



Welcome to the July 2006 CREST Newsletter

Who is at the CREST Desk?

Introducing:

Jessie McKenzie: Royal Society of New Zealand Specialist Education Outreach



Jessie promotes, encourages and supports research and technological practice by communicating RSNZ education activities to educators, students of all ages, external organisations and parents. She manages CREST, and the Alpha and Gamma publications. Jessie also works with NZ Sciences, Mathematics and Technology Teacher Fellows and supports the Social Sciences Advisory Committee. Jessie has a teaching background. She is the new National Manager for CREST, runs CREST workshops and is currently working with a Ministry of Education TDI for CREST and the Gifted and Talented.

Jessie can be contacted at jessie.mckenzie@rsnz.org or 04 470 5789

Matthew Smith: Royal Society of New Zealand Education Administrator



Matthew provides help and invaluable support for a variety of RSNZ programmes: CREST, Young Achievers, BP Challenge, Realise the Dream, Talented School Students Travel Award as well as helping with the various competitions organised by RSNZ. Matthew's CREST work involves processing orders and payments, maintaining the CREST database (students, schools and approvers) as well as printing certificates and sending badges.

Matthew can be contacted at matthew.smith@rsnz.org or 04 4705765

Student Venture Capital Fund

All students doing a Silver, Team Silver, Gold or Team Gold CREST project can apply to this fund for assistance with the funding of their project. Please visit the web site to read conditions: <http://www.crest.org.nz/venture.htm>

AgResearch Awards

AgResearch are offering two \$250 encouragement awards for CREST projects that best demonstrate any aspect of agriculture or life sciences. To apply for this award, please get your student(s) to write a letter describing their project to: Jessie McKenzie, National Manager of CREST The Royal Society of New Zealand, PO Box 598, WELLINGTON

Futureintech Support

Futureintech has six full-time (soon to be seven) facilitators in Auckland, Wellington, Canterbury and Otago, to engage industry support and to work with teachers, careers advisors, students and their caregivers. The Facilitators can help you with your CREST projects. Visit <http://www.futureintech.org.nz/facilitators.cfm>

CREST and NZQA

Did you know that you can map CREST onto the NZQA Achievement Standards in Science? Check it out at <http://www.crest.org.nz/CREST-Sci-NZQA.pdf>

CREST and the Gifted and Talented

CREST is particularly relevant for gifted and talented students. Students are given authentic experiences in technological practice or scientific investigation, working with consultants and experts from industry, carrying out projects focussed on finding creative solutions to practical problems

that are of real significance in their lives. Students work at their own pace and to their own potential.

In line with **Ministry of Education** policy, Gifted and Talented Education is a focus in schools throughout the country due to a change in NAG 1, which made it mandatory for all schools to have a policy and programmes in place for these students from Term 1 2005.

The nature of the CREST programme makes it ideal for use in the education of the Gifted and Talented. Over the next few Newsletters we will link CREST and the principles of teaching the Gifted and Talented. These core principles are based on the research as outlined in the Initiatives for Gifted and Talented Learners http://www.tki.org.nz/r/gifted/initiatives_e.php

Add CREST awards to your Gifted and Talented Education!

—visit <http://www.crest.org.nz>

Principle	CREST
Schools should aim to provide all learners with an education matched to their individual learning needs.	CREST is self generated learning and students work at their own pace and level according to their individual abilities. The motivation factor is high owing to student buy-in, community involvement in the form of a consultant from outside school, and family interest, so students tend to extend themselves and develop to their highest potential. There is every opportunity for the Gifted and Talented to achieve outstanding performances and further develop their creative, cognitive and affective abilities.
Gifted and talented students should be offered a curriculum rich in depth and breadth, and at a pace commensurate with their abilities.	

If you have a story to tell about using CREST with your Gifted and Talented or Extension programmes, please contact Jessie at jessie.mckenzie@rsnz.org

Ethics Approval

- Student, class or teacher investigations and projects which involve humans or other animals must comply with ethical standards.
- Considering the ethics of an investigation, and applying for approval if necessary, is a valuable learning experience for students.
- Information about the Code of Ethical Conduct for the use of animals in schools and early childhood centres, guidelines and application forms can be found at www.nzase.org.nz/ethics
- The Animal Ethics Approval committee can be contacted at animalethicscommittee@rsnz.org

There are two main considerations for activities involving humans.

1. The first is when humans are involved in activities such as tasting or smelling when the substances involved may be toxic or provoke an allergic reaction, or undergo exercise which may trigger unexpected effects in the subject;
2. When information such as weight, height, preferences etc is collected and presented - if this takes place then privacy must be ensured.
3. Information regarding human ethics can be found http://www.rsnz.org/education/science_fairs/humanethicscode.php

Gold CREST

Does Riparian Planting Prevent Water Pollution?



This is the question posed by one of our 2006 Gold Students. Jessie, a year 11 from James Hargest College, is no novice at science and technology projects in fact she is a bit of a veteran. She has been entering science fairs, with great success, for many years but now decided the time is right to tackle Gold CREST. She hopes to be our first Gold Student in the South Island when she completes her project in 2007. She could not get much further south coming from Invercargill.

The project is titled Dairyin' Riparian and Jessie is monitoring the riparian zone on a local dairy farm.

She already has some very interesting results from her studies on water quality and biodiversity in the stream under study. Her

work is with the support of Environment Southland who have a great interest on the impact riparian planting, in recent years, has made to the water quality of their waterways.

Jessie hopes to have enough data to enter the first part of this project in her local science fair so keep an eye out for how she is getting along with her work.

Future Gold CRESTers

Do you have a student or are you, considering a Gold project?

In an effort to streamline the process, and to make life more manageable for the students we are going to trial a specific Gold timeframe.

This year Gold Registrations of Interest must be received **no later than 31st August 2006**.

There is the expectation that the Gold project will be completed by February 28th of the year after finishing school. A letter has been sent to the HODs of Sciences and Technology to our 2005 and 2006 Silver CREST schools with more details.

If you have any queries, or questions, please contact Jessie.

An idea for a CREST project/focus

Is there a local environmental issue you want to work on?

You might like to check out one of the most recent Alphas:

Aquatic Nasties in the Water Near You.

This is available as a PDF <http://www.rsnz.org/education/alpha/index.php>

Hard copies can be purchased through the RSNZ [sales dept.](#)



You might also like to check out the

Environmental Monitoring and Action Project (EMAP) which is RSNZ's environmental education programme that incorporates the delivery of NWP (National Waterways Project) and GLOBE (Global Learning and Observations to Benefit the Environment) to the compulsory school sector. NWP provides schools access to water quality monitoring activities for use in rivers, streams and other fresh waters. GLOBE is an international hands-on, primary and secondary school-based education and science programme. The programme provides the opportunity for students to take scientifically valid measurements in the field of atmosphere, hydrology, biodiversity and soils, and then report their data through the internet. Visit the EMAP website at www.emap.rsnz.org

An Invitation to CREST: Workshops for Teachers

Do you want your students to:

- develop **enterprise** and **entrepreneurial** skills;
- be encouraged and rewarded for **creative** and **innovative** thinking;
- practise **goal-setting** and **problem-solving**, **risk-taking** and **perseverance**;
- **reflect** and **self evaluate**;

- develop **social, environmental** and **financial** awareness;
- consider questions of **sustainability, environmental impact, ethics, social responsibility** and **fiscal responsibility**;
- **apply knowledge** in seeking practical solutions;
- **communicate** effectively;
- **be innovative, lateral thinkers**, open to new concepts and ideas;
- Use **Inquiry Learning**?

Do you want to:

- **Involve** your students' **families** and **local communities**;
- Create an interest in **careers** your students may not have even previously known of;
- Introduce your students to excellent **role models** and **mentors**;
- Utilize a **multi purpose** programme;
- Deliver an exciting science or technology **programme**;
- **Integrate** the curriculum;
- Become involved in **science and technology fairs**;
- Be supported in your **pedagogical practise**?

Do you need to deliver on NAG 1...

- **Providing programmes** for students who are not achieving or at risk of not achieving;
- Having Special Needs students-including **gifted and talented** students
- Being **Culturally inclusive**
- Providing appropriate **careers education**?

An invitation may be found [here](#)

There is always an open invitation for you to contact us to tell us about your CREST experiences and/or for us to answer any of your queries.

We look forward to hearing from you.

Jessie and Matthew.

CREST

