Dame Patsy continues patronage which was initiated during the term of office of the Rt Hon Sir Jerry Mateparae. We will be keeping Dame Patsy and Government House fully aware of our activities and have already submitted a request for Her Excellency to host our Sir Paul Callaghan Eureka Awards! Dinner at Government House in Wellington on 7 September.

### SIR PAUL CALLAGHAN MEDAL FOR AN OUTSTANDING TEACHER

2017 is the first year in which we will award a prize for a special teacher who imparts the importance of passionate communication about the value of STEM to New Zealand.



*Sir Paul Callaghan*



## WELLESLEY BOYS STUDY PEST CONTROL FOR JUNIOR EUREKA!

When Wellesley College Science Leader Jo Hawthorne decided her Year 5 boys were going to be part of the pilot for the Junior Eureka! programme she wanted the boys to investigate a local application of STEM which was relevant to the school and its environment .

Nestled close to the bush and on the shoreline in Wellington Harbour the perfect application to be studied by the Wellesley boys was pest eradication—possums, stoats, and rats in particular.

So, for two terms the boys found out everything they could about how the battle against invasive pest species was being waged in their neighbourhood. They interviewed and had visits from scientists, local body pest control, people, trappers and conservationists.

They even set their own traps having worked out where the most likely places were to catch their target species.

Each boy presented his own take on what they discovered to a school assembly and received their Certificate of Achievement from Old Boy Evan Brenton-Rule the Sir Paul Callaghan Eureka! Premier Award winner in 2013. Evan is doing his PhD on eradication of invasive pests.

See the Eureka website for a brief interview with Jo Hawthorne and hear her ideas about how Wellesley will use the programme in 2017 to extend students and build greater appreciation among other students and staff of the importance of STEM in their community.





*2016 Eureka Finalists at the Awards Dinner*

## WHAT TEACHERS HAVE TOLD US

"Group collaboration developed significantly in 3 out of the five groups as time went on. This is a great outcome of the Junior Eureka! programme"

"Using Google slides to record and share group findings was a significant factor in their increasingly collaborative team work."

"With the availability of plenty of devices and access to local experts the students found the research an exciting element of the programme"

"Before we started our investigations we unpacked each element of STEM (or in our community STEAM). There are some excellent YouTube clips as igniters." (search for What is STEM?)

"We accessed people from Environment Canterbury, Fish and Game, fish breeding programme people, a beekeeper and a Monarch Butterfly breeder."

"Artists, vets, farmers, cafe owners, playground designers, skatepark designers"

"So what? What is it we now know and need to examine in more detail? - this was the aspect of their inquiries that required the most teacher facilitation"

"We used a class STEM introductory activity which readily embedded the concept that STEM is part of every aspect of our lives"

"When it came to engagement with experts/community members the students visited them, emailed them or invited them into the classroom"

*"An understanding of each element gave them (the students) more knowledge and higher order thinking when questioning experts"*

**"This was a taster for students to follow their own inquiry. It fits well with the inquiry pedagogy and gave students a purposeful investigation"**

"I think our students would be motivated, and further engaged, by receiving emails from Junior Eureka! addressed to them rather than the teacher and which encouraged them to reply personally"

## EUREKA! STEM VIDEO COMPETITION

The Eureka ! STEM Video competition allows students from Years 7-13 to showcase their creative flair and ability to tell stories about the value of STEM in their community using video. They can enter individually or in groups.

The Eureka! STEM Video competitions will be run in conjunction with the NIWA National Science Fairs.

Based on the very successful Junior Eureka! Programme, the students will be required to identify a specific application of STEM in their community (or a possible application), and the value that application delivers to their community.

Having done their research their task is to tell that story using new technologies readily available to them at school.

They will create a story board, shooting scripts, editing plans and finally a finished movie.

The movies will be screened at the National Science and Technology Fairs where judges will choose the best and award the prizes.

All schools have access to the internet and have the resources the students will need to create compelling visual stories highlighting what New Zealand and its people gain from science and technology.

A dedicated on-line workshop including valuable resources and teaching is being prepared for the Eureka! Trust by the University of Otago Centre for Science Communication.

The time has certainly come!

## RCW EUREKA! TRUST

Established in 2013 to organise and develop the Eureka! Programme of events.

### Purpose Statement

*"To increase young New Zealanders' interest in STEM subjects and to foster young leaders who, through their knowledge of science, technology, engineering or mathematics, persuasive communication skills and their entrepreneurial vision, will make "New Zealand, the most beautiful, stimulating and exciting place in the world in which to live".*



## ALEXIA HILBERTIDOU (2016)

"I would thoroughly recommend the Sir Paul Callaghan Eureka! Awards to any high-school student. The Sir Paul Callaghan Eureka! Awards was a fantastic opportunity where I met other passionate like-minded youth and spread awareness about the importance of diversity in STEM (Science, Technology, Engineering, and Maths) fields. The Eureka! awards were exciting, inspiring, challenging, and just plain awesome!"

## RACHAEL WILTSHIRE (2014)

"My association with the Awards has provided me with a number of opportunities, including the chance to participate in a Ministry of Education reference group and to Chair the Alumni Trust. Beyond the obvious financial prizes and networking opportunities, I think it is this ongoing commitment to alumni that makes the Eureka! programme so valuable and unique. No other programme that I am aware of provides continuing development opportunities - and lifelong friendships - to students who have completed the programme."



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